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A study of the relative effect of the community college on transfer students: achievement and satisfaction

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A study of the relative effect of the community college on transfer students: Achievement and satisfaction

by

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ABSTRACT

The purpose of this study was to determine the effect of cumulative semester credit hour achievement and student satisfaction with the North Iowa Area Community College (NIACC) experience on transfer student academic achievement at graduation from a baccalaureate-granting institution. In addition, this study determined transfer student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members.

Specifically, the study sample included first-time transfer students who first enrolled at NIACC between the fall 1981 and summer 1983 semesters inclusive, and had both an ACT composite score and a high school cumulative grade point average listed on their NIACC permanent student record. A total of 566 transfer students were selected on the basis of these criteria. A survey mailed to each sampled student resulted in 32 undeliverable surveys and 327 returns or 61.24 percent.

Data analyses included descriptive, chi-Square, Pearson Product-Moment Correlation, and Analysis of Variance statistical tests. The results of this investigation did not fully support the general hypothesis that the effect of the community college on the transfer student varies with the amount of exposure to the community college environment. Rather, the findings suggested that the quantity of semester credit hours earned at the community college had little or no relationship on selected student outcomes.

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A dissertation is more than a compendium of facts, figures, and calculations. It is a testiment of more than the testing of hypotheses. It represents the efforts of more than a single individual. It represents the constant support, prayers, and kind words of others. Consequently, I wish to thank the following people: my father and mother, Pat and Janet Phelan; my sisters, Laurie, Franci, and Teri, and their families; the Harry Wilson family; the Mary Phelan family; and the Jim Clarke family. Most especially, I wish to thank my loving wife, Nancy, and our children, Katie and Michelle. Nancy's constant assistance, unending support, and encouragement kept me

going. I sincerely appreciate the support of all of these people.

DEDICATION

This work is dedicated in loving memory of Jerry Alan Hilleman who left us on January 27, 1990. He was an admirable son, father, husband, and friend. We miss him.

CHAPTER I. THE PROBLEM

Introduction

Student Assessment in higher education appears in many forms, provides vast information, and serves the needs of emerging groups. Fife (Jacobi et al., 1987) suggested that student assessment will be used as long as educators, legislators, parents, and other concerned persons are interested in understanding student impact and the effectiveness of post-secondary education.

Assessment may serve a variety of purposes. These purposes may include cost analysis, program evaluation, goal setting, program development, marketing, strategic or long-range planning, student feedback, and accountability. Accountability, as a rationale of assessment, is receiving increasing attention from external agencies, parents, and even students themselves. Jacobi et al. (1987) stated that this heightened interest was based on an assumption that colleges and universities had a basic responsibility to the providers of fiscal support. Specifically, post-secondary education needed to demonstrate that institutional goals were being attained and in a cost-effective fashion.

Bowen (1974, p. 1) described accountability as follows: "It means that colleges and universities are responsible for conducting their affairs so that the outcomes are worth the cost. It implies that institutional efforts would be directed toward appropriate goals and the outcomes would be directed toward appropriate goals and should be achieved at minimum cost. It also implies that an institution should report credible evidence on the degree to which it is achieving its mission...." A goal orientation and cost effectiveness were Bowen's guides for accountability. However, assessment is required in determining goal achievement and effectiveness.

The assessment of how a college impacts its students is but one facet of institutional and mission accountability, and it is one of the least understood. Astin

(1977) stated that due to the lack of and/or poor research techniques, there was very little that could be stated with confidence about the impact of college. He noted further that economic pressures were increasing for information on college effects on students. Without it, public officials may move to transfer financial support away from higher education to more accountable public purposes.

Banta (1988) referred to the decade of the 1980s as "the age of assessment" in higher education, due in part, to increased state interest in assessment. She cited Virginia and New Jersey as examples of states that provide incentive grants to colleges that design their own assessment programs. The results of a 1987 survey revealed that nearly all state governing/coordinating boards were actively involved in assessment (Boyer et al., 1987). By 1988, over 65 percent of the state boards in the United States had current or planned statewide assessment programs. Given the aforementioned legislative initiatives and constituent desire for student outcomes information, higher education institutions need to be prepared to respond to questions of assessment and accountability. Community colleges nationwide are responding to the growing concerns of accountability, student outcomes assessment, and college effects. For the community college, reasons for student assessment may include "...to enable the [community] college to more fully realize its commitment and goal of enhanced access to post-secondary education..." (Cuyahoga Community College, 1987), to determine if general education goals are being achieved, or merely to gain a better understanding of their student populations. Regardless of the specific reason or state mandate behind assessment at community colleges, a heightened information base, with regard to the student, will ultimately benefit future students who enroll in community colleges.

Background

Community college students have varied backgrounds and reasons for attending college. Community college students may be interested in literacy remediation, retraining, personal development, or preparation to transfer to a baccalaureate-granting institution (Cohen, 1987). For example, Stevenson et al. (1989) conducted a case study of Mt. Hood Community College's students during the fall, 1983, to determine student reasons for enrollment at the college and the relationship of the intentions with their actual fulfillment. The reasons for student enrollment at Mt. Hood included increased employment potential, personal enrichment, earn a two-year degree, earn a four-year degree, and exploration of career directions. Preparation for transfer to a baccalaureate-granting institution is just one reason for enrolling at a community college. In addition to the transfer student, others entering the community college may be career or vocational students, non-credit/continuing education students, or career option students--an amalgam of the transfer student and the career student.

Consider the following national trends in the community college's evolution and its consequent impact on transfer student numbers. Table 1 illustrates the simultaneous growth of the community colleges and total college credit enrollment nationally. The number of community colleges has increased rapidly from 74 in 1915 to 1,222 in 1985. Similarly, enrollments have grown from a modest 2,363 in 1915 to over 4.7 million in 1985. During the 1975-1985 decade alone, community college enrollments advanced from 4,009,279 in 1975 to 4,730,235 in 1985, or an increase of 720,956 students.

By comparison, total enrollment for all four-year institutions in the United States grew from 7,143,000 in 1975 to 7,716,000 in 1985. This was an increase of 573,000 students during the 10-year period (U.S. Bureau of the Census, 1987, p. 141).

Table 1. Numbers of community colleges and total headcount enrollment by decade (AACJC, 1985, p. 18)

Year	Number of Colleges	Total Enrollment	Average Student Population per College
1915	74	2,363	32
1925	325	35,630	110
1935	528	129,016	245
1945	648	295,475	456
1955	635	765,551	1,206
1965	771	1,292,573	1,677
1975	1,230	4,009,279	3,260
1985	1,222	4,730,235	3,871

These data illustrate the growth in community college enrollments. There was a similar increase in the number of community college students who intended to transfer to a baccalaureate-granting institution during this period.

Table 2 describes the comparative enrollment growth in Iowa's 15 community college districts. Multi-campus and multi-attendance center college operations have been combined into district totals. Projections, based on the 41,087 students enrolled in 1986, showed the State will increase by 4,693 students or 11.42 percent in 1990. Actual enrollments from 1980 to 1986 revealed an 18.39 percent rise for the State. These trends indicate an increasing number of students enrolling nationwide. These enrollment patterns also indicate a challenge in implementing student assessment programs.

North Iowa Area Community College (NIACC), the institutional subject of this

Table 2. Iowa community college enrollment 1980, 1986, with projections for 1990 (North Iowa Area Community College, 1987)

Community College District	1980	1986	1990 (Projected)
Northeast Iowa Community College	958	1,072	1,432
North Iowa Area Community College [a]	2,163	2,456	2,350
Iowa Lakes Community College	1,392	1,675	2,250
Northwest Iowa Technical College	426	449	556
Iowa Central Community College	2,347	2,109	2,670
Iowa Valley Community College	2,190	2,214	2,475
Hawkeye Institute of Technology	1,651	1,857	2,155
Eastern Iowa Community College	4,147	4,923	5,201
Kirkwood Community College	4,986	6,308	6,751
Des Moines Area Community College	6,286	8,667	9,825
Western Iowa Technical College	1,288	1,473	1,440
Iowa Western Community College	2,621	2,739	3,542
Southwestern Community College	577	790	880
Indian Hills Community College	1,617	2,260	2,229
Southeastern Community College	2,075	2,095	2,024
TOTAL	34,704	41,087	45,780

[a] North Iowa Area Community College is the institutional setting for this study.

study, has experienced student enrollment growth patterns similar to these. Total headcount enrollment at NIACC increased by 13.5 percent between the academic years of 1980 and 1986. However, projections for 1990 suggest a modest decline of 4.3 percent over the four year period (1986-1990). Actual enrollments for the fall

semester of 1987 and 1988 were 2,532 and 2,510 respectively. These actual and projected declines may be attributed primarily to two reasons: 1) a declining pool of high school seniors available in the College's service area each year; and 2) the change of a neighboring technical college, Northeast Iowa Technical Institute (NITI) to community college status. This change in the mission of NITI has permitted students in that vicinity to remain in that area and receive the first two years of a baccalaureate program from that institution.

NIACC's annual enrollment statistics included students who acquired knowledge from a Liberal Arts and Science curriculum and subsequently matriculated to a baccalaureate-granting degree program. These students are referred to as transfer students. By and large, the majority of NIACC student enrollments are transfer students. As depicted in Table 3, transfer student enrollment has consistently ranked first in enrollment between fiscal 1980 and 1989. For example, transfer students accounted for 1,703.43 or 45.73 percent of the College's total enrollment in fiscal 1989. These data provided a description of the NIACC student population size which guided the selection of the sample size used in this investigation.

As stated previously, colleges and universities may establish a student assessment program for a variety of reasons. At NIACC, student assessment was precipitated primarily by three areas: diminishing institutional fiscal projections, state-wide studies of higher education, and preparation for the North Central Accreditation Association review in 1993. The present study was used to inform each of these areas.

The College projected budget deficits for fiscal 1989 and 1990. As the College administration sought to examine the College's mission, operations, and expenditures, this study provided data which were incorporated into fiscal planning and resource utilization.

Table 3. North Iowa Area Community College enrollment summary by full time equivalent enrollment (NIACC Annual Report, 1987, 1989)

Fiscal Year	Program	Enrollment by Program	Enrollment Total
FY'80	Arts & Science	1,073.37	
	Career	875.98	
	Adult & Continuing	997.90	2,974.82
FY'81	Arts & Science	1,264.84	
	Career	984.14	
	Adult & Continuing	1,067.76	3,320.96
FY'82	Arts & Science	1,283.56	
	Career	919.67	
	Adult & Continuing	1,004.51	3,207.74
FY'83	Arts & Science	1,348.95	
	Career	902.82	
	Adult & Continuing	1,085.02	3,336.79
FY'84	Arts & Science	1,361.62	
	Career	882.17	
	Adult & Continuing	1,124.91	3,368.70
FY'85	Arts & Science	1,319.99	
	Career	708.68	
	Adult & Continuing	1,241.94	3,270.61
FY'86	Arts & Science	1,465.69	
	Career	671.92	
	Adult & Continuing	1,225.11	3,362.72
FY'87	Arts & Science	1,614.34	
	Career	751.14	
	Adult & Continuing	1,185.22	3,550.70
FY'88	Arts & Science	1,633.05	
	Career	672.26	
	Adult & Continuing	1,339.70	3,645.01
FY'89	Arts & Science	1,703.43	
	Career	572.67	
	Adult & Continuing	1,448.78	3,724.88

Another factor motivating NIACC's establishment of an assessment program was that Iowa's community colleges were being examined by two statewide higher

education task forces. These task forces were to review major post-secondary education issues and concerns in the State of Iowa. The 1988 Legislative Task Force, established by Senate File 2312, sought, among other issues, to describe educational programs in the State's community colleges. The Legislative Task Force's primary goal was to "study and make recommendations regarding the legislation necessary to meet the goals of the State's post-secondary education system in the future (Bittle and Conlin, 1988). The Task Force formed four subcommittees on November 2, 1988. One of the subcommittees investigated higher education quality and capacity. Among the subcommittee's charges were to determine answers to the following questions:

* How does quality vary by type of institution, for example, two-year versus four-year institutions?
* How should Iowa judge the quality of its higher education system?
* What indications of quality should be used?
* Is there a state role related to the quality of entering and graduating students?
* Should the State set standards concerning academic progress and/or graduation?

While these questions addressed the State's entire post-secondary education system, the State's community college system needed to provide appropriate responses to the above questions.

This dissertation sought answers to the following questions to supplement NIACC's institutional response to the Task Force inquiries:

1. What is the quality of the community college?
2. What are appropriate indicators of quality? Student attendance? GPA? Student satisfaction? Student transferability? Graduation?
3. Are community colleges an unnecessary duplication in the State's higher education system?

The Legislative Higher Education Task Force was required by law to provide a

final report by July 1, 1990. Consequently, the statistical findings of this investigation provided assistance in the development of NIACC's response to the Task Force as well as the State's Legislature.

A second task force analyzing Iowa's education system was the Governor's Higher Education Study Committee. This Study Committee's goals were to provide:

1. A "profile" or description of post-secondary education in the State of Iowa, excluding the proprietary institutions.

2. A dictionary of data elements and a primary data base for post-secondary education in Iowa, including data related to residence and migration of students, student outcomes, economic contributions to Iowa, among others which would enhance the current baseline data.

3. A topical paper which describes the overarching policy issues confronting post-secondary education for both public and independent institutions.

4. The description of a process and a structure to support an on-going strategic framework for coordinating and establishing policy for post-secondary education in Iowa (NIACC, 1988).

Consequently, this study described the impact of NIACC on transfer students. The information was available to the College administration and Board of Directors in their response to these study groups.

The resultant data of this study also provided NIACC officials with institutional information in preparation for re-accreditation in 1993 by the North Central Accreditation Association. Specifically, one of the primary areas to be examined by the NCAA team is the College's student assessment initiatives. Since this investigation represents the only alumni assessment instrument used to date, the results will be used to inform NCAA team members. In addition, this study provides a vehicle for replication should NCAA and the College be interested in its continuance for trend analysis and period comparisons.

Problem Statement

Community colleges, like other educational institutions, are asked to document their impact on students. However, much of the literature reviewed on the effect of community colleges were descriptive studies of graduates or alumni. Generally, these studies surveyed former students to determine job titles, income levels, job responsibilities, employment status, relation of college study to current employment, and satisfaction with college services. Both Ewell (1985) and Pace (1984) stated that student outcomes research has examined a number of outcome typologies (e.g., persistence, change in major, job performance, and advanced degree attainment). Consequently, the research body of knowledge on the impact of the community college on students has been limited.

Another form of community college outcome assessment has been comparisons of former community college graduates with native university students (i.e., students who begin their study at the baccalaureate-granting institution) or senior college students (Oswalt, 1986; Giddings, 1985; Richardson & Doucette, 1980; Koos, 1970; Knoell & Medsker, 1965). The primary purpose of these studies was to compare the progress, persistence, performance, and degree achievement rates of native and transfer students at four-year institutions. The Knoell and Medsker (1965), study, in particular, not only compared native students and transfer students, but also determined characteristics linked to success after transfer. However, these traits were linked to grades, persistence, and graduating on time. While these studies tested for differences between the performance of transfer students and native university students, none examined student attainment of the goals of general education.

The review of these studies assisted in understanding what happened to college graduates after leaving the community college and provided a conceptual basis for the design and methodology of the present study. The purpose of this dissertation

was to describe and examine the interaction of student satisfaction with the community college experience and the academic achievement of the transfer student at a baccalaureate-granting institution. While portions of the previous studies contained components related to the present study, none posted a similar purpose and methodology.

Purpose of the Study

This study described selected demographic and educational characteristics of North Iowa Area Community College transfer students. In addition, this study determined the relative effect of College attendance on student academic achievement, student satisfaction with the College experience, and the College's fulfillment of selected general education goals.

College attendance was measured by the cumulative number of semester credit hours achieved at NIACC. For this study, student academic achievement was measured by the student's cumulative grade point average at a baccalaureate-granting institution at graduation. Lastly, the extent to which these students fulfilled the common goals of general education was determined by a mailed questionnaire. General education goal fulfillment was defined by the student's self-reported satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members (Johnson, 1952). A review of the literature, see Chapter II, failed to establish a common definition of student satisfaction. Consequently, it was operationally defined in the Definition of Terms section of this chapter.

North Iowa Area Community College needed to explain to its constituents (i.e., legislative members, external agencies, parents, and other interested parties), the effect that attendance and student satisfaction had on transfer students. This study was a means to that end.

General Hypothesis

This study tested the general hypothesis that the effect of the community college on the transfer student varies with the amount of exposure (attendance) to the college environment. The specific amount of college exposure may be measured by cumulative semester credit hours earned. Simply stated, the greater the cumulative number of semester credit hours earned, the greater the college effect in academic achievement at a baccalaureate-granting institution, and the greater the student satisfaction with the community college experience.

Research Questions

This study determined the relative effect of college attendance on transfer student academic achievement at a baccalaureate-granting institution, student satisfaction with the community college experience, and student satisfaction with four general education goals. In addition, this study described selected demographic and educational characteristics of North Iowa Area Community College transfer students. The study determined answers to the following research questions:

1. Did differences exist in length of exposure (attendance) and the ACT composite score, high school grade point average, gender, and education level of parents at the time of the transfer student's enrollment at the community college?

2. Did differences exist in transfer student satisfaction in four general education goals and length of exposure (attendance) at the community college?

3. Did differences exist in transfer student satisfaction with the community college experience and student satisfaction in four general education goals?

4. Did differences exist in transfer student academic performance at a baccalaureate-granting institution and length of exposure (attendance) at the community college?

5. Did differences exist in transfer student incoming characteristics and student satisfaction in four general education goals?

Research Design

General Design

This dissertation was a theoretical research study. This study used the conceptual model developed by Astin (1965, 1966, 1970a, 1970b) as the basis for investigation. This student development model (see Figure 1) was comprised of three components: Incoming Student Characteristics, the College Environment, and Student Outcomes. Each are presented more fully below.

Incoming student characteristics, according to Astin, consisted of individual skill, identity aspiration, talent, and aptitude, (i.e., that which the student brings with him/her to the college environment). These characteristics can include admission tests, gender, and race. For purposes of this study, incoming characteristics were cumulative high school grade point average, education level of parents at student enrollment, ACT composite score, gender, and age.

The college environment, in Astin's model, included both formal and informal aspects of the institution as the student experienced it. The environment may be comprised of curriculum teaching practices or other attributes which may have an impact on the development of the student. In this study, the college environment included the total number of semester credit hours achieved and the student's satisfaction with the community college experience.

Student outcomes, according to Astin, were those attributes of the student's development that the college either influences or attempts to influence through the collegial environment. These may include student opinions, attitudes, knowledge, contributions to society, and skill development. This dissertation examined academic achievement as measured by the student's cumulative grade point average at a baccalaureate-granting institution at graduation. In addition, student outcomes included student satisfaction with their community college preparation as individuals,

for the work place, as citizens, and as family members. These were used as measures of general education goal fulfillment.

The selected outcome variables measured the general education portion of the transfer student curriculum. These five outcomes represented reasonable consequences to expect from a general education curriculum as presented by Johnson (1952), Medsker (1960), Pace (1979), and Ewell (1985, 1987). Presented in Chapter II is a further discussion of general education goals and their relationship to the five outcome variables used in this study.

The relationship between the three components of Astin's model is indicated by arrows (see Figure 1). For example, student outcomes may be impacted by either the

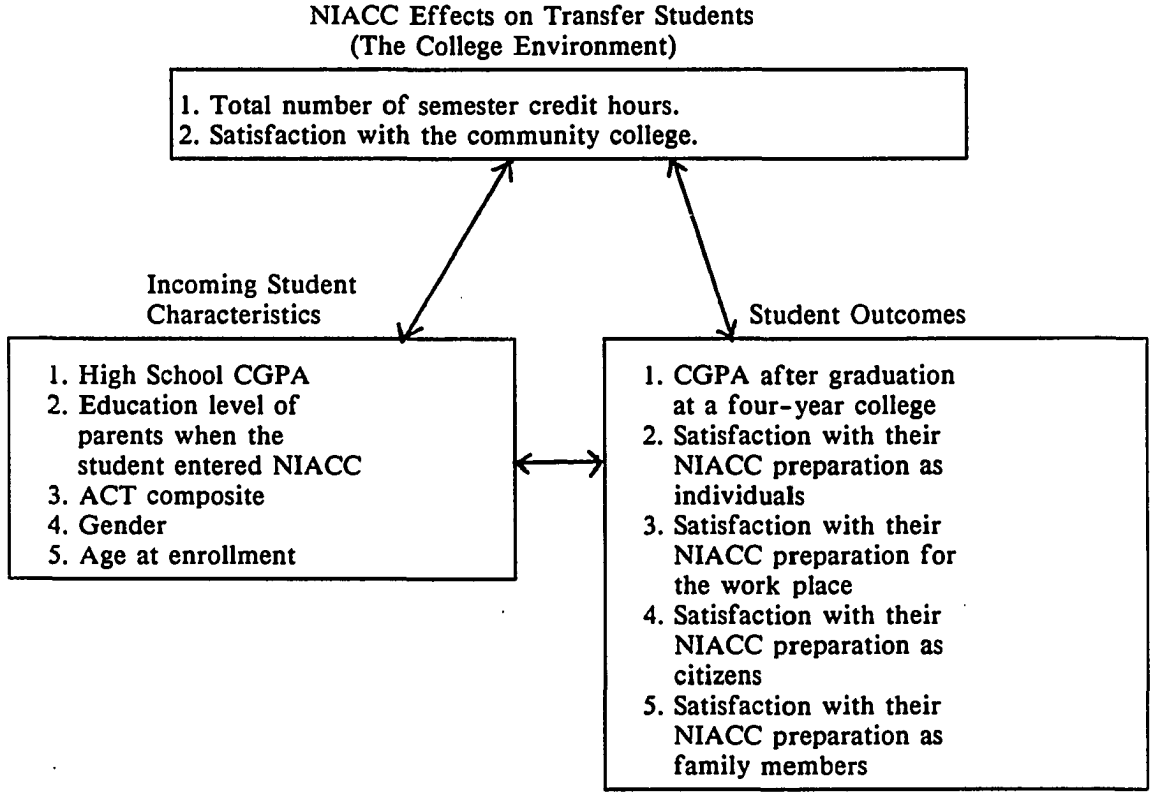

Figure 1. Model for inquiry of the effects of the community college on transfer students (Adapted from Astin [1970a] Sociology of Education)

college environment, student incoming characteristics, or both. In addition, interaction effects may occur with student incoming characteristics and the college environment. Consequently, the present investigation has approached the issue of how college attendance impacts transfer student outcomes by the experience of attending college. Therefore, the likelihood of these outcomes should be the greatest for the transfer student with the longest attendance at the community college.

Model Variables

Student Incoming Characteristics

This study adapted Astin's (1965, 1966, 1970a, 1970b) model of college effects which examined relationships between student incoming characteristics, the college environment, and student outcomes. The exogenous variables included in the student incoming characteristic dimension included: 1) Cumulative high school grade point average; 2) Education level of parents at student enrollment; 3) ACT composite score; 4) Gender; and 5) Transfer student age at enrollment. Astin stated, "These inputs are the raw materials which the college has to work with. These inputs may be either personal attributes or they may be viewed as "pre-tests" on certain outputs (career choice and personal values, for example)..." (Astin, 1970a, p. 225). Using Astin's criteria, the aforementioned five variables were included as student incoming characteristics for this study.

College Environment

Astin (1977) suggested that studying college impact was simple. "If certain outcomes are facilitated by the experience of attending college, the likelihood of such outcomes should be greatest for those students who have the greatest exposure to the college environment" (p. 19). For this reason, the variable of total semester credit hours earned was chosen as a measure of the extent of college exposure. In addition,

the extent of student satisfaction with the community college experience was assessed. This followed Astin's recommendation that the student's subjective experience during college be included among measures of the college's impact on students.

Student Outcomes

Astin (1970a) argued that the need for student outputs should be reduced to tangible measures. For example, "success" should be changed to "a GPA of 3.00". These outputs should represent measures of student knowledge, values, achievements, and aspirations. To assist researchers in developing appropriate outcome measures, Astin developed a Taxonomy of Student Output Measures (see Chapter II, p. 81) which considered type of data, type of outcome, and a factor for time. For purposes of this study, the taxonomy was used to derive the following student outcome variables: 1) Cumulative grade point average at a baccalaureate-granting institution at graduation; 2) Satisfaction with their NIACC preparation as individuals; 3) Satisfaction with their NIACC preparation for the work place; 4) Satisfaction with their NIACC preparation as citizens; and 5) Satisfaction with their NIACC preparation as family members. The latter four of these outcome variables represented reasonable consequences of general education. Specifically, Johnson (1952) reported 12 general education goals (see Chapter II, pp. 41-43) developed by higher education faculty, students, and staff of California's Junior College System. Each of the five satisfaction variables used in this study were embodied in the 12 goals developed in California. Further, these outcome variables are implicit in the North Iowa Area Community College Statement of Philosophy, Mission Statement, and Institutional Goals. These variables are presented in Figure 1 (p. 14) and were incorporated into this study.

Scope, Population, and Sample

Scope

This study consisted of a cohort of transfer students at North Iowa Area Community College in Mason City, Iowa who entered the College between the fall of 1981 and the summer of 1983.

It was not the intent of the study to examine all possible effects on all college students. Instead, this study examined the length of exposure to college effects, as measured by total semester credit hours achieved at North Iowa Area Community College and student satisfaction with their NIACC experience as reported on a mail survey.

College Effects

Understanding college effects on the student is far from simple. Pace (1979) claimed that there were no easy explanations for changes in the student, be it personal traits, values, or motivation. Pace also noted that some researchers had different views on cause and effect relationships, impeding the impact interpretation even more. Astin and Pace continue to research the possibility of the interaction and interrelatedness of the effects.

This study did not seek to understand the nature or type of college effects. Rather, this dissertation determined the extent to which length of community college exposure (attendance) and student satisfaction effected cumulative grade point average at the transfer institution. In addition, change that resulted from influences other than the college experience (i.e., normal maturation, etc.) were not factored out. While some researchers had suggested a college/non-college research design to control for other factors, Astin (1977, p. 5) stated that such a design "grossly oversimplifies the issue of college impact." He further stated that since college experiences were so numerous, it essentially rendered a college attendance/non-college attendance research

design virtually meaningless.

Population

The population studied consisted of all first-time Arts and Science and Career Option students enrolled at North Iowa Area Community College in Mason City, Iowa, from fall, 1981 to summer, 1983.

Sample

The sample was comprised of transfer students who had enrolled between the fall semester of 1981 and the spring semester of 1983 inclusive. The study sample was self-selected insofar as only those transfer students with both an ACT composite score and a high school cumulative grade point average listed on their permanent student record at NIACC were included.

Briefly, the sampling procedure consisted of obtaining data from sampled students from four sources: 1) NIACC student enrollment cards; 2) NIACC permanent student records; 3) Mail surveys; and 4) Transfer institution permanent student records. All data sources in this study were provided to the researcher while maintaining the confidentiality of each student.

Assumptions

1. The questionnaire used in this study was administered at a time when external events did not influence the general response of the student.
2. The student responding to the questionnaire answered the questions honestly and accurately.
3. A transfer student questionnaire was a valid and reliable methodology for collecting data for this study.
4. The official student records, calculating the cumulative grade point average and semester hours achieved, were accurate and reliable.
5. After transferring to a baccalaureate-granting institution, the student

performed at the same academic performance level, regardless of the college or university attended.

Delimitations

This examination of community college effects on transfer students was delimited to the extent that it included only those first time students who indicated, upon entry to the college, an Arts and Science or Career Option classification. The study was further delimited in that it included only those from North Iowa Area Community College in Mason City, Iowa, and considered only those students who entered the college between the fall semester of 1981 and the summer semester of 1983. This study did not include students who transferred to NIACC from some other institution.

During the 1981-82 academic year, students who planned to achieve a Bachelor's Degree constituted 70.94 percent of the total entering NIACC student population. In the 1982-83 academic period, transfer students enrolled totaled 1,561 or 70.69 percent of the student population. Consequently, this study investigated a single community college and limited student sample selection to transfer students who enrolled between 1981 and 1983.

The lack of commonly accepted definitions for measuring the concepts of job satisfaction and program satisfaction was also deemed to be a delimitation. There was no consensus as to which work-related factors were associated with job satisfaction nor was there any definitive agreement on what occupational variables influenced program satisfaction (Davis, 1986, p. 8). Studies incorporating satisfaction as a study variable are described further in Chapter II.

Astin (1977) offered a strategy for studying the impact of student involvement. He suggested that the measures of membership in a fraternity or sorority, participation in an honors program, and involvement in research could be used to

assess student involvement and related student satisfaction. However, he cautioned that not all forms of student involvement in the college experience were equally useful in determining college effects. Consequently, by examining student involvement in the college, it was possible to measure the quality or intensity of the student's college experience.

However, the measurement of student involvement in a community college is difficult. By their very nature, these colleges are primarily commuter institutions. Non-involvement by the student is the prevalent behavior at North Iowa Area Community College. This study did not attempt to examine experiences outside of the college environment. It was limited in that only semester credit hours achieved and the student's satisfaction with college were considered as college environmental variables.

Lastly, some variation in grade point average of the transfer student is attributable to the educational experience in the student's junior and senior years in college. This study measured variation in academic ability and student satisfaction on four general education goals, based on the impact of the community college on the student. However, the impact of the baccalaureate-granting institution was not statistically controlled in this investigation. In addition, variation caused by other variables, including maturational effects, type of baccalaureate-granting institution attended, and type of community college attended were not controlled. While these variables may be legitimate, they are not the focus of this study. Further discussion of transfer student GPA variability attributed to the first two years of study are presented by Lonning (1969), Cramer (1971), Astin (1977), and Giddings (1985) in Chapter II.

Definition of Terms

For the purpose of this study, the terms presented below were operationally defined (unless otherwise noted) as follows:

1. Arts and Science Student: A student enrolled in a community college in Iowa in a program that is composed of courses that would normally be used in a program leading to a baccalaureate degree (Fleming, 1972, p. 7).
2. Attrition: Failure to achieve some educational goal or objective (State University of New York, 1980).
3. Baccalaureate-Granting Institution: An accredited higher education institution that offers a Bachelor's Degree.
4. College Effects: Factors which influence student behavior, performance, or achievement.
5. Cohort: A defined grouping of individuals/students based on some characteristic or common denominator.
6. Community College: Two-year institution accredited to the awarding of the Associate in Arts Degree or the Associate in Science Degree as its highest offering (Cohen, 1982). This definition does not include technical institutes or junior colleges.
7. Cumulative Grade Point Average: A mathematical calculation determined by totaling earned grade points and dividing them by the total of accumulated semester hours.
8. Degree Completion: The completion of the required total semester hours for a particular program of study. For both the Associate of Arts Degree and the Associate of Science Degree, 60 total semester credit hours are required.
9. Full Time Student: A student who carries a minimum of 12 semester hours

each semester, with the exception of the summer semester, until graduation.

10. Persistence: The percentage of the original population still enrolled or having graduated during specified semesters (Richardson & Doucette, 1980).
11. Point of Entry: That point in time wherein a first-time student enrolls in the community college.
12. Semester Hours: A unit of measurement equaling 10-15 clock hours of class instruction or 20-25 laboratory class clock hours.
13. Student Outcomes: Halpern (1987) stated that the majority of available literature, at that time, had a wide variation in definitions of student outcomes, assessment, and other relevant terms. Lenning et al. (1977) defined student outcomes as the results or consequences of an educational institution and its programs (p. 1). Given the lack of consensus in defining student outcomes, the following was adopted as an operational definition for the present investigation: any results or consequences of an educational institution or its programs, or their interaction with a student's incoming characteristics.
14. Student Satisfaction: An individual/personal perspective as to the degree to which the educational needs, desires, or requirements of a student have been fulfilled by an educational institution.
15. Transfer Student: Synonymous with the Arts and Science and Career Option student.

Data Gathering Procedures

This study examined the NIACC enrollment cards (Appendix A) and permanent student transcript (Appendix B) of each sampled student. Specifically, the cohort of

students selected for study began with the transfer student with a point of entry beginning the fall semester of 1981 through the summer of 1983. For each semester enrolled, the number of semester hours earned was recorded. This procedure was continued until the student withdrew from NIACC or transferred to a baccalaureate-granting institution. In total, the NIACC student enrollment cards and permanent student transcript provided the following sets of data:

-Enrollment classification
-ACT composite score
-High school grade point average
-Gender
-Address
-Community college grade point average
-Date of transfer/graduation/withdrawal
-Date of community college enrollment
-Date of birth
-High school graduation date
-High school class rank

In addition, a mail-out survey, distributed to the sample, obtained the following data:

-Transfer institution
-Community college satisfaction
-Father's educational level at the time of student enrollment
-College activity involvement
-Current college status
-Mother's educational level at the time of student enrollment
-Reason for transfer
-Satisfaction with their NIACC preparation for the work place
-Satisfaction with their NIACC preparation as individuals
-Satisfaction with their NIACC preparation as citizens
-Satisfaction with their NIACC preparation as family members

A letter was mailed to transfer baccalaureate-granting institutions to request permanent records of the transfer student (Appendix C). These records were used to determine transfer student cumulative grade point average at graduation.

Treatment and Data Analysis

The preparation of the data for statistical treatment was comprised of a five-phase process, structured after Fowler's (1984, p. 127) methodology. The five phases were:

1. Organization of the data.
2. Numerical code design for variables.
3. Translation of student responses to numbers.
4. Data entry.
5. Data verification.

The study's data analyses involved both descriptive, non-parametric, and parametric statistics. Descriptive statistics were used with all sample variables. Specifically, the descriptives included count, percentage, mean, and standard deviation. Analysis of Variance (ANOVA) constituted the parametric statistical analysis. Finally, chi-square was used as the non-parametric test of the study variables. A Pearson Correlation was performed on all interval and ratio scale data to further examine variable relationships. The Statistical Package for the Social Sciences (SPSSX) was used to perform all data analyses.

Analysis of Variance was used to test study Hypotheses 1, 3, 4, and 13 presented on pages 114-118 of this study. Specifically, one-way Analysis of Variance was used in all cases where the dependent variable of the null hypothesis being tested was on the interval or ratio scale of measurement. The F-ratio provided the test statistic to determine if variances between the means were greater than what might occur by chance alone. Post hoc tests were used when a null hypothesis was not accepted to determine specific group mean differences. The Tukey-B method was used for this purpose.

Chi-Square was the only non-parametric test used in this study. Specifically,

this test was performed on Hypotheses 2, 5-12, and 14-17 presented on pages 114-118 in Chapter III. In each of these hypotheses, the dependent variable was on the ordinal scale of statistical measurement. In addition, cross-classification tables were used with each chi-square statistic. Each table contained frequency, expected value, raw percentage, column percentage, and row and column totals which assisted in describing the nature of the data. Chapter III provides a detailed presentation of data treatment and analysis.

Significance of the Study

The topic of college effects on students is continually expanding as an area of inquiry. However, Astin (1977) stated that the literature available on college effects on students tends to be poorly designed for research and is often limited in scope. He further suggested that the key issue with regard to college effects is what difference, if any, college attendance has on student cognitive and affective development. Astin (1977, p. 4) proposed three tasks in assessing college effects on students: 1) Understand the meaning of student change; 2) Develop student outcome measures; and 3) Design the analyses of college impact. He strongly suggested that it was essential that the observed changes in students over time be seen as having two components. These components were changes resulting from the effects of the college and changes resulting from other influences. The present investigation incorporated Astin's requirements in assessing the impact college has on its students.

This study has contributed to the accumulated research body of knowledge on the effect of college on students in the following ways:

1. It added to the literature regarding the effect of the community college on transfer students in terms of academic achievement and student satisfaction with the community college experience.

2. It determined if differences in academic success at a baccalaureate-granting institution differed among students with regard to cumulative

semester credit hours earned.

3. It determined if differences existed in transfer student satisfaction with the community college experience and cumulative semester credit hours earned.

4. It determined if differences existed in community college semester credit hours earned and the ACT composite score and high school grade point average of the transfer student.

5. It assisted North Iowa Area Community College in communicating its effect on transfer students to its constituents.

6. It provided an inferential design for analyzing the effect of community colleges on student cognitive and affective development.

CHAPTER II. REVIEW OF THE LITERATURE

Overview

This Chapter examines selected prior studies of community college effects on transfer students. After a brief introductory discussion, the literature review is divided into the following areas: 1) Development of the Transfer Function in the United States; 2) Transfer Function Development in the State of Iowa; 3) General Education Goals; 4) A College Effects Model; 5) Entering Student Characteristics; 6) The College Environment; 7) Transfer Student Outcomes; and 8) Summary.

Introduction

This study examined the effect of the community college on transfer students based on the amount of student exposure to the community college environment. In addition, this investigation evaluated the transfer student's level of satisfaction with the community college experience. Finally, this study determined the level of transfer student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members.

Much of the prior research examined students after they left college (Midgen, 1987; Lee, 1985; Bewers, 1982), or after they transferred to a baccalaureate-granting institution (Graham, 1987; Swift, 1986; Knoell & Medsker, 1965). Likewise, there was considerable research on post-graduation evaluations of general student satisfaction with their college experience (Lucas, 1986, 1985), and there were many comparative studies of the academic performance of the native four-year institution student and the transfer student. (Gould, 1981; Lucas, 1981; Richardson & Doucette, 1980). While none of these studies involved all of the variables included in the present investigation, each provided guidance in the formulation of the variables included in the study. These prior studies also assisted in the development of the data gathering

instrument, data gathering procedures, and in the selection of methods appropriate for the analysis of the information gathered.

The community college transfer student/college effects information shortage is best summarized by the testimony of one of its advocates, Arthur Cohen, President of the Center for the Study of Community Colleges:

> "The first problem is that no one knows exactly how many students begin in a community college and eventually transfer. The pattern is confounded by people who transfer after one semester; people who begin at the university, return to the community college for a time, and then transfer to the university once again; people who take courses at a local community college and university branch concurrently; those who start at a community college and stop-out for a couple of years before entering the university, and so on. Nationwide, probably fewer than five percent of the students who begin at a community college complete two years there and then transfer to a university. Probably another seven or eight percent begin at a community college and transfer without completing two years. But those figures are merely educated guesses based on incomplete data from various states" (Cohen and Brawer, 1984, p. 3).

While Cohen presented a number of obstacles in studying the transfer student, he did not indicate that the obstacles were insurmountable. However, Cohen's comments did suggest the need to more closely evaluate the different variations in the community college transfer student's approach to higher education.

Tinto (1987), two years after Cohen's remarks, used the data from the National Longitudinal Survey, which studied the educational activities of the members of the high school graduating class of 1972, to determine trends in student departure from college (i.e., withdrawal, failure, transfer, stop-out, and graduation). Tinto found that "more students leave their college or university prior to degree completion than stay" (p. 12). He developed a model which outlined the pattern of student departures from higher education (see Figure 2). This model provided a means to better understand the enrollment patterns of students at two-year colleges. It also assisted in defining the parameters of investigation for the current study. Specifically, this study was confined to examining enrollment patterns identified as directional arrows one

through three in Figure 2.

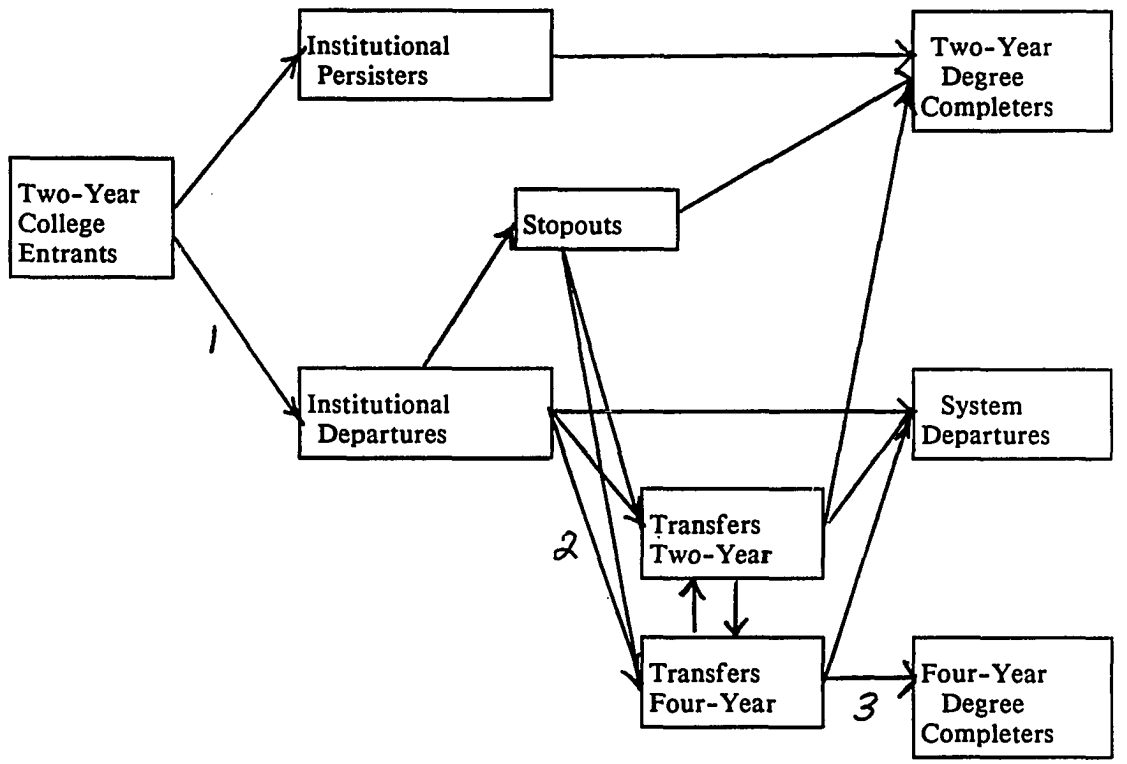

Figure 2. The flow of college students through higher education by two-year college entrants (Tinto, 1987)

This introductory section of Chapter II briefly considered the body of research as it related to the impact of college on students. Selected authors were presented who conducted studies after students had either left college or transferred to a baccalaureate-granting institution. Authors who conducted comparative studies on native and transfer students were also presented.

Arthur Cohen described the difficulties associated with collecting tangible evidence on transfer students. He enumerated problems in transfer student classification due to the mix of reverse-transfer students, stop-outs, and drop-outs. He estimated that less than five percent of transfer students at community colleges

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Finally, Tinto's (1987) conceptual model of student attendance patterns was presented. This model outlined all potential senarios of attendance for students who originated their study at a two-year college. The model provided a larger context in which to view the purpose of this investigation.

Development of the Transfer Function in the United States

McDowell (1918) studied the origin and development of the junior college in the United States. In doing so, he researched articles, reviewed related literature and printed materials, made personal visits to, and corresponded with junior college staff and administration. In addition, he incorporated the use of five different questionnaires in order to catalog the beginning of the junior college movement. The first questionnaire was mailed to 218 junior college administrators. The second questionnaire was distributed to 60 of the leading colleges and universities in the United States during that time period (i.e., early 1900s). The third questionnaire was sent to the Superintendent of Public Instruction in each of the 48 states. The fourth questionnaire was distributed among the 74 instructors at the University of Iowa. The fifth and final questionnaire was mailed to five selected institutions including: 135 to freshman and sophomore students at the State University of Illinois, 110 to instructors at the University of Minnesota, 20 to instructors at Cornell College (Iowa), 20 to instructors at Coe College (Iowa), and 240 to freshmen and sophomore students at Grinnell College (Iowa).

McDowell found that official recognition of the distinction between the early and later years of university work occurred at the University of Michigan in 1883 (p. 11). Implicit in the origin of the junior college movement was the implication of a preparatory or transfer function of the college. McDowell noted early arrangements

that had been made by William Rainey Harper between the University of Chicago and some struggling colleges. Specifically, the arrangement allowed graduating students, from the new two-year colleges, to enter the junior year of the University of Chicago without sitting for an entrance examination (p. 16). While this transfer provision was not fully accepted by all parties concerned, McDowell contended that it was becoming more and more accepted by other state universities.

The transfer function was formally implemented at the first public junior college in the late 19th Century in Joliet, Illinois. The junior college provided students the first two years of college-level work for transfer and acceptance to the University of Chicago.

Monroe (1972) stated that California followed with legislation to make it the first state to pass authorizing legislation for the establishment of local junior/community colleges. Later, in 1921, the California legislature authorized the establishment of junior/college districts if such districts had a minimum high school population of 400, and a minimum assessed valuation of ten million dollars (p.11). The community college was coming of age.

L.V. Koos (1925) compiled a detailed analysis of educational periodicals, college catalogs, and bulletins to determine the then current (i.e., between 1912-1924) conceptions of the purposes of junior college. The data revealed twenty-one purposes. Six items were pertinent to the present study: 1) Offering two years of work acceptable to colleges and universities; 2) Continuing home influence during immaturity; 3) Affording attention to the individual student; 4) Offering better opportunities for training and leadership; 5) Allowing for exploration; and 6) Assuring better preparation for university work. Of these purposes, Koos noted that preparation for transfer was the one most often put forward. The remaining items suggested that the junior college influenced the development of its students in the

areas of leadership, citizenship, employment, and individual development.

Thomas (1926) studied the functions of the junior college and examined whether the junior colleges of that time period (1920s) were, in fact, fulfilling their stated missions. His study examined junior colleges in general, and California's junior colleges in specific. By reviewing selected literature, including official college circulars, course of study brochures, and questionnaires sent to college leaders, Thomas discovered that the junior colleges tended to emphasize the preparatory function. Thomas stated that this function was strengthened by the fact that "...guidance was regularly sought from the universities by the neophytes in college administration who were in charge of the new institutions. So frequent were the requests for advice and direction that the University of California issued in 1915 a special bulletin for the guidance of the junior colleges. In this bulletin, approval was expressed of the preparatory function and the way it was being fulfilled" (p. 13). Thomas observed that the preparatory function was justified by the social and educational needs of the constituents. He further accepted university preparation as one of the basic functions of the junior college.

Johnson (1969) concluded that the original function of the first junior colleges was the transfer function. When the junior colleges were created, their sole purpose was to provide acceptable university work in the first two years of study. He stated that even the title "junior college" defined the college's mission as providing the first two years of study.

Monroe (1972) stated that by 1920, public community/junior colleges in high school districts had expanded to states other than California and Illinois. Other states establishing the two-year institutions were Michigan in 1914, Minnesota in 1915, Kansas in 1917, Iowa in 1918, Missouri in 1919, and Texas in 1920. Monroe stated that the community/junior college movement had found a place in America's

education system.

When the predecessor of the American Association of Community and Junior Colleges (AACJC), the American Association of Junior Colleges (AAJC), held its meeting in 1922, the Association defined the junior college as "...an institution offering two years of instruction of strictly collegiate grade" (Johnson, 1969, p. 37). Consequently, the two-year college had a meaning and a purpose. The college was defined in terms of its relationship to other higher education institutions and its purpose was the transfer function.

According to Monroe (1972), the largest growth in the number of community/junior colleges in America occurred during the Depression. A total of 403 colleges were in existence in 1929, which expanded to 584 in 1945. He cited the next largest growth period in the junior college movement was after World War II, especially after the 1960s (p.13).

Knoell (1982) stated that historically there was a clear dichotomy between the liberal arts (transfer) student and students in later developed terminal (occupational/career) programs. The transfer student primarily prepared to transfer to a baccalaureate-granting institution. In contrast, the occupational/career student sought to acquire the skills necessary to become employable and had little intention to transfer. However, as occupational enrollments grew during the 1960s, the distinction became less clear. Occupational/career students wanted the option to decide, at any time in their education, between employment preparation and transfer to a baccalaureate-granting institution. Students in both career and liberal arts programs began to violate established sequences by taking courses from both program areas. As a result, career-option programs were established to allow students a choice between college transfer and skill training for immediate employment. Career-option programs were curricularly designed such that students received specific skill training, but also

received general education courses required by baccalaureate-granting institutions. Students were afforded the latitude to either select immediate employment or transfer at any time during or after their program of study.

Knoell stated that while the transfer function was a significant part of the mission of the community colleges in the 1980s..." the transfer function may have become lost in large, complex, comprehensive community colleges due to open admissions policies, a responsiveness to changing community interests and needs, a commitment to flexibility and adaptation to changing conditions, and a reputation as a low-risk, low-cost institution" (1982, p. 8). Knoell's comment was not necessarily a chastisement of changes in community college direction, but rather a description of those changes.

Medsker (1960) studied two-year colleges in 15 states throughout the nation (including Iowa) to accomplish three purposes:

1. To describe the functions of the two-year college as they are actually discharged, with an attempt to compare the functions performed with the claims commonly made by the institution.
2. To observe and report on the patterns of control, finance, and administration of the two-year college in difference states, and its relationship to other segments of higher education.
3. To make evaluations of two-year institutions within the limitations of the study and to identify some of the problems which they must face in the immediate years ahead (p. 2).

These 15 states represented 342 two-year colleges, or 58 percent of all two-year colleges across the nation, according to the 1956 Junior College Directory. In addition, these states represented 66 percent of all public junior colleges, and 76 percent of the total student enrollment. Of the 342 colleges, sixty-three agreed to

participate in a study designed to determine the number and percentage of their transfer students. The study was limited to those students first enrolled during the fall of 1952. This cohort of daytime students was examined during the subsequent four academic years, ending in the spring semester of 1956. Seventeen thousand six hundred and twenty-seven students began their education in September, 1952. Recorded student data included: aptitude test scores, reason and date of withdrawal, graduation date, and transcripts issued to baccalaureate-granting institutions.

In 1958, Medsker initiated a community college follow-up study. He contacted each four-year college to which junior college students' transcripts had been forwarded. The purpose of the follow-up study was to determine if the junior college student entered the baccalaureate-granting institution, and if the transfer student received a baccalaureate degree. From this information, Medsker determined the percentage of entering junior college students who transferred, graduates who transferred, and the types of institutions to which they transferred. The study revealed that 33 percent of the 17,627 entering daytime students had transferred to a baccalaureate-granting institution by 1956. Further analysis revealed differences in transfer rates between public and private two-year colleges. Forty-two percent of students enrolled at private institutions transferred, compared to a 33 percent transfer rate at public two-year colleges. In addition, the median percentage of enrolling students who transferred to a four-year institution upon completion of the Associates Degree was 56. In contrast, a median of 33 percent of the students who enrolled, transferred prior to graduation.

Of the sampled enrolling students, 36 percent of the men and 30 percent of the women transferred to a baccalaureate-granting institution. Thirty-two percent of the men and 33 percent of the women in the sample graduated from their two-year institutions. Finally, 58 percent of the male students and 50 percent of the

female students who graduated from the two-year colleges transferred to a baccalaureate-granting institution. These calculations indicated a higher transfer rate from a two-year institution to a four-year institution for students who completed their program of study at the two-year college. In addition, a greater percentage of male students who graduated from a two-year college transferred to a baccalaureate-granting institution.

Medsker noted some limitations in his study which should guide future research. First, only one full semester at the community college was considered for sample selection. The data would be strengthened by considering additional terms. Second, the study was limited to student progress during four academic years. Greater validity may have been achieved by the extension of the study period. Specifically, the extended investigation time period would permit the inclusion of part-time students which take longer to complete a degree. Finally, there was some variability of procedures in the study because each participating junior college used its own method of qualifying students as regular, entering, daytime students. Medsker stated that the limitations of his investigation suggest an extended investigation period, an extended time period for the follow-up of transfer students, and standardization in data reporting.

The Medsker study provided guidance to the present investigation in a number of ways. First, the study of a cohort was patterned after Medsker's research. The present study followed Medsker's approach with some modifications to accommodate the aforementioned limitations in methodology. Specifically, a selected student cohort was followed from entrance through transfer and receipt of a baccalaureate degree. Second, the researcher was guided by Medsker's follow-up procedures used with baccalaureate-granting institutions. Finally, the recommendations noted by Medsker were incorporated into the design of this study.

In This is the Community College, Gleazer (1968) presented a mid-1960s snapshot of community college movement. He described general education and transfer student activity within the community college. Gleazer reported a transfer rate of nearly 20 percent of entering students in California. He further noted that of the 20 percent, 80 percent actually achieved a baccalaureate degree. Similarly, in Florida, approximately 30 percent of the entering freshmen transferred to baccalaureate-granting institutions. Gleazer also reported that in 1967, one-third of all enrolling community college students across the nation transferred to baccalaureate-granting institutions.

Gleazer's statistics indicated a much higher level of transfer success than the data posited later by Cohen (1982). Cohen suggested that by mid-1980, less than 13 percent of the entering community college students would transfer to baccalaureate-granting institutions. The proportion of transfer students at community colleges has varied in different decades. However, it is not the intent of this study to examine the effect of decades on the rate of student transfer from two to four-year colleges. It should be noted, however, that the variance in transfer rates may be, in part, due to the effect of differing time periods.

Consider the aforementioned author's observations in light of some nationwide statistics. Table 4 presents data from fiscal years 1980-1989 on community college student enrollment in the United States. From 1980 to 1988 enrollments increased by 12.69 percent or 569,574 students. This is an average increase of 71,197 students or 1.59 percent per year. Estimates for fiscal year 1989 project an increase of 3.73 percent or 188,399 students. These data provided an approximation of the magnitude of the community college transfer function and the significance of the present investigation to the larger body of research knowledge.

This section of Chapter II provided selected studies on the development of the

transfer function in the United States. The origins of the junior college and its transfer function were presented by McDowell (1918). Role changes and mission

Table 4. Fall Headcount Enrollment at Community, Technical and Junior Colleges, 1980-1989. (American Association of Community and Junior Colleges, 1990)

Fiscal Year	Student Enrollment	Percent Increase/(Decrease)
1980	4,487,872	N/A
1981	4,825,931	7.53%
1982	4,887,675	1.28%
1983	4,964,379	1.57%
1984	4,947,975	(0.33%)
1985	4,836,819	(2.25%)
1986	4,730,235	(2.20%)
1987	4,869,615	2.95%
1988	5,057,446	3.88%
1989[a]	5,245,845	3.73%

[a] Estimated.

definition of the junior college explored chronologically were by Koos (1925), Thomas (1926), Johnson (1969), and Knoell (1982). The review of the development of the transfer function provided a necessary historical basis to better understand the transfer function and its changing and current role in the community college.

Also in this section, the follow-up studies of Medsker (1960) and Gleazer (1968) on entering two-year college students were reviewed. Both authors described transfer rates to baccalaureate-granting institutions. National community college enrollment figures from 1980 to 1988 provided an estimate of the magnitude of transfer rates in the United States as well as the continual growth of the community college. The Medsker study, in particular, provided substantive guidance to this study in terms of his use of a student cohort and follow-up procedures used to derive data from baccalaureate-granting institutions.

Transfer Function Development in the State of Iowa

The preceding section was a macro-view of the origins of the transfer function in the United States. In contrast, this section presents a micro-view of the development of the transfer function, focusing specifically on the State of Iowa.

The first public community/junior college in Iowa was organized as a department of the public schools of Mason City, and began operations in September, 1918. It was established without legal sanction, as there was no statutory law at that time authorizing the organization of junior colleges as part of the public school system (Iowa Public Instruction Department Report, 1967). Enabling legislation which permitted local school districts to establish a junior college was passed in Iowa in 1927 by the 42nd General Assembly. A total of thirty-six junior colleges began operating in Iowa between 1918 and 1953.

In 1955, the State established the Iowa Study Committee on Higher Education. The 13-member Committee, comprised of a representative cross-section of higher education, was charged with examining the future of higher education and associated challenges within the State. The Committee directed the Iowa Legislative Research Bureau to provide an in-depth analysis of the status of higher education in Iowa. The Bureau hired Dr. Raymond C. Gibson, a higher education professor at Indiana University, to chair the investigation. Gibson returned to the 59th Iowa Legislative General Assembly with the study results that recommended the establishment of a community college system in the State. He argued that some functions of higher education are best served by the community college (Gibson, 1959). Among Gibson's list of recommendations was the provision of student preparation for transfer to a baccalaureate-granting institution. Specifically, Gibson presented four distinct functions for the proposed regional community colleges in the State. They were:

1. General education studies which will transfer to senior colleges. These

studies should form an integral part of all other community college functions.

2. Guidance and counseling functions to assist local students in planning their education and careers.
3. In-service training of workers in local industries. Enrollments from this source are likely to exceed those of full-time day students. Such a program could be of great benefit to workers in adjusting to rapid changes in industry, business, and agriculture.
4. Terminal education involving from one to three years beyond high school and leading to an Associate in Arts or an Associate in Science degree. Terminal curricula should be developed on the basis of research concerning community needs (p. 41).

Gibson's recommendations clearly indicated the paramount role of a general education program and student preparation for transfer in Iowa.

Acting under the direction of the State Legislature, the Iowa Department of Public Instruction (now the Iowa Department of Education) proposed the creation of a statewide system of community colleges. By 1964, the Iowa Legislative General Assembly passed the enabling legislation (Senate File 550, now in the Code of Iowa, Section 280A).

The junior college enabling legislation was the origin of transfer student preparation in the State of Iowa. The faculty concentrated initially on assisting students who anticipated later transfer to a baccalaureate-granting institution. Similar to national junior college activities, Iowa's community colleges soon expanded in scope and mission in order to serve divergent constituents.

In Table 5, historical data are presented which provide an overview of the number of Associate Degrees awarded. The table indicates a relative growth in the

number of Associate Degrees awarded. Also indicated is the near equal distribution of degrees awarded to male and female students.

While Table 5 shows the growth of transfer degrees, including the period under study in this investigation, it is not a definitive measure of the growth of the transfer

Table 5. Associate Degrees conferred by Iowa's Community Colleges 1974-1985 (Iowa College Aid Commission, 1985)

YEAR	TOTAL	MEN	WOMEN
1984-85	5,942	2,943	2,999
1983-84	5,832	2,761	3,071
1982-83	5,806	2,765	3,041
1981-82	5,108	2,350	2,758
1980-81	4,876	2,338	2,538
1979-80	4,468	2,203	2,265
1978-79	4,052	2,106	1,946
1977-78	4,127	2,286	1,841
1976-77	4,057	2,312	1,745
1975-76	3,969	2,294	1,675
1974-75	3,778	2,240	1,538

student population. The table does not include students who transfer to another institution prior to degree completion, nor those transfer students who leave the college for other reasons.

This section of Chapter II provided a brief overview of the junior/community college development and its related transfer function in the State of Iowa. Mason City Junior College, the predecessor of North Iowa Area Community College, was identified as the first junior college in the State. A table was presented which depicted the growth in Associate Degrees conferred in the State between fiscal years 1974 and 1985. The following section presents reasonable consequences (outcomes) of a general education curriculum.

The Goals of General Education

A principal purpose of the lower division community college arts and science curriculum is to provide students with a general collegiate education. The meaning of general education is without a common definition among educators, parents, legislators, and even students themselves. Medsker (1960) stated, "To some writers, and to some faculties, it means a common basic curriculum; to others it means common outcomes of a fundamental educational experience, which, while leading to common ends, may rely on diverse means. To others, general education is given a behavioral definition, as that education which prepares a man to live more fully as a person and more effectively as a citizen" (p. 56). This section of Chapter II outlines the purpose and goals of general education from selected studies.

Johnson (1952), in a report titled "General Education in California's Junior College System" presented succinct purposes of general education. He stated that general education was that part of education which encompassed the common knowledge, skills, and attitudes needed by each individual to be effective as a person, a member of a family, a worker, and a citizen (p. 2). Johnson set forth 12 goals of general education as they were generated at the 1950 summer General Education Workshop held at the University of California at Los Angeles. The California State Junior College Association recommended the General Education Workshop because of the following factors:

1. All national and state studies indicated that the proper training of youth demanded the upward extension of free public education.
2. The junior college was best suited to serve the majority of post high school youth and adults in its community.
3. The junior college had its greatest development in California.
4. All youth needed additional general education above high school, however,

confusion about the character of general education had to be resolved.

5. The junior colleges of California were organized to undertake a cooperative study of general education.

The Workshop's membership was comprised of California junior college faculty members. Each of the 12 general education goals drafted by the Workshop members is presented below. In addition, a brief interpretation of each goal is presented.

Goal 1. Exercise the rights and responsibilities of a democratic citizenship. Workshop members suggested this goal was necessary if a democratic society was to prosper. Indeed, knowledge and understanding of America's heritage and of our governmental operations, as well as that of other nations, is imperative in a global economy and existence.

Goal 2. Develop life guiding moral and spiritual values. While members established that it was not the role of the community college to choose or impose moral, ethical, or spiritual values, it was the role of the college to assist the individual in identifying and clarifying his or her individual system of values.

Goal 3. Express thought clearly in speaking and writing, and develop understanding through reading and listening. Effective communication was seen as basic to individual interaction, development, societal integration, and to an intelligent citizenship.

Goal 4. Use mathematic and mechanical skills as a part of daily living. Group members considered these skills essential in order for the individual to interact with society and its increasingly high-technological advances.

Goal 5. Develop critical thinking skills for problem analysis, generation of solutions, and for intelligent discrimination. Again, members viewed these skills as being central to daily living. Critical thought might assist students in their respect for evidence, analysis of this evidence, search for truth, and openmindedness.

Goal 6. Increase perspective of time and place in the world through an understanding of cultural heritage. Members felt that the desired outcome of students was knowledge of history as a means to understand contemporary society.

Goal 7. Understand the symbolic relationship of man and the environment. Members stated that this purpose sought to clarify the world, and aid in the understanding of new developments and discoveries and how they affect our daily lives. An understanding of the forces which have shaped civilization is necessary for personal development, job competence, satisfying family life, and intelligent citizenship for the 20th Century.

Goal 8. Maintain good mental and physical health for self, family, and community. Participants stated that the welfare of the community, state, and nation is largely dependent on the physical and mental well-being of its members.

Goal 9. Develop a balanced personal and social adjustment. Emotional stability and personal maturity, as well as societal integration, was the goal set forth by members of the Workshop. Chief among these goal intentions was the understanding of self and others.

Goal 10. Share in the development of a satisfactory home and family life. Workshop participants cited family life as an avenue for personal and social growth and development. Consequently, general education represented an important vehicle in providing family life preparation.

Goal 11. Achieve a satisfactory vocational adjustment. Members stated that planning for a career was an important goal of general education. Identification of individual goals, interests, and abilities was an essential part of that plan.

Goal 12. Participate in, and appreciate some form of satisfying creative activity. The Workshop participants suggested that by understanding, appreciating, and participating in art, literature, and music, an individual gained insight as well as

enjoyment in life (pp. 22-29).

Johnson stated that none of the aforementioned goals of general education were mutually exclusive. Rather, they constituted a "seamless web of human development". For example, Johnson stated, "personal and social adjustment contribute to a happy home and family life, to effective citizenship, to vocational success, and to healthful, living. Similarly, creative activity contributes to personal and social adjustment," (p. 22). He further stated that the Workshop participants intentionally made no attempts to make the goals discrete. Rather, the interaction of the goals assisted participants in their understanding of general education as a united whole versus individual components. These general education goals provided a foundation for examining intended goals of NIACC's impact on transfer students for the present investigation.

The California Junior College Student Government Conference, interested in student reaction to the importance of the 12 general education goals developed by the members of the Workshop, instituted a survey of 1,339 randomly selected students of 30 different junior colleges. Each student was to rate each goal on a scale of four (very important) to zero (of no importance). The result was an average score of 3.33. The scores ranged from a low of 2.6 for Goal 12 (i.e., participation in and appreciation for creative activity) to a high of 3.6 for Goal 1 (i.e., exercising the rights and responsibilities of a democratic society) (Johnson, 1952). These data suggested a very high importance of all twelve general education goals according to randomly selected junior college students. While the student survey population represented less than two percent of the junior college population, it was clear that the students tended to be in agreement with the efforts of the General Education Workshop as to the goals of a general education program. Consequently, these goals were used as a basis for selecting intended outcomes of desired community college effects for the present study.

Medsker (1960), eight years after the development of the 12 general education goals cited by Johnson, stated that a majority of two-year colleges had done little to meet the objectives of general education. Further, he stated that until the twelve goals of general education were developed by the California Workshop, no previous explicit definition of general education goals existed.

Williams (1968) described general education as "unfortunately colorless". He stated that few persons outside of the United States understood general education and that many understood it to be education in general. Williams stated, "The three major fields of human knowledge are the humanities, the social sciences, and the natural sciences. An undergraduate whose special interests lie in one of these fields is enabled to understand his own field in the context of the whole of human knowledge. This practice is followed in American colleges and is called general education."

Williams visited numerous colleges and universities in the early 1960s to review higher education efforts to provide a general education for their students. He researched volumes of historical publications which discussed the subject. In the first chapter of his book, General Education in Higher Education, he presented the purposes of general education for the student as an undergraduate, for the man as a scholar, for the man in his profession, for the man in the community, and for the man during leisure hours.

As preparation for student and scholar, Williams suggested three purposes of general education: 1) The student must be able to see his special field in the context of the whole of knowledge; 2) General education should develop a freedom from pride which reminds the student that he does not know all the answers, but gives him the curiosity to look for them, and the confidence to know where to find them; and 3) General education provides for some measure of common learning in all fields of human knowledge (pp. 7-8). In this context, Williams has suggested the need for

common understanding as a student and scholar.

Williams suggested that knowing mankind was the purpose of general education for the man in his profession. He stated that general education should provide a basis for broad decision making, curiosity, and methodical thinking in the work place. Ultimately, general education should prepare the individual to be a leader of people and not machines in the occupational environment.

Williams defined the purposes of general education for the man in the community in terms of leadership and followership. He felt general education should prepare the individual who provides and aspires to leadership in the work place to provide and aspire to positions of leadership in his community. For individuals not desiring positions of leadership, general education should prepare individuals to be responsible citizens -- to be critical and evaluative of leaders at local, state, and national levels.

Finally, Williams suggested purposes of general education for the leisure hours. Williams noted that man's leisure time should provide an opportunity for growth of personality, reading, and contemplations outside his specialty. He stated further that "education for life and education for livelihood are equally significant; we must educate for the job, as well as for the job of life" (p. 23). Williams' purpose of general education for leisure was intended as a specific learned activity as opposed to its development in a haphazard manner.

Williams discussed general education goals for man as student and scholar, for man in his profession, for man in the community, and for man during his leisure hours. These goals served as a basis to evaluate the intended impact of the general education curriculum on the transfer student. In addition, these goals assisted in the eventual selection of transfer student outcome variables, discussed later in this investigation.

Cohen and Brawer (1982) stated that one purpose of the collegiate function was to assist students in understanding their past, present, and future through exposure to literature, the arts, and sciences. They defined the collegiate function as an amalgam of curriculum and the promotion of student transfer to a baccalaureate-granting institution. They felt that the general education curriculum should challenge students to think critically as well as prepare them to be responsible members of society. Cohen and Brawer expounded that "...the collegiate function, the higher learning, teaches reflection, use of the intellect. It broadens choices and connects people to their culture and to past and contemporary society. The coincidence of this function with the transfer courses in the liberal arts has made the two seem immutably associated" (p. 300). In addition, the authors identified general education as being effective. They felt that under the general education curriculum, students would be more likely to develop an appreciation for the arts and sciences. These statements of the collegiate function represented the basis for examining the effect of the community college on its student in this investigation.

However, Cohen and Brawer warned against arrogance regarding college effects. Specifically, they stated that "...two-year colleges are not themselves going to produce reflective human beings; no single institution can claim a monopoly on that strategy. What the colleges can do is to provide some portions of the education for the masses that tends toward encouraging exercise of the intellect" (p. 308). Cohen and Brawer's caution should be extended to include the intellectual stimulus from co-curricular activities. These activities may be external to the college's operation, such as natural maturation.

This section of Chapter II examined selected studies to determine the goals of general education. Johnson (1952) presented 12 goals of general education which were designed by junior college faculty at a summer workshop. These goals emphasized

democratic citizenship preparation, moral and spiritual value development, communication, mathematical, and critical thinking skill enhancement, and the development of the person as an individual, family member, employee, and citizen. A student evaluation of these goals verified their importance to students themselves.

Williams (1968) provided similar goals of general education; the specific goals of general education for man as an undergraduate, for man as a scholar, for man in his profession, for man in his community, and for man during his leisure hours. Williams' goals in particular assisted in the selection of the general education outcome variables discussed later in this chapter.

Cohen and Brawer (1982) outlined the purpose of the collegiate function as comprised of two operations: general education curriculum and promotion of student flow through the community college and then to a baccalaureate-granting institution. In addition, the authors expounded on the specific purpose of the general education curriculum in the collegiate function.

Each of the aforementioned authors presented purposes of the general education curriculum. From those identified purposes of general education, it was possible to select reasonable consequences of transfer student exposure to the community college. However, a model was needed to study the specific impact of the community college on transfer students. The model used in this investigation is presented in the next section.

A College Effects Model

To examine the specific effects of college on the student, an accounting of incoming student characteristics was essential. Secondly, college effects had to be observed on a continuum of intensity or degree of student exposure to the college environment. Finally, student outcomes had to be examined in order to assess the

college effect on the student. This section in Chapter II presents a model which examines incoming student characteristics, evaluates the degree to which a student has been exposed to the college, and assesses student outcomes. This study used the conceptual model developed by Astin (1965, 1966, 1970a, 1970b) as the basis for investigation. This student development model (see Figure 3) was comprised

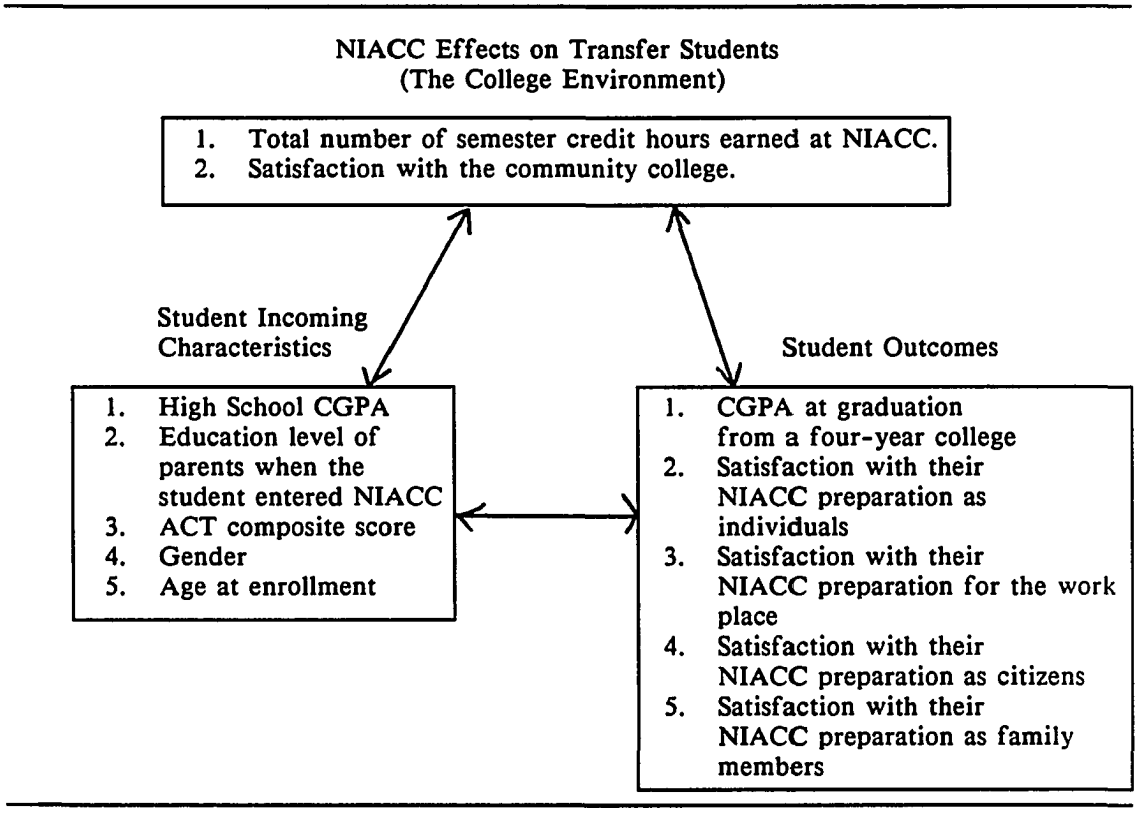

Figure 3. Model for inquiry of the effects of the community college on transfer students (Adapted from (Astin [1970a] Sociology of Education)

of three components: Student Incoming Characteristics, the College Environment, and Student Outcomes. Each are presented more fully below.

Student incoming characteristics, according to Astin, consisted of individual skill, identity aspiration, talent, and aptitude (i.e., that which the student brings to the college environment). These characteristics could include admission tests, gender,

and race. For purposes of this study, incoming characteristics were cumulative high school grade point average, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment. Student incoming characteristics, as a model component, is examined more fully in a section presented later in this chapter.

The college environment, in Astin's model, included both formal and informal aspects of the institution as the student experienced it. The environment might be comprised of curriculum teaching practices or other attributes which could have an effect on the development of the student. In this study, the college environment included the total number of semester credit hours earned at NIACC and the student's satisfaction with the community college experience. The college environment, as a model component, is further examined later in this chapter.

Student outcomes, according to Astin, were those attributes of the student's development that the college either influences or attempts to influence through the collegial environment. These could include student opinions, attitudes, knowledge, contributions to society, and skill development. This dissertation examined academic achievement as measured by the student's cumulative grade point average at graduation from a baccalaureate-granting institution. In addition, student outcomes included student satisfaction with their community college preparation as individuals, for the work place, as citizens, and as family members. These were used as measures of general education goal fulfillment. Student outcomes, as a component of Astin's model, is examined further in a subsequent section of this chapter.

Feldman and Newcomb (1973), in The Impact of College on Students, examined numerous college effects studies, data sets, and models in order to assess the influence that colleges have on students. In their investigation, they examined some of the methodological issues concerning Astin's model.

Feldman and Newcomb stated that while it was desirable to control for all

variables that might effect student outcomes, this might not be possible or feasible (p. 359). From their review of studies of college effects on students, they concluded that students' incoming characteristics might not be directly related to the college outcomes. Instead, college outcomes might be determined by what college the student attended, which, in turn, could effect outcomes (p. 360). Feldman and Newcomb proposed a corollary to Astin's model--both models are replicated in Figure 4. In Figure 4-a, student characteristics do not casually determine student outcomes. However, student characteristics are associated with student outcomes via the college environment. In Figure 4-b, college incoming characteristics have a greater influence on student outcomes. Student incoming characteristics are casually and directly

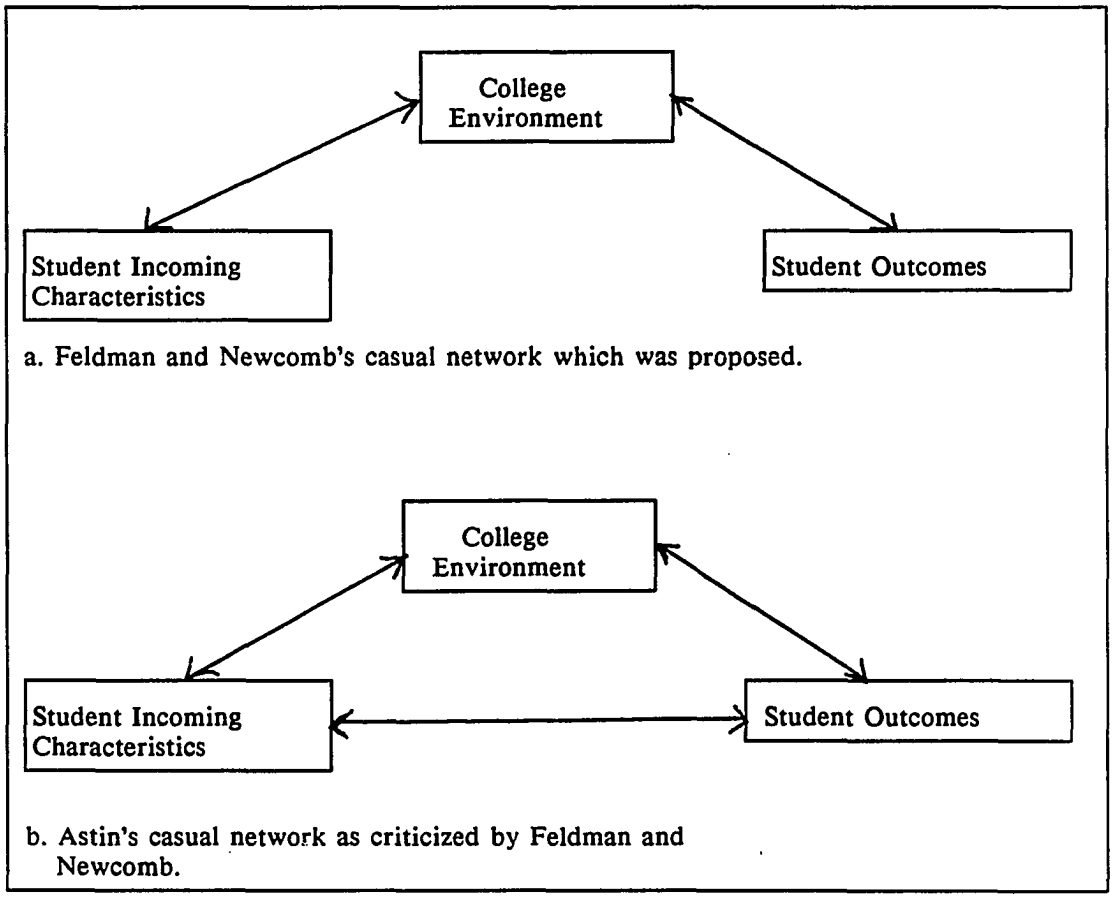

Figure 4. Casual student networks (Feldman and Newcomb, 1973, p. 361)

linked with student outcomes in addition to their association via the college environment. Regardless of the model used, Feldman and Newcomb asserted that some portion of the student's learning and development (i.e., outcomes) was due, in part, to some degree of variation in student characteristics and the college environment.

Feldman and Newcomb felt that student characteristics were a combination of the joint and independent effects of entering student characteristics. Consequently, they found that the college-entering student characteristics could only account for a portion of the residual variance left in student outcomes.

Astin responded to Feldman and Newcomb's concerns stating,

> "...as long as the student is used as the unit of analysis in the control of input characteristics, any environmental effects, even those of very small magnitude, will not be 'obscured' by the statistical adjustments for input differences that are made in regression analysis. It is true that the actual magnitude of the effect may be underestimated somewhat, but this is a necessary consequence of the partial confounding of student input and college environmental variables . . . A more important reason for controlling student input differences is that some studies have shown that the direction of apparent environmental 'effects' can actually be reversed (from positive to negative) when differences in student input characteristics are taken into account. Thus, unless such statistical adjustments for differential inputs are made, the decision-maker can be led to believe that they should act in precisely the opposite fashion from the correct or desired mode of action" (pp. 362-363).

Feldman and Newcomb concluded that regardless of the extent to which the student input variables correlated with the environmental variables, both might interact in complex ways to produce student outcomes. They noted further that the model's design does not control for student incoming characteristics which may vary in significance in determining outcomes as a function of the student's particular college environment. For example, student incoming characteristics may be associated with student outcomes in some college environments and not in others. Feldman and Newcomb's cautions were based on the models that used cross-sectional comparisons of

multiple institutional environments. In addition to the aforementioned cautions, the authors noted that it was simply not realistic to control for all variables that might effect student outcomes.

This section on A College Effects Model presented and reviewed Astin's model on the impact of college on its students. An overview of the models' three components (incoming student characteristics, college environment, and transfer student outcomes) was presented. Each of these components are examined further in subsequent sections of this chapter.

This section concluded with a discussion and analysis of Astin's model by Feldman and Newcomb (1973). Feldman and Newcomb stated that student outcomes were not entirely a function of exposure to the college environment. They also stated that a study of student outcomes should allow for the incoming abilities of the students.

Entering Student Characteristics

This study adapted Astin's (1965, 1966, 1970a, 1970b) model of college effects which examined relationships between student incoming characteristics, the college environment, and student outcomes. The exogenous variables included in the student incoming characteristic dimension for this study included: 1) Cumulative high school grade point average; 2) Education level of parents at student enrollment; 3) ACT composite score; 4) Gender; and 5) Transfer student age at enrollment. Presented in this section of Chapter II are selected studies which examine entering transfer student characteristics as they relate to the present investigation. While these studies did not exhaust the literature of investigations incorporating the use of the aforementioned variables, they did provide some guidance in selecting significant variables for the present study.

Research on the effect of college on students must recognize that students, by and large, are not homogeneous. Feldman and Newcomb (1973) examined variations in student characteristics and their consequent variations in the nature of college impact. The authors viewed "impacts of college as a function of the degree to which the background and orientations of the student were discontinuous or incongruent with the college environment, and the degree to which the student was open to change when he entered college" (p. 275).

Feldman and Newcomb stated that the college experience would have little impact on students if the college environment was similar to their home, high school, family structure, or community. The authors felt that certain demographic characteristics of entering students could provide an indication of the degree of similarity/dissimilarity with the college environment. These characteristics could include high school size, high school academic achievement levels, home, community, and social class background. Therefore, research which examines the impact of college on students should provide for the inclusion of selected entering student characteristics.

Astin (1975) performed a follow-up longitudinal and multi-institutional study of selected entering freshman of 1968. Approximately 101,000 students were part of the follow-up investigation which began in 1972. From questionnaires mailed to the students, 41,356 were returned and incorporated into the study. The questionnaire included 175 items to determine age, gender, education level of parents, past academic achievement, as well as other variables.

Astin stated that a substantial body of research has shown a high predictive relationship between students' high school academic performance and college attrition. He used four measures of their academic background to examine the relatedness to attrition. The four measures used were high school GPA, high school class rank,

college admission tests, and the student's rating of the high school.

High school GPA was the consistent predictor of college attrition, according to Astin. He found that "clearly students' chances either of stopping out or dropping out of college increases consistently as their high school grades decrease" (p. 31). In addition, he found that student composite scores on SAT and ACT tests contributed significantly to dropout-proneness. High school GPA and composite ACT test scores were used in the present investigation to examine their relationship to the completion of a baccalaureate degree.

In Astin's study, the education level of the student's parents was measured on a six-point scale (1 = grammar school completion . . . 6 = graduate school completion). Astin found that parental education level contributed to student dropout-proneness. He suggested that perhaps more educated parents exerted pressure on students to stay in college. In addition, children of educated parents might be more compelled to complete college since their parents did. These findings lead to the inclusion of the education level of parents at the time of student enrollment for the present investigation.

Student age at enrollment also was associated with Astin's study of student dropouts. He found that older students, especially women, were more likely to drop out than students who were 17-19 years of age. Student age at enrollment was included as an entering student characteristic for the present study.

Astin's investigation provided direction in the selection of entering transfer student characteristics for the present study. Transfer student high school GPA, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment were specifically selected because of their demonstrated high predictive ability in determining student dropouts in Astin's study.

Lonning (1969) studied entering characteristics of full-time students enrolled in

transfer, technical, and vocational programs at the two largest community colleges in the State of Iowa in 1969 to compile state-wide student characteristic data. The two community colleges examined were North Iowa Area Community College (NIACC) in Mason City, Iowa, and Iowa Central Community College (ICCC) in Fort Dodge, Iowa.

Among his three study hypotheses, Hypothesis 1 stated that there was no significant difference among the college transfer students who graduated according to incoming student characteristics. Further, Hypothesis 1 stated that there was no significant difference among transfer students who dropped from college but were maintaining a satisfactory GPA, and those who failed to do satisfactory work at the college. The study sampled 506 full-time students who enrolled at NIACC and ICCC during the fall of 1966. The sample was comprised of students in each College's vocational/technical programs and 13 percent of each College's transfer programs. Lonning gathered data from permanent student records for 19 variables, including high school class rank, high school grade point average, ACT composite score, gender, and age at enrollment. Lonning believed that significant findings would result if students were examined as a cohort with membership defined from enrollment to transfer for a specified chronological period. The cohort was selected in a manner similar to that used by Medsker (1960).

Lonning's study described student characteristics for three major curricular areas: college transfer, technical, and vocational. A pooled correlation matrix was calculated for the study variables in order to determine the significance of relationships between the study variables and the three curricular areas. In addition, a discriminate analysis was conducted on each of the three major curricular groups to determine the effect of the variables on the type of students enrolled in each program. Ninety-two percent of the sampled transfer students were under the age of 21, with the remaining eight percent under 29 years of age. Statistics revealed that 31

percent of the sampled students transferred to a baccalaureate-granting institution, 37 percent voluntarily dropped out of college, and 32 percent academically failed college. Lastly, the transfer student mean high school GPA and ACT composite scores were 2.37 and 21.14 respectively. These data provided a basis for comparison in the present investigation.

If the data for transfer students are extracted from the study sample for further examination, the previously stated results vary only slightly. NIACC transfer students totaled 115 in the study sample. Of the 115 NIACC transfer students, 66 percent were male and 34 percent female. Ninety percent of the NIACC students were under the age of 21. Transfer statistics revealed that 27 percent transferred to a baccalaureate-granting institution, 37 percent voluntarily withdrew, and 36 percent failed academically. The mean high school GPA and ACT composite scores of the NIACC transfer students were 2.31 and 21.01 respectively.

The descriptive transfer data in the Lonning investigation were similar to Medsker (1960), Gleazer (1968), and Cohen and Brawer (1984). These specific transfer student descriptive statistics provided an estimate of the sample size needed for the present investigation. Further, these data were used for comparison in Chapter V of this study.

The results of Lonning's pooled correlation matrix for the college transfer students revealed that of the variables considered, ACT composite scores held the highest correlation with the other study variables (i.e., age, gender, high school class rank, size of high school graduating class, high school GPA, IQ, ITED tests, and composite ACT test scores). Some of the correlations included: ACT Composite/Class Rank .480; ACT/High School GPA .513; ACT Composite/Age -.130; High School GPA/Class Rank .882 (p. 72). The pooled correlation data suggested that ACT composite scores had a moderately positive relationship with class rank and high

school grade point averages. The positive correlation of these variables with ACT composite scores indicated that either class rank or high school GPA would be significant in the present investigation.

Lonning's study lead to the rejection of Hypothesis 1. There was a significant difference among college transfer students who graduated, dropped, or failed academically from the college. A discriminate analysis test demonstrated that high school GPA, IQ, and ACT composite score variables were significant in determining if a prospective transfer student would graduate, withdraw, or fail academically from college. The results of the Lonning study provided guidance in selecting student incoming variables for the present investigation.

This section of Chapter II has reviewed selected studies of personal attributes of entering transfer students as they relate to the present investigation. Results were presented from research by Feldman and Newcomb (1973), Astin (1975), and Lonning (1969). Each of these studies were instrumental in selecting appropriate incoming student characteristics for use in the study model.

The College Environment

Astin (1977) suggested that studying college impact was simple. "If certain outcomes are facilitated by the experience of attending college, the likelihood of such outcomes should be greatest for those students who have the greatest exposure to the college environment" (p. 19). For this reason, the variable of total semester credit hours earned at NIACC was chosen as a measure of the extent of college exposure for the present investigation. The extent of student satisfaction with the community college experience was also examined. This variable selection followed Astin's recommendation that the student's subjective experience during college be included among measures of the college's impact on students. This section of Chapter II

presents selected studies that examine the college environment and the length of student attendance prior to transfer.

Casey (1963) investigated and assessed the role of the community colleges in Iowa. He had five specific purposes for his study. They were:

1. To appraise certain aspects of the 16 public community colleges in Iowa.
2. To trace the achievement of community college transfer students after transferring to one of three State baccalaureate-granting institutions.
3. To predict the achievement of transfer students of Iowa public community colleges who matriculated to Iowa State University, the State University of Iowa, and the State College of Iowa.
4. To determine the graduation rate of the community college students who matriculated at the three State institutions of higher education during the academic years 1955-1958.
5. To predict the probability of graduation of public community college transfer students from Iowa State University, the State University of Iowa, and the State College of Iowa (p. 11).

Casey studied the community college graduates who transferred to baccalaureate-granting institutions from 1954 to 1961. During the seven year time span, the transfer rate varied from 184 students in 1954-1955 to 471 students in 1960-1961. This was a 256 percent increase.

Casey studied the academic records of 1,088 students who transferred to the three Iowa state universities between 1955 and 1958 inclusive. To predict the academic achievement of the transfer student, Casey used the following variables: high school GPA, community college GPA, and first and third semester GPA at a baccalaureate-granting institution. Casey used multiple regression to test the significant loss in prediction ability when study variables were eliminated from the

prediction scheme (p. 15). Intercorrelations and multiple regression methods were used to meet all five of Casey's study objectives.

Intercorrelations between the aforementioned variables, which affected the academic achievement of community college transfer students at the senior institution, were calculated for each of the three Iowa state universities. Of the three variables used in Casey's study, one of them (i.e., cumulative high school grade point average) was also used in the present investigation. Casey used a 30 and 60 semester hour breakdown of semester credit hours achieved at the community college prior to transfer. Comparably, the present investigation used five semester credit hour intervals (i.e., 15, 30, 45, 60, and 61+). Casey's data proved an average high school GPA co-efficient of .341 among the three State institutions. Most notable was the increase in the co-efficient when the correlation involved semester credit hours earned prior to transfer. Generally, the correlation co-efficient (r^2) increased with students who achieved a greater number of community college semester credit hours.

Ingram (1967) studied junior college transfer students at Drake University in Des Moines, Iowa, for the following reasons: 1) To predict academic achievement at Drake; 2) To evaluate correlations of grade achievement with pre-transfer GPA, transfer classification, post-transfer GPA, gender, and test scores from the School and College Ability Test (SCAT), the Cooperative English Test (CET), and the American College Test (ACT), and; 3) To compare the success of transfer students with native Drake students.

Of the questions posed in examining 856 student records in the Ingram study, those central to the present study included:

1. Have there been significant differential patterns of success at Drake for transfer students according to level of entry?
2. Have there been significant differential patterns of success at Drake for

transfer students according to gender? (Ingram, p. 4)

Analysis of Variance and Co-Variance were calculated to measure the effect of gender and educational level at college entry, among other factors. The results indicated significant differences in transfer students who entered at differing academic levels. Ingram noted academic advantages for transfer students entering Drake at a junior standing rather than a sophomore standing. In terms of gender, the author found that women transfer students tended to excel academically.

Ingram's conclusions suggested that the greater the pre-transfer college attendance, as measured by semester credit hours achieved, the greater the post-transfer academic performance. The present study tested, as Ingram did, Knoell and Medsker's (1965) theses that junior college transfer students will demonstrate better academic achievement at a baccalaureate-granting institution if they complete the two-year course of study prior to transfer.

In the fall of 1980, the Los Angeles Community College District (LCCD) instituted a pilot study to determine incoming characteristics (i.e., gender, age, ethnicity, plans for college, college preparation, and study habits) and satisfaction of transfer students within the college district. The study was prompted by the LCCD Academic Senate in response to the declining proportion of community college students transferring to senior institutions.

An ad hoc committee, established by the LCCD Senate to study the problem, concluded that insufficient information existed on the community college transfer student, due to the fact that transfer curricula could be utilized for other purposes, including continuing education, vocational education, general education degree requirements, and subject interest electives. The Committee proposed the need for the identification of currently attending transfer students, via questionnaire, in order to provide additional information on the transfer student and the transfer function.

In response to this proposal, a survey instrument consisting of 44 items was designed to cover five areas: student characteristics, pre-college preparation, student perceptions of quality at the college, campus involvement, and college service preferences. Fifty-three percent of the sample indicated transfer as the most important reason for attending the community college. The remainder of the designated transfer students were enrolled for occupational training or career assistance. The mean number of semesters that respondents planned to attend LCCD before transferring was 3.8. Specifically, 37 percent of the students surveyed planned to attend all four semesters, 25 percent planned to transfer after 1-2 semesters, and 30 percent planned to transfer after 5-6 semesters. In total, 63 percent of the designated transfer students planned to complete the Associate's Degree prior to transfer (p. 4). These data suggested for the present research, that transfer students, while classified as such, might never intend to transfer or graduate. Consequently, transfer students should be qualified as those truly interested in transfer and not merely as a classification. The LCCD study provided an estimate of transfer student exposure to the environment at a community college prior to transfer.

Adelman (1988) analyzed the Post-Secondary Education Transcript Study (PETS) data, a follow-up investigation of the National Longitudinal Study (NLS) of the high school graduating class of 1972. Using a sample of 22,600 students who were enrolled in college from 1972 to 1976, he described characteristics of students seeking the Associate of Arts Degree. These data were the basis for eight major findings. Six of the findings which were related to the present investigation are presented in the paragraphs that follow.

Adelman's first two findings were: 1) One out of five individuals who attended a two-year college eventually received an Associate of Arts Degree from a two-year college; and 2) One out of three individuals who attended a two-year vocational or

technical school eventually received either an Associate of Arts Degree or Certificate. These findings suggested an estimate of the number of students who received an Associate of Arts Degree in the nation. According to these statistics, 20 to 30 percent of two-year college enrollees obtained an Associate's Degree. These data were significant for the present investigation, insofar as these students represented the transfer student population with 61 or more semester credit hours earned prior to transfer--a transfer student classification embodied in this study.

Adelman's third finding was: 3) One out of five individuals who attended a two-year college eventually transferred to a four-year college, irrespective of whether a degree was earned at either institution. If the transfer rate was defined in terms of attainment of the Bachelor's Degree, the rate dropped to 11 percent. Further, if the transfer rate was defined as the attainment of an Associate of Arts Degree and a Bachelor's Degree, the rate was only six percent. Adelman's study provided an estimate of the sample sized needed to obtain a statistical analysis of the transfer student.

Adelman's fourth finding was: 4) The vast majority of those who attended two-year colleges were "lockstep" students (i.e., entering within a year of high school graduation). The delayed-entry student was the exception rather than the rule.

The fifth and sixth study findings were: 5) Slightly over half of those who earned an Associate of Arts Degree did so "on time" (i.e., within 29 months of entering an Associate of Arts Degree program). This norm was analogous to the 51-month average that the Bachelor of Arts Degree recipients in the NLS/PETS data took to receive their degrees; and finally 6) One-fourth of all students who attended two-year institutions earned less than one semester's worth of credits. It was this group that could be referred to as "occasional students." These student characteristics provided an indication for the length of time needed to allow the majority of the

transfer students to progress from enrollment at the community college through graduation at the baccalaureate-granting institution. These data suggested that 25 percent of the enrolling two-year college students limited their college attendance to 0-15 semester credit hours. This characteristic provided an estimate of the size of the sample that earned between 0-15 semester credit hours at NIACC.

A summary of the findings presented by Adelman indicated that only 20 percent of two-year college students actually received the Associate's Degree. Further, only 20 percent of the two-year college students transferred to a baccalaureate-granting institution, 25 percent earned only 0-15 semester credits, and 52 percent earned the Associate of Arts Degree within 29 months. These data indicated that 80 percent of entering two-year college students do not transfer to a baccalaureate-granting institution. However, as discussed in this chapter, Johnson (1952) and Cohen, Brawer, and Bensimon (1985) found that not all transfer students were interested in degree completion or transfer. The findings suggested that students needed to be monitored and surveyed well over the two and one-half year average that they take to complete the Associate of Arts Degree.

Adelman (1989) in his discussion of the NLS/PETS data presented the value of using permanent student records as a means to validate the mission of the community college. He stated that " ...surveys are intrusive phenomenological artifacts; the transcripts are unobtrusive empirical artifacts. While they may fail to include key information, and while the idiosyncrasies of registrar practices and institutional regulations may render some of them difficult to read or compare with other transcripts, transcripts neither exaggerate nor forget. People responding to surveys, however, do both" (p. 1). His comments clearly supported the use and examination of student transcripts in the present investigation of community college effects.

Limitations of the NLS/PETS data had implications for the present

investigation. The NLS/PETS data were obtained 12 years after the student cohort graduated from high school, thus allowing substantial time to examine education and/or career paths. However, as Adelman pointed out, the students of the high school graduating class of 1972 might be very different from graduating high school seniors circa 1990. This limitation posed the dilemma of the length of time needed to make an adequate analysis of student career/education paths while maintaining relevancy to present-day students. Indeed, Adelman's discussion of the chronological length of the study of students assisted in the establishment of the shorter eight-year time increment used in the present investigation.

Cohen, Brawer, and Bensimon (1985) examined 24 community colleges receiving Urban Community College Transfer Opportunity Program (UCCTOP) Grants to determine the status of transfer at those colleges. These Grants were designed to advance transfer programs in urban community colleges. During the investigation, they found it necessary to develop a definition of the transfer function common to the institutions under study. They developed a definition in terms of the transfer program of study, transfer courses, and transfer student assessment.

To define the transfer function in terms of the program of study (i.e., course sequences listed in college catalogs) was pointless according to the authors. They stated that while students are lead by advisors to take specific courses in a certain order to prepare for transfer, this did not happen in reality. The project team stated what actually occurred was that students took the courses they wanted, without regard to a specific course-taking pattern. Their assessment was based on a survey of 1,613 students in 24 urban colleges. Consequently, defining the college transfer function by program of study sequences only, did not provide an accurate description.

Secondly, Cohen, Brawer, and Bensimon evaluated defining the transfer function by examining actual course enrollee characteristics. However, the authors

found that some students who enrolled in transfer courses had already attained a Bachelor's Degree, were just interested in skill development, or were only interested in the monetary gains from their financial aid program. Consequently, defining the transfer program by student characteristics only, was inadequate. The educational intent of the student who enrolls in the transfer courses should be considered.

Cohen, Brawer, and Bensimon stated that the best transfer program assessment comes from examining the students who participate in the transfer program. Still, they advised caution since not all students who indicate transfer actually do transfer. These authors provided guidance for the present study in assessing student reasons for enrolling in a community college.

This section of Chapter II has examined selected studies on the college environment and student length of attendance prior to transfer. Casey (1963) examined the role of community colleges in Iowa. As part of his investigation, he analyzed students by semester credit hours achieved prior to transfer to one of the State's three regent universities. However, Casey made no conclusion about the effect of community college length of attendance and academic achievement at the baccalaureate-granting institution. Ingram (1967), however, noted post-transfer academic advantages for students who completed two years of study prior to transfer.

The Los Angeles Community College District (1980) surveyed designated transfer students to gain an estimate of planned length of attendance at a community college. The results indicated that only 63 percent of the 22,600 sampled students planned to graduate prior to transfer. Adelman (1988) provided an analysis of the Post-Secondary Education Transcript Study (PETS). He found that only 20 percent of the sample transferred to a baccalaureate-granting institution. In addition, Adelman stated that 25 percent of the 22,600 students earned less than one semester's worth of credits. Finally, of the 20 percent who actually achieved the Associate of Arts

Degree, 52 percent did so in 29 months. Both of these studies provided direction in establishing the length of the study period and sample size needed for the present investigation.

Adelman (1989) stated the importance of the use of student transcripts as a measure of institutional mission attainment. Also presented were the benefits and limitations of the NLS/PETS data, as they related to the present investigation. Each of these discussions supported the methodological plan for the current study.

Cohen, Brawer, and Bensimon (1985) examined the transfer function by examining courses, course taking patterns, and student assessment. They advised caution in the interpretation of transfer statistics since not all students who indicate transfer actually do transfer. This caveat and its implication for the present study is discussed further in Chapter V.

Transfer Student Outcomes

This section of Chapter II presents selected studies of student outcomes of college education. The studies in this section include variable selection for student outcomes. Most importantly, this section examines the statistical methodology used by these studies to assess student outcomes.

Pace (1941) initiated a 52-page follow-up questionnaire to former University of Minnesota General College students. The purpose of the study was to determine the activities, values, interests, and attitudes of students so that the University's curriculum could be modified to be more relevant to the students. Faculty members developed the survey instrument.

The questionnaire was divided into four areas which corresponded to the four major divisions of the General College's curriculum. These areas included: personal life, home and family life, socio-civic affairs, and earning a living. The

questionnaire included questions on job satisfaction, civic activities, political activities, and cultural activities. It was distributed to a random sample of entering University of Minnesota General College students in the 1924-1925 and 1928-1929 academic years. The study used a control group within the sample. Since nearly half of the students graduated, comparisons were made between non-graduates and graduates. Students who entered the University in fiscal years 1925 and 1929 were defined as the population. The sample drawn included equal numbers of male and female students. From the study sample, 951 responses were received.

Job satisfaction was found to be related to income, occupational level, and job specific characteristics. Students of the study generally liked their jobs. On the civic and cultural sections of the questionnaire, 80 percent of the sample reported voting in the last election, talking about political and social issues with their peers, and giving money to local charities. Less than 30 percent of the sample had participated in a political campaign, written a letter to an elected official, or attended a political meeting. In the cultural section, 70 percent had recently visited a library, and over 50 percent had attended a concert within the past year. Pace's study provided a basis for examining student satisfaction as employees and involvement as citizens for the present investigation.

Time Magazine instituted a post-college survey to over 17,000 randomly selected college graduates from over 1,000 colleges nationwide in 1947 (Havemann and West, 1952). In addition to questions on income and occupational status, the survey contained sections on student satisfaction with their college and civic involvement. Eighty-four percent of the approximately 9,000 respondents indicated that they would "go back to the same college if they had it all to do over again", which suggested a high level of satisfaction with the college. Over 98 percent of the sample were satisfied with their vocational preparation for employment. In terms of political

involvement, 79 percent of the sample stated that they voted in their last primary or local election. Thirty percent said they had signed a petition for the repeal of some piece of legislation, and 23 percent said that they had written to a political official during the past year. The majority of the sample were involved in some civic activity, and 87 percent of the respondents stated that they had given money to local community funds. In addition, 48 percent of the sample had attended a local civic group meeting, and 35 percent had served in some volunteer capacity in the past year. Finally, 27 percent stated that they had been involved in fund raising or carried a petition for a local civic cause in the past year. Similar to the Pace investigation, this Time survey and its results provided a foundation for evaluating civic activity and job satisfaction as student outcome variables for the present study.

Davis (1986) examined Associate Degree transfer students who transferred to the University of Toledo and earned either a Bachelor of Business Administration Degree or a Bachelor of Science Degree. Davis was interested in providing descriptive statistics on the impact that the Associate Degree had on the student's preparation for employment. As part of that study, he determined the levels of program satisfaction from the graduates of the two degree programs (i.e., Bachelor of Business Administration and Bachelor of Science). In addition, he determined levels of job satisfaction among the graduates of both programs.

The study selected transfer students with Associate Degrees from ten local community and two-year colleges. To be considered, the transfer student must have completed either a Bachelor of Business Administration or Bachelor of Science Degree at the University of Toledo between June, 1979 and June, 1985. Demographic factors, cumulative grade point average, and credit hours earned were obtained from official student transcripts. Student perceptions were obtained from a ten-page mail questionnaire.

The questionnaire was based on a review of other available follow-up instruments. Davis consulted representatives from job placement, academic advising, and counseling services to help design the survey. A pilot test of the instrument was completed prior to the distribution of the survey to the study sample.

The survey was administered to 35 Business Administration graduates and 233 Bachelor of Science graduates. Among the questions posed, respondents were asked about their opportunities for nine job related factors that influence job satisfaction. These included: advancement opportunities, schedule control, alignment with career plans, management responsibilities, prestige, sense of accomplishment, re-numeration, decision-making responsibilities, and skill utilization. Additional survey questions included the graduates' level of satisfaction with how the degree program prepared them for the work place. Davis used eleven competencies generally required for most jobs, as the evaluative criteria for the person's effectiveness in job preparation. These included: analytical thinking, knowledge application, skill acquisition, writing, speaking, statistical ability, decision-making ability, sensitivity, organizational skills, teamwork, and personnel management skills (pp. 211-212). Davis did not expound on the manner in which the eleven work place competencies were determined.

Davis reviewed selected literature on job satisfaction and program satisfaction. He encountered difficulty in determining a definition of "satisfaction". He stated that "...there was no standard or commonly accepted definition as to what constitutes job satisfaction; nor was there any agreement on the criteria by which to measure graduates' satisfaction with their college programs of study" (p. 27). Thus, after he reviewed numerous authors and researchers, Davis concluded there was a lack of common acceptance as to what constituted job and college program satisfaction.

In his research on job analysis, McCormick (1979) concluded that satisfaction was a personal evaluation of need and the degree to which that need was fulfilled.

Regarding job satisfaction he stated "... if the work environment fulfills the requirements of the individual, he is defined as a satisfied worker" (p. 221). McCormick further elaborated that only the individual, or in this case, student, can make a determination of their level of satisfaction with work, college, or other segments of life. Specifically, he stated regarding the work place "... various characteristics of the individual (personality) and of the work environment influence the correspondence between the individual and the work environment and, in sequential fashion, the level of satisfactoriness (on the job) and satisfaction of the individual" (p. 222). Indeed, McCormick's comments define the subjective nature of satisfaction and its determination solely by the individual or student. McCormick's examination of satisfaction at the work place served as the basis to operationally define student satisfaction for this investigation.

Midgen (1987) surveyed alumni of the community and technical college at the University of Akron in Ohio to determine the College's responsiveness to its students. Specifically, the College was interested in identifying graduates' needs, preferences, attitudes, and satisfactions associated with the Associate Degree. Questionnaires were mailed to those who graduated between 1969 and 1982 inclusive. Responses were categorized according to six majors. While 2,000 students were sampled, only 401 students responded to the questionnaire. The questionnaire was comprised of multiple choice items inquiring about the graduate's age, year of graduation, present job status, prior job status, current salary, prior salary, educational goals, job benefits resulting from the Associate Degree and satisfaction with faculty, guidance, and the curricula (p. 181). Midgen used question areas designed to identify the graduate's changes in employment, job-related benefits, satisfaction with the college, and preparation for transfer. Each of these question areas are outlined below.

Changes in employment questions were used to establish a comparison between

the graduate's present employment status and previous employment in order to determine benefits of the Associate Degree. Graduates were asked to rank their past employment experience as unrelated, somewhat related, or directly related to their college work. They were asked to do the same regarding their present employment.

Prior to the receipt of their Associate Degree, 48 percent of the University of Akron Community College graduates stated they had worked in jobs unrelated to their college education. After receiving the Degree, 60 percent of the graduates reported that their employment was directly related to their education. Midgen found that the career goals of the students were met through their educational experience (p.17). Midgen's questions on changes in employment provided a basis for determining student satisfaction with their preparation for the work place and student satisfaction with the college for the present study.

Job-related benefits (e.g., pay raises and advancement) were used by Midgen to determine benefits that were afforded to Associate Degree graduates. The survey questions inquired as to the alumni's opportunity for increased job responsibility, change in job title, increased pay, job promotion, increased respect from employer, increased respect from peers, greater job security, and greater competency in the job as a result of their college preparation.

"Greater competency in the job" was selected by 50 percent of the student respondents, which made it the highest response category. Midgen stated that no casual relationship was made between job-related benefits and the college degree. However, the data suggested that graduates perceived that their Associate Degree was directly linked to their job benefits (p. 18).

Midgen surveyed the graduate's satisfaction with the University of Akron Community College faculty instruction, faculty guidance, and curriculum. Survey results indicated that 80 percent of the graduates were at least "satisfied" with faculty

instruction, 56 percent were at least "satisfied" with the College curriculum, and 35 percent reported being at least "somewhat satisfied" with faculty guidance.

Preparedness for transfer questions in Midgen's survey asked graduates to evaluate how well the Community College prepared them for the rigors of academics at a baccalaureate-granting institution. Survey respondents used a scale of "no help", "some help", "helpful", and "very helpful". Seventy-three percent of the 217 transfer students rated the Community College as being at least "helpful".

Midgen's study determined community college responsiveness to students. As part of his survey process, he examined student satisfaction with the College and student preparedness for the work place. Midgen's investigation guided the development of a Likert-type satisfaction scale for student responses for the present study. Further, his approach in determining student preparation for transfer and employment provided a basis for determining transfer student satisfaction with their preparation as individuals, employees, citizens, and family members for the present investigation.

Ewell (1985, 1987) provided a review of six types of student outcomes including: cognitive, affective, psychological, behavioral, within college, and after college. Ewell presented examples for each of the student outcomes as well:

Cognitive Outcomes Examples - increased knowledge about American history or increased ability to reason analytically.

Affective Outcomes Examples - changes in liberalism, tolerance, or acquisitiveness.

Psychological Outcomes Examples - actual student mastery of the concepts of physics or the ability to think critically.

Behavioral Outcomes Examples - job performance after graduation or voluntary withdrawal from an institution or program.

Within College Outcomes Examples - student decision to change majors or the

learning experience in a particular curriculum.

After College Outcomes Examples - attainment of an advanced degree at another institution or evaluation of the college environment long after graduation (1985, p. 3).

Ewell stated that these six types of student outcomes were not all inclusive. Any number of these outcomes could interact with the others. Ewell's outcomes classification provided a framework to consider possible student outcomes for the present investigation.

Halpern (1987) found that the majority of available literature used a wide variation in definitions of student outcomes, assessment, and other relevant terms. Lenning et al. (1977) defined student outcomes as the results or consequences of an educational institution and its programs (p. 1). Lenning's definition was used as the operational definition of student outcomes throughout the present investigation.

Cramer (1971) examined transfer students from Iowa Central Community College (ICCC) to determine if there was a relationship between the academic ability of ICCC students and their decision to transfer. His study used transfer to and graduation from a baccalaureate-granting institution as study variables. Cramer's study assisted community college administrators and counselors in answering some of the following largely unanswered questions:

1 - Is there an academic difference between students who transfer and those who do not?

2 - Is it possible to predict transfers and graduates based on academic predictors?

3 - Is it possible to predict which students will transfer and which ones will not?

Cramer stated that having these questions answered might assist in curricular development and student assessment in the community college. The colleges could use the data from these questions to evaluate instruction, curriculum, and student

abilities. Consequently, changes needed in these areas would be identifiable for purposes of evaluation.

Cramer conducted a three-year study, utilizing 15 predictor variables and a randomly selected sample of 200 students who entered ICCC between 1963 and 1965 inclusive. Data were collected for each student from high school transcripts, American College Testing (ACT) in Iowa City, Iowa, and transfer institution permanent transcripts for the following variables: age at enrollment, gender, marital status at enrollment, high school class rank, high school class size, ACT test and composite scores, ICCC GPA, total semester hours attempted at ICCC, semesters attended at ICCC, graduation from ICCC, and decision about transfer upon leaving ICCC (p. 36). These data were used to predict success of ICCC transfer students.

The study sample included all transfer students who enrolled at ICCC between 1963 and 1965. A total of 1,224 students were included in the study. Cramer surveyed these students using a mailing, post card, and telephone campaign. Cramer received responses from 602 students. From the student respondents, 241 did not transfer and 361 did transfer to a baccalaureate-granting institution. Further, of the 361 students who transferred, 246 completed their Bachelor's Degree. A proportional sample of one out of every three students resulted in three identified groups of students: Group 1 included 100 students who transferred and graduated, Group 2 included 50 students who transferred and withdrew, and Group 3 included 50 students who did not transfer.

Cramer calculated a Pearson Product-Moment Correlation on ten of the study variables including: high school rank, high school class size, ACT test scores and composite, ICCC GPA, ICCC semester hours attempted, and semesters attended at ICCC. In addition, he calculated a multiple classification Analysis of Variance on the same ten variables to determine if a difference existed between the three groups and

student gender.

Cramer's findings showed a higher percentage of transfer students who actually transferred and graduated from a baccalaureate-granting institution, completed more semester credit hours at ICCC than those students who transferred but did not graduate. Similarly, students who transferred but did not graduate, completed more semester credit hours than those students who did not transfer. These results suggested that a student's predisposition to transfer to a baccalaureate-granting

Table 6. Frequency distributions of selected variables from Cramer's (1971, p. 53) study at Iowa Central Community College

Characteristic	Group 1 Transfer & Graduated	Group 2 Transfer & Did Not Graduate	Group 3 Did Not Transfer
ICCC semester hours completed			
0-14 semester hours	2%	0%	8%
15-29 semester hours	3%	8%	14%
30-44 semester hours	13%	22%	24%
45-59 semester hours	20%	18%	26%
Over 59 semester hours	62%	52%	28%
ACT Composite			
Less than 11	0%	0%	4%
11-15	7%	28%	14%
16-20	29%	32%	38%
21-25	43%	34%	38%
26-30	19%	6%	6%
Over 30	2%	0%	0%
ICCC GPA			
Less than 1.00	0%	2%	4%
1.01-1.50	0%	6%	32%
1.51-2.00	10%	18%	20%
2.01-2.50	38%	46%	32%
2.51-3.00	24%	26%	10%
3.01-3.50	20%	2%	0%
Over 3.50	8%	0%	2%

institution increased as semester credit hours earned by the student increased.

ACT composite scores and ICCC GPA frequencies for the three groups were also correlated (see Table 6). High scores on the ACT composite and high ICCC GPAs were correlated with those students who transferred and graduated from a baccalaureate-granting institution (Group 1). Conversely, low scores on ACT composites and low ICCC GPAs were correlated with students in Groups 2 and 3. These results suggested that high GPAs and ACT composite scores increased the likelihood that a student would transfer and graduate from a baccalaureate-granting institution.

The frequency distributions of semester credit hours earned, ACT composite scores, and ICCC GPA variables provided a basis for the evaluation of variables used in the present investigation. Most importantly, the study variable, semester credits earned, provided guidance in establishing credit hour intervals for examination. The frequency distribution of this variable among the three study groups also provided a basis for comparison with the present investigation.

Cramer found a correlation of .499 between ACT composite scores and ICCC GPAs, and a correlation of .131 between ACT composite scores and ICCC semester credit hours earned. A correlation of .201 was calculated for ICCC GPAs and semester credit hours earned. These results indicated a strong positive correlation between ACT composite scores and ICCC GPA variables and weak positive correlations between the remaining selected variables (i.e., high school rank, high school class size, and semester hours earned). This correlational analysis suggested, for the present investigation, that ACT composite scores, ICCC GPAs, and semester credit hours earned were significant variables for determining the effect of the community college on students.

Fleming (1972) studied transfer students from each of Iowa's 16 community

colleges to determine background characteristics, academic progress, and present status. Fleming had four purposes:

1. To provide reliable information on a state-wide basis regarding the Arts and Science students who enrolled in Iowa's public community colleges in the fall of 1966.
2. To obtain information regarding the success of students in Arts and Science programs.
3. To provide sufficient information to evaluate present programs and modify programs in existence.
4. To develop a state-wide system of follow-up procedures for Arts and Science students (p. 6).

The scope of Fleming's investigation was confined to 1,725 randomly selected, full-time Arts and Science students who entered Iowa's 16 community colleges in 1966. The random sample represented 30 percent of the total population of such students.

Data were collected on 39 study variables from three sources: permanent student records at the community college, permanent student records at the transfer institution, and from the students themselves by the use of a questionnaire. Variables used included: ACT composite score, number of semester credit hours earned at the community college, community college GPA, transfer institution GPA, educational level of the father and mother at the time of the student's enrollment, age at enrollment, and gender.

A chi-square statistic was calculated on the following selected variables across the 16 community colleges involved in the study: gender, educational level of the father and mother, and age at enrollment. The chi-square results for these variables proved statistically significant at the .025 level of confidence, with the exception of the education level of the father. It was proven, with the notable exception of the father's educational level, that there were differences in the Arts and Science student body characteristics at each of the 16 Iowa community colleges in 1966. This finding

argued against generalizing the characteristics of students at one Iowa community college to all others.

Fleming performed a one-way Analysis of Variance on the selected variables. All variables, except GPA at the transfer institution, were proven to be statistically significant at the .01 level of confidence. Fleming's findings confirmed differences in these variables between the entering Arts and Science students at the 16 Iowa community colleges. Fleming's findings proved that the student characteristic variables at Iowa's 16 Iowa community colleges differed significantly when academic characteristics related to admission and attendance at the community college were considered (p. 198). Most important for the present investigation; not only was it proven that the selected study variables differed between community colleges; these results suggested that the differing college environments had differing effects on the outcomes of their students.

Adelman (1989) re-examined the Post-Secondary Education Transcript Study (PETS) to advance the principle of institutional mission validation using permanent student records. This study corrected transcript classification, counting, and miscoding problems that were inherent in earlier reports. In this study, he validated the use of student transcripts to assist in the determination of college effects. Specifically, he stated that "...the transcript reflects an interaction between individual choice behavior and the promises, constraints, and possibilities of the institution" (p. 6). Indeed, student transcripts, used in this investigation, provided a necessary archive to evaluate the length of student attendance.

Adelman reported that 8.9 percent of the 13,828 students from his PETS investigation who entered post-secondary education both attended a community college and graduated from a baccalaureate-granting institution (p. 22). He further stated that based on attendance patterns alone, 6 percent of the students from

his PETS study attended both a community college and a baccalaureate-granting institution without earning a Bachelor's Degree. Additional related characteristics observed by Adelman included: 1) A near equal distribution of community college enrollment by males (51.0 percent) and females (49.0 percent) with N=13,828; and 2) Over fifty percent (50.5) of 1972 high school graduates enrolled in community colleges in 1972 and 14.3 percent in 1973 (N = 4,005). These data will be reviewed for comparative purposes in Chapter V of this investigation.

Astin (1977), in his examination of data from the Cooperative Institutional Research Program (CIRP), remarked that student outcomes assessment must consider three important criteria. These included: 1) Understanding the meaning of student change from college entry to departure; 2) Developing appropriate measures to determine college-related change; and 3) Designing the proper analysis for college effects. Each of these criteria, their purpose, and relevance to the assessment of how students are effected by their college environment are presented below.

According to Astin, understanding student change referred to determining what difference college attendance had on the development of the student. He stated that observed changes in student development must have two components: "change resulting from the impact of the college and change resulting from other influences" (p. 5). Astin stated that it can be difficult to control for all non-college influences. Consequently, measured change in the student cannot be attributed entirely to impact of college on that student.

Astin also stated that the development of measures to determine the effect of college on students must take into account the wide range of potential outcomes. He stated, "There is no easy way to capture the impact of college adequately in one or two sample measures, such as credits, degrees, or job placement." As a result, Astin

(1977, 1974, 1970a, 1965) developed a taxonomy of student outcome measures to serve, not as an exhaustive listing of all possible outcome measures, but rather, as a guide in examining outcome measures. The model was comprised of two continua: Type of Outcome and Type of Data. This model was part of the result of the CIRP program, a national survey of over 200,000 students at over 300 baccalaureate-granting institutions.

Type of Outcome involved the dimensions of the affective domain and the cognitive domain (see Figure 5). This distinction was created by Astin to parallel the human performance domains used by behavioral scientists (i.e., cognitive and affective). The second continua was Type of Data. This variable was delineated to include the dimensions of psychological data and behavioral data. The author suggested that both Type of Data and Type of Outcome were relevant educational objectives. The result was a conceptual model wherein student outcome measures

Type of Data

Type of Outcome	Psychological	Behavioral
Cognitive	knowledge general intelligence criticized thinking ability basic skills special aptitudes academic achievement	self-concept interests values attitudes drive for achievement satisfaction with college
Affective	level of educational attainment vocational achievements: level of responsibility income awards or special recognition	choice of major or career avocations mental health citizenship interpersonal relations

Figure 5. Taxonomy of Student Output measures in terms of Type of Outcome and Type of Data (Astin, 1977, 1974)

could be classified.

Astin later modified this model and included the continua of time. He stated that time was seldom considered in evaluating student outcomes and outcome measures. This time dimension added both long and short term effects of the college on student outcomes. Figure 6 presents the modified version of Figure 5 and depicts the time dimension. Astin stated that the time dimension should be considered in outcomes research. He stated, as many college and university catalogs and tabloids pointed out, that the ultimate goal of the college experience was to make a

Type of Outcome	Type of Data	Time 1 (during college)	Time 2 (after college)
affective	psychological	satisfaction with college	job satisfaction
affective	behavioral	participation in student government	participation in politics
cognitive	psychological	last score	score on law boards
cognitive	behavioral	persistence in college	job stability income

Figure 6. Examples of measures representing different Types of Data and Types of Outcomes (Astin, 1977, p. 110)

positive impact on the student that would carry over for the balance of his or her life.

Astin's model provided the present examination with a methodology to determine student outcome variables. His model development was based on years of research of numerous institutions and studies. This dissertation has accepted the use of Astin's model for outcome variable determination as being valid and reliable.

Pace (1979) in his study "Measuring Outcomes of College: Fifty Years of

Findings and Recommendations for the Future" examined alumni survey instruments, testing, designs, and processes implemented by a number of universities, agencies, and researchers including: the United States Office of Education, Syracuse University, Alexander Astin, and the University of California at Los Angeles. After reviewing these surveys and college student achievement testing, Pace concluded that there was a need for standardized, consistent, and useful measures for alumni surveys. He stated that when a new researcher of alumni comes to the fore, a new alumni instrument is developed, not necessarily building on the experience of the past. He contended that developing a survey was similar to developing an achievement test. The instrument should consider what was to be measured, what information was relevant, and what evidence was pertinent for assessment.

Pace conceded that there were no specific guidelines for survey development. However, he suggested that a researcher could use statements of objectives, such as clarification of personal philosophy, ethics, and morality, responsible citizenship, and tolerance for others to assist in survey development. In addition, Pace suggested the use of often used guidelines, such as the relevance of higher education to occupations and careers, or the monetary returns on the investment in higher education.

Pace stated that researchers should establish standards for survey development, its use, and its consequent analysis in order to build consistency in the research base. He suggested six necessary content criteria for studying college graduates. They were: 1) Knowledge possessed by alumni; 2) Evidence of personal achievement; 3) Evidence of intellectual interests and habits; 4) Evidence of involvement in community and culture; 5) Views on higher education as a major social institution; and 6) Information on experience after their college attendance. Pace presented guidelines of survey development for the present investigation. While the majority of the questions on the survey used for this study were developed by American College Testing (ACT), Pace's

six suggestions were incorporated in the development of the additional items, which were merged with the ACT survey instrument.

Pace (1979) examined ten landmark studies involving thousands of graduates from different institutions, including public and private colleges and universities. He found that the study of college alumni had occurred without the development of standardized measuring instruments. The trend in such research had been for each researcher to develop his/her own survey instrument, usually without the guidance of any previous research or survey.

Designed to meet the institutional needs of survey development, coordination and assistance, a few assessment services were established at about the same time that Pace called for standardized measurement instruments. Since 1978, the National Center for Higher Education Management Systems (NCHEMS) and the College Board have jointly offered alternatives to local development of survey instruments. Specifically, this consortium offers a data base for institutional comparison, guidelines for implementing the survey, standardized questionnaires, computer analysis, and instrument specificity toward both two-year and four-year institutions (Ewell, 1985). The program is entitled "Student Outcomes Information Services" (SOIS).

Quite similar to the NCHEMS/College Board Assessment Program, The American College Testing Program (ACT) offers an Evaluation/Survey Service (ESS). First introduced in 1979, ESS provides the same types of benefits as does SOIS. ESS currently has more than 12 instruments available. In addition, the ESS surveys allow for the addition of up to 30 locally developed questions. The SOIS provides for only 15 additional questions. Both services provide surveys that measure adult learner needs, college student needs, student opinions, alumni opinions, and withdrawing/non-returning student opinions.

This final section of Chapter II, Transfer Student Outcomes, has considered selected studies that were relevant to the outcomes portion of the three-part model used for the present investigation. Ewell (1985, 1987) presented a review of student outcome typologies--cognitive, affective, psychological, and behavioral. Unlike Astin's (1977, 1974) Taxonomy of Outcome Measures, he stated that his listing was not exhaustive. Cramer's (1971) study provided student incoming characteristics and their relationship to student outcomes. Both his methodology and use of incoming characteristic variables furnished the present investigation with a basis for establishing variable intervals for semester credit hours earned at the community college. Fleming (1972) provided a state-wide study of Iowa's community colleges. His study argued against generalizing the characteristics of students at one Iowa community college to all others.

Since the present study is based on Astin's (1977, 1974, 1970a) model of incoming student characteristics--environment--student outcomes, his taxonomy of student outcomes was incorporated into the design of this investigation. His final taxonomy, consisting of Outcome Type, Data Type, and Time Dimensions supplied the means by which student outcome variables were selected for this investigation (i.e., GPA at baccalaureate graduation, student satisfaction with their college preparation as individuals, for the work place, as citizens, and as family members).

This section concluded with a study by Pace (1979) on student outcomes measurement. He noted that unfortunately much of the research on student outcomes did not necessarily build on experience from past studies. He offered some guidelines on survey development and presented six necessary content criteria for studying college students.

Summary

This chapter has examined selected prior studies of community college effects on transfer students. The chapter was categorically divided into eight major sections: 1) Introduction; 2) Development of the the Transfer Function in the United States; 3) Transfer Function Development in the State of Iowa; 4) General Education Goals; 5) A College Effects Model; 6) Entering Student Characteristics; 7) The College Environment; and 8) Transfer Student Outcomes.

Tinto's (1987) model of student flow patterns through higher education provided an explanation of student enrollment patterns at two-year colleges. The model offered fourteen possible enrollment senarios. The pictorial representation of the model (Figure 2) provided the means not only to understand the phenomenal enrollment patterns of two-year college entrants, but also a means to examine the relevance of the present investigation toward that understanding.

The Development of the Transfer Function in the United States section explored selected studies tracing the early origins of the transfer function. McDowell (1918), L.V. Koos (1925), and Thomas (1926) used similar methodologies in their analyses, which included examining educational periodicals, catalogs, and bulletins to determine the purpose of the early junior college as it related to the transfer function.

Johnson (1969) and Knoell (1982) presented additional historical perspectives on the development of the junior college. Johnson outlined the purpose of the junior college according to records from the American Association of Junior Colleges (AAJC). Knoell outlined the growth of transfer as a function of the junior college and identified projections of the transfer role in the future.

Medsker (1960) and Gleazer (1968) presented similar findings on student outcomes. Specifically, both authors reported similar transfer rates to baccalaureate-

granting institutions. Nationwide data were also presented in tabular form in order to demonstrate the magnitude of determining college effects across the United States.

In the Transfer Development in The State of Iowa section, Gibson (1959) and the Iowa Department of Public Instruction presented a historical view of the introduction of the junior college to the State. Gibson's recommendations to the legislature for four distinct functions for the proposed community colleges were discussed. A graphic reference was made to the growth of Associate Degrees awarded in the State between 1974 and 1985.

In the General Education Goals section, selected studies were presented which discussed reasonable consequences of students exposed to a general education curriculum, the substance of a two-year college transfer program. Medsker (1960) outlined the difficulty in the definition of general education. He stated that its meaning varied greatly among educators, parents, and even students themselves.

Johnson (1952) listed 12 major goals of general education from a report on General Education in California's Junior College System. The goals were comprised of desired student outcomes of the general education program which was determined by California junior college faculty. These goals provided a basis for the determination of expected outcomes of general education for the present study.

Williams (1968) studied numerous colleges and universities in order to define general education. He suggested four goals for general education: preparation for man as student, man as scholar, man in his profession, and man in the community. Williams' goals assisted in the eventual selection of transfer student outcome variables in this study.

The College Effects Model section of this chapter described Astin's conceptual model of student development in higher education, which was used in this investigation. The model had three components: incoming student characteristics, the

college environment, and transfer student outcomes. The relationships among these three components are identified in Figures 1, 3, and 4. As Astin (1970a) pointed out, the primary concern of research on college effects was to determine the degree of relationship between the college environmental and student outcomes components. The model also suggested interaction effects among the components: 1) the effect of incoming student characteristics on student outcomes was different in different college environments; and 2) the effect of the college environment was different for different types of students (p. 225). The components of the model served as the basis of discussion in the following three subsections of the chapter.

Feldman and Newcomb (1976) reviewed Astin's model and methodology for determining college effects. They concluded that student incoming characteristics might not be directly related to college outcomes. Further, they stated that Astin's model did not control for variation in student characteristics, the college environment, or influences external to the college.

The Entering Student Characteristics subsection of Chapter II presented selected studies by Feldman and Newcomb (1973) and Astin (1975). Feldman and Newcomb found that the college experience had little impact on students if the college environment was similar to their background (i.e., home, high school, community).

Astin's (1975) study examined over 100,000 students in order to predict student dropout from incoming student characteristics. He found that student age, high school GPA, ACT composite scores, and the education level of the student's mother and father were significant predictors of dropout-proneness. Astin's findings provided direction in the selection of entering student characteristics for the present investigation.

The College Environment subsection of Chapter II presented selected studies which examined the impact of the college environment on the student. Some studies

included in this section examined the degree of exposure (attendance) at the college and the consequent impact on GPA at a baccalaureate-granting institution. Specifically, Casey (1963) evaluated community college student transfer and success at the Iowa regent universities. He found that a significantly high correlation existed between a transfer student's semester credit hours earned prior to transfer and the cumulative grade point average earned at the regent universities.

Ingram's 1967 study of junior college students transferring to Drake University found that there were academic advantages for students who completed their two-year academic programs, or at least earned a high number of semester credit hours prior to transfer. Ingram's study supported Knoell and Medsker's thesis that the greater the exposure to the community college prior to transfer, as measured by semester credit hours earned, the greater the post-transfer academic achievement.

The Los Angeles Community College District (1980) instituted a study of transfer students to determine an estimate of exposure at the community college prior to transfer. College officials found that 63 percent planned to graduate at the community college, and the average number of semesters estimated to be completed prior to student transfer was 3.8.

Adelman (1988) evaluated over 22,000 students from 1972 to 1976 to establish trends and characteristics of the Arts and Science students. Eight major conclusions were presented. Six of Adelman's finding were relevant to the present investigation. They were: 1) One out of five individuals who attended a two-year college eventually attended a four-year college; 2) Slightly half of the 20 percent of two-year college enrollees who earned the Associates Degree did so within 29 months; 3) One-fourth of all students who attended two-year institutions earned less than one semester's worth of credits; 4) The majority of community college students enrolled within one year of their high school graduation date; 5) One-third of the two year

college students eventually received either an Associate of Arts Degree or a Certificate; and 6) One out of five individuals who attended a two-year college eventually received an Associate of Arts Degree. These findings guided the present investigation in sample size determination and the amount of time needed to monitor student progress through a baccalaureate-granting institution.

Cohen, Brawer, and Bensimon (1985) found that it was difficult to determine college effects on students when, in many cases, researchers were unaware of the student's program intent (i.e., skill development, transfer, financial aid, etc.). Rather, they felt that the best transfer program assessment came from examining students who actually participate in transfer programs.

In the Transfer Student Outcomes section of Chapter II, Pace (1941), Havemann and West (1952), Davis (1986), and Midgen (1987) researched satisfaction with the student's job, academic experience, and other variables to determine the effect of the college on the student. Davis used college professionals to design a questionnaire to obtain student information on job satisfaction and college program satisfaction. In addition, Davis evaluated multiple studies in order to define satisfaction. However, he could find no agreement in the definition, and consequently used college professionals to design an instrument that would evaluate satisfaction as they perceived it. The use of a collegiate professional staff to operationally define satisfaction and assist in questionnaire development was likewise used in this investigation.

Ewell (1985, 1987) presented six outcome typologies to evaluate student outcomes. The typologies were cognitive, affective, psychological, behavioral, within college, and after college. These provided a basis for evaluating student outcomes in the present investigation.

Cramer (1971) and Fleming (1972) both investigated student outcomes in Iowa's

community colleges. Cramer examined transfer students from Iowa Central Community College to determine the relationship of academic ability and the student's decision regarding transfer. Fleming studied each of Iowa's 16 community colleges' transfer students to determine incoming student characteristics and academic progress after transfer.

Astin (1977, 1974, 1970a) provided the most useful vehicle for determining student outcomes for the present study. Astin presented a taxonomy of student outcome measures comprised of two continua: Type of Outcome and Type of Data. Astin's outcome data types were similar to those presented by Ewell. Astin's model included a provision for time in regard to student outcomes, while Ewell did not specifically describe the effect of time in student outcomes.

The section concluded with a study by Pace (1979) on student outcomes measurement. He noted that unfortunately much of the research on student outcomes did not necessarily build on experience from past studies. He offered some guidelines on survey development and presented six necessary content criteria for studying college students.

CHAPTER III. RESEARCH DESIGN AND METHODOLOGY

The purpose of this study was to determine the effect of cumulative semester credit hour achievement and student satisfaction with the North Iowa Area Community College experience on transfer student academic achievement and satisfaction of graduates with their NIACC preparation as individuals, for the work place, as citizens, and as family members. This chapter describes the research design and methodology used in this study. Subsections include: Sources of Data, Data Gathering, Survey Development, Sampling and Survey Procedures, General Hypotheses, Treatment of the Data, Statistical Data Analysis, and Summary.

Sources of Data

Population

The population for this study was comprised of first-time (i.e., no previous NIACC enrollment) transfer students who first enrolled at North Iowa Area Community College in Mason City, Iowa between the fall of 1981 and the summer of 1983 inclusive. This population was selected because it allowed a reasonable period of time for students to progress from community college enrollment to graduation at a baccalaureate-granting institution.

Sample

The study sample included only those first-time transfer students who had both an ACT composite score and a high school grade point average listed on their NIACC permanent student records. A total of 566 transfer students were selected on the basis of these criteria. Both part-time and full-time designated students were included in the study sample.

Five categories were used to statistically evaluate the effect of semester credit hours completed at NIACC on the student's subsequent academic performance at a

baccalaureate-granting institution and satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members. The categories included: 0-15 hours (A), 10-30 hours (B), 31-45 hours (C), 46-60 hours (D), and 61 or more hours (E). The distribution of students among the categories were: A - 84 or 14.84 percent, B - 67 or 11.4 percent, C - 63 or 11.13 percent, D - 102 or 18.02 percent, and E - 250 or 44.17 percent. The sample was largely skewed toward the higher semester hours achieved by transfer students (i.e., D and E).

Table 7 presents characteristics of students selected for the study. These data indicated a near equal distribution of male and female students in the sample. Female students constituted 54.42 percent of the sample.

Table 7. NIACC first-time transfer student enrollment report by semester entered (1981-1983)

Semester Entered NIACC	Male	Female	Total
Fall 1981	161	171	332
Spring 1982	6	27	33
Summer 1982	0	0	0
Fall 1982	74	90	164
Spring 1983	17	20	37
Summer 1983	0	0	0
Totals	258	308	566

The majority of the sample (64.69 percent) was derived from the transfer student who entered NIACC for the first time in fiscal year 1982-1983. Generally, the spring semester enrollment of transfer students who met the selection criteria was substantially lower than for the preceding fall semester. There were no new transfer

students enrolled in either the 1981-1982 or 1982-1983 summer semesters. Consequently, no additional students from these semesters were added to the study sample.

The preceding Sources of Data subsection of Chapter III presented the study population and sample selection procedures used in this investigation. A table of student characteristics was presented which indicated that the majority of the sampled students entered NIACC during the fall semester of 1981. The table also showed a near equal distribution of male and female students.

Data Gathering

The data on each student in the sample were derived from four sources: 1) NIACC student enrollment cards; 2) NIACC permanent student records; 3) Mail surveys; and 4) Transfer institution permanent student records. Examples of each of these data sources are presented as Appendices A, B, D, and E respectively. The NIACC student enrollment card provided the following investigation-related information:

Name
Address
Social Security number
Statement of previous college attendance and location
Parent's address
Gender
Birth date
Enrollment date

The NIACC permanent student record supplied the following related information:

ACT composite score
High school cumulative grade point average
College cumulative grade point average
Total semester credit hours accumulated
Date of withdrawal
Date of graduation

Date of transfer
Last known address

A mail survey sent to all students in the sample was used to obtain the following:

Transfer institution
Satisfaction with the college experience at NIACC
Satisfaction with their NIACC preparation as individuals
Satisfaction with their NIACC preparation for the work place
Satisfaction with their NIACC preparation as citizens
Satisfaction with their NIACC preparation as family members

The transfer institution permanent student record provided the following related information:

Cumulative grade point average
Cumulative semester credit hours completed
Graduation date

This subsection of Chapter III has outlined the specific sources for data gathering used in this investigation. In addition, specific study variables were delineated according to each of the four data sources.

Survey Development

The survey used in this study was developed through a six-step process. The six steps included: 1) Review of selected methodological literature; 2) Evaluation of the ACT survey instrument; 3) Development of supplemental questions; 4) Review of the survey instrument and procedures by an advisory panel; 5) Pilot testing of the survey; and 6) Administration of the survey by NIACC staff.

STEP I. Step I involved the examination of books related to survey development and methodology. Chief among those used were Fowler (1984) Survey Research Methods, Dillman (1978) Mail and Telephone Surveys, and Pace (1985) Perspectives and Problems in Student Outcomes Research. These studies guided the investigator in the actual development of the survey content and procedures. The

specific contributions of each author are described below.

Fowler (1984, p. 127) provided guidance in preparing survey data for analysis. He designed five separate phases to process the data for computer analyses. They included: 1) Organizing the data; 2) Designing rules by which a respondent's answers are assigned a numerical value; 3) Translating responses into numbers; 4) Entering data into computer; and 5) Checking for accuracy and consistency. This five-phase data preparation procedure is more fully outlined in the Treatment of Data section of this Chapter.

Dillman (1978) provided a general structure of survey development and a comprehensive plan for implementation. The current investigation incorporated variations of Dillman's cover letters and postcard (see Appendices F, G, H, and I). In addition, each of the survey cover letters and the postcard were tested for readability by a computer-based software package named Writer's Workbench, which was developed by American Telephone and Telegraph (AT&T). A readability test was suggested by the advisory panel to keep all correspondence with students at or below the 10th-grade level. The advisory committee believed a lower reading level would minimize the potential of intimidating the student. A sample of the readability analysis for the postcard mailing is presented as Appendix J.

Each letter/postcard was evaluated by four readability tests and assigned a grade level of readability. The readability tests used were Kincaid, Auto, Coleman-Liau, and Flesch. The actual readability grade level was calculated by the arithmetic average of the four readability test scores. The readability level of the postcard example in Appendix J was [10.4 (Kincaid) + 9.8 (Auto) + 8.1 (Coleman-Liau) + 9.0 (Flesch)] / 4 = 9.325 or slightly more than the ninth grade level.

In addition to Dillman's cover letters, a raffle was used to increase return response rates. Sampled students were entered into a raffle if they returned a

completed survey. Holmes (1986) used a raffle incentive in a survey of employers and faculty of cooperative education students. The raffle provided a 60 percent return rate on the first mailing of the survey. After follow-up mailings were made, Holmes' survey response rate was 84 percent (p. 32). Holmes surveyed, in part, community college faculty who may have had a greater vested interest in the outcome of the study, which may have resulted in a high response rate. However, Holmes' response rate prompted this investigator to include a raffle in the survey process.

Students were notified in the survey cover letter about their entry into a raffle if they returned a completed questionnaire. A code placed in the upper right-hand corner of each survey was used to note those students who had returned a completed survey. The prizes were: 1) Dinner for four at a local restaurant; 2) Dinner for two at a local restaurant; 3) A college sweatshirt; and 4) Five Iowa Lottery tickets. A random number table was used to select prize winners.

Portions of Dillman's Total Design Method (TDM) were included for survey implementation in this investigation. Dillman's TDM consisted of the initial mailing, a postcard follow-up to all sampled individuals after one week, and a follow-up letter and replacement survey to non-respondents after three weeks. The final mailing occurred seven weeks after the initial mail out. This mailing included a replacement survey and was sent certified mail to emphasize its importance.

Dillman's survey implementation methodology was modified for the present investigation. Specifically, the final mailing period was shortened from 49 days to 29 days to prevent a lengthy delay in data acquisition. Table 8 presents the timeline for survey distribution and collection that was used for the present study. The survey process was concluded ten days after the certified mailing. The survey cut-off date was August 14, 1989.

Table 8. Survey Distribution Timetable

Action	Mailing Date	# Days Since Initial Mailing
1. Initial Mailing (Survey and Cover Letter)	July 6, 1989	N/A
2. Post Card Follow-Up	July 14, 1989	8 Days
3. Follow-Up Letter & Survey	July 24, 1989	18 Days
4. Final Mailing (Survey & Letter sent certified mail)	August 4, 1989	29 Days
5. Survey Cut-off Date	August 14, 1989	39 Days

The American College Testing (ACT) Evaluation Survey Service, described by Pace (1985), provided the survey instrument and initial data analysis. ACT designed the Alumni Survey Two-Year College Form to identify the impact of college on the graduates of two-year higher education institutions. The survey required approximately 20 minutes to complete and contained seven sections. Section titles and the number of questions per section are listed in Table 9. The survey was comprised of multiple choice questions with the exception of Sections VI and VII which required written responses. In addition, each survey was completed using a soft-lead pencil so that they could be optically scanned for data entry by the ACT Survey Service.

The ACT survey offered the following advantages:

1) Geographic proximity. Located in Iowa City, Iowa, ACT was convenient to this researcher.
2) ACT surveys allowed the addition of up to 30 locally developed, targeted questions, which would be scored by the ACT computer.
3) ACT had already developed a two-year college alumni survey.

It contained many of the variables included in the present study. In addition, the instrument had been previously tested for reliability and validity on other alumni samples.

4) User norms were available with the Alumni Survey Two-Year College Form since 32 other community colleges had completed the survey to date. These community college comparative data were on file at ACT and could be correlated with the survey results from the present investigation. A listing of normed community colleges appears in Appendix K.

Table 9. ACT Two-Year College Alumni Survey Content Outline

Section	Title	No. of Items
I	Background/Demographic Information	12
II	Continuing Education Activity	6
III	Educational Experiences	53
IV	Employment History	29
V	Additional Questions	Up to 30
VI	Current Mailing Address	3
VII	Comments and Suggestions	
	Total	103 - up to 133

While other existing survey services could provide portions of these benefits, only ACT could provide all of them. Based on these aforementioned benefits, ACT was selected as the survey service provider for the present investigation.

STEP II. Step II involved an analysis of the ACT Alumni Survey Two-Year College Form (Appendix D) to determine how many of the variables under study were provided by the ACT survey alone. A Hypothesis/Survey Question Matrix was

developed (Appendix L) to aid in this process.

The matrix was comprised of a grid format with each of the 17 hypotheses on the left hand side of the grid. Listed with each hypothesis were related dependent and independent variables. Each variable was assigned a coding scheme: D = dependent variable and I = independent variable. Subscripts were used for multiple variables (e.g., I_1, I_2, I_3,..). ACT survey sections and questions were placed at the top of the grid. Additional column headings were used to categorize variables not available from the ACT survey, but needed for the investigation. These columns included: "Variable Collection Sources Other Than The Survey" (e.g., permanent student records, transcripts, etc.) and "Missing Variable Source".

Each hypothesis was matched with each survey question. If a variable could be obtained from a survey question, its variable code (i.e., I or D) was placed in the question's matrix cell. If the variable could not be obtained from the survey question, its cell was left blank. This procedure was followed for all hypotheses on all survey questions, Sections I through IV. The variable code for the hypotheses variables which could not be obtained from any of the ACT questions was placed in either the column labeled "Variable Collection Sources Other Than The Survey" or "Missing Variable Source." If a variable was to be obtained from a source other than the survey, the actual variable source was also listed in the appropriate variable column.

Once the Hypothesis/Survey Question Matrix was completed, variables placed in the "Missing Variable Source" column were used to develop supplemental questions for Section V: Additional Questions. The actual development of additional questions is delineated in Step III.

STEP III. Step III included the development of supplemental survey questions by an advisory panel. The advisory panel was comprised of NIACC professional staff

members which included an Employment Facilitator, an Admissions Counselor, an Instructor, the Director of Developmental Education, and the Director of Transfer Relations/Counselor of Transfer Students. The names and job titles of the panel members are more fully presented in Appendix M. Davis (1986) used a similar advisory panel methodology for questionnaire development and review.

Panel members reviewed study variables not obtained by the survey or other sources. These included: 1) Education level of parents at the time of transfer student enrollment at NIACC; 2) Transfer student satisfaction with their NIACC preparation as individuals; 3) Transfer student satisfaction with their NIACC preparation for the work place; 4) Transfer student satisfaction with their NIACC preparation as citizens; 5) Transfer student satisfaction with their NIACC preparation as family members; and 6) Transfer student satisfaction with the NIACC experience. These six missing variables required the development of supplemental survey questions.

Prior to developing supplemental questions that would gather data on variables missing from the ACT questionnaire, each variable was operationally defined. Davis (1986) used a comparable set of college professionals to define study variables and develop survey questions. Panel members were given a brief overview of the Davis study to aid in the variable definition and survey development for the present investigation. The panel reached consensus on operational definitions for each of the satisfaction variables. These variable definitions were presented in the Definition of Terms section of Chapter I.

The panel provided direction in the development of two supplemental questions for each variable missing from the ACT base instrument. A five-point Likert-type scale was used for each question. Supplemental Questions 5, 6, 7, 8, 11, 14, and 15 used a response set of Very Satisfied, Satisfied, Neutral, Dissatisfied, and Very Dissatisfied. Questions 1, 4, 9, 13, and 16 stated the satisfaction variable positively in

the question stem and allowed the student to answer with a response set of Agree Strongly, Agree, No Opinion, Disagree, and Disagree Strongly (see Appendix N). These supplemental questions ultimately provided the variables needed for this investigation.

After the supplemental questions were developed and evaluated by panel members, they were added to the Hypothesis/Survey Question Matrix in Section V (Appendix L). Each hypothesis was tested against the supplemental questions in Section V. If a hypothesis variable could be obtained from supplemental questions, the corresponding variable code (i.e., I or D) was placed in the appropriate matrix cell. With the exception of questions 3 and 10 in Section V, each new supplemental question provided a needed hypothesis variable as identified by the Hypothesis/Survey Question Matrix. Questions 3 and 10 in Section V determined if a student had transferred to a baccalaureate-granting institution. The result was a complete survey which provided required variables for the study.

STEP IV. The purpose of this step was to examine the completed instrument and survey methodology for content relevance, usefulness, reliability, completeness, and potential reaction of students. The survey and cover letters were distributed to panel members for individual evaluation. A subsequent meeting was held to ascertain member reactions to the instrument and survey methodology. Flaws identified by the panel were corrected in the instrument.

STEP V. In Step V, the draft survey instrument was pilot tested to determine its effectiveness in gathering data. A group of nine former NIACC transfer students, not selected in the study sample, were given the survey. The average completion time was 19 minutes. Following the completion of the survey, the nine students were asked questions about the instrument's clarity, use, and readability, as well as their general reactions to the instrument. The actual questions posed to the students are presented

in Appendix O. Any significant suggested changes were noted and modified on the instrument itself.

STEP VI. Step VI included the development of the survey materials and the coordination of procedures for administration of the survey with NIACC's staff. Both the survey and cover letter measured 8 1/2 x 11 inches. ACT (1985) stated that any folds, creases, or tears on the survey could cause loss of data since the survey was optically scanned. Based on historical data, ACT has observed difficulties in scoring surveys with folds. Specifically, .25% of surveys with single folds have caused scoring problems and .50% of surveys with double folds have caused scoring problems.

To maximize response rates, full size envelopes were used in both mailings to the students and student survey return envelopes. The survey, a No. 2 pencil, cover letter, and a 9 x 12 inch pre-paid, pre-addressed envelope were mailed to students in 9 1/2 x 12 1/2 inch first-class envelopes. To further protect the survey from damage, special mailing envelopes made of high-density polyethylene fibers were used as opposed to standard mailing envelopes. These envelopes had the physical properties of water and chemical resistance, and were nearly impossible to rip, tear, or puncture, according to the manufacturer. Lastly, the envelopes were imprinted with "First Class Mail" by the manufacturer. It was determined by the advisory panel that this inscription and the non-standard envelope size would further heighten the attention of the survey to the former NIACC students. Each survey package was machine stamped.

The College appointed two full-time staff members, hereinafter referred to as "Staff Members", one from the Student Records Office in the Student Services Division and one from the Community Services Division, to assist the investigator with this study. It was responsibility of the Staff Members to maintain transfer student confidentiality, coordinate the survey mailing, maintain mailing records of

returned student surveys, request permanent student transcripts from transfer institutions, and forward student records, surveys, and transcripts to the researcher. In addition, the Staff Members maintained a code book of the surveys to monitor student survey returns, and insured student anonymity and confidentiality of data. A sample page of this code book is presented as Appendix P.

The Staff Members met with the project researcher prior to the implementation of the data collection and survey distribution. The researcher outlined specific requirements and strict investigation timelines. The Staff Members received all survey mailing materials, timelines, and the student code book at the conclusion of the meeting.

The preceding Survey Development subsection of Chapter III outlined the six-step process used in both survey development and methodological strategies for this investigation. The six steps included: 1) Review of selected methodological literature; 2) Evaluation of the ACT survey instrument; 3) Development of supplemental questions; 4) Review of the survey instrument and procedures by an advisory panel; 5) Pilot testing of the survey; and 6) Administration of the survey by NIACC staff. The survey process was modeled after previous work of Fowler (1984), Dillman (1978), and Pace (1985). Variations in and addendums to methods posited by the aforementioned authors were presented.

Sampling and Survey Procedures

The development of the sampling procedure was guided by a preliminary investigation of available student records in NIACC's Records Office. Only those students who enrolled in or after the 1983-1984 academic year were maintained on the College's computer. The remainder of the student records were available only in paper files. Since this study examined transfer students who enrolled at NIACC

during the fall of 1981 through the summer of 1983, student records had to be extracted from paper files.

A trial sample of 10% of the population was taken to determine the composition of the permanent student records prior to the actual sampling procedure. The Staff Members selected every tenth permanent student record from the file containing fall, 1981 enrollment cards. These records were photocopied, with the original record being replaced in the file. The photocopy was masked with a black marker on the fields containing name, social security number, address, and phone number (see Appendix B). The masked copies were forwarded to the researcher for descriptive statistic analysis. In total, over 99 trial records were compiled. The results are presented in Table 10. The trial sample information provided an estimate of the number of student records needed to generate a sample of sufficient size for the statistical analysis proposed for this study. (See Data Analysis section, Chapter III for a full description of the analytic procedures and other data requirements.) Ultimately, the semesters of fall, 1981 through summer, 1983 were selected to acquire the needed study sample size of an estimated 500 students. In addition, the results of the ACT scores assisted in the determination of sample bias toward college-bound transfer students. Specifically, 34 of the 61 freshman from the trial sample (55.73 percent) had an ACT composite score on their permanent student records. Further, the arithmetic average and mean of the 34 freshman ACT scores were 19.647 and 4.191 respectively. These findings suggested that slightly more than half of the sampled students intended to transfer since an ACT examination was required prior to transfer to a baccalaureate-granting institution. Consequently, the trial sample appeared not to be biased toward college-bound students.

The procedures used by the Staff Members to draw the study sample were

Table 10. Descriptive summary of 10 percent sample of fall, 1981 enrollments at North Iowa Area Community College

Characteristic:	Number:
Sample size:	99
Student Classification Data:	
Freshman	61
Sophomore	35
Missing Data	3
Freshman Analysis:	
College Attendance:	
Attended NIACC previously	16
Attended other college previously	6
No previous college attendance	39
Course Loading:	
Full time	50
Part-time	8
Missing Data	3
Enrollment Date:	
Fall of 1981	45
Other	11
Missing Data	5
Gender:	
Male	31
Female	30
Input Characteristics:	
ACT Composite	34
Missing ACT Composite	27
ACT Average	19.647
ACT Standard Deviation	4.191
High School Rank	27
Missing High School Rank	34
High School GPA	29
Missing High School GPA	32
GPA Average	2.892
GPA Standard Deviation	0.641

similar to that of the trial sample. Photocopies were made of student records, then masked and forwarded to the researcher. Student records were coded to maintain confidentiality. Thus, the Staff Members, before forwarding masked student records to the investigator, placed a two-letter alphabetic code on the upper right-hand corner of the survey and recorded it in a code book. The code book was held by only the Staff Members. The two-letter code was used to coordinate student records and surveys between the researcher and the Staff Members while maintaining student confidentiality. In addition, the code served to maintain a record of returned surveys for the raffle. The code book contained the student's assigned two-letter code, name, social security number, survey mailing and return dates, and baccalaureate-institution transcript receipt dates.

Prior to the survey mailing, the researcher updated the mailing addresses of the former students. The last addresses recorded in the College's Records Office were seven or more years old. The Staff Members were instructed to mail a cover letter and return postcard to each student in the sample to update the mailing addresses (Appendices Q and R). The cover letter announced the forthcoming questionnaire and asked the receiver to write the sampled student's current address on the return postcard. The postcard used a postage-paid business reply mail frank which generated a cost to the College only on returned postcards. The addresses on the sample mailing list were subsequently updated. The results of the effort to update the mailing list are presented in Chapter IV.

The Staff Members mailed the surveys to sampled former students on July 6, 1989. The Staff Members monitored the survey return process according to the pre-established timeline (see Table 8). As each returned survey was received, a notation was made in the code book. A follow-up reminder/thank you postcard (Appendix G) was mailed to the entire sample after 8 days. An additional survey packet with a

modified introductory letter (Appendix H) was mailed 18 days after the initial mailing to those students who still had not responded. Lastly, a replacement survey was sent by certified mail to each student who had not yet responded 29 days after the initial mailing. The survey distribution and collection process concluded 10 days after the certified survey mailing.

The Staff Members inspected each of the returned surveys for completeness and neatness of response selections. The Staff Members subsequently requested official transcripts for students who transferred to and graduated from a baccalaureate-granting institution.

At the end of the survey return period, 39 days in total, the researcher delivered all completed surveys to the ACT offices in Iowa City, Iowa, for data analysis. The reports, a magnetic data tape, and individual surveys were returned directly to the Staff Members at the College.

The aforementioned sampling procedure was guided by a preliminary investigation of available student records in NIACC's Records Office. The 10 percent trial sample of transfer students who enrolled during the fall of 1981 provided the investigator with an indication of the sample size needed for the study. Specific procedures were developed to guide the survey distribution process. An average of 10 day separation intervals were used between mailing out the surveys, reminder post cards, and replacement surveys. All completed surveys were delivered to the ACT offices in Iowa City for data analysis.

Independent Variables

The independent variables of this study are described according to their inclusion in the study hypotheses. The independent variables used in Hypotheses 1, 2, 13, 14, 15, and 16 were: 1) Cumulative high school grade point average; 2) Education level of parents at student enrollment at NIACC; 3) ACT composite score; 4) Gender;

and 5) Age.

In Hypotheses 3, 5, 7, 9, and 11 the independent variable was the cumulative semester credit hours earned at NIACC prior to transfer. More specifically, this particular independent variable was divided into five strata: 1) 0-15 semester credit hours earned; 2) 16-30 semester credit hours earned; 3) 31-45 semester credit hours earned; 4) 46-60 semester credit hours earned; and 5) 61 or more semester credit hours earned. Giddings (1985), Richardson & Doucette (1980), Cramer (1971), and Casey (1963) used similar categorizations of semester credits hours earned by students prior to transfer to a baccalaureate-granting institution. In his study, Giddings used three semester credit hour classifications: 36-47 hours, 48-59 hours, and 60 or more hours. Cramer used five semester credit hour classifications: 0-14 hours, 15-29 hours, 30-44 hours, 45-59 hours, and over 59 hours. The present investigation used five semester credit hour classifications to provide greater statistical description of the study sample.

Finally, Hypotheses 4, 6, 8, 10, and 12 used transfer student satisfaction with the NIACC experience as the independent variable. This variable was categorized into five levels of satisfaction: 1) Very satisfied; 2) Satisfied; 3) Neutral; 4) Dissatisfied; and 5) Very dissatisfied. These satisfaction categories were established with the assistance of the advisory panel and matched responses to related items on the survey.

Dependent Variables

The dependent variables used in the present investigation are presented below according to their inclusion in the study hypotheses. The dependent variable for Hypothesis 1 was cumulative semester credit hours earned by NIACC transfer students. This variable was divided into five levels of semester credit hours: 1) 0-15 hours; 2) 16-30 hours; 3) 31-45 hours; 4) 46-60 hours; and 5) 61 or more hours.

The dependent variable for Hypothesis 2 was transfer student satisfaction with the NIACC experience. This variable was divided into five levels to coincide with survey response selections: 1) Very satisfied; 2) Satisfied; 3) Neutral; 4) Dissatisfied; and 5) Very dissatisfied.

Hypotheses 3, 4, and 13 used NIACC transfer student cumulative grade point average at graduation from a baccalaureate-granting institution as the dependent variable. The point of graduation was chosen to avoid the potential for sampling bias due to "transfer shock." Cohen and Brawer (1987, p. 101) describe transfer shock as "...the students' grade point averages generally dropping slightly in their first term after transfer...." However, Nickens (1972, p. 1) stated that many academicians viewed transfer shock as a cause-and-effect relationship between transfer and grade point average. He further remarked that such assessments were inaccurate since the research had not established a cause-and-effect relationship between GPA and the community college experience. In a study of 926 students at Florida State University, Nickens observed transfer shock and recovery. He concluded that the GPA of transfer students did not manifest any evidence of problems unique to transferring (p. 6). He suggested that a decline in GPA after transfer and subsequent recovery may be accounted for by grading practice differences between institutions rather than maladjustment of transfer students.

In addition, Nickens stated that transfer shock may be the result of regression toward the junior college mean GPA. Specifically, he stated that the effect of the admission of students on the range of junior college GPAs should be considered. "Since transfer students typically must have had a 2.00 or higher junior college average to be admitted to the senior institution, the junior college mean was biased upward in junior/senior college GPA comparisons. Therefore, the mean GPA of transfers should be expected to be lower for the first term in the senior institution...."

(p. 3). Consequently, attributing transfer student GPA decline to transfer shock was inaccurate.

Hills (1965, p. 210) posted statements similar to Nickens, seven years earlier. Among them: 1) transfer shock may merely be a function of the junior colleges having more generous grading standards; and 2) the shock and poor performance of transfer students could be due to weak faculty and poor facilities at the junior college. In an examination of 46 studies on transfer shock, Hills did not find conclusive evidence for the cause of transfer shock. Beyond noting a transfer GPA change, he offered little more than to list the aforementioned statements as possibilities.

Cohen and Brawer (1987), Nickens (1972), and Hills (1965) have observed student grade shifts after transfer. The authors agreed that a change in GPA occurred among students transferring from a two-year college to a baccalaureate-granting institution regardless of name or reason. Thus, the present study has used GPA at graduation from the baccalaureate-granting institution as a measure, allowing for recovery from any transitory grade fluctuations attributable to the period immediately following transfer.

Hypotheses 5, 6, and 14 used transfer student satisfaction with their NIACC preparation as individuals as the dependent variable. This variable was divided into five levels: 1) Very satisfied; 2) Satisfied; 3) Neutral; 4) Dissatisfied; and 5) Very dissatisfied. These hypotheses posited that there was no statistically significant difference among the aforementioned dependent variable and the following independent variables: cumulative semester credit hours earned at NIACC (Hypothesis 5), transfer student satisfaction with the NIACC experience (Hypothesis 6), and transfer student cumulative high school GPA, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment (Hypothesis

14).

The dependent variable used for Hypotheses 7, 8, and 15 was the transfer student level of satisfaction with their NIACC preparation for the work place. The levels of satisfaction used were: 1) Very satisfied; 2) Satisfied; 3) Neutral; 4) Dissatisfied; and 5) Very dissatisfied. These hypotheses stated that there was no statistically significant difference among the aforementioned dependent variable and the following independent variables: cumulative semester credit hours earned at NIACC (Hypothesis 7), transfer student satisfaction with the NIACC experience (Hypothesis 8), and transfer student cumulative high school GPA, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment (Hypothesis 15).

Hypotheses 9, 10, and 16 used the level of transfer student satisfaction with their NIACC preparation as citizens of the United States as a dependent variable. This variable had five satisfaction levels: 1) Very satisfied; 2) Satisfied; 3) Neutral; 4) Dissatisfied; and 5) Very dissatisfied. These hypotheses stated that there was no statistically significant difference among the aforementioned dependent variable and the following independent variables: cumulative semester credit hours earned at NIACC (Hypothesis 9), transfer student satisfaction with the NIACC experience (Hypothesis 10), and transfer student cumulative high school GPA, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment (Hypothesis 16).

Finally, Hypotheses 11, 12, and 17 used the transfer student level of satisfaction with their NIACC preparation as family members as a dependent variable. The satisfaction levels used were: 1) Very satisfied; 2) Satisfied; 3) Neutral; 4) Dissatisfied; and 5) Very Dissatisfied. These hypotheses proposed that there was no statistically significant difference among the aforementioned dependent variable and

the following independent variables: cumulative semester credit hours earned at NIACC (Hypothesis 11), transfer student satisfaction with the NIACC experience (Hypothesis 12), and transfer student cumulative high school GPA, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment (Hypothesis 17).

General Hypothesis

The effect of the community college on the transfer student varies with the length of attendance in the college environment and with the student's level of satisfaction with the community college experience. The specific length of college attendance may be measured by the cumulative total of semester credit hours achieved at a college. Simply stated, the greater the cumulative number of semester credit hours earned and the higher the level of student satisfaction with the community college experience, the greater the community college effect in academic achievement at a baccalaureate-granting institution and the greater the student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members. Guided by the general hypothesis, the following specific research hypotheses were tested:

Hypothesis 1.

There is no significant difference in cumulative semester credit hours earned by NIACC transfer students according to the following transfer student characteristics:

1. Cumulative high school GPA
2. Education level of father at student enrollment
3. Education level of mother at student enrollment
4. ACT Composite Score
5. Gender
6. Age at enrollment

Hypothesis 2.

There is no significant difference in transfer student satisfaction with the NIACC experience according to the following transfer student characteristics:

1. Cumulative high school GPA
2. Education level of father at student enrollment
3. Education level of mother at student enrollment
4. ACT Composite Score
5. Gender
6. Age at enrollment

Hypothesis 3.

There is no significant difference in NIACC transfer student cumulative grade point average upon graduating from a baccalaureate-granting institution according to the cumulative semester credit hours earned at NIACC.

Hypothesis 4.

There is no significant difference in NIACC transfer student cumulative grade point average upon graduating from a baccalaureate-granting institution according to transfer student satisfaction with the NIACC experience.

Hypothesis 5.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as individuals according to the cumulative semester credit hours earned at NIACC.

Hypothesis 6.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as individuals according to transfer student satisfaction with the NIACC experience.

Hypothesis 7.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation for the work place according to the cumulative semester credit hours earned at NIACC.

Hypothesis 8.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation for the work place according to transfer student satisfaction with the NIACC experience.

Hypothesis 9.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as citizens according to cumulative semester credit hours earned at NIACC.

Hypothesis 10.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as citizens according to transfer student satisfaction with the NIACC experience.

Hypothesis 11.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as family members according to the cumulative semester credit hours earned at NIACC.

Hypothesis 12.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as family members according to transfer student satisfaction

with the NIACC experience.

Hypothesis 13.

There is no significant difference in NIACC transfer student cumulative grade point average at graduation from a baccalaureate-granting institution according to the following transfer student characteristics:

1. Cumulative high school GPA
2. Education level of father at student enrollment
3. Education level of mother at student enrollment
4. ACT Composite Score
5. Gender
6. Age at enrollment

Hypothesis 14.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as individuals according to the following transfer student characteristics:

1. Cumulative high school GPA
2. Education level of father at student enrollment
3. Education level of mother at student enrollment
4. ACT Composite Score
5. Gender
6. Age at enrollment

Hypothesis 15.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation for the work place according to the following transfer student characteristics:

1. Cumulative high school GPA
2. Education level of father at student enrollment
3. Education level of mother at student enrollment
4. ACT Composite Score
5. Gender
6. Age at enrollment

Hypothesis 16.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as citizens according to the following transfer student characteristics:

1. Cumulative high school GPA
2. Education level of father at student enrollment
3. Education level of mother at student enrollment
4. ACT Composite Score
5. Gender
6. Age at enrollment

Hypothesis 17.

There is no significant difference in NIACC transfer student satisfaction with their NIACC preparation as family members according to the following transfer student characteristics:

1. Cumulative high school GPA
2. Education level of father at student enrollment
3. Education level of mother at student enrollment
4. ACT Composite Score
5. Gender
6. Age at enrollment

Treatment of the Data

This section describes the preparation of the survey data for analysis. It is divided into five separate phases modeled after Fowler's (1984, p. 127) Survey Research Methodology. The five phases are: 1) Organizing the data; 2) Designing numerical coding of values; 3) Translating student responses to numbers; 4) Entering data into computer; and 5) Verifying data.

The ACT Survey Service generated reports from the completed optically scanned surveys which fulfilled Fowler's five phases. Data derived from the permanent NIACC student records and the baccalaureate-granting institution transcripts were analyzed according to Fowler's methodology. The procedure for the data treatment of

the ACT surveys and permanent student records is presented below.

Survey Data Preparation

As the completed surveys were returned to NIACC, they were visually evaluated by the Staff Members. Since ACT did not check each survey prior to optical scoring, the Staff Members carefully checked each survey for completeness and to verify the use of a No. 2 pencil in the completion of each survey. Any surveys completed in ink were re-marked with a No. 2 pencil by the Staff Members. Incomplete surveys were noted in the Staff Members' code book and included with those sent to ACT. Upon the completion of the visual check, the surveys were packaged and delivered to ACT Evaluation/Survey Service, The American College Testing Program, 2201 North Dodge Street, Iowa City, Iowa.

After the surveys were scored by ACT, a summary report was printed which listed survey results, including descriptive statistical analyses of survey variables. The ACT print-out provided a one-page summary for each item on the survey. Specifically, the item summary included survey questions, responses to the questions, notations for the number of surveys having "blanks" for the responses, and the selection frequency of the questions. A detailed summary of the survey data, analyses, and ACT reports are presented in Chapter IV: Research Results and Data Analysis.

In addition to printed reports, ACT also provided the investigator with a magnetic tape of the survey data. These data were loaded on NIACC's computer system to allow for the merging of study data not collected from the survey (i.e., ACT composite score, high school GPA, semester credit hours earned, enrollment age, and GPA at graduation from a baccalaureate-granting institution). This investigator worked with the College's Computer Center personnel to establish data fields for all variables in the study in order to merge data from both the survey and other sources

listed previously in this study.

"Other Source" Data Preparation

A computer program was written by the Computer Center staff to allow for data manipulation and entry. The data collected from sources other than the survey included: 1) NIACC cumulative semester credit hours; 2) High school GPA; 3) Transfer institution GPA; 4) NIACC enrollment age; and 5) ACT composite score. Prior to the statistical analysis of these data, they were prepared according to Fowler's (1984) five-phase process.

Phase I was formatting and organizing the data. However, since the College's Computer Center had developed a computer file for the data which established specific fields (e.g. age = 3 character positions, numeric), the data formatting phase was completed. Phase II was constructing a code for survey responses. NIACC GPA, high school GPA, and enrollment age did not require a variable code assignment since the actual numeric value was used for the variable. In Phase III, the student responses were translated to numbers. In Phase IV, the data were entered into the newly created computer data base using the variable coding scheme developed in Phase II. This particular step involved typing the data at a computer terminal. Upon completion of data entry, all entered data was visually verified by the Staff Members for accuracy and proper placement in the data base. This constituted Phase V.

A merged data base at the College's Computer Center was the result of the data preparation of both the survey and variables obtained from other sources. The modified data were downloaded to magnetic tape and transported to the Iowa State University Computer Center for statistical data analysis.

This Treatment of Data subsection described the preparation of the survey data for analysis. Fowler's five-phase process was used. Data fields for all variables in the study were established in order to merge data from both the survey and other

sources.

Statistical Data Analysis

Prior to the data analysis, a statistical method was selected to combine multiple survey questions which provided data for a single study variable. For example, transfer student satisfaction had more than one question posed to the student on the survey which derived the student's level of satisfaction in a particular area. (See Hypothesis/Survey Question Matrix, Appendix L.) Specifically, these included:

1) Transfer student satisfaction with the NIACC experience

2) Transfer student satisfaction with their NIACC preparation as individuals

3) Transfer student satisfaction with their NIACC preparation for the work place

4) Transfer student satisfaction with their NIACC preparation as citizens

5) Transfer student satisfaction with their NIACC preparation as family members

A weighted mean was computed for each of these five satisfaction variables since the survey questions were comprised of a varying number of choices in the response set. For example, transfer student satisfaction with the NIACC experience (dependent variable, Hypothesis 2) was comprised of the following survey questions:

Survey Question	No. Of Questions	Response Set Amount
Section III - J	15	5
Section III - D	1	3
Section III - H	6	5
Section V - 2	1	4
Section V - 10	1	5
Section V - 16	1	5
Total	25	27

Hinkle et al. (1979) suggested the formula below for determining a weighted average for several tests. This formula was used for the investigation.

$$\text{Weighted Score}_j = \frac{\text{E } W_i z_{ij}}{\text{E } W_i}$$

where w_i = the weight of each test

z_{ij} = the score for each person($_j$) on test($_i$)

Responses to the survey questions were computed for each of the remaining four study variables presented below. The weighted mean for each variable was calculated using a Lotus 1-2-3 spreadsheet software package on a personal computer.

Transfer student satisfaction with their NIACC preparation as individuals:

Section III - E	Section V-9
Section III - I	Section V-14
	Section V-15

Transfer student satisfaction with their NIACC preparation for the work place:

Section IV - L	Section V-7
Section IV - O	Section V-11

Transfer student satisfaction with their NIACC preparation as citizens:

Section V-8	Section V-12

Transfer student satisfaction with their NIACC preparation as family members:

Section V-6	Section V-13

A single weighted score resulted for each of the transfer student satisfaction variables. The single satisfaction score aided in hypothesis testing. Three types of statistical analyses were used in this study: descriptive, non-parametric, and parametric. Discussion of each statistical analysis is presented below:

Descriptive Statistics

Descriptive statistics were calculated for the sample data. The use of descriptives included count, percentage, mean, median, mode, and standard deviation of dependent and independent variables. The American College Testing Service provided preliminary descriptive data from the survey results which included count and percentage. A descriptive statistical analysis of variables which were obtained from sources other than the mailed survey, were computed after being delivered to the Iowa State University Computer Center.

Non-Parametric Statistics

Cross-classification tables were used for each hypothesis with a dependent variable at or below the ordinal scale of measurement. These included Hypotheses 2, 5-12, and 14-17. The cross-classification tables provided a cell for each combination of the categories for both the dependent and independent variables. Statistics for each cell included count, expected values, row percentages, column percentages, as well as row and column totals.

The chi-square statistic was used to test for a relationship between categorical variables in Hypotheses 2, 5-12, and 15-17. Norusis (1988, p. 236) suggested the use of chi-square to "...evaluate the relationship between a set of observed frequencies and a set of expected frequencies." The null hypothesis was rejected if the significance for the statistic was less than or equal to .05.

Parametric Statistics

This study used the Pearson Product-Moment Correlation and the Analysis of Variance on the survey data. The Statistical Package for the Social Sciences (SPSSX) was used for manipulation and analysis of the data.

Initially, an intercorrelation of all ratio and interval scale variables were computed using the Pearson Product-Moment Correlation Statistic. This powerful

statistical test was used on all interval variables to examine linear relationships. However, prior to hypothesis testing, assumptions were made about the data. Specifically, Norusis (1988) stated that if the data were a random sample of a population in which the distribution of the two variables together were normal, the Pearson Correlation was an appropriate test. This assumption was determined by observing normality of the distribution of the sample by the examination of the sample from descriptive statistical tests. Only two-tailed tests of significance were used with the Pearson Correlation throughout this investigation. The results of this correlational analysis appear in Chapter IV: Research Results and Data Analysis.

Analysis of Variance (ANOVA) is a statistical application for comparing the means of two or more populations. This is achieved by comparing sample variances using the F-distribution (Lapin, 1987, p. 380). Specifically, ANOVA examines possible variances that may occur in the scores of the dependent variable. Hinkle (1979) suggested the variation in the dependent scores was segmented into group variation, variation between group means, and the mean of all groups. An F-ratio provides the test statistic of the variable estimates.

There are three theoretical conditions under which the F-distribution must apply. First, the populations for each sample must be normally distributed with identical means and variances. This was determined by observing normality of the distribution of the sample in the descriptive statistics. Second, all observations must be random and independent. Third, the dependent variable measurement must be on at least the interval scale (Lapin, 1987, p. 393). These three conditions were observed. The Analysis of Variance (ANOVA) was used to test Hypotheses 1, 3, 4, and 13 as presented on pages 114-118. The specific application of ANOVA to each hypothesis is presented in Chapter IV of this study.

Post hoc tests were used following the failure to accept the null hypothesis in

the Analysis of Variance. Hinkle et al. (1979, p. 269) stated that when the null hypothesis is rejected, at least one mean differs significantly from one or more means. Since this study had unequal group sample sizes, the Tukey-B method was used to determine which means differed significantly.

In this Statistical Data Analysis subsection, Hinkle's formula for determining a weighted average was described. Descriptive, non-parametric, and parametric statistical analyses were used in this investigation. Discussions of each of these were presented.

Summary

This chapter reviewed data acquisition and statistical methods and procedures used in the course of the investigation. The chapter included the subsections of Sources of Data, Data Gathering, Survey Development, Sampling and Survey Procedures, General Hypothesis, Treatment of the Data, and Statistical Data Analysis.

The study involved the use of permanent student records and a mail survey to obtain study variables. Modifications of Fowler's (1984), Dillman's (1978), and Pace's (1985) survey development and distribution methodologies were incorporated into the investigation. A ten percent trial sample was taken to assess the descriptive nature of the study sample.

The 17 Hypotheses in the investigation were designed to provide insight into the effect of community college on transfer students. A Hypothesis/Survey Question Matrix was used to identify survey questions that provided study variables for the hypotheses.

The statistical data analysis involved the use of calculation of descriptive statistics, cross-classification tables, chi-square, intercorrelation of ratio scale variables, and Analysis of Variance. A Tukey-b post hoc test was used when the null

hypothesis was rejected.

The research findings and their use with the aforementioned statistical methods follow in Chapter IV: Research Results and Data Analysis.

CHAPTER IV. RESEARCH RESULTS AND DATA ANALYSIS

Introduction

This investigation measured the effect of cumulative semester credit hours achieved and student satisfaction with the North Iowa Area Community College experience on transfer student academic achievement at a baccalaureate-granting institution. It also assessed student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members. The analyses and consequent statistical research findings presented in this chapter were based on data collected from NIACC student enrollment cards, NIACC permanent student records, mailed surveys, and transfer institution permanent student records. The study included a sample of NIACC permanent records that contained both ACT composite scores and high school cumulative grade point averages for students who first enrolled at NIACC from the fall of 1981 to and including the summer of 1983. The sample, which totaled 566, was described in Chapter III (pages 93-94) of this study.

The results of research and hypotheses testing are presented in this chapter. Subsections include: Survey Results, Description of the Data Collected, Variables Measured, Statistical Findings of the Hypotheses, and General Summary.

Survey Results

The survey procedures were modeled after Dillman's (1978) Total Design Method. The process was comprised of six steps: 1) Mail list verification; 2) Initial mailing; 3) Post-card follow-up mailing; 4) Second survey follow-up mailing; 5) Final survey mailing by certified mail; and 6) Survey receipt deadline. Each of these steps and their resultant findings are presented in detail below.

On June 12, 1989, 566 mailing list update letters with return post cards were sent to the selected sample of transfer students whose NIACC permanent student

0records contained both ACT composite scores and high school cumulative grade point averages. Of the total mailed, 32 or 5.65 percent were returned as undeliverable, and 180 or 31.8 percent returned the mailing list update post cards. The mailing list update letter instructed the recipient to do nothing if the address on the letter was correct (Appendix Q). It was assumed by this investigator that the remaining letters, not returned, contained correct addresses. On July 6, 1989, initial survey packets were mailed to 534 (566 sampled students less 32 undeliverable) students. By July 14, 1989, 112 or 20.97 percent of the distributed surveys were returned. On July 14, 1989, a reminder post card (Appendix G) was mailed to all surveyed students. The post card encouraged students who had not returned their surveys to do so as soon as possible. In addition, the post card served as a "thank you" to those students who had returned their surveys.

By July 24, 1989, an additional 82 or 15.36 percent of the surveys were received, bringing the total of returned surveys to 194 or 36.33 percent. On July 24, 1989, a second survey packet with a modified cover letter (Appendix H) was mailed to the 340 non-respondents. By August 4, 1989, an additional 64 surveys were received which constituted an additional 11.99 percent. The total number of surveys received by that date was 258 or 48.31 percent of the total mailed. The final distribution was sent by certified mail to the remaining 276 non-respondents. This mailing netted 69 or 12.92 percent of additional surveys. The survey process was concluded on August 14, 1989, with a total of 327 or 61.24 percent of the sampled students responding to the survey.

Description of the Data Collected

The data used for this study were collected from student enrollment cards and permanent student records from North Iowa Area Community College (NIACC), mail

surveys, and baccalaureate-granting institution permanent student records. Table 11 describes the achievement and satisfaction characteristics of the sampled 327 NIACC transfer students. Statistical average, standard deviation, median, and mode are presented for the following transfer student incoming characteristic variables: high school cumulative grade point average, education level of parents at student enrollment, ACT composite score, student gender, and student age at enrollment. In addition, descriptive statistics are presented for the following college environment variables: cumulative semester credit hours earned at NIACC and student satisfaction with the NIACC experience. Finally, descriptive data is presented for the following transfer student outcome variables: GPA at a baccalaureate-granting institution at graduation and student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members.

The descriptive statistics of the sample provided an estimate of the nature of the population. Several of the most interesting findings are presented below. Of the 327 transfer student survey returns, 101 or 30.89 percent of the sample had received their Bachelor's Degree by the time this study was completed. Further, more than half (57.2 percent) of the sample was comprised of female transfer students. The average age of the enrolled student was 18.38. The average number of semester credit hours achieved by the sampled students was 55.69. The variables of student satisfaction with the college experience and student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members were all at a median score of 2.00. The satisfaction categories ranged from 1 = "very satisfied" to 5 = "very dissatisfied".

These findings suggested that a high percentage of transfer students persist to complete a baccalaureate degree. Further, the data indicated that the transfer students in this study were nearly equally divided between male and female, were of

Table 11. North Iowa Area Community College transfer student characteristics from returned surveys (N=327)

Characteristic	Median	Mean	Mode	Standard Deviation
Student Inputs:				
High School Cumulative Grade Point Average	3.070	2.993	2.830	0.578
ACT Composite Score	20.000	19.823	22.000	5.168
Student Gender (Percent)				
Male		42.8%		
Female		57.2%		
Student Age at Enrollment	18.000	18.382	18.000	2.412
College Environment:				
NIACC Cumulative Semester Credit Hours Earned	60.500	55.691	60.000	23.843
Student Satisfaction with the College Experience [a]	2.000		2.000	
Student Outputs:				
Student GPA at Baccalaureate-Granting Institution at Graduation	2.910	2.925	2.830	0.450
Student Satisfaction as an Individual [a]	2.000		2.000	
Student Satisfaction in the Work Place [a]	2.000		2.000	
Student Satisfaction as a Citizen [a]	2.000		2.000	
Student Satisfaction as a Family Member [a]	2.000		2.000	
Other Characteristics:				
NIACC Cumulative Grade Point Average	2.765	2.765	2.620	0.666
Percent that received a Bachelor's Degree from a Baccalaureate-Granting Institution		30.89% (101)		

[a]Satisfaction variables used in this investigation were measured on a five-point Likert Scale (Very Satisfied = 1 to Very Dissatisfied = 5)

traditional student age (18-24) at enrollment, completed a high number of semester credit hours, and were "satisfied" with their college preparation.

These descriptive statistics of the sample approximated the total surveyed population. Specifically, the survey return (N=327) student characteristics reflected the larger sample population (N=566). The student incoming characteristics of sampled non-respondents are presented in Table 12.

Table 12. Student characteristics of sampled non-respondents from North Iowa Area Community College (N=239)

Characteristic	Median	Mean	Mode	Standard Deviation
Incoming Student Characteristics:				
High School Cumulative Grade Point Average	2.760	2.742	3.455	0.717
ACT Composite Score	19.000	18.887	22.000	5.193
Student Age at Enrollment	18.000	19.136	18.000	4.311
Student Gender (Percent)				
Male		49.79%		
Female		50.21%		
College Environment:				
NIACC Cumulative Semester Credit Hours Earned	43.000	43.809	0.000	28.137
Other Characteristics:				
NIACC Cumulative Grade Point Average				

Comparatively, the study sample returns were analogous to the non-respondents and consequently the total population in the following ways: The survey non-respondent high school GPA mean was 2.742, which was 0.251 points lower than the

survey respondent group. However, little variation of the non-respondents was noted with a standard deviation of 0.717. ACT composite scores were similar with 18.887 and 19.823 mean scores for the survey non-respondents and respondent groups respectively.

A similar degree of relationship was observed between the survey non-respondent and respondent groups in their age at enrollment at NIACC and gender percentages. Specifically, the arithmetic average age of the non-respondent at the time of their NIACC enrollment was 19.136 which approximates the respondent average age of 18.382. Similarly, the standard deviation for the enrolling age of the students was 4.311 for the survey non-respondents and 2.412 for the survey responding group.

Gender percentages were largely even among the two groups. The survey non-responding group was comprised of 50.21 percent females and 49.79 percent males. The survey responding group evidenced a slightly higher percentage of females at 57.20 percent and 42.8 percent males.

A difference was observed among the survey non-respondent and the survey respondent groups with regard to the number of semester credit hours earned at NIACC. The groups earned an average total of 43.809 and 55.691 respectively, which represented an average difference of 11.882 semester hours.

These findings suggested that the responding survey sample approximated the total surveyed population in terms of high school grade point average, ACT composite score, age at enrollment, and gender distribution. A difference was noted among the groups with respect to semester credit hours earned at NIACC.

Table 13 provides additional background characteristics of the sampled transfer student survey returns. Of interest, 41 percent of the fathers of the transfer students, the largest percentage in the variable category, held only a high school

diploma at the time of the student's enrollment at NIACC. Similarly, the percentage of mothers holding a high school diploma at the time of the transfer student's

Table 13. Additional characteristics of North Iowa Area Community College transfer student returns (N=327)

Characteristic	Percent
Father's education level at student enrollment	
Eighth grade or less	8.9%
Some high school	7.0
High school graduate	41.0
Technical or Business	8.6
Some college	10.1
Two-year college Graduate	5.2
Four-year college Graduate	9.5
Some post-graduate studies	1.8
Received an advanced degree	5.5
Unknown	1.8
Missing variables	.6
Mother's education level at student enrollment	
Eighth grade or less	2.4%
Some high school	2.1
High school graduate	51.4
Technical or Business	11.3
Some college	12.5
Two-year college Graduate	7.3
Four-year college Graduate	6.7
Some post-graduate studies	1.5
Received an advanced degree	.9
Unknown	3.1
Missing variables	.6
Transfer Institution (N=101)	
Iowa State University	32.7
University of Iowa	1.0
University of Northern Iowa	47.5
Mankato State University	5.9
Drake University	1.0
Buena Vista College	4.0
Other	7.9

enrollment at NIACC was 51.4, again the largest percentage in the variable category. Lastly, the two baccalaureate-granting institutions with the highest frequency of transfer student matriculation were the University of Northern Iowa (47.5 percent) and Iowa State University (32.7 percent).

This researcher found these findings very interesting in comparison to previous studies cited in Chapter II of this investigation. These particular traits are further discussed in Chapter V.

Since this study was designed to examine the effect of the community college on transfer students, the responding study sample was divided into two groups throughout the balance of the investigation. Specifically, the groups created were named "Bachelor Degree Group - BDG" and "Non-Bachelor Degree Group - NBDG" and were identified as such in statistical calculations, hypotheses evaluation, and in the investigation summary presented in Chapter V. The "Bachelor-Degree Group" represented the 101 students from the study sample who transferred to and graduated from a baccalaureate-granting institution. This group was statistically evaluated for the impact of the community college on the transfer student in terms of academic achievement (i.e., cumulative grade point average at graduation from a baccalaureate-granting institution). The remaining 226 transfer students constituted the "Non-Bachelor Degree Group". This group was comprised of survey respondents who did not transfer at all, or may have transferred but had not achieved a Bachelor's Degree at the time of this study.

Table 14 indicates a student profile of the Non-Bachelor Degree Group (NBDG) and the Bachelor Degree Group (BDG) according to three segments of Astin's input-environment-output model. In addition, other student characteristics including education level of parents at student enrollment are presented. The Non-Bachelor Degree Group represented 69.11 percent (226) of the total sample size. Consequently,

Table 14. Student characteristics of transfer students from NIACC who did not graduate from a baccalaureate-granting institution (N=226, Non-Bachelor Degree Group) and for those students who did graduate from a baccalaureate-granting institution (N=101, Bachelor Degree Group)

Characteristic	NBDG Median	BDG Median	NBDG Mean	BDG Mean	NBDG Mode	BDG Mode	NBDG Standard Deviation	BDG Standard Deviation
Incoming Student Characteristics:								
High School Cumulative Grade Point Average	2.965	3.280	2.901	3.201	2.803	3.650	0.588	0.996
ACT Composite Score	19.000	22.000	18.854	21.990	22.000	25.000	5.097	4.664
Student Gender								
Male			35.4%	59.4%				
Female			64.6%	40.6%				
Student Age at Enrollment	18.000	18.000	18.429	18.277	18.000	18.000	2.337	2.581
College Environment:								
NIACC Cumulative Semester Credit Hours Earned	60.000	61.000	54.213	58.955	60.000	60.000	25.652	18.968
Student Satisfaction with the College Experience	2.000	2.000			2.000	2.000		
Student Outcomes:								
Student GPA at a Baccalaureate-Granting Institution at Graduation		2.910		2.925		2.830		0.450
Student Satisfaction as an Individual	2.000	2.000			2.000	2.000		
Student Satisfaction in the Work Place	2.000	2.000			2.000	2.000		
Student Satisfaction as a Citizen	3.000	2.000			3.000	2.000		
Student Satisfaction as a Family Member	2.000	2.000			3.000	2.000		

when all data were analyzed, the Non-Bachelor Degree Group had a significant, disproportionate statistical effect on the student characteristic calculation groups as presented in Table 14. For this reason, the group was analyzed separately throughout the remainder of this study.

Transfer students in the Non-Bachelor Degree Group had an average high school GPA of 2.9, an ACT composite score of 18.85, and were predominantly female (64.6 percent). In addition, this group had completed, on average, 54.21 semester credit hours at the time of the survey. Group members were "satisfied" with their experience at NIACC at a median score of 2.00 on a five-point scale of 1 = "very satisfied" and 5 = "very dissatisfied". Student satisfaction with the College's assistance in preparing them as individuals, for the work place, and as family members had a median score of 2.00 on the same five-point scale. Only transfer student satisfaction with their preparation as citizens differed from the other median satisfaction scores with a score of 3.00. Lastly, the high school diploma was the highest degree held by the majority of transfer students' fathers and mothers (94 and 118 respectively) when the student enrolled at NIACC (see Table 15). Consequently, the sampled students who had not transferred to or received a Bachelor's Degree at the time of this investigation were predominantly female, had an "above average" (2.9) high school GPA, completed over 54 semester credit hours at NIACC, and were generally satisfied with their community college preparation.

Tables 14 and 15 also revealed slightly higher mean student characteristics for the Bachelor Degree Group in comparison to their Non-Bachelor Degree Group counterparts. Specifically, the Bachelor Degree recipient completed, on average, 4.782 more semester credit hours at NIACC (58.96). In addition, this group had, on average, higher GPAs in high school than the Non-Bachelor Degree Group (3.20 and 2.9 respectively). Student satisfaction with their preparation as individuals, employees,

citizens, and family members also tended to be higher for the Bachelor Degree Group. This group had median satisfaction scores of 2.00 for all four categories. In contrast,

Table 15. Additional characteristics of sampled transfer students from North Iowa Area Community College for the Bachelor Degree and Non-Bachelor Degree Groups (N=327)

Characteristic	Bachelor Degree Group n	%	Non-Bachelor Degree Group n	%	Total n	%
Father's education level at student enrollment:						
Less than high school graduate	1	19.23	42	80.77	52	100.0
High school graduate	40	29.85	94	70.15	134	100.0
Some college	24	39.34	37	60.66	61	100.0
Two-year college graduate	6	35.29	11	64.71	17	100.0
Four-year college graduate	13	41.94	18	58.06	31	100.0
Post-Graduate studies	8	33.33	16	66.67	24	100.0
Missing data	0	0.0	8	1.00	8	100.0
Total	101	100.0	226	100.0	327	100.0
Mother's education level at student enrollment:						
Less than high school graduate	3	20.0	12	80.0	15	100.0
High school graduate	50	29.8	118	70.2	168	100.0
Some college	31	39.7	47	60.3	78	100.0
Two-year college Degree	11	45.8	13	54.2	24	100.0
Four-year college Degree	4	18.2	18	81.8	22	100.0
Post-Graduate studies	2	25.0	6	75.0	8	100.0
Missing data	0	0.0	12	1.0	12	100.0
Total	101		226		327	100.0
Transfer Institution (N=101)						
Iowa State University	33	32.7				
University of Iowa	1	1.0				
University of Northern Iowa	48	47.5				
Mankato State University	6	5.9				
Drake University	1	1.0				
Buena Vista College	4	4.0				
Other	8	7.9				
	101	100.0				

the Non-Bachelor Degree group had satisfaction median scores of 2.00 for their NIACC preparation as individuals, for the work place, and as family members on a scale of 1 = "very satisfied" to 5 = "very dissatisfied". A median score of 3.00 was observed for the Non-Bachelor Degree Group satisfaction with their NIACC preparation as citizens. In contrast, the Bachelor Degree Group had median satisfaction scores of 2.00 for all four categories. In addition, the modal scores for the Bachelor Degree Group were also higher. This group had modal scores of 2.00 for all satisfaction categories. The Non-Bachelor Degree Group had scores of 3.00 for their level of satisfaction with their NIACC preparation as citizens and as family members and scores of 2.00 for satisfaction as individuals and the work place. These data suggested that the Bachelor Degree Group completed more semester credit hours at NIACC and was more satisfied with their NIACC preparation.

Finally, parent education level at the time of the student's enrollment at NIACC tended to be higher for the Bachelor Degree Group. Over 50 percent (50.5) of this group's fathers received an education above the high school level, compared to 39.8 percent of the fathers from the Non-Bachelor Degree Group. Similarly, a higher percentage of the Bachelor Degree Group mothers (47.6 percent) received an education above the high school level. In contrast, 42.5 percent of the Non-Bachelor Degree Group mothers received an education above the high school level.

Table 16 presents a more detailed examination of semester credit hours earned at NIACC by both the Bachelor Degree Group and the Non-Bachelor Degree Group. Only a few students were represented in the 0 semester credit hour categories. Only four students of the Bachelor-Degree Group had earned between 0-15 semester credit hours in comparison to 29 or 87.9 percent by the Non-Bachelor Degree Group. Similarly, six Bachelor Degree students earned 16-30 semester credit hours (18.2 percent) versus 27 (81.8 percent) in the Non-Bachelor Degree Group. In fact, the

Non-Bachelor Degree Group accounts for a higher percentage of transfer students in each semester credit hour category. In addition, a higher proportion of the Bachelor Degree Group earned 46 or more semester hours (23 + 58/101 = 80.20 percent) in comparison to the Non-Bachelor Degree Group (52 + 101/226 = 67.70 percent).

Overall, the students who received a Bachelor's Degree were better academic performers in high school, held a higher ACT composite score, earned more semester credit hours at NIACC, and were predominantly male by comparison to their non-BA-Degreed counterparts.

These findings suggested differences between the Non-Bachelor Degree Group and the Bachelor Degree Group in each of Astin's (1970a) conceptual model components. Specifically, for incoming student characteristics, differences were observed in high school GPA, ACT composite scores, and gender. Differences were observed in the college environmental variable of NIACC cumulative semester credit hours earned. In addition, differences were noted in the student outcome variables of

Table 16. NIACC transfer student semester credit hour achievement by Bachelor Degree and Non-Bachelor Degree Groups

Sem. Hrs. Categories	Non-Bachelor Degree Group		Bachelor Degree Group		All transfer Students	
	n	%	n	%	n	%
0-15	29	87.9	4	12.1	33	100.0
16-30	27	81.8	6	18.2	33	100.0
31-45	17	63.0	10	37.0	27	100.0
46-60	52	69.3	23	30.7	75	100.0
61 and above	101	63.5	58	36.5	159	100.0
TOTAL	226		101		327	

satisfaction as a citizen and as a family member. These results suggested that differences existed between the two groups.

This section of Chapter IV provided a brief overview of the results of the survey process. Of the 534 students surveyed, 327 students or 61.24 percent responded. Descriptive statistical data were provided on the survey non-respondents which proved that the survey respondent group was, in fact, analogous to the student population. Consequently, subsequent statistical statements and generalizations made regarding the study sample in this investigation are applicable to the larger student population at NIACC.

This section statistically described the 327 survey respondents in this study. Specifically, the following transfer student characteristics were described: high school GPA, education level of parents at student enrollment, ACT composite score, student gender, age at enrollment, NIACC semester credit hours achieved, and student satisfaction with the college experience. Also described were the respondents' assessment of NIACC's ability to prepare them as individuals, for the work place, as citizens, and as family members, and the education level of parents at student enrollment. The sample respondents were divided into Non-Bachelor Degree Group and Bachelor Degree Group. This division allowed increased interpretation of the survey data. Comparisons were made between the two groups relative to student achievement, background, and satisfaction characteristics.

Variables Measured

A total of 17 hypotheses were tested in this study. Each hypothesis had different dependent variables, including: NIACC cumulative semester credit hours earned, transfer student satisfaction with the NIACC experience, cumulative GPA at graduation from a baccalaureate-granting institution, and transfer student satisfaction

with their NIACC preparation as individuals, for the work place, as citizens, and as family members.

The level of transfer student satisfaction was determined by a weighted mean calculation of survey responses for each student satisfaction variable. Each of the weighted scores were grouped according to five satisfaction levels: very satisfied, satisfied, neutral, dissatisfied, and very dissatisfied. Listed below is the conversion schedule of weighted student satisfaction scores to categorized satisfaction scores:

Weighted Satisfaction Score Range	Satisfaction Category
1.00 - 1.50	1. Very Satisfied
1.51 - 2.50	2. Satisfied
2.51 - 3.50	3. Neutral
3.51 - 4.50	4. Dissatisfied
4.51 - 5.00	5. Very Dissatisfied

This grouping of data established identifiable ordinal scores for interpretation and examination throughout the balance of this investigation. Ultimately, the fifth satisfaction category, "very dissatisfied", was later omitted from statistical calculations since no student weighted score fell within its range. Other variables were also re-coded in order to provide a more meaningful statistical analysis since this investigation used ANOVA and chi-square tests. Specifically, high school GPA was re-coded as follows:

HSGPA - High School Grade Point Average

Continuous Variable	Code
0.00 - 4.00	1.01 - 2.00
	2.01 - 3.00
	3.01 - 4.00

The high school GPA range of 0.00 to 1.00 was eliminated since no students fell into that category.

Transfer student age at NIACC enrollment was re-coded as follows:

AGEENRL - Student Age at Enrollment Continuous Variable	Code
16-100	16-17
	18
	19
	20-99

Transfer student ACT composite scores were re-coded as follows:

ACT - ACT Composite Score Continuous Variable	Code
0-32	1-10
	11-13
	14-16
	17-19
	20-22
	23-25
	26-28
	29-32

Both the father's and mother's education level at the time of student enrollment at NIACC were re-coded as indicated below:

Education level	Code
8th grade or less	Less than high school graduate
Some high school	Less than high school graduate
High school graduate	High school graduate
Technical/Business school	Some college
Some college	Some college
Two year college graduate	Two year college graduate
Four year college graduate	Four year college graduate
Some post-graduate study	Post graduate study
Received advanced degree	Post graduate study

This re-categorization was essential for two reasons: 1) ANOVA and chi-square tests had specific measurement scale criteria; and 2) to enhance the statistical analysis by eliminating transfer student non-response survey categories.

The Dependent Variables

This section describes transfer student characteristics by Bachelor Degree and Non-Bachelor Degree Group classifications for each of the seven dependent variables used in this investigation. The dependent variables included: NIACC cumulative semester credit hours earned, transfer student satisfaction with the NIACC experience, cumulative GPA at graduation from a baccalaureate-granting institution, and transfer student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members. Each is outlined below.

Transfer student cumulative semester credit hours earned at NIACC were computed for both the Non-Bachelor Degree Group and the Bachelor Degree Group from the fall of 1981 until they had either withdrawn from NIACC or the baccalaureate-granting institution, or graduated with a Bachelor's Degree. Semester credit hours achieved were categorized into five groups: 0-15 semester credit hours earned, 16-30 semester credit hours earned, 31-45 semester credit hours earned, 46-60 semester credit hours earned, and 61 or more semester hours earned.

In Table 16, frequencies and percentages of student responses to each of these five groups was presented. Further, distinctions are made between the Bachelor Degree Group, the Non-Bachelor Degree Group, and the total from both groups. Over 80 percent of the Bachelor Degree Group completed 46 or more semester credit hours at NIACC, while only 67.7 percent of their Non-Bachelor Degree Group counterparts had completed the same number of hours. The semester credit hour achievement variable and its five categories was the dependent variable in Hypothesis 1 of this investigation.

Transfer student satisfaction with the NIACC experience was computed from student responses to the survey. A weighted mean was calculated from six survey

questions (see p. 140) to arrive at an overall score of transfer student satisfaction with the NIACC experience. As stated previously, these weighted scores were categorized to five satisfaction levels. Table 17 shows student response frequencies and percentage totals for all respondents, the Non-Bachelor Degree Group, and the Bachelor Degree Group. The Bachelor Degree Group tended to be more satisfied with the NIACC experience, with over 81 percent (11+71/101) being at least "satisfied" as opposed to 73 percent (18+147/226) of the Non-Bachelor Degree Group. The "very satisfied" category was comprised of 62.1 percent Non-Bachelor Degree Group students and 37.9 Bachelor Degree Group students. Similarly, the "satisfied" category was primarily Non-Bachelor Degree group students, with 67.4 and 32.6 percent respectively. The dependent variable of transfer student satisfaction with the NIACC experience was used in Hypothesis 2 of this study.

Cumulative GPA upon graduation from a baccalaureate-granting institution was derived from the transcripts of the 101 transfer students who received their

Table 17. Transfer student satisfaction with the NIACC experience by Bachelor Degree and Non-Bachelor Degree groups

Satisfaction Categories	Non-Bachelor Degree Group		Bachelor Degree Group		All transfer Students	
	n	%	n	%	n	%
1. Very Satisfied	18	62.1	11	37.9	29	100.0
2. Satisfied	147	67.4	71	32.6	218	100.0
3. Neutral	59	76.6	18	23.4	77	100.0
4. Dissatisfied	2	66.7	1	33.3	3	100.0
5. Very Dissatisfied	0	0.0	0	0.0	0	100.0
TOTAL	226		101		327	

Bachelor's Degree (the Bachelor Degree Group). The GPA variable was treated as a continuous variable from permanent student records received from the baccalaureate-granting institution. This dependent variable was used in Hypotheses 3, 4, and 13 of this study.

Transfer student satisfaction with the College's effort to prepare them as individuals, a dependent variable, was computed from survey responses. Five questions on the survey inquired about student satisfaction with their preparation as individuals (see p. 122). A computed, weighted mean provided a single, individual satisfaction score. After the transfer student weighted scores were categorized into five levels, a comparison was made of responses made by all surveyed students, the Bachelor Degree Group, and the Non-Bachelor Degree Group (Table 18). Students with a Bachelor's Degree were more satisfied as individuals than the remaining transfer students. Specifically, 89 percent (13+77/100) of the Bachelor Degree Group were at least "satisfied" with the College's efforts to prepare them for life after

Table 18. Transfer student satisfaction with their NIACC preparation as individuals by Bachelor Degree and Non-Bachelor Degree groups

Satisfaction Categories	Non-Bachelor Degree Group		Bachelor Degree Group		All transfer Students	
	n	%	n	%	n	%
1. Very Satisfied	21	61.8	13	38.2	34	100.0
2. Satisfied	143	65.0	77	35.0	220	100.0
3. Neutral	57	83.8	11	16.2	68	100.0
4. Dissatisfied	5	1.0	0	0.0	5	100.0
5. Very Dissatisfied	0	0.0	0	0.0	0	0.0
TOTAL	226		101		327	

college. The "very satisfied" category was primarily Non-Bachelor Degree Group students, with 61.8 percent. The Non-Bachelor Degree Group also dominated the "satisfied" category with 65.0 percent of the responding transfer students. This dependent variable was used for Hypotheses 5, 6, and 14 in this investigation.

The dependent variable of transfer student satisfaction with the College's effort to prepare them as employees for the work place was also calculated from survey responses. A total of five survey questions (see p. 122) determined student level of satisfaction with their preparation for the work place. A weighted mean was computed from the survey responses to arrive at a single, dependent variable score. Weighted mean scores were categorized into five satisfaction levels. The Bachelor Degree Group was more satisfied with the College's efforts to prepare them for the work place (Table 19). Over 71 percent (5+67/101) of the Bachelor Degree Group were at least "satisfied", while over 60 percent (14+123/226) of the Non-Bachelor

Table 19. Transfer student satisfaction with their NIACC preparation for the work place by Bachelor Degree and Non-Bachelor Degree groups

Satisfaction Categories	Non-Bachelor Degree Group		Bachelor Degree Group		All transfer Students	
	n	%	n	%	n	%
1. Very Satisfied	14	73.4	5	26.3	19	100.0
2. Satisfied	123	64.7	67	35.3	190	100.0
3. Neutral	72	74.2	25	25.8	97	100.0
4. Dissatisfied	16	80.0	4	20.0	20	100.0
5. Very Dissatisfied	0	0.0	0	0.0	0	100.0
6. Missing	—	—	1	1.0	1	100.0
TOTAL	226		101		327	

Degree Group were at least "satisfied". In addition, a high percentage (73.4) of the "very satisfied" category was comprised of Non-Bachelor Degree Group students. This variable was used for Hypotheses 7, 8, and 15 in this study.

Transfer student satisfaction with the College's effort to prepare them as citizens in the United States was calculated from student survey responses. This dependent variable was used for Hypotheses 9, 10, and 16 of this investigation. Survey responses from two survey questions (see p. 122) were combined to provide a single, weighted, average score. After the categorization of weighted mean scores, the Bachelor Degree Group was identified as being more satisfied with NIACC's efforts to prepare them as citizens than their Non-Bachelor Degree Group counterparts (Table 20). Specifically, the Bachelor Degree Group had over 64 percent (11+54/101) of their members at least "satisfied" in comparison to over 49 percent (13+98/226) of the remaining transfer students. In the "very satisfied" category, the percentage

Table 20. Transfer student satisfaction with their NIACC preparation as citizens by Bachelor Degree and Non-Bachelor Degree groups

Satisfaction Categories	Non-Bachelor Degree Group		Bachelor Degree Group		All transfer Students	
	n	%	n	%	n	%
1. Very Satisfied	13	54.2	11	45.8	24	100.0
2. Satisfied	98	64.5	54	35.5	152	100.0
3. Neutral	110	76.4	34	23.6	144	100.0
4. Dissatisfied	3	1.5	2	40.0	5	100.0
5. Very Dissatisfied	0	0.0	0	0.0	0	100.0
6. Missing	____	_____	2	1.0	2	100.0
TOTAL	226		101		327	

distribution between the Non-Bachelors Degree and the Bachelors Degree Groups were near equal at 54.2 and 45.8 percent respectively.

The last dependent variable, transfer student satisfaction with NIACC's effort to prepare them as family members, was also calculated from survey questions. No specific clarification was made as to the limits of the definition of a family member. For example, this variable could include the transfer student's reference to family member as being a son, daughter, parent, grandparent, or some other member of the family unit. Two survey questions (see p. 122) provided student responses for this variable. A single response score was calculated from a weighted mean average.

Table 21 depicts the category frequencies for transfer student satisfaction with the College's effort to prepare them as family members. Over 74 percent (13+62/101) of the Bachelor Degree Group were at least "satisfied" compared to 51.3 percent (19+97/226) of the Non-Bachelor Degree Group. The "very satisfied" category was

Table 21. Transfer student satisfaction with their NIACC preparation as family members by Bachelor Degree and Non-Bachelor Degree groups

Satisfaction Categories	Non-Bachelor Degree Group		Bachelor Degree Group		All transfer Students	
	n	%	n	%	n	%
1. Very Satisfied	19	59.4	13	40.6	32	100.0
2. Satisfied	97	61.0	62	39.0	159	100.0
3. Neutral	105	80.8	25	19.2	130	100.0
4. Dissatisfied	3	75.0	1	25.0	4	100.0
5. Very Dissatisfied	0	0.0	0	0.0	0	100.0
6. Missing	____	_____	2	1.0	2	100.0
TOTAL	226		101		327	

comprised primarily of Non-Bachelor Degree students, with 59.4 percent. Similarly, 61 percent of the total survey respondents in the "satisfied" category were Non-Bachelor Degree Group students. This dependent variable was used for Hypotheses 11, 12, and 17 in this study.

Prior to statistical testing of the 17 hypotheses in this investigation, intercorrelations were calculated for the variables measured. The results for sampled transfer students (N=327) appear in Table 22. Nine statistically significant correlations, not included in subsequent hypotheses testing, are worthy of mention. Specifically, a highly positive linear relationship was observed between cumulative high school grade point average (HSGPA) and student ACT composite score (ACTCOMP). The coefficient was .6643, which was significant at the .001 level (see Table 22). This finding suggested that the higher a student's cumulative high school grade point average, the higher the student's ACT composite score.

A second highly positive linear relationship was observed between semester credit hours earned at NIACC as non-grouped data (CCCRDTS) and semester credit hours earned at NIACC as grouped data (SEMHRS). The coefficient was .8764, which was significant at the .001 level (see Table 22). These results were expected since the (CCCRDTS) and (SEMHRS) data were identical. However, the treatment of data varied.

Other highly positive linear relationships were observed between student satisfaction variables. Those not examined by hypotheses testing included: 3) student satisfaction with their NIACC preparation as family members (FAMSAT) and student satisfaction with their NIACC preparation as individuals (INDSAT). The coefficient was .5251, which was significant at the .001 level; 4) student satisfaction with their NIACC preparation as citizens (CITSAT) and student satisfaction with their NIACC preparation as individuals (INDSAT). The coefficient was .4073, which was

Table 22. Pearson Product-Moment Correlation results for all sampled transfer students (N=327)

	HSGPA	BAGPA	ACTCOMP	CCCRDTS	AGEENRL	CCSAT	INDSAT
HSGPA	1.000						
BAGPA	.514***	1.000					
ACTCOMP	.644***	.269**	1.000				
CCCRDTS	.166**	.051	.133*	1.000			
AGEENRL	-.049	.216*	.070	-.125*	1.000		
CCSAT	.057	.060	-.021	-.036	-.034	1.000	
INDSAT	-.055	-.054	-.020	-.096*	-.049	.486***	1.000
FAMSAT	.016	.082	-.026	-.102	-.076	.419***	.525***
CITSAT	.079	-.017	.053	.011	-.084	.373***	.407***
WRKSAT	-.052	.022	-.081	-.173**	.081	.506***	.510***
SEMHRS	.218***	.061	.170**	.877***	-.167**	-.076	-.103

*P<.05.
**P<.01.
***P<.001.

Table 22 (continued)

	FAMSAT	CITSAT	WRKSAT	SEMHRS	FATHERED	MOTHERED
FAMSAT	1.000					
CITSAT	.591***	1.000				
WRKSAT	.523***	.456***	1.000			
SEMHRS	-.100***	-.008***	-.208***	1.000		
FATHERED	-.098	-.037	-.077	.042	1.000	
MOTHERED	.097	.027	.069	-.089	.418***	1.000

significant at the .001 level; 5) student satisfaction with their NIACC preparation as citizens (CITSAT) and student satisfaction with their NIACC preparation as family members (FAMSAT). The coefficient was .5914, which was significant at the .001 level; 6) student satisfaction with their NIACC preparation for the work place (WRKSAT) and student satisfaction with their NIACC preparation as individuals (INDSAT). The coefficient was .5104, which was significant at the .001 level; 7) student satisfaction with their NIACC preparation for the work place (WRKSAT) and student satisfaction with their NIACC preparation as family members (FAMSAT). The coefficient was .5232, which was significant at the .001 level; and 8) student satisfaction with their NIACC preparation for the work place (WRKSAT) and student satisfaction with their NIACC preparation as citizens (CITSAT). The coefficient was .4559, which was significant at the .001 level (see Table 22). These findings suggested that students who were satisfied with their NIACC preparation in one area tended to be satisfied with their college preparation in other areas as well. Lastly, 9) a highly positive linear relationship was observed between father's education level at student enrollment (FATHERED) and mother's education level at student enrollment (MOTHERED). The coefficient was .4177, which was significant at the .001 level. This finding suggested that the higher the mother's education level at student enrollment, the higher the father's education level at student enrollment.

Table 23 presents the results of study variable intercorrelation for the Bachelor Degree Group (BDG) only. Table 24 presents the results of study variable intercorrelation for the Non-Bachelor Degree Group (NBDG) only. Comparisons between these two tables are warranted. Specifically, significant variations occurred in correlation coefficients between the BDG and the NBDG in six cases.

1. Transfer student cumulative high school grade point average (HSGPA) and mother's education level at student enrollment (MOTHERED) demonstrated

Table 23. Pearson Product-Moment Correlation results for transfer students who received a Bachelor's Degree (N=101) (Bachelor Degree Group)

	HSGPA	BAGPA	ACTCOMP	CCCRDTS	AGEENRL	CCSAT
HSGPA	1.000					
BAGPA	.514***	1.000				
ACTCOMP	.588***	.269**	1.000			
CCCRDTS	.035	.051	.061	1.000		
AGEENRL	-.060	.216*	.102	-.271**	1.000	
CCSAT	.104	.059	-.022	-.070	-.003	1.000
INDSAT	.075	-.054*	.131	-.034	.037	.294**
FAMSAT	.099	.082	-.041	-.111	.031	.494***
CITSAT	.147	-.017	.074	-.009	-.100	.406***
WRKSAT	.049	.022	-.072	-.028	-.024	.413***
SEMHRS	.136	.061	.105	.876***	-.286**	-.098
FATHERED	-.175	-.117	-.008	-.158	.009	-.079
MOTHERED	.212*	-.121	-.170	-.213*	.150	.057

*P<.05.
**P<.01.
***P<.001.

Table 23 (continued)

	INDSAT	FAMSAT	CITSAT	WRKSAT	SEMHRS	FATHERED	MOTHERED
INDSAT	1.000						
FAMSAT	.364***	1.000					
CITSAT	.318***	.660***	1.000				
WRKSAT	.250***	.514***	.610***	1.000			
SEMHRS	.046	-.119	-.086	-.141	1.000		
FATHERED	-.179	-.054	-.127	-.095	-.090***	1.000	
MOTHERED		.127	.148	.053	.024	-.166	-.465*** 1.000

Table 24. Pearson Product-Moment Correlation results for transfer students who did not receive a Bachelor's Degree (N=226) (Non-Bachelor Degree Group)

	HSGPA	ACTCOMP	CCCRDTS	AGEENRL	CCSAT	INDSAT
HSGPA	1.000					
ACTCOMP	.630***	1.000				
CCCRDTS	.181**	.128	1.000			
AGEENRL	-.036	.072	-.071	1.000		
CCSAT	.072	.014	-.015	-.053	1.000	
INDSAT	-.040	-.002	-.112	-.090	.546***	1.000
FAMSAT	-.040	.025	-.080*	-.137**	.377***	.560***
CITSAT	.104	.107	.036	-.084	.347***	.426***
WRKSAT	-.060	-.057	-.207**	-.110	.537***	.583***
SEMHRS	.201**	.135*	.877***	-.121	-.051	-.109
FATHERED	.051	.102	.116	-.077	-.068	-.054
MOTHERED	.128	.112	-.089	-.037	.015	-.008

*P<.05.
**P<.01.
***P<.001.

Table 24 (continued)

	FAMSAT	CITSAT	WRKSAT	SEMHRS	FATHERED	MOTHERED
FAMSAT	1.000					
CITSAT	.546***	1.000				
WRKSAT	.521***	.386***	1.000			
SEMHRS	-.056	.053	-.215***	1.000		
FATHERED	-.098	.016	-.064	.068	1.000	
MOTHERED	.075	.011	.078	-.063	.412	1.000

a significant change in the correlation coefficient between the BDG and the NBDG. Specifically, the BDG had an r = .2123, which was significant at the .05 level (see Table 24), while the NBDG had an r = .1284 (see Table 23). This finding suggested that for the BDG, the lower a student's high school GPA, the higher the mother's education level at student enrollment.

2. Transfer student cumulative semester credit hours earned at NIACC - non grouped data (CCCRDTS) and mother's education level at student enrollment (MOTHERED) demonstrated a significant change in the calculated coefficient correlation between the BDG and the NBDG. Specifically, the BDG had an r = -.2127, which was significant at the .05 level (see Table 24), while the NBDG had an r = -.0890 (see Table 23). This finding suggested that for the BDG, the lower the mother's education level at student enrollment, the more semester credit hours earned by the NIACC transfer student.

3. Transfer student age at enrollment (AGEENRL) and semester credit hours earned at NIACC - non-grouped data (CCCRDTS) demonstrated a significant change in the calculated coefficient correlation between the BDG and the NBDG. Specifically, the BDG had an r = -.2705, which was significant at the .01 level (see Table 24), while the NBDG had an r = -.0713 (see Table 23). This finding suggested that for the BDG, the older the transfer student at enrollment, the fewer semester credits earned at NIACC.

4. Transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) and semester credit hours earned at NIACC - non-grouped data (CCCRDTS) demonstrated a significant change in the calculated coefficient correlation between the BDG and the NBDG.

Specifically, the NBDG had an r = -.2071, which was significant at the .01 level (see Table 23), while the BDG had an r = -.0279 (see Table 24). This finding suggested that for the NBDG, the higher the number of semester credit hours earned at NIACC, the lower their satisfaction with their preparation for the work force.

5. Transfer student semester credit hours earned at NIACC-grouped data (SEMHRS) and transfer student age at enrollment (AGEENRL) demonstrated a significant change in the calculated coefficient correlation between the BDG and the NBDG. Specifically, the BDG had an r = -.2861, which was significant at the .01 level (see Table 24), while the NBDG had an r = -.1214 (see Table 23). This finding suggested that for the BDG, the older the transfer student at enrollment, the fewer semester credit hours earned at NIACC. This finding was expected since a similar change in the coefficient was noted with semester credit hours using grouped data (CCCRDTS).

6. Transfer student semester credit hours earned at NIACC-grouped data (SEMHRS) and student satisfaction with their NIACC preparation for the work place (WRKSAT) demonstrated a significant change in the calculated coefficient between the BDG and the NBDG. Specifically, the NBDG had an r = -.2146, which was significant at the .001 level (see Table 23), while the BDG had an r = -.1412 (see Table 24). This finding suggested that for the NBDG, the more semester credit hours earned at NIACC, the lower their satisfaction with their NIACC preparation for the work place. This finding was expected since a similar change in the coefficient was noted with semester credit hours using ungrouped data (CCCRDTS).

These nine comparisons between the Non-Bachelor Degree Group (NBDG) and

the Bachelor Degree Group (BDG) represented significant changes in the calculated correlation coefficients. Ultimately, these comparisons represented significant differences between the two groups.

This section of Chapter IV identified each of the dependent variables used in subsequent hypothesis testing. In addition, variable categorization, for the purposes of analysis, was presented. Comparisons were made between the Bachelor Degree Group (BDG) and the Non-Bachelor Degree Group (NBDG) for each dependent variable. Significant linear relationships were reported for variables not directly related to hypothesis testing. The section concluded with a comparison of Pearson Product-Moment Coefficients between the two groups.

Statistical Findings of Hypotheses

Hypothesis 1

There is no significant difference in cumulative semester credit hours earned by the NIACC transfer student according to the following transfer student characteristics:

1. Cumulative High School Grade Point Average
2. Father's Education Level at Student Enrollment
3. Mother's Education Level at Student Enrollment
4. ACT Composite Score
5. Gender
6. Age at Enrollment

Findings

Cumulative High School Grade Point Average.

This hypothesis tested whether cumulative semester credit hours earned by the NIACC transfer student differed significantly according to the student's cumulative high school grade point average.

The results of the Pearson Product-Moment Correlation indicated that there was no relationship between the cumulative semester credit hours earned at NIACC

(CCCRDTS) and cumulative high school grade point average (HSGPA) with r = .1660. This statistical finding was significant at the .01 level. The results of the correlation are shown in Table 22. High school grade point average was categorized into three groups: the transfer student who had a cumulative high school grade point average 1) between 1.01 and 2.00 (Group 1); 2) between 2.01 and 3.00 (Group 2); and 3) between 3.01 and 4.00 (Group 3).

The results of a one-way Analysis of Variance indicated a difference between (CCCRDTS) and (HSGPA). Table 25 shows that F = .0039, which was statistically significant at the .05 level. The results of a Tukey-b multiple comparison procedure showed a statistically significant difference in group means at the .05 level. Specifically, students with a high school GPA between 1.01 through 2.00 (Group 1) differed in semester credit hours earned at NIACC from students with a high school GPA between 3.01 and 4.00 inclusive (Group 3). On average, Group 3 students earned more semester credit hours at NIACC than did Group 1. As a result of these findings, Hypothesis 1 was rejected with respect to the transfer student's cumulative high school grade point average since cumulative semester credit hours earned by the NIACC transfer student did vary significantly by high school GPA.

Table 25. One-way ANOVA cumulative semester credit hours earned by NIACC transfer students according to high school GPA (CCCRDTS) by (HSGPA)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	2	6236.8141	3118.4070	5.6433	.0039
Within Groups	321	177380.8217	552.5882		
Total	323	183617.6358			

Father's Education Level at Student Enrollment.

This hypothesis tested whether cumulative semester credit hours earned by the NIACC transfer student (CCCRDTS) differed significantly according to father's education level at the time of student enrollment (FATHERED).

Father's education level at the time of student enrollment at NIACC was categorized into six groups: the transfer student's father who 1) had less than a high school diploma; 2) had a high school diploma; 3) had taken some college courses; 4) had earned a two-year college degree; 5) had received a four-year college degree; and 6) had taken some post-graduate courses. The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0575 was not significant at the .05 level. The Analysis of Variance F-ratio was not statistically significant at the .05 level (see Table 26). As a result of these findings, Hypothesis 1 failed to be rejected with respect to father's education level at the time of transfer student enrollment at NIACC since the cumulative semester credit hours earned by the NIACC transfer student did not vary significantly by the education level of the student's father.

Table 26. One-way ANOVA of cumulative semester credit hours earned by NIACC transfer students according to father's education level at first NIACC enrollment (CCCRDTS) by (FATHERED)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	5	2870.6971	574.1394	1.0029	.4161
Within Groups	310	177472.5497	572.4921		
Total	315	180343.2468			

Mother's Education Level at Student Enrollment.

This hypothesis tested whether cumulative semester credit hours earned by the NIACC transfer student (CCCRDTS) differed significantly according to mother's education level at the time of student enrollment (MOTHERED).

Mother's education level at the time of student enrollment at NIACC was categorized into six groups: the transfer student's mother who 1) had less than a high school diploma; 2) had a high school diploma; 3) had taken some college courses; 4) had earned a two-year college degree; 5) had received a four-year college degree; and 6) had taken some post-graduate courses. The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .1161 was significant at the .05 level.

Table 27 presents one-way Analysis of Variance results for the dependent variable of cumulative semester credits earned by the NIACC transfer student and the independent variable of mother's education level at the time of student enrollment at NIACC. The Analysis of Variance calculation resulted in an F-ratio of 1.0196, which was not statistically significant at the .05 level. As a result of these findings,

Table 27. One-way ANOVA of cumulative semester credit hours earned by NIACC transfer students according to mother's education level at first NIACC enrollment (CCCRDTS) by (MOTHERED)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	5	2904.2226	580.8445	1.0196	.4061
Within Groups	306	174321.2742	569.6774		
Total	311	177225.4968			

Hypothesis 1 failed to be rejected with respect to mother's education level at the time of transfer student enrollment at NIACC since the cumulative semester credit hours earned by the NIACC transfer student did not vary significantly by the education level of the student's mother.

ACT Composite Score.

This hypothesis tested whether cumulative semester credit hours earned by the NIACC transfer student (CCCRDTS) differed significantly according to their ACT composite score (ACTCOMP).

Transfer student ACT composite scores were categorized into eight groups: 1) ACT composite scores between 1 and 10; 2) ACT composite scores between 11 and 13; 3) ACT composite scores between 14 and 16; 4) ACT composite scores between 17 and 19; 5) ACT composite scores between 20 and 22; 6) ACT composite scores between 23 and 25; 7) ACT composite scores between 26 and 28; and 8) ACT composite scores between 29 and 32. The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = .1330$ was significant at the .05 level. An ANOVA calculation from the two variables resulted in an F-ratio of $F = .8871$, which was not significant at the .05 level (see Table 28). While a relationship was observed among the (CCCRDTS) and (ACTCOMP) variables, the ANOVA calculation failed to show a significant difference between them. As a result of these findings, Hypothesis 1 failed to be rejected with respect to transfer student ACT composite scores since the cumulative semester credit hours earned by the NIACC transfer student did not vary significantly by ACT scores.

Gender.

This hypothesis tested whether cumulative semester credit hours earned by the NIACC transfer student (CCCRDTS) differed significantly according to their gender

Table 28. One-way ANOVA of cumulative semester credit hours earned by NIACC transfer students according to ACT composite score (CCCRDTS) by (ACTCOMP)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	7	3538.6880	505.5269	.8871	.5168
Within Groups	316	180078.9478	569.8701		
Total	323	183617.6358			

(GENDER). Transfer student gender was categorized into two groups: male transfer students and female transfer students. Table 29 indicates the results of the one-way Analysis of Variance for the dependent variable of cumulative semester credits earned by the transfer student at NIACC (CCCRDTS) and transfer student gender (GENDER).

Table 29. One-way ANOVA of cumulative semester credit hours earned by NIACC transfer students according to gender (CCCRDTS) by (GENDER)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	1	569.4819	569.4819	1.0018	.3176
Within Groups	322	183048.1539	568.4725		
Total	323	183617.6358			

The F-statistic was F = 1.002 with an F-probability of .3176. No significant statistical difference was noted between group means of cumulative semester credit hours earned at NIACC (CCCRDTS) and student gender (GENDER). As a result of

these findings, Hypothesis 1 failed to be rejected with respect to transfer student gender since the cumulative semester credit hours earned by the NIACC transfer student did not vary significantly by the student's gender.

Age at Enrollment.

This hypothesis tested whether cumulative semester credit hours earned by the NIACC transfer student (CCCRDTS) differed significantly according to their age at enrollment (AGEENRL).

Transfer student age at enrollment at NIACC was categorized into four groups: the transfer student who was 1) 16 or 17 years of age; 2) 18 years of age; 3) 19 years of age; and 4) between the ages of 20-99 inclusive. The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = -.1250$ was significant at the .05 level. The Analysis of Variance F-ratio for the two variables was $F = 4.631$, which was significant at the .01 level (see Table 30).

The post hoc Tukey-b test proved that students whose age at enrollment at NIACC was 18 years of age (i.e., Group 2) differed in semester credit hours earned at NIACC from students whose age at enrollment at NIACC was 19 years of age (i.e., Group 3) and those who were between 20 and 99 years of age (i.e., Group 4). Students in Group 2 earned significantly more semester credit hours at NIACC than Groups 3 and 4. In addition, the multiple comparison procedure revealed significant differences in semester credit hours earned at NIACC between students whose age at enrollment was 16 or 17 (i.e., Group 1) and students whose age was 19 (i.e., Group 3) at enrollment. Similarly, Group 1 students earned more semester credits at NIACC than Group 3. These group mean differences were statistically significant at the .05 level. As a result of these findings, Hypothesis 1 was rejected with respect to transfer student age at enrollment since the cumulative semester credit hours earned by the

Table 30. One-way ANOVA of cumulative semester credit hours earned by NIACC transfer students according to age (CCCRDTS) by (AGEENRL)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	3	7639.5294	2546.5098	4.6306	.0035
Within Groups	320	175978.1064	549.9316		
Total	323	183617.6358			

NIACC transfer student did vary significantly by the student's age at enrollment.

Summary.

These results proved that Hypothesis 1 failed to be rejected in four out of six cases. There were no statistically significant differences observed among cumulative semester credit hours earned by the NIACC transfer student with respect to the following student characteristics:

1. Father's education level at student enrollment
2. Mother's education level at student enrollment
3. ACT composite score
4. Student gender

Hypothesis 1 was rejected by the following two independent variables:

5. Cumulative high school grade point average
6. Student age at enrollment

Transfer student semester credit hours earned at NIACC varied by cumulative high school grade point average and transfer student age at enrollment. Specifically, incoming transfer students with lower high school GPAs earned less semester credit hours at NIACC than those students with higher GPAs. In addition, younger transfer students earned significantly more semester credit hours than older students.

The implications of these findings are discussed in Chapter V of this

investigation.

Hypothesis 2

There is no significant difference in transfer student satisfaction with the NIACC experience according to the following transfer student characteristics:

1. Cumulative High School Grade Point Average
2. Father's Education Level at Student Enrollment
3. Mother's Education Level at Student Enrollment
4. ACT Composite Score
5. Gender
6. Age at Enrollment

Findings

Cumulative High School Grade Point Average.

This hypothesis tested whether transfer student satisfaction with their experience at NIACC (CCSAT) differed significantly according to their cumulative high school grade point average (HSGPA).

Transfer student satisfaction with the community college experience was categorized into four groups: 1) the transfer student who was "very satisfied" with the college experience; 2) the transfer student who was "satisfied" with the college experience; 3) the transfer student who was "neutral" about the community college experience; 4) and the transfer student who was "dissatisfied" with the community college experience.

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = .0568$ was not significant at the .05 level. Table 31 presents a cross-classification of transfer student satisfaction with the NIACC experience (CCSAT) according to transfer student cumulative high school grade point average (HSGPA). Overall, 8.9 percent of the NIACC transfer group were "very satisfied" with the college experience, 66.7 percent of the sample were "satisfied" with the college experience,

Table 31. The satisfaction of transfer students with the college experience (CCSAT) classified by high school GPA (HSGPA)

Count Exp. Val. Row Pct Col Pct	HSGPA 1.01-2.00 1.000	2.01-3.00 2.000	3.01-4.00 3.000	Row Total
CCSAT 1.00 Very Satisfied	1 2.0 3.4% 4.5%	16 11.6 55.2% 12.2%	12 15.4 41.4% 6.9%	29 8.9%
2.00 Satisfied	18 14.7 8.3% 81.8%	90 87.3 41.3% 68.7%	110 116.0 50.5% 63.2%	218 66.7%
3.00 Neutral	3 5.2 3.9% 13.6%	24 30.8 31.2% 18.3%	50 41.0 64.9% 28.7%	77 23.5%
4.00 Dissatisfied	0 .2 .0% .0%	1 1.2 33.3% .8%	2 1.6 66.7% 1.1%	3 .9%
Column Total	22 6.7%	131 40.1%	174 53.2%	327 100.0%

chi-square	D.F.	Significance
8.79334	6	0.1855

23.5 percent were "neutral" about their college experience, and 0.9 percent were "dissatisfied" with the college experience. The distribution of the NIACC satisfaction variable percentages remained generally constant throughout chi-square Tables 31-36. Percentage variations may exist as the result of missing data. The total number calculated is presented in the lower, right-hand corner of the tables.

High school grade point average was categorized into three groups as described on page 156. The cross-classification results indicated that 6.7 percent of the sample

had a high school GPA between 1.01 and 2.00 inclusive, 40.1 percent had a high school GPA between 2.01 and 3.00 inclusive, and 53.2 percent had a high school GPA between 3.01 and 4.00 inclusive.

The chi-square statistic was $X^2 = 8.793$, which was not significant at the .05 level. Hypothesis 2 failed to be rejected since the level of transfer student satisfaction with their experience at NIACC was not related to their cumulative high school GPA.

Father's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their experience at NIACC (CCSAT) was related to father's education level at the time of student enrollment (FATHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0764 was not significant at the .05 level. Table 32 presents transfer student satisfaction with the community college experience (CCSAT) and father's education level at the time of the student enrollment at NIACC (FATHERED). Eight students failed to respond to the father's education level questions, therefore there were missing observations in this data set.

Father's education level at the time of student enrollment at NIACC was categorized into six groups, as described on page 158. Cross-classification table results indicated that 16.3 percent of the fathers had less than a high school diploma at the time of student enrollment at NIACC, 42.0 percent had a high school diploma, 19.1 percent had taken some college courses, 5.3 percent had earned a two-year college degree, 9.7 percent had earned a four-year college degree, and 7.5 percent had taken some post-graduate courses at the time of student enrollment at NIACC.

Table 32. The level of satisfaction of the transfer student with the NIACC experience (CCSAT) according to father's education level (FATHERED)

Count Exp. Val Row Pct Col Pct	FATHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
CCSAT 1.00 Very Satisfied	1 4.6 3.6% 1.9%	14 11.8 50.0% 10.4%	8 5.4 28.6% 13.1%	0 1.5 .0% .0%	1 2.7 3.6% 3.2%	4 2.1 14.3% 16.7%	28 8.8%
2.00 Satisfied	36 34.7 16.9% 69.2%	86 89.5 40.4% 64.2%	39 40.7 18.3% 63.9%	9 11.4 4.2% 52.9%	27 20.7 12.7% 87.1%	16 16.0 7.5% 66.7%	213 66.8%
3.00 Neutral	14 12.2 18.7% 26.9%	34 31.5 45.3% 25.4%	14 14.3 18.7% 23.0%	7 4.0 9.3% 41.2%	3 7.3 4.0% 9.7%	3 5.6 4.0% 12.5%	75 23.5%
4.00 Dissatisfied	1 .5 33.3% 1.9%	0 1.3 .0% .0%	0 .6 .0% .0%	1 .2 33.3% 5.9%	0 .3 .0% .0%	1 .2 33.3% 4.2%	3 .9%
Column Total	52 16.3%	134 42.0%	61 19.1%	17 5.3%	31 9.7%	24 7.5%	319 100.0%

Chi-Square	D.F.	Significance
27.67066	15	0.0237

The chi-square statistic for the (CCSAT) and (FATHERED) variables was X^2 = 27.671. This statistic was significant at the .05 level. Hypothesis 2 was rejected with respect to father's education level at student enrollment since the level of transfer student satisfaction with their experience at NIACC was related to the father's education level. Satisfaction of NIACC transfer students with their college experience was particularly strong among students whose fathers had a high school education or some college.

Mother's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their experience at NIACC (CCSAT) was related to mother's education level at the time of student enrollment (MOTHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0049 was not significant at the .05 level. The study variables of student satisfaction with the NIACC experience (CCSAT) and mother's education level at student enrollment (MOTHERED) are presented in Table 33. Data were missing from 12 observations, leaving 315 students to statistically describe.

Mother's education level at the time of student enrollment at NIACC was categorized into six groups, as described on page 159. Results indicated that 4.8 percent of the mothers had less than a high school diploma at the time of student enrollment at NIACC, 53.3 percent had a high school diploma, 24.8 percent had taken some college courses, 7.6 percent had earned a two-year college degree, 7.0 percent had earned a four-year college degree, and 2.5 percent had taken some post-graduate courses at the time of student enrollment at NIACC.

The chi-square statistic for the two variables was X^2 = 17.750, which was not significant at the .05 level with 15 degrees of freedom. No statistically significant

Table 33. The level of satisfaction of the transfer student with the NIACC experience (CCSAT) according to the mother's education level (MOTHERED)

Count Exp. Val Row Pct Col Pct	MOTHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
CCSAT 1.00 Very Satisfied	1 1.3 3.6% 6.7%	17 14.9 60.7% 10.1%	6 6.9 21.4% 7.7%	3 2.1 10.7% 12.5%	1 2.0 3.6% 4.5%	0 .7 .0% .0%	28 8.9%
2.00 Satisfied	7 10.0 3.3% 46.7%	109 112.5 51.7% 64.9%	60 52.2 28.4% 76.9%	14 16.1 6.6% 58.3%	15 14.7 7.1% 68.2%	6 5.4 2.8% 75.0%	211 67.0%
3.00 Neutral	6 3.5 8.2% 40.0%	41 38.9 56.2% 24.4%	12 18.1 16.4% 15.4%	6 5.6 8.2% 25.0%	6 5.1 8.2% 27.3%	2 1.9 2.7% 25.0%	73 23.2%
4.00 Dissatisfied	1 .1 33.3% 6.7%	1 1.6 33.3% .6%	0 .7 .0% .0%	1 .2 33.3% 4.2%	0 .2 .0% .0%	0 .1 .0% .0%	3 1.0%
Column Total	15 4.8%	168 53.3%	78 24.8%	24 7.6%	22 7.0%	8 2.5%	315 100.0%

Chi-Square	D.F.	Significance
17.75027	15	0.2760

relationship was observed among the two variables. Consequently, Hypothesis 2 failed to be rejected since the level of transfer student satisfaction with their experience at NIACC was not related to mother's education level at student enrollment.

ACT Composite Score.

This hypothesis tested whether transfer student satisfaction with their experience at NIACC (CCSAT) was related to their ACT composite scores (ACTCOMP).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0210 was not significant at the .05 level. Table 34 presents the cross-classification for the variables of transfer student satisfaction with the NIACC experience (CCSAT) and the transfer student ACT composite score (ACTCOMP).

Transfer student ACT composite scores (ACTCOMP) were categorized into eight groups, as described on page 160. Results indicated that 4.0 percent of the transfer student sample had an ACT composite score between 1 and 10 inclusive, 8.6 percent had an ACT composite score between 11 and 13 inclusive, 13.8 percent had a composite score between 14 and 16 inclusive, 19.6 percent had a composite score between 17 and 19 inclusive, 22.9 percent had a composite score between 20 and 22 inclusive, 17.4 percent had a composite score between 23 and 25 inclusive, 10.4 percent had a composite score between 26 and 28 inclusive, and 3.4 percent had a composite score between 29 and 32 inclusive.

The two variables resulted in a chi-square calculation of $X^2 = 10.249$. This statistic was not significant at the .05 level with 21 degrees of freedom. No statistically significant relationship was observed between the two variables. As a result of these findings, Hypothesis 2 failed to be rejected since the level of transfer student satisfaction with their experience at NIACC was not related to their ACT

Table 34. The level of satisfaction of the transfer student with the NIACC experience according (CCSAT) to the student's ACT composite score (ACTCOMP)

Count Exp. Val Row Pct Col Pct	ACTCOMP 1-10 1	11-13 2	14-16 3	17-19 4	20-22 5	23-25 6	26-28 7	29-32 8	Row Total
CCSAT 1.00 Very Satisfied	2 1.2 6.9% 15.4%	1 2.5 3.4% 3.6%	4 4.0 13.8% 8.9%	4 5.7 13.8% 6.3%	9 6.7 31.0% 12.0%	6 5.1 20.7% 10.5%	2 3.0 6.9% 5.9%	1 1.0 3.4% 9.1%	29 8.9%
2.00 Satisfied	8 8.7 3.7% 61.5%	22 18.7 10.1% 78.6%	29 30.0 13.3% 64.4%	44 42.7 20.2% 68.8%	46 50.0 21.1% 61.3%	37 38.0 17.0% 64.9%	25 22.7 11.5% 73.5%	7 7.3 3.2% 63.6%	218 66.7%
3.00 Neutral	3 3.1 3.9% 23.1%	4 6.6 5.2% 14.3%	12 10.6 15.6% 26.7%	15 15.1 19.5% 23.4%	19 17.7 24.7% 25.3%	14 13.4 18.2% 24.6%	7 8.0 9.1% 20.6%	3 2.6 3.9% 27.3%	77 23.5%
4.00 Dissatisfied	0 .1 33.3% .0%	1 .3 .0% 3.6%	0 .4 33.3% .0%	1 .6 33.3% 1.6%	1 .7 .0% 1.3%	0 .5 .0% .0%	0 .3 .0% .0%	0 .1 .0% .0%	3 .9%
Column Total	13 4.0%	28 8.6%	45 13.8%	64 19.6%	75 22.9%	57 17.4%	34 10.4%	11 3.4%	327 100.0%

Chi-Square	D.F.	Significance
10.24928	21	0.9755

composite scores.

Gender.

This hypothesis tested whether transfer student satisfaction with their experience at NIACC (CCSAT) was related to their gender.

Table 35 presents the cross-classification for the variables of transfer student satisfaction with the NIACC experience (CCSAT) and transfer student gender (GENDER). Forty-two percent of the sample were male transfer students and 57.2 percent were female transfer students. The chi-square statistic for the two variables was $X^2 = 1.245$. With three degrees of freedom, the result was not statistically significant at the .05 level. No relationship was observed between the two variables. As a result of these findings, Hypothesis 2 failed to be rejected since the level of transfer student satisfaction with their experience at NIACC was not related to their gender.

Age at Enrollment.

This hypothesis tested whether transfer student satisfaction with their experience at NIACC (CCSAT) was related to their age at enrollment (AGEENRL).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = -.0344$ was not significant at the .05 level. Table 36 presents the cross-classification for the dependent variable of transfer student satisfaction with the NIACC experience (CCSAT) and the independent variable of transfer student age at enrollment (AGEENRL).

Transfer student age at enrollment at NIACC was categorized into four groups, as described on page 162. Results indicated that 23.9 percent of the 327 sampled students were 16 or 17 years of age at the time of enrollment at NIACC, 59.0 percent were 18 years of age, 9.5 percent were 19 years of age, and 7.6 percent of the transfer

Table 35. The level of satisfaction of the transfer student with the NIACC experience according to the student's gender (CCSAT) by (GENDER)

Count Exp. Val Row Pct Col Pct	GENDER Male 1	Female 2	Row Total
CCSAT 1.00 Very Satisfied	13 12.4 44.8% 9.3%	16 16.6 55.2% 8.6%	29 8.9%
2.00 Satisfied	97 93.3 44.5% 69.3%	121 124.7 55.5% 64.7%	218 66.7%
3.00 Neutral	29 33.0 37.7% 20.7%	48 44.0 62.3% 25.7%	77 23.5%
4.00 Dissatisfied	1 1.3 33.3% .7%	2 1.7 66.7% 1.1%	3 .9%
Column Total	140 42.8%	187 57.2%	327 100.0%

chi-square	D.F.	Significance
1.24455	3	0.7423

students were between 20 and 99 years of age at the time of enrollment at NIACC.

A chi-square calculation resulted in X = 6.378, which was not significant at the .05 level with 9 degrees of freedom. As a result of these findings, Hypothesis 2 failed to be rejected with respect to transfer student age at the time of enrollment at NIACC since the level of transfer student satisfaction with their experience at NIACC was not related to their age.

Table 36. The level of satisfaction of the transfer student with the NIACC experience (CCSAT) according to the student's age (AGEENRL)

Count Exp. Val Row Pct Col Pct	AGEENRL 16-17 Years	18 Years	19 Years	20-99 Years	Row Total
CCSAT 1.00 Very Satisfied	5 6.9 17.2% 6.4%	20 17.1 69.0% 10.4%	3 2.7 10.3% 9.7%	1 2.2 3.4% 4.0%	29 8.9%
2.00 Satisfied	56 52.0 25.7% 71.8%	120 128.7 55.0% 62.2%	24 20.7 11.7% 77.4%	18 16.7 8.3% 72.0%	218 66.7%
3.00 Neutral	16 18.4 20.8% 20.5%	51 45.4 66.7% 1.0%	4 7.3 5.2% 12.9%	6 5.9 7.8% 24.0%	77 23.5%
4.00 Dissatisfied	1 .7 33.3% 1.3%	2 1.8 66.7% 1.0%	0 .3 .0% .0%	0 .2 .0% .0%	3 .9%
Column Total	78 23.9%	193 59.0%	31 9.5%	25 7.6%	327 100.0%

Chi-Square	D.F.	Significance
6.37807	9	0.7016

Summary.

These results indicated that Hypothesis 2 failed to be rejected in five out of six cases. There were no significant relationships among transfer student satisfaction with respect to:

1. Cumulative high school GPA
2. Mother's education level at student enrollment at NIACC.
3. ACT composite score
4. Student gender
5. Student age at enrollment

This hypothesis was rejected on one independent variable:

1. Father's education level at student enrollment at NIACC

Transfer student satisfaction with the experience at North Iowa Area Community College was related to the father's education level at student enrollment. Satisfaction of NIACC transfer students with their college experience was particularly strong among students whose fathers had a high school education or some college. The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 3

There is no significant difference in NIACC transfer student cumulative grade point average upon graduating from a baccalaureate-granting institution and the cumulative semester credit hours earned at NIACC.

Findings

This hypothesis tested whether student cumulative grade point average at graduation from a baccalaureate-granting institution (BAGPA) differed significantly according to semester credit hours earned at NIACC (SEMHRS).

Table 23 shows Pearson Product-Moment Correlations for the Bachelor Degree Group (BDG) only. This particular correlational table is referenced for Hypotheses 3,

4, and 13. The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 23). The statistical finding of r = .0609 was not significant at the .05 level.

Semester credit hours earned by transfer students at NIACC were categorized into five levels: 1) 0-15 semester credit hours earned; 2) 16-30 semester credit hours earned; 3) 31-45 semester credit hours earned; 4) 46-60 semester credit hours earned; and 5) 61 or more semester credit hours earned. The one-way Analysis of Variance resulted in an F-ratio of .560 with a probability error of .692 (see Table 37).

The F-ratio and corresponding probability indicated that there was no observed statistically significant difference among the variables. Consequently, the results failed to reject Hypothesis 3 since transfer student grade point average at graduation

Table 37. One-way ANOVA of cumulative grade point average on graduation from a baccalaureate-granting institution according to the cumulative semester credit hours earned at NIACC (BAGPA) by (SEMHRS)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	4	.4629	.1157	.5603	.6920
Within Groups	96	19.8280	.2065		
Total	100	20.2909			

from a baccalaureate-granting institution did not vary significantly by semester credit hours earned at NIACC.

The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 4

There is no significant difference in NIACC transfer student cumulative grade point average upon graduating from a baccalaureate-granting institution according to transfer student satisfaction with the NIACC experience.

Findings

This hypothesis tested whether transfer student GPA at graduation from a baccalaureate-granting institution differed significantly according to transfer student level of satisfaction with their NIACC experience.

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 23). The statistical finding of r = .0590 was not significant at the .05 level. The Analysis of Variance calculation results for the variables of transfer student cumulative grade point average upon graduating from a baccalaureate-granting institution (BAGPA) and transfer student satisfaction with the community college experience (CCSAT) are presented in Table 38. Transfer student satisfaction with the NIACC experience (CCSAT) was categorized into four groups, as described on page 164. The Analysis of Variance resulted in an F-statistic of .1472, which was not statistically significant at the .05 level.

Since there was no statistically significant difference in (BAGPA) and (CCSAT), Hypothesis 4 failed to be rejected since transfer student grade point average at graduation from a baccalaureate-granting institution did not vary significantly by student satisfaction with their experience at NIACC.

The implications of these findings are discussed in Chapter V of this investigation.

Table 38. One-way ANOVA of cumulative grade point average upon graduation from a baccalaureate-granting institution according to the transfer student satisfaction with the NIACC experience (BAGPA) by (CCSAT)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	3	.0919	.0306	.1472	.9313
Within Groups	97	20.1989	.2082		
Total	100	20.2909			

Hypothesis 5

There is no significant difference in NIACC transfer student satisfaction with their preparation as individuals according to the cumulative semester credit hours earned at NIACC.

Findings

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as individuals (INDSAT) was related to cumulative semester credit hours earned at NIACC (SEMHRS).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.1034 was not significant at the .05 level. A cross-classification of the variables of transfer student satisfaction with their preparation as individuals (INDSAT) and transfer student cumulative semester credit hours earned at NIACC (SEMHRS) is presented in Table 39. Cross-classification results indicated that of the 327 sampled transfer students, 10.4 percent were "very satisfied" with their NIACC preparation as individuals, 67.3 percent were "satisfied", 20.8 percent were "neutral", and 1.5 percent

Table 39. Student satisfaction with their NIACC preparation as individuals (INDSAT) according to the cumulative semester credit hours earned at NIACC (SEMHRS)

Count Exp. Val Row Pct Col Pct	SEMHRS 0-15 Sem. Hrs.	16-30 Sem. Hrs.	31-45 Sem. Hrs.	46-60 Sem. Hrs.	61 and Above	Row Total
INDSAT 1.00 Very Satisfied	3 3.4 8.8% 9.1%	2 3.4 5.9% 6.1%	6 2.8 17.6% 22.2%	10 7.8 29.4% 13.3%	13 16.5 38.2% 8.2%	34 10.4%
2.00 Satisfied	16 22.2 7.3% 48.5%	22 22.2 10.0% 66.7%	16 18.2 7.3% 59.3%	51 50.5 23.2% 68.0%	115 107.0 52.3% 72.3%	220 67.3%
3.00 Neutral	12 6.9 17.6% 36.4%	9 6.9 13.2% 27.3%	5 5.6 7.4% 18.5%	13 15.6 19.1% 17.3%	29 33.1 42.6% 18.2%	68 20.8%
4.00 Dissatisfied	2 .5 40.0% 6.1%	0 .5 .0% .0%	0 .4 .0% .0%	1 1.1 20.0% 1.3%	2 2.4 40.0% 1.3%	5 1.5%
Column Total	33 10.1%	33 10.1%	27 8.3%	75 22.9%	159 48.6%	327 100.0%

Chi-Square	D.F.	Significance
19.21472	12	0.0835

were "dissatisfied" with their preparation as individuals.

Semester credit hours earned by the NIACC transfer student were categorized into five levels, as described on page 176. Results indicated that 10.1 percent of the sample had achieved 0-15 semester credit hours at the time of this study, 10.1 percent had earned 16-30 semester credit hours, 8.3 percent had earned 31-45 semester credit hours, 22.9 percent had earned 46-60 semester credit hours, and 48.6 percent had earned 61 or more semester credit hours.

The chi-square statistic for the two variables was $X^2 = 19.215$, which was not significant at the .05 level. As a result, there was no significant relationship between (INDSAT) and (SEMHRS). Consequently, the calculation failed to reject Hypothesis 5 since transfer student satisfaction with their NIACC preparation as individuals was not related to semester credit hours earned at NIACC. The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 6

There is no significant difference in NIACC transfer student satisfaction with their preparation as individuals according to transfer student satisfaction with the NIACC experience.

Findings

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as individuals (INDSAT) was related to satisfaction with their experience at NIACC (CCSAT).

The results of the two-tailed Pearson Product-Moment Correlation indicated a high positive relationship between the two variables (see Table 22). The statistical finding of $r = .4864$ was significant at the .001 level. A chi-square statistic was used to test the dependent variable of transfer student satisfaction with their preparation

as individuals (INDSAT) and the independent variable of student satisfaction with the NIACC experience (CCSAT) (Table 40). Results indicated that of the 327 sampled transfer students, 10.4 percent were "very satisfied" with their NIACC preparation as individuals, 67.3 percent were "satisfied", 20.8 percent were "neutral", and 1.5 percent were "dissatisfied" with their preparation as individuals.

Transfer student satisfaction with the NIACC experience (CCSAT) was categorized into four groups, as described on page 163. Table 40 shows that 8.9 percent of the sample were "very satisfied" with the NIACC experience, 66.7 percent were "satisfied" with the NIACC experience, 23.5 percent were "neutral" about the NIACC experience, and 0.9 percent were "dissatisfied" with the NIACC experience.

The chi-square statistic for the two variables was $X^2 = 112.179$, which was significant at the .001 level with nine degrees of freedom. These results indicated that there was a statistically significant relationship between (INDSAT) and (CCSAT). Consequently, Hypothesis 6 was rejected since the level of transfer student satisfaction with their NIACC preparation as individuals was related to the level of satisfaction with their experience at NIACC. Those students who were satisfied as individuals also tended to be satisfied with the NIACC experience. The implications of these findings are discussed in Chapter V of this study.

Hypothesis 7

There is no significant difference in NIACC transfer student satisfaction with their preparation for the work place according to the cumulative semester credit hours earned at NIACC.

Findings

This hypothesis tested whether transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) was related to cumulative semester credit

Table 40. Student satisfaction with their NIACC preparation as individuals (INDSAT) according to transfer student satisfaction with the NIACC experience (CCSAT)

Count Exp. Val Row Pct Col Pct	CCSAT Very Satisfied 1.00	Satisfied 2.00	Neutral 3.00	Dissatisfied 4.00	Row Total
INDSAT 1.00 Very Satisfied	10 3.0 29.4% 34.5%	22 22.7 64.7% 10.1%	2 8.0 5.9% 2.6%	0 .3 .0% .0%	34 10.4%
2.00 Satisfied	17 19.5 7.7% 58.6%	173 146.7 78.6% 79.4%	30 51.8 13.6% 39.0%	0 2.0 .0% .0%	220 67.3%
3.00 Neutral	6 6.0 2.9% 6.9%	23 45.3 33.8% 10.6%	40 16.0 58.8% 51.9%	3 .6 4.4% 100.0%	68 20.8%
4.00 Dissatisfied	0 .4 .0% .0%	0 3.3 .0% .0%	5 1.2 100.0% 6.5%	0 0 .0% .0%	5 1.5%
Column Total	29 8.9%	218 66.7%	7 23.5%	3 .9%	325 100.0%

Chi-Square	D.F.	Significance
112.17994	9	0.0000

hours earned at NIACC (SEMHRS).

The results of the two-tailed Pearson Product-Moment Correlation indicated a moderate negative relationship between the two variables (see Table 22). The statistical finding of r = -.2076 was significant at the .001 level. A chi-square calculation was used for the study variables of transfer student satisfaction with their preparation for the work place (WRKSAT) and cumulative semester credit hours earned at NIACC (SEMHRS). Table 41 presents the results of the cross-classification of the two variables.

Semester credit hours earned by the NIACC transfer student (SEMHRS) were categorized into five levels, as described on page 176. Results indicated that 9.8 percent of the sample had earned 0-15 semester credit hours at the time of this study, 10.1 percent had earned 16-30 semester credit hours, 8.3 percent had earned 31-45 semester credit hours, 23.0 percent had earned 46-60 semester credit hours, and 48.8 percent had earned 61 or more semester credit hours.

Transfer student satisfaction with their NIACC preparation for the work place was categorized into four groups. Cross-classification results indicated that 5.8 percent were "very satisfied" with their preparation for the work place, 58.3 percent were "satisfied", 29.8 percent were "neutral", and 6.1 percent were "dissatisfied".

The chi-square calculation showed a significant relationship between the two variables. Specifically, $X^2 = 22.633$, which was significant at the .05 level with 12 degrees of freedom. These findings rejected Hypothesis 7 since the transfer student level of satisfaction with their NIACC preparation for the work place was related to semester credit hours earned at NIACC. The more credits earned at NIACC, the more satisfied workers tended to be with their preparation for the work place. The implications of these results are discussed in Chapter V of this investigation.

Table 41. Student satisfaction with their NIACC preparation for the work place (WRKSAT) according to the cumulative semester credit hours earned at NIACC (SEMHRS)

Count Exp. Val Row Pct Col Pct	SEMHRS 0-15 Sem. Hrs.	16-30 Sem. Hrs.	31-45 Sem. Hrs.	46-60 Sem. Hrs.	61 and Above	Row Total
WRKSAT 1.00 Very Satisfied	0 1.9 .0% .0%	0 1.9 .0% .0%	2 1.6 10.5% 7.4%	5 4.4 26.3% 6.7%	12 9.3 63.2% 7.5%	19 5.8%
2.00 Satisfied	11 18.7 5.8% 34.4%	16 19.2 8.4% 48.5%	18 15.7 9.5% 66.7%	49 43.7 25.8% 65.3%	96 92.7 50.5% 60.4%	190 58.3%
3.00 Neutral	17 9.5 17.5% 53.1%	14 9.8 14.4% 42.4%	6 8.0 6.2% 22.2%	17 22.3 17.5% 22.7%	43 47.3 44.3% 27.0%	97 29.8%
4.00 Dissatisfied	4 2.0 20.0% 12.5%	3 2.0 15.0% 9.1%	1 1.7 5.0% 3.7%	4 4.6 20.0% 5.3%	8 9.8 40.0% 5.0%	20 6.1%
Column Total	33 9.8%	33 10.1%	27 8.3%	75 23.0%	158 48.8%	326 100.0%

Chi-Square	D.F.	Significance
22.63276	12	0.0310

Hypothesis 8

There is no significant difference in transfer student satisfaction with their NIACC preparation for the work place according to transfer student satisfaction with the NIACC experience.

Findings

This hypothesis tested whether transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) was related to satisfaction with their experience at NIACC (CCSAT).

The results of the two-tailed Pearson Product-Moment Correlation indicated a strong positive relationship between the two variables (see Table 22). The statistical finding of r = .5062 was significant at the .001 level. Table 42 shows a cross-classification of the study variables for transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) and transfer student satisfaction with the NIACC experience (CCSAT). Cross-classification results indicated that 5.8 percent were "very satisfied" with their NIACC preparation for the work place, 58.3 percent were "satisfied", 29.8 percent were "neutral", and 6.1 percent were "dissatisfied".

Transfer student satisfaction with the NIACC experience (CCSAT) was categorized into four groups, as described on page 164. Table 42 shows that 8.9 percent of the sample were "very satisfied", 66.6 percent were "satisfied", 23.6 percent were "neutral", and 0.9 percent were "dissatisfied" with the NIACC experience.

The chi-square calculation resulted in X^2 = 118.762, which was significant at the .05 level with nine degrees of freedom. These findings showed that there was a statistically significant relationship between (WRKSAT) and (CCSAT). The more satisfied students were with their NIACC experience, the more satisfied they were in the work place. Consequently, Hypothesis 8 was rejected since transfer students' level

Table 42. Student satisfaction with their NIACC preparation for the work place (WRKSAT) according to transfer student satisfaction with the NIACC experience (CCSAT)

Count Exp. Val Row Pct Col Pct	CCSAT Very Satisfied 1.00	Satisfied 2.00	Neutral 3.00	Dissatisfied 4.00	Row Total
WRKSAT 1.00 Very Satisfied	9 1.7 47.4% 31.0%	9 12.6 47.4% 4.1%	1 4.5 5.3% 1.3%	0 .2 .0% .0%	19 5.8%
2.00 Satisfied	1 16.9 10.0% 65.5%	53 126.5 78.9% 69.1%	42 44.9 11.1% 27.3%	0 1.7 .0% .0%	190 58.3%
3.00 Neutral	1 8.6 1.0% 3.4%	53 64.6 54.6% 24.4%	42 22.9 43.3% 54.5%	1 .9 1.0% 33.3%	97 29.8%
4.00 Dissatisfied	0 1.8 .0% .0%	5 13.3 25.0% 2.3%	13 4.7 65.0% 16.9%	2 .2 10.0% 66.7%	20 6.1%
Column Total	29 8.9%	217 66.6%	77 23.6%	3 .9%	326 100.0%

Chi-Square	D.F.	Significance
118.76197	9	0.0000

of satisfaction with their NIACC preparation for the work place was related to satisfaction with their experience at NIACC. The implications of these results are discussed in Chapter V of this investigation.

Hypothesis 9

There is no significant difference in transfer student satisfaction with their NIACC preparation as citizens according to cumulative semester credit hours earned at NIACC.

Findings

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as citizens (CITSAT) was related to cumulative semester credit hours earned at NIACC (SEMHRS).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0077 was not significant at the .05 level. Table 43 presents a cross-classification table for the dependent study variable of transfer student satisfaction with their preparation as citizens (CITSAT) and the independent variable of cumulative semester credit hours earned at NIACC (SEMHRS). The results indicated that 7.4 percent of the sample were "very satisfied" with their preparation as citizens, 46.8 percent of the sample were "satisfied" with their preparation as citizens, 44.3 percent were "neutral" about their preparation as citizens, and 1.5 percent were "dissatisfied" with their NIACC preparation as citizens.

Semester credit hours earned by the NIACC transfer student (SEMHRS) were categorized into five levels, as described on page 176. Results indicated that 10.2 percent of the sample earned 0-15 semester hours, 9.8 percent earned 16-30 semester hours, 8.3 percent earned 31-45 semester hours, 23.1 percent earned 46-60 semester

Table 43. Student satisfaction with their NIACC preparation as citizens (CITSAT) according to the cumulative semester credit hours earned at NIACC (SEMHRS)

Count Exp. Val Row Pct Col Pct	SEMHRS 0-15 Sem. Hrs.	16-30 Sem. Hrs.	31-45 Sem. Hrs.	46-60 Sem. Hrs.	61 and Above	Row Total
CITSAT 1.00 Very Satisfied	3 2.4 12.5% 9.1%	1 2.4 4.2% 3.1%	2 2.0 8.3% 7.4%	8 5.5 33.3% 10.7%	10 11.7 41.7% 6.3%	24 7.4%
2.00 Satisfied	12 15.4 7.9% 36.4%	16 15.0 10.5% 50.0%	16 12.6 10.5% 59.3%	41 35.1 27.0% 54.7%	167 73.9 44.1% 42.4%	152 46.8%
3.00 Neutral	17 14.6 11.8% 51.5%	13 14.2 9.0% 40.6%	9 12.0 6.3% 33.3%	25 33.2 17.4% 33.3%	80 70.0 55.6% 50.6%	144 44.3%
4.00 Dissatisfied	1 .5 20.0% 3.0%	2 .5 40.0% 6.3%	0 .4 .0% .0%	1 1.2 20.0% 1.3%	1 2.4 20.0% .6%	5 1.5%
Column Total	33 10.2%	32 9.8%	27 8.3%	75 23.1%	158 48.6%	325 100.0%

Chi-Square	D.F.	Significance
16.68520	12	0.1618

hours, and 48.6 percent earned 61 or more semester hours.

The computed chi-square statistic resulted in $X^2 = 16.685$, which was not significant at the .05 level with 12 degrees of freedom. These results indicated that there was not a statistically significant relationship between (CITSAT) and (SEMHRS). Consequently, Hypothesis 9 failed to be rejected since transfer student level of satisfaction with their NIACC preparation as citizens was not related to semester credit hours earned at NIACC. The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 10

There is no significant difference in transfer student satisfaction with their NIACC preparation as citizens according to transfer student satisfaction with the NIACC experience.

Findings

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as citizens (CITSAT) was related to satisfaction with their experience at NIACC (CCSAT).

The results of the two-tailed Pearson Product-Moment Correlation indicated a strong positive relationship between the two variables (see Table 22). The statistical finding of $r = .3728$ was significant at the .001 level. This hypothesis was also tested by chi-square. Table 44 presents the cross-classification scheme for the dependent variable of transfer student satisfaction with their NIACC preparation as citizens (CITSAT) and the independent variable of transfer student satisfaction with the NIACC experience (CCSAT).

Transfer student satisfaction with their NIACC preparation as citizens (CITSAT) was categorized into four groups. Results indicated that 7.4 percent of the

Table 44. Student satisfaction with their NIACC preparation as citizens (CITSAT) according to transfer student satisfaction with the NIACC experience (CCSAT)

Count Exp. Val Row Pct Col Pct	CITSAT Very Satisfied 1.00	Satisfied 2.00	Neutral 3.00	Dissatisfied 4.00	Row Total
CCSAT 1.00 Very Satisfied	6 2.1 25.0% 20.7%	17 16.0 70.8% 7.9%	1 5.7 4.2% 1.3%	0 .2 .0% .0%	24 7.4%
2.00 Satisfied	15 13.6 9.9% 51.7%	120 101.0 78.9% 55.6%	17 36.0 11.2% 22.1%	0 1.4 .0% .0%	152 46.8%
3.00 Neutral	8 12.8 5.6% 27.6%	78 95.7 54.2% 36.1%	56 34.1 38.9% 72.7%	2 1.3 1.4% 66.7%	144 44.3%
4.00 Dissatisfied	0 .4 .0% .0%	1 3.3 20.0% .5%	3 1.2 60.0% 3.9%	1 .0 20.0% 33.3%	5 1.5%
Column Total	29 8.9%	216 66.5%	77 23.7%	3 .9%	325 100.0%

Chi-Square	D.F.	Significance
70.30739	9	0.0000

sample were "very satisfied" with their preparation as citizens, 46.8 percent of the sample were "satisfied" with their preparation as citizens, 44.3 percent were "neutral" about their preparation as citizens, and 1.5 percent were "dissatisfied" with their NIACC preparation as citizens.

Transfer student satisfaction with the NIACC experience (CCSAT) was categorized into four groups. Table 44 shows that 8.9 percent of the sample were "very satisfied", 66.5 percent were "satisfied", 23.7 percent were "neutral", and 0.9 percent were "dissatisfied" with the NIACC experience.

The chi-square statistic was $X^2 = 70.307$, which was significant at the .001 level with nine degrees of freedom. Hypothesis 10 was subsequently rejected since the transfer student level of satisfaction with their NIACC preparation as citizens was related to their experience at NIACC. Students who were satisfied with their experience at NIACC also tended to be satisfied citizens. The implications of these findings are discussed in Chapter V of this study.

Hypothesis 11

There is no significant difference in NIACC transfer student satisfaction with their preparation as family members according to cumulative semester credit hours earned at NIACC.

Findings

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as family members (FAMSAT) was related to cumulative semester credit hours earned at NIACC (SEMHRS).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = -.1002$ was not significant at the .05 level. Table 45 presents a cross-classification

Table 45. Student satisfaction with their NIACC preparation as family members (FAMSAT) according to the cumulative semester credit hours earned at NIACC (SEMHRS)

Count Exp. Val Row Pct Col Pct	SEMHRS 0-15 Sem. Hrs.	16-30 Sem. Hrs.	31-45 Sem. Hrs.	46-60 Sem. Hrs.	61 and Above	Row Total
FAMSAT 1.00 Very Satisfied	2 3.2 6.3% 6.1%	1 3.2 3.1% 3.1%	2 2.7 6.3% 7.4%	11 7.4 34.4% 14.7%	16 15.6 50.0% 10.1%	32 9.8%
2.00 Satisfied	10 16.1 6.3% 30.3%	18 15.7 11.3% 56.3%	15 13.2 9.4% 55.6%	39 36.7 24.5% 52.0%	77 77.3 48.4% 48.7%	159 48.9%
3.00 Neutral	20 13.2 15.4% 60.6%	13 12.8 10.0% 40.6%	10 10.8 7.7% 37.0%	25 30.0 19.2% 33.3%	62 63.2 47.7% 39.2%	130 40.0%
4.00 Dissatisfied	1 .4 25.0% 3.0%	0 .4 .0% .0%	0 .3 .0% .0%	0 .9 .0% .0%	3 1.9 75.0% 1.9%	4 1.2%
Column Total	33 10.2%	32 9.8%	27 8.3%	75 23.1%	158 48.6%	325 100.0%

Chi-Square	D.F.	Significance
14.48483	12	0.2708

table of the dependent variable of transfer student satisfaction with their NIACC preparation as family members (FAMSAT) and the independent variable of cumulative semester credit hours earned at NIACC (SEMHRS). The dependent variable was grouped into four categories. Results indicated that 9.8 percent were "very satisfied", 48.9 percent were "satisfied", 40.0 percent were "neutral", and 1.2 percent were "dissatisfied" with their preparation as family members.

Semester credit hours earned by the NIACC transfer student (SEMHRS) were categorized into five levels. Results indicated that 10.2 percent of the sample had earned 0-15 semester credit hours at the time of this study, 9.8 percent had earned 16-30 semester credit hours, 8.3 percent had earned 31-45 semester credit hours, 23.1 percent had earned 46-60 semester credit hours, and 48.6 percent had earned 61 or more semester credit hours.

The calculated chi-square for the two variables was $X^2 = 14.484$, which was not significant at the .05 level with 12 degrees of freedom. Consequently, Hypothesis 11 failed to be rejected since transfer student level of satisfaction with their NIACC preparation as family members was not related to semester credit hours earned at NIACC. The implications of these findings are presented in Chapter V of this study.

Hypothesis 12

There is no significant difference in NIACC transfer student satisfaction with their preparation as family members according to transfer student satisfaction with the NIACC experience.

Findings

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as family members (FAMSAT) was related to satisfaction with their experience at NIACC (CCSAT).

The results of the two-tailed Pearson Product-Moment Correlation indicated a strong positive relationship between the two variables (see Table 22). The statistical finding of r = .4189 was significant at the .001 level. A cross-classification table for this hypothesis is presented in Table 46. The dependent variable, transfer student satisfaction with how the College prepared them as family members (FAMSAT), was grouped into four categories. Results indicated that 9.8 percent were "very satisfied", 48.9 percent were "satisfied", 40.0 percent were "neutral", and 1.2 percent were "dissatisfied" with their NIACC preparation as family members.

Transfer student satisfaction with the NIACC experience (CCSAT) was categorized into four groups. Table 46 shows that 8.9 percent of the sample were "very satisfied", 66.5 percent were "satisfied", 23.7 percent were "neutral", and 0.9 percent were "dissatisfied" with the NIACC experience.

A chi-square calculation of the two variables (FAMSAT) and (CCSAT) resulted in $X^2 = 73.896$, which was significant at the .001 level with nine degrees of freedom. Hypothesis 12 was subsequently rejected since transfer student level of satisfaction with their NIACC preparation as family members was related to satisfaction with their experience at NIACC. Students who were satisfied with their NIACC preparation as family members also tended to be satisfied with their experience at NIACC. The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 13

There is no significant difference in NIACC transfer student cumulative grade point average at graduation from a baccalaureate-granting institution according to the following transfer student characteristics:

Table 46. Student satisfaction with their NIACC preparation as family members (FAMSAT) according to transfer student satisfaction with the NIACC experience (CCSAT)

Count Exp. Val Row Pct Col Pct	CCSAT Very Satisfied 1.00	Satisfied 2.00	Neutral 3.00	Dissatisfied 4.00	Row Total
FAMSAT 1.00 Very Satisfied	10 2.9 31.3% 34.5%	20 21.3 62.5% 9.3%	2 7.6 6.3% 2.6%	0 .3 .0% .0%	32 9.8%
2.00 Satisfied	56 52.0 25.7% 71.8%	120 128.7 55.0% 62.2%	24 20.7 11.7% 77.4%	0 1.5 .0% .0%	159 48.9%
3.00 Neutral	4 11.6 3.1% 13.8%	67 86.4 51.5% 31.0%	56 30.8 43.1% 72.7%	3 1.2 2.3% 100.0%	130 40.0%
4.00 Dissatisfied	0 .4 .0% .0%	2 2.7 50.0% .9%	2 .9 50.0% 2.6%	0 .0 .0% .0%	4 1.2%
Column Total	29 8.9%	216 66.5%	77 23.7%	3 .9%	325 100.0%

Chi-Square	D.F.	Significance
73.89648	9	0.0000

1. Cumulative High School Grade Point Average
2. Father's Education Level at Student Enrollment
3. Mother's Education Level at Student Enrollment
4. ACT Composite Score
5. Gender
6. Age at Enrollment

Findings

Cumulative High School Grade Point Average.

This hypothesis tested whether transfer student grade point average at graduation from a baccalaureate-granting institution (BAGPA) differed significantly according to their cumulative high school grade point average (HSGPA).

The results of the two-tailed Pearson Product-Moment Correlation indicated a strong positive relationship between the two variables (see Table 23). The statistical finding of r = .5144 was significant at the .001 level. Table 23 shows a strong positive linear relationship between NIACC transfer student cumulative grade point average at graduation from a baccalaureate-granting institution (BAGPA) and cumulative high school GPA (HSGPA). The coefficient was .514, which was statistically significant at the .001 level. This finding indicated that transfer students with high GPAs in high school tended to perform better academically at a baccalaureate-granting institution.

A one-way Analysis of Variance showed an F-ratio of 11.513, which was significant at the .001 level (see Table 47). A Tukey-b post hoc test was computed to determine group mean differences. Transfer students who had high school grade point averages of 2.01 - 3.00 (i.e., Group 2) differed in their GPAs at graduation from a baccalaureate-granting institution from those who had high school grade point averages of 3.01-4.00 (i.e., Group 3). Specifically, Group 3 tended, on average, to hold a higher cumulative grade point average at graduation from a baccalaureate-granting institution than Group 2. As a result of these findings, Hypothesis 13 was rejected

with regard to cumulative high school grade point average since transfer student grade point average at graduation from a baccalaureate-granting institution did vary significantly by student grade point average in high school.

Table 47. One-way ANOVA of cumulative GPA at graduation at the baccalaureate-granting institution according to cumulative high school GPA (BAGPA) by (HSGPA)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	2	3.8605	1.9302	11.5129	.0000
Within Groups	98	16.4304	.1677		
Total	100	20.2909			

Father's Education Level at Student Enrollment.

This hypothesis tested whether transfer student grade point average at graduation from a baccalaureate-granting institution (BAGPA) differed significantly according to father's education level at the time of student enrollment (FATHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 23). The statistical finding of r = -.1172 was not significant at the .05 level. A one-way Analysis of Variance was calculated for the dependent variable of transfer student cumulative grade point average at graduation from a baccalaureate-granting institution (BAGPA) and the independent variable of father's education level at student enrollment (FATHERED). The calculated F-statistic was F = 1.008 (see Table 48). This calculation was not statistically significant at the .05 level. As a result of these findings, Hypothesis 13 failed to be rejected with regard to father's education level at student enrollment

since transfer student grade point average at graduation from a baccalaureate-granting institution did not vary significantly by father's education level at student enrollment.

Table 48. One-way ANOVA of cumulative GPA at graduation at the baccalaureate-granting institution according to father's education level at first NIACC enrollment (BAGPA) by (FATHERED)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	5	1.0218	.2044	1.0076	.4176
Within Groups	95	19.2690	.2028		
Total	100	20.2909			

Mother's Education Level at Student Enrollment.

This hypothesis tested whether transfer student grade point average at graduation from a baccalaureate-granting institution (BAGPA) differed significantly according to mother's education level at the time of student enrollment (MOTHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 23). The statistical finding of r = -.1212 was not significant at the .05 level. Table 49 shows a one-way Analysis of Variance on transfer student grade point average at graduation from a baccalaureate-granting institution (BAGPA) and mother's education level at the time of student enrollment at NIACC (MOTHERED). The resultant F-ratio was .354, which was not statistically significant at the .05 level. As a result, Hypothesis 13 failed to be rejected since the transfer student grade point average at graduation from a

baccalaureate-granting institution did not vary significantly by mother's education level at student enrollment.

ACT Composite Score.

This hypothesis tested whether transfer student grade point average at graduation from a baccalaureate-granting institution (BAGPA) differed significantly according to ACT composite score (ACTCOMP).

Table 49. One-way ANOVA of cumulative GPA at graduation at the baccalaureate-granting institution according to mother's education level at first NIACC enrollment (BAGPA) by (MOTHERED)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	5	.3711	.0742	.3540	.8785
Within Groups	95	19.9197	.2097		
Total	100	20.2909			

The results of the two-tailed Pearson Product-Moment Correlation indicated a slight positive relationship between the two variables (see Table 23). The statistical finding of r = .2693 was significant at the .01 level. A slight positive linear relationship was observed between transfer student cumulative grade point average at graduation from a baccalaureate-granting institution (BAGPA) and transfer student ACT composite score (ACTCOMP). Table 23 shows r = .269, which was statistically significant at the .01 level. A one-way Analysis of Variance showed an F-ratio of 2.334, which was statistically significant at the .05 level (see Table 50). A subsequent Tukey-b post hoc procedure showed that transfer students with ACT composite scores of 14-16 (i.e., Group 3) differed in their GPAs at graduation from a baccalaureate-

granting institution from transfer students who had ACT composite scores of 26-28 (i.e., Group 7) and transfer students with ACT composite scores of 29-32 (i.e., Group 8). Specifically, Group 3 had, on average, a significantly lower cumulative grade point average at graduation from a baccalaureate-granting institution than both Group 7 and Group 8. As a result of these findings, Hypothesis 13 was rejected with regard to transfer student ACT composite score since transfer student grade point average at graduation from a baccalaureate-granting institution did vary significantly by student ACT composite score.

Table 50. One-way ANOVA of cumulative GPA at graduation at the baccalaureate-granting institution according to ACT composite score (BAGPA) by (ACTCOMP)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	7	3.0362	.4337	2.3378	.0304
Within Groups	93	17.2547	.1855		
Total	100	20.2909			

Gender.

This hypothesis tested whether transfer student grade point average at graduation from a baccalaureate-granting institution (BAGPA) differed significantly according to gender (GENDER).

The Analysis of Variance did not show a statistically significant difference between the dependent variable of transfer student grade point average at graduation from a baccalaureate-granting institution (BAGPA) and the independent variable of transfer student gender (GENDER). Table 51 shows the F-statistic of 1.509 was not

significant at the .05 level. As a result of these findings, Hypothesis 13 failed to be rejected with regard to transfer student gender since the transfer student grade point average at graduation from a baccalaureate-granting institution did not vary significantly by student gender.

Table 51. One-way ANOVA of cumulative GPA at graduation at the baccalaureate-granting institution according to gender (BAGPA) by (GENDER)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	1	.3046	.3046	1.5088	.2222
Within Groups	99	19.9863	.2019		
Total	100	20.2909			

Age at Enrollment.

This hypothesis tested whether transfer student grade point average at graduation from a baccalaureate-granting institution (BAGPA) differed significantly according to age at enrollment (AGEENRL).

The results of the two-tailed Pearson Product-Moment Correlation indicated a slight positive relationship between the two variables (see Table 23). The statistical finding of r = .2162 was significant at the .05 level. Table 23 shows a slight positive linear relationship among group variables of transfer student cumulative grade point average at graduation from a baccalaureate-granting institution (BAGPA) and transfer student age (AGEENRL). The correlation coefficient was .216, which was statistically significant at the .05 level. An ANOVA procedure showed an F-ratio of 1.064, which was not statistically significant (see Table 52). The conflicting results presented by the Pearson Correlation and the Analysis of Variance may be the result

of the nature of each of the statistical tests. Specifically, Pearson is a more focused, powerful test of linear relationships, while Analysis of Variance is a test of the similarity of group means. As a result of these findings, Hypothesis 13 was rejected with respect to transfer student age at enrollment since transfer student grade point average at graduation from a baccalaureate-granting institution did vary significantly by student age at enrollment.

Summary.

Table 52. One-way ANOVA of cumulative GPA at graduation at the baccalaureate-granting institution according to age (BAGPA) by (AGEENRL)

Source	D. F.	Sum of Squares	Mean Squares	F-Ratio	F-Probability
Between Groups	3	.6463	.2154	1.0637	.3682
Within Groups	97	19.6446	.2025		
Total	100	20.2909			

Hypothesis 13 failed to be rejected in three out of six samples. There was no statistically significant difference among transfer student cumulative grade point average at graduation from a baccalaureate-granting institution (BAGPA) with respect to:

1. Father's education level at student enrollment
2. Mother's education level at student enrollment
3. Transfer student gender

Hypothesis 13 was rejected on three independent variables:

4. Cumulative high school GPA
5. ACT composite score
6. Transfer student age at enrollment

Transfer student GPA at graduation from a baccalaureate-granting institution varied significantly by high school grade point average, ACT composite score, and age at enrollment. The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 14

There is no significant difference in NIACC transfer student satisfaction with their preparation as individuals according to the following transfer student characteristics:

1. Cumulative High School Grade Point Average
2. Father's Education Level at Student Enrollment
3. Mother's Education Level at Student Enrollment
4. ACT Composite Score
5. Gender
6. Age at Enrollment

Findings

Cumulative High School Grade Point Average.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as individuals (INDSAT) was related to their cumulative high school grade point average (HSGPA).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = -.0548$ was not significant at the .05 level. Presented in cross-classification Table 53 is the dependent variable for Hypothesis 14, transfer student satisfaction with their NIACC preparation as individuals (INDSAT), and the independent variable of cumulative high school grade point average (HSGPA). Results indicated that 10.4 percent of the sample were "very satisfied" with their preparation as individuals, 67.3 percent were "satisfied", 20.8 percent were "neutral", and 0.9 percent were "dissatisfied" with their NIACC preparation as individuals. The distribution of the

individual satisfaction variable percentages remained generally constant throughout chi-square Tables 53-56. Percentage variations may exist as a result of missing data. The total number calculated is presented in the lower, right-hand corner of each table.

High school grade point average was categorized into three groups. Results indicated that 6.7 percent of the sample had a high school GPA between 1.01 and 2.00 inclusive, 40.1 percent had a high school GPA between 2.01 and 3.00 inclusive, and

Table 53. Student satisfaction with their NIACC preparation as individuals according to cumulative high school GPA (INDSAT) by (HSGPA)

Count Exp. Val. Row Pct Col Pct	HSGPA 1.01-2.00 1.000	2.01-3.00 2.000	3.01-4.00 3.000	Row Total
INDSAT 1.00 Very Satisfied	1 2.3 2.9% 4.5%	12 13.6 35.3% 9.2%	21 18.1 61.8% 12.1%	34 10.4%
2.00 Satisfied	14 14.8 6.4% 63.6%	92 88.1 41.8% 70.2%	114 117.1 51.8% 65.5%	220 67.3%
3.00 Neutral	7 4.6 10.3% 31.8%	25 27.2 36.8% 19.1%	36 36.2 52.9% 20.7%	68 20.8%
4.00 Dissatisfied	0 .3 .0% .0%	2 2.0 40.0% 1.5%	3 2.7 60.0% 1.7%	5 .9%
Column Total	22 6.7%	131 40.1%	174 53.2%	327 100.0%

chi-square	D.F.	Significance
3.52868	6	0.7402

53.2 percent had a high school grade point average between 3.01 and 4.00 inclusive.

A subsequent chi-square statistic resulted in F = 3.529, which was not statistically significant at the .05 level. Consequently, Hypothesis 14 failed to be rejected with respect to high school grade point average since transfer student satisfaction with their NIACC preparation as individuals was not related to cumulative high school grade point average.

Father's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as individuals (INDSAT) was related to father's education level at the time of student enrollment (FATHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0957 was not significant at the .05 level. Table 54 presents a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as individuals (INDSAT) and father's education level at the time of student enrollment at NIACC (FATHERED).

Father's education level at the time of student enrollment at NIACC was categorized into six groups. Results indicated that 16.3 percent of the fathers had less than a high school diploma at the time of student enrollment at NIACC, 42.0 percent had a high school diploma, 19.1 percent had taken some college courses, 5.3 percent had earned a two-year college degree, 9.7 percent had earned a four-year college degree, and 7.5 percent had taken some post-graduate courses at the time of student enrollment at NIACC.

A chi-square calculation showed $X^2 = 17.551$, which was not significant at the .05 level with 15 degrees of freedom. As a result of these findings, Hypothesis 14

Table 54. Student satisfaction with their NIACC preparation as individuals (INDSAT) according to father's education level at student enrollment (FATHERED)

Count Exp. Val Row Pct Col Pct	FATHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
INDSAT 1.00 Very Satisfied	0 5.2 .0% .0%	12 13.4 37.5% 9.0%	9 6.1 28.1% 14.8%	2 1.7 6.3% 11.8%	5 3.1 15.6% 16.1%	4 2.4 12.5% 16.7%	32 10.0%
2.00 Satisfied	40 35.0 18.6% 76.9%	90 90.3 41.9% 67.2%	41 41.1 19.1% 67.2%	8 11.5 3.7% 47.1%	22 20.9 10.2% 71.0%	6 5.0 9.0% 25.0%	215 67.4%
3.00 Neutral	11 10.9 16.4% 21.2%	34 28.1 44.8% 22.4%	14 12.8 14.9% 16.4%	6 3.6 9.0% 35.3%	4 6.5 6.0% 12.9%	6 5.0 9.0% 25.0%	67 21.0%
4.00 Dissatisfied	1 .8 20.0% 1.9%	2 2.1 40.0% 1.5%	1 1.0 20.0% 1.6%	1 .3 20.0% 5.9%	0 .5 .0% .0%	0 .4 .0% .0%	5 1.6%
Column Total	52 16.3%	134 42.0%	61 19.1%	17 5.3%	31 9.7%	24 7.5%	319 100.0%

Chi-Square	D.F.	Significance
17.55094	15	0.2870

failed to be rejected with respect to father's education level since transfer student satisfaction with their NIACC preparation as individuals was not related to father's education level at student enrollment.

Mother's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as individuals (INDSAT) was related to mother's education level at the time of student enrollment (MOTHERED). The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0388 was not significant at the .05 level. Table 55 shows the cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as individuals (INDSAT) and the independent variable of mother's education level at the time of student enrollment at NIACC (MOTHERED).

Mother's education level at the time of student enrollment at NIACC was categorized into six groups. Results indicated that 4.8 percent of the mothers had less than a high school diploma at the time of student enrollment at NIACC, 53.3 percent had a high school diploma, 24.8 percent had taken some college courses, 7.6 percent had earned a two-year college degree, 7.0 percent had earned a four-year college degree, and 2.5 percent had taken some post-graduate courses at the time of student enrollment at NIACC.

A chi-square calculation for the two variables resulted in $X^2 = 19.018$, which was not significant at the .05 level with 15 degrees of freedom. As a result of these findings, Hypothesis 14 failed to be rejected with respect to mother's education level since transfer student satisfaction with their NIACC preparation as individuals was not related to mother's education level at student enrollment.

Table 55. Student satisfaction with their NIACC preparation as individuals (INDSAT) according to mother's education level at student enrollment (MOTHERED)

Count Exp. Val Row Pct Col Pct	MOTHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
INDSAT 1.00 Very Satisfied	1 1.5 3.1% 6.7%	17 17.1 53.1% 10.1%	9 7.9 28.1% 11.5%	3 2.4 9.4% 12.5%	2 2.2 6.3% 9.1%	0 .8 .0% .0%	32 10.2%
2.00 Satisfied	10 10.1 4.7% 66.7%	108 113.6 50.7% 64.3%	61 52.7 28.6% 78.2%	16 16.2 7.5% 66.7%	12 14.9 5.6% 54.5%	6 5.4 2.8% 75.0%	213 67.6%
3.00 Neutral	4 3.1 6.2% 26.7%	40 34.7 61.5% 23.8%	8 16.1 12.3% 10.3%	5 5.0 7.7% 20.8%	6 4.5 9.2% 27.3%	2 1.7 3.1% 25.0%	65 20.6%
4.00 Dissatisfied	0 .2 .0% .0%	3 2.7 60.0% 1.8%	0 1.2 .0% .0%	0 .4 .0% .0%	2 .3 40.0% 9.1%	0 .1 .0% .0%	5 1.6%
Column Total	15 4.8%	168 53.3%	78 24.8%	24 7.6%	22 7.0%	8 2.5%	315 100.0%

Chi-Square	D.F.	Significance
19.01807	15	0.2129

ACT Composite Score.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as individuals (INDSAT) was related to ACT composite score (ACTCOMP).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0201 was not significant at the .05 level. A cross-classification is presented in Table 56 for the dependent variable of transfer student satisfaction with their NIACC preparation as individuals, and the independent variable of transfer student ACT composite score.

Transfer student ACT composite scores (ACTCOMP) were categorized into eight groups. Results indicated that 4.0 percent of the transfer students had an ACT composite score between 1 and 10 inclusive, 8.6 percent had an ACT composite score between 11 and 13 inclusive, 13.8 percent had a composite score between 14 and 16 inclusive, 19.6 percent had a composite score between 17 and 19 inclusive, 22.9 percent had a composite score between 20 and 22 inclusive, 17.4 percent had a composite score between 23 and 25 inclusive, 10.4 percent had a composite score between 26 and 28 inclusive, and 3.4 percent had a composite score between 29 and 32 inclusive.

A chi-square calculation resulted in $X^2 = 22.391$, which was not significant at the .05 level with 21 degrees of freedom. As a result of these findings, Hypothesis 14 failed to be rejected with respect to ACT composite score since transfer student satisfaction with their NIACC preparation as individuals was not related to ACT composite score.

Gender.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as individuals (INDSAT) was related to gender (GENDER).

Table 56. Student satisfaction with their NIACC preparation as individuals (INDSAT) according to ACT composite score (ACTCOMP)

Count Exp. Val Row Pct Col Pct	ACTCOMP 1-10 1	11-13 2	14-16 3	17-19 4	20-22 5	23-25 6	26-28 7	29-32 8	Row Total
INDSAT 1.00 Very Satisfied	2 1.4 5.9% 15.4%	0 2.9 .0% .0%	4 4.7 11.8% 8.9%	11 6.7 32.4% 17.2%	8 7.8 23.5% 10.7%	6 5.9 17.6% 10.5%	3 3.5 8.8% 8.8%	0 1.1 .0% .0%	34 10.4%
2.00 Satisfied	10 8.7 4.5% 76.9%	21 18.8 9.5% 75.0%	29 30.3 13.2% 64.4%	37 43.1 16.8% 57.8%	50 50.5 22.7% 66.7%	38 38.3 17.3% 66.7%	28 22.9 12.7% 82.4%	7 7.4 3.2% 63.6%	220 67.3%
3.00 Neutral	1 2.7 1.5% 7.7%	6 5.8 8.8% 21.4%	12 9.4 17.6% 26.7%	16 13.3 23.5% 25.0%	14 15.6 20.6% 18.7%	12 11.9 17.6% 21.1%	3 7.1 4.4% 8.8%	4 2.3 5.9% 36.4%	68 20.8%
4.00 Dissatisfied	0 .2 20.0% .0%	1 .4 .0% 3.6%	0 .7 .0% .0%	0 1.0 60.0% .0%	3 1.1 20.0% 4.0%	1 .9 .0% 1.8%	0 .5 .0% .0%	0 .1 .0% .0%	5 1.5%
Column Total	13 4.0%	28 8.6%	45 13.8%	64 19.6%	75 22.9%	57 17.4%	34 10.4%	11 3.4%	327 100.0%

Chi-Square	D.F.	Significance
22.39139	21	0.3773

Table 57 is a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as individuals (INDSAT) and the independent variable of transfer student gender (GENDER).

Transfer student gender cross-classification results indicated that 42.8 percent of the sample were male students and 57.2 percent were female students.

A chi-square calculation resulted in $X^2 = 1.638$, which was not significant at the .05 level with three degrees of freedom. As a result of these findings, Hypothesis 14

Table 57. Student satisfaction with their NIACC preparation as individuals according to gender (INDSAT) by (GENDER)

Count Exp. Val Row Pct Col Pct	GENDER Male 1	 Female 2	 Row Total
WRKSAT 1.00 Very Satisfied	14 14.6 41.2% 10.0%	20 19.4 58.8% 10.7%	34 10.4%
2.00 Satisfied	98 94.2 44.5% 70.0%	122 125.8 55.5% 65.2%	220 67.3%
3.00 Neutral	27 29.1 39.7% 19.3%	41 38.9 60.3% 21.9%	68 23.5%
4.00 Dissatisfied	1 2.1 20.0% .7%	4 2.9 80.0% 2.1%	5 1.5%
Column Total	140 42.8%	187 57.2%	327 100.0%

chi-square	D.F.	Significance
1.63784	3	0.6508

failed to be rejected with regard to transfer student gender since transfer student satisfaction with their NIACC preparation as individuals was not related to student gender.

Age at Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as individuals (INDSAT) was related to age at enrollment (AGEENRL).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0486 was not significant at the .05 level. Presented in Table 58 is a cross-classification scheme for the dependent variable of transfer student satisfaction with their NIACC preparation as individuals (INDSAT) and the independent variable of transfer student age at enrollment (AGEENRL). Results indicated that 23.9 percent of the students were 16 or 17 years of age, 59.0 percent were 18 years of age, 9.5 percent were 19 years of age, and 7.6 percent were 20-99 years of age.

A chi-square calculation resulted in $X^2 = 6.394$, which was not significant at the .05 level with nine degrees of freedom. As a result of these findings, Hypothesis 14 failed to be rejected with regard to age at enrollment since transfer student satisfaction with their NIACC preparation as individuals was not related to student age at enrollment.

Summary.

The aforementioned findings indicated that Hypothesis 14 failed to be rejected in six out of six cases. There was no statistically significant relationship among transfer student satisfaction with their NIACC preparation as individuals with respect to:

1. Cumulative high school GPA
2. Father's education level at student enrollment
3. Mother's education level at student enrollment

Table 58. Student satisfaction with their NIACC preparation as individuals (INDSAT) according to age (AGEENRL)

Count Exp. Val Row Pct Col Pct	AGEENRL 16-17 Years	18 Years	19 Years	20-99 Years	Row Total
INDSAT 1.00 Very Satisfied	10 8.1 29.4% 12.8%	17 20.1 50.0% 8.8%	4 3.2 11.8% 12.9%	3 2.6 8.8% 12.0%	34 10.4%
2.00 Satisfied	51 52.5 23.2% 65.4%	129 129.8 58.6% 66.8%	22 20.9 10.0% 71.0%	18 16.8 8.2% 72.0%	220 67.3%
3.00 Neutral	17 16.2 25.0% 21.8%	44 40.1 64.7% 22.8%	4 6.4 5.2% 12.9%	3 5.2 4.4% 12.0%	68 20.8%
4.00 Dissatisfied	0 1.2 .0% .0%	3 3.0 60.0% 1.6%	1 .5 20.0% 3.2%	1 .4 20.0% 4.0%	5 1.5%
Column Total	78 23.9%	193 59.0%	31 9.5%	25 7.6%	327 100.0%

Chi-Square	D.F.	Significance
6.39445	9	0.6999

4. ACT composite score
5. Gender
6. Age at enrollment

The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 15

There is no significant difference in transfer student satisfaction with their NIACC preparation for the work place according to the following transfer student characteristics:

1. Cumulative High School Grade Point Average
2. Father's Education Level at Student Enrollment
3. Mother's Education Level at Student Enrollment
4. ACT Composite Score
5. Gender
6. Age at Enrollment

Findings

Cumulative High School Grade Point Average.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) was related to cumulative high school grade point average (HSGPA).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0515 was not significant at the .05 level. Table 59 presents a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) and transfer student cumulative high school grade point average (HSGPA). Results indicated that 5.8 percent of the transfer students were "very satisfied" with their NIACC preparation for the work place, 58.3 percent were "satisfied", 29.8 percent were "neutral", and 6.1 percent were "dissatisfied" with their NIACC preparation for the work place. The distribution of the work place

satisfaction variable percentages remained generally constant throughout chi-square Tables 59-64. Percentage variations may exist as the result of missing data. The total number calculated is presented in the lower, right-hand corner of each table.

High school grade point average was categorized into three groups. Results indicated that 6.7 percent of the sample had a high school GPA between 1.01 and 2.00 inclusive, 39.9 percent had a high school GPA between 2.01 and 3.00 inclusive, and 53.4 percent had a high school grade point average between 3.01 and 4.00 inclusive.

Table 59. Student satisfaction with their NIACC preparation for the work place according to cumulative high school GPA (WRKSAT) by (HSGPA)

Count Exp. Val. Row Pct Col Pct	HSGPA 1.01-2.00 1.000	2.01-3.00 2.000	3.01-4.00 3.000	Row Total
INDSAT 1.00 Very Satisfied	1 1.3 5.3% 4.5%	11 7.6 57.9% 8.5%	7 10.1 36.8% 4.0%	19 5.8%
2.00 Satisfied	12 12.8 6.3% 54.5%	69 75.8 36.3% 53.1%	109 101.1 57.4% 62.6%	190 58.3%
3.00 Neutral	9 6.5 9.3% 40.9%	40 38.7 41.2% 30.8%	48 51.8 49.5% 27.6%	97 29.8%
4.00 Dissatisfied	0 1.3 .0% .0%	10 8.0 50.0% 7.7%	10 10.7 50.0% 5.7%	20 6.1%
Column Total	22 6.7%	130 39.9%	174 53.4%	326 100.0%

chi-square	D.F.	Significance
6.95291	6	0.3252

A chi-square calculation resulted in $X^2 = 6.953$, which was not significant at the .05 level with six degrees of freedom. As a result of these findings, Hypothesis 15 failed to be rejected with respect to high school GPA since transfer student satisfaction with their NIACC preparation for the work place was not related to cumulative high school grade point average.

Father's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) was related to father's education level at the time of student enrollment (FATHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0771 was not significant at the .05 level. Table 60 is a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) and the independent variable of father's education level at the time of student enrollment at NIACC (FATHERED). Father's education level at the time of student enrollment at NIACC was categorized into six groups. Results indicated that 16.0 percent of the fathers had less than a high school diploma at the time of student enrollment at NIACC, 42.1 percent had a high school diploma, 19.2 percent had taken some college courses, 5.3 percent had earned a two-year college degree, 9.7 percent had earned a four-year college degree, and 7.5 percent had taken some post-graduate courses at the time of student enrollment at NIACC.

A chi-square calculation resulted in $X^2 = 13.307$, which was not significant at the .05 level with 15 degrees of freedom. As a result of these findings, Hypothesis 15 failed to be rejected with respect to father's education level since transfer student satisfaction with their NIACC preparation for the work place was not related to father's education level at student enrollment.

Table 60. Student satisfaction with their NIACC preparation for the work place (WRKSAT) according to father's education level at student enrollment (FATHERED)

Count Exp. Val Row Pct Col Pct	FATHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
WRKSAT 1.00 Very Satisfied	1 2.9 5.6% 2.0%	8 7.6 44.4% 6.0%	4 3.5 22.2% 6.6%	0 1.0 .0% .0%	1 1.8 5.6% 3.2%	4 1.4 22.2% 16.7%	18 5.7%
2.00 Satisfied	28 29.5 15.2% 54.9%	77 77.5 41.8% 57.5%	38 35.3 20.7% 62.3%	8 9.8 4.3% 47.1%	20 17.9 10.9% 64.5%	13 13.9 7.1% 54.2%	184 57.9%
3.00 Neutral	19 15.6 19.6% 37.3%	42 40.9 43.3% 31.3%	15 18.6 15.5% 24.6%	7 5.2 7.2% 41.2%	9 9.5 9.3% 29.0%	5 7.3 5.2% 20.8%	97 30.5%
4.00 Dissatisfied	3 3.0 15.8% 5.9%	7 8.0 36.8% 5.2%	4 3.6 21.1% 6.6%	2 1.0 10.5% 11.8%	1 1.9 5.3% 3.2%	2 1.4 10.5% 8.3%	19 6.0%
Column Total	52 16.0%	134 42.1%	61 19.2%	17 5.3%	31 9.7%	24 7.5%	318 100.0%

Chi-Square	D.F.	Significance
13.30679	15	0.5786

Mother's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) was related to mother's education level at the time of student enrollment (MOTHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0694 was not significant at the .05 level. Table 61 presents a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) and the independent variable of mother's education level at the time of transfer student enrollment at NIACC (MOTHERED).

Mother's education level at the time of transfer student enrollment was categorized into six groups. Results indicated that 4.8 percent of the mothers had less than a high school diploma at the time of student enrollment at NIACC, 53.2 percent had a high school diploma, 24.8 percent had taken some college courses, 7.6 percent had earned a two-year college degree, 7.0 percent had earned a four-year college degree, and 2.5 percent had taken some post-graduate courses at the time of student enrollment at NIACC.

A chi-square calculation resulted in $X^2 = 10.835$, which was not significant at the .05 level with 15 degrees of freedom. As a result of these findings, Hypothesis 15 failed to be rejected with respect to mother's education level since transfer student satisfaction with their NIACC preparation for the work place was not related to mother's education level at student enrollment.

ACT Composite Score.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) was related to ACT composite score (ACTCOMP).

Table 61. Student satisfaction with their NIACC preparation for the work place (WRKSAT) according to mother's education level at student enrollment (MOTHERED)

Count Exp. Val Row Pct Col Pct	MOTHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
WRKSAT 1.00 Very Satisfied	1 .9 5.6% 6.7%	10 9.6 55.6% 6.0%	5 4.5 27.8% 6.4%	1 1.4 5.6% 4.2%	1 1.3 5.6% 4.5%	0 .5 .0% .0%	18 5.7%
2.00 Satisfied	7 8.8 3.8% 46.7%	97 97.9 52.7% 58.1%	50 45.7 27.2% 64.1%	16 14.1 8.7% 66.7%	10 12.9 5.4% 45.5%	4 4.7 2.2% 50.0%	184 58.6%
3.00 Neutral	6 4.4 6.5% 40.0%	52 49.5 55.9% 31.1%	20 23.1 21.5% 25.6%	4 7.1 4.3% 16.7%	8 6.5 8.6% 36.4%	3 2.4 3.2% 37.5%	93 29.6%
4.00 Dissatisfied	1 .9 5.3% 6.7%	8 10.1 42.1% 4.8%	3 4.7 15.8% 3.8%	3 1.5 15.8% 12.5%	3 1.3 15.8% 13.6%	1 .5 5.3% 12.5%	19 6.1%
Column Total	15 4.8%	167 53.2%	78 24.8%	24 7.6%	22 7.0%	8 2.5%	314 100.0%

Chi-Square	D.F.	Significance
10.83473	15	0.7642

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0813 was not significant at the .05 level. A cross-classification is presented in Table 62 for the dependent variable of transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) and the independent variable of transfer student ACT composite score (ACTCOMP).

Transfer student ACT composite scores were categorized into eight groups. Results indicated that 4.0 percent of the transfer students sampled had an ACT composite score between 1 and 10 inclusive, 8.6 percent had an ACT composite score between 11 and 13 inclusive, 13.8 percent had a composite score between 14 and 16 inclusive, 19.6 percent had a composite score between 17 and 19 inclusive, 23.0 percent had a composite score between 20 and 22 inclusive, 17.2 percent had a composite score between 23 and 25 inclusive, 10.4 percent had a composite score between 26 and 28 inclusive, and 3.4 percent had a composite score between 29 and 32 inclusive.

A chi-square calculation resulted in $X^2 = 15.645$, which was not significant at the .05 level with 21 degrees of freedom. As a result of these findings, Hypothesis 15 failed to be rejected with respect to ACT composite score since transfer student satisfaction with their NIACC preparation for the work place was not related to transfer student ACT composite score.

Gender.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) was related to gender (GENDER).

Table 63 presents a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) and the independent variable of transfer student gender (GENDER). Cross-classification results indicated that 42.6 percent of the sample were male transfer students and 57.4

Table 62. Student satisfaction with their NIACC preparation for the work place (WRKSAT) according to ACT composite score (ACTCOMP)

Count Exp. Val Row Pct Col Pct	ACTCOMP 1-10 1	11-13 2	14-16 3	17-19 4	20-22 5	23-25 6	26-28 7	29-32 8	Row Total
WRKSAT 1.00 Very Satisfied	0 .8 .0% .0%	2 1.6 10.5% 7.1%	2 2.6 10.5% 4.4%	3 3.7 15.8% 4.7%	8 4.4 42.1% 10.7%	1 3.3 5.3% 1.8%	3 2.0 15.8% 8.8%	0 .6 .0% .0%	19 5.8%
2.00 Satisfied	9 7.6 4.7% 69.2%	13 16.3 6.8% 46.4%	26 26.2 13.7% 57.8%	36 37.3 18.9% 56.3%	42 43.7 22.1% 56.0%	32 32.6 16.8% 57.1%	24 19.8 12.6% 70.6%	8 6.4 4.2% 72.7%	190 58.3%
3.00 Neutral	4 3.9 4.1% 30.8%	10 8.3 10.3% 35.7%	14 13.4 14.4% 31.1%	20 19.0 20.6% 31.3%	20 22.3 20.6% 26.7%	20 16.7 20.6% 35.7%	6 10.1 6.2% 17.6%	3 3.3 3.1% 27.3%	97 29.8%
4.00 Dissatisfied	0 .8 15.0% .0%	3 1.7 15.0% 10.7%	3 2.8 25.0% 6.7%	5 3.9 25.0% 7.8%	5 4.6 15.0% 6.7%	3 3.4 5.0% 5.4%	1 2.1 .0% 2.9%	0 .7 .0% .0%	20 6.
Column Total	13 4.0%	28 8.6%	45 13.8%	64 19.6%	75 23.0%	56 17.2%	34 10.4%	11 3.4%	326 100.0%

Chi-Square	D.F.	Significance
15.64537	21	0.7892

percent of the sample were female transfer students.

A chi-square calculation resulted in $X^2 = 3.488$, which was not significant at the .05 level with three degrees of freedom. As a result of these findings, Hypothesis 15 failed to be rejected with regard to gender since transfer student satisfaction with their NIACC preparation for the work place was not related to student gender.

Age at Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC

Table 63. Student satisfaction with their NIACC preparation for the work place according to gender (WRKSAT) by (GENDER)

Count Exp. Val Row Pct Col Pct	GENDER Male 1	 Female 2	 Row Total
WRKSAT 1.00 Very Satisfied	 9 8.1 47.4% 6.5%	 10 10.9 52.6% 5.3%	 19 10.4%
2.00 Satisfied	86 81.0 45.3% 61.9%	104 109.0 54.7% 55.6%	190 58.3%
3.00 Neutral	39 41.4 40.2% 28.1%	58 55.6 59.8% 31.0%	97 29.8%
4.00 Dissatisfied	5 8.5 25.0% 3.6%	15 11.5 75.0% 8.0%	20 6.1%
Column Total	139 42.6%	187 57.4%	326 100.0%

chi-square	D.F.	Significance
3.48767	3	0.3224

preparation for the work place (WRKSAT) was related to age at enrollment (AGEENRL).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0809 was not significant at the .05 level. A cross-classification scheme is presented in Table 64 for the dependent variable of transfer student satisfaction with their NIACC preparation for the work place (WRKSAT) and transfer student age at the time of enrollment at NIACC (AGEENRL).

Transfer student age at enrollment at NIACC was categorized into four groups. Results indicated that 23.6 percent of the sampled students were 16 or 17 years of age, 59.2 percent were 18 years of age, 9.5 percent were 19 years of age, and 7.7 percent of the transfer students were between 20 and 99 years of age at the time of enrollment at NIACC.

A chi-square calculation resulted in $X^2 = 10.066$, which was not significant at the .05 level with nine degrees of freedom. As a result of these findings, Hypothesis 15 failed to be rejected with regard to age since transfer student satisfaction with their NIACC preparation for the work place was not related to student age at enrollment.

Summary.

The aforementioned findings indicated that Hypothesis 15 failed to be rejected in six out of six cases. There was no statistically significant relationship found among transfer student satisfaction with their NIACC preparation for the work place with respect to:

1. Cumulative high school GPA
2. Father's education level at student enrollment
3. Mother's education level at student enrollment
4. ACT composite score

Table 64. Student satisfaction with their NIACC preparation for the work place (WRKSAT) according to transfer student age at enrollment at NIACC (AGEENRL)

Count Exp. Val Row Pct Col Pct	AGEENRL 16-17 Years	18 Years	19 Years	20-99 Years	Row Total
CCSAT 1.00 Very Satisfied	4 4.5 21.1% 5.2%	9 11.2 47.4% 4.7%	3 3.2 11.8% 9.7%	3 1.5 15.8% 12.0%	19 5.8%
2.00 Satisfied	39 44.9 20.5% 50.6%	124 112.5 65.3% 64.2%	15 18.1 7.9% 48.4%	12 14.6 6.3% 48.0%	190 58.3%
3.00 Neutral	28 22.9 28.9% 36.4%	49 57.4 50.5% 25.4%	12 9.2 12.4% 38.7%	8 7.4 8.2% 32.0%	97 29.8%
4.00 Dissatisfied	6 4.7 30.0% 7.8%	11 11.8 55.0% 5.7%	1 1.9 5.0% 3.2%	2 .4 10.0% 8.0%	20 6.1%
Column Total	77 23.6%	193 59.2%	31 9.5%	25 7.7%	326 100.0%

Chi-Square	D.F.	Significance
10.06568	9	0.3452

5. Gender
6. Age at enrollment

The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 16

There is no significant difference in NIACC transfer student satisfaction with their preparation as citizens according to the following transfer student characteristics:

1. Cumulative High School Grade Point Average
2. Father's Education Level at Student Enrollment
3. Mother's Education Level at Student Enrollment
4. ACT Composite Score
5. Gender
6. Age at Enrollment

Findings

Cumulative High School Grade Point Average.

This hypothesis tested whether transfer student preparation as citizens (CITSAT) was related to cumulative high school grade point average (HSGPA).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0785 was not significant at the .05 level. Table 65 presents a cross-classification scheme for the dependent variable of transfer student satisfaction with their NIACC preparation as citizens (CITSAT) and the independent variable of cumulative high school grade point average (HSGPA). Cross-classification results indicated that 7.4 percent of the sample were "very satisfied" with their NIACC preparation as citizens, 46.8 percent were "satisfied", 44.3 percent were "neutral", and 1.5 percent were "dissatisfied" with their NIACC preparation as citizens. The distribution of the citizen satisfaction variable percentages remained generally constant throughout chi-

square tables 65-70. Percentage variations may exist as the result of missing data. The total number calculated is presented in the lower, right-hand corner of each table.

High school grade point average was categorized into three groups. Results indicated that 6.5 percent of the sample had a high school GPA between 1.01 and 2.00 inclusive, 40.3 percent had a high school GPA between 2.01 and 3.00 inclusive, and satisfaction with their NIACC 53.2 percent had a high school grade point average

Table 65. Student satisfaction with their NIACC preparation as citizens according to cumulative high school GPA (CITSAT) by (HSGPA)

Count Exp. Val. Row Pct Col Pct	HSGPA 1.01-2.00 1.000	2.01-3.00 2.000	3.01-4.00 3.000	Row Total
CITSAT 1.00 Very Satisfied	1 1.6 4.2% 4.8%	14 9.7 58.3% 10.7%	9 12.8 37.5% 5.2%	24 7.4%
2.00 Satisfied	12 9.8 7.9% 57.1%	56 61.3 36.8% 42.7%	84 80.9 55.3% 48.6%	152 46.8%
3.00 Neutral	8 9.3 5.6% 38.1%	60 58.0 41.7% 45.8%	76 76.7 52.8% 43.9%	144 44.3%
4.00 Dissatisfied	0 .3 .0% .0%	1 2.0 20.0% .8%	4 2.7 80.0% 2.3%	5 1.5%
Column Total	21 6.5%	131 40.3%	173 53.2%	325 100.0%

chi-square	D.F.	Significance
6.06221	6	0.4163

between 3.01 and 4.00 inclusive. A chi-square calculation for the two variables resulted $X^2 = 6.062$, which was not significant at the .05 level with six degrees of freedom. As a result of these findings, Hypothesis 16 failed to be rejected with respect to transfer student high school grade point average since transfer student satisfaction with their NIACC preparation as citizens was not related to high school grade point average.

Father's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as citizens (CITSAT) was related to father's education level at the time of student enrollment (FATHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = -.0366$ was not significant at the .05 level. Presented in Table 66 is a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as citizens (CITSAT) and father's education level at the time of the transfer student enrollment at NIACC (FATHERED).

Father's education level at the time of student enrollment at NIACC was categorized into six groups. Results indicated that 16.3 percent of the fathers had less than a high school diploma at the time of student enrollment at NIACC, 42.0 percent had a high school diploma, 19.1 percent had taken some college courses, 5.3 percent had earned a two-year college degree, 9.7 percent had earned a four-year college degree, and 7.5 percent had taken some post-graduate courses at the time of student enrollment at NIACC.

A chi-square calculation for the two variables resulted in $X^2 = 6.789$, which was not significant at the .05 level with 15 degrees of freedom. As a result of these findings, Hypothesis 16 failed to be rejected with respect to father's education level

Table 66. Student satisfaction with their NIACC preparation as citizens (CITSAT) according to father's education level at student enrollment (FATHERED)

Count Exp. Val Row Pct Col Pct	FATHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
CITSAT 1.00 Very Satisfied	4 3.9 16.7% 7.7%	8 10.1 33.3% 6.0%	5 4.6 20.8% 8.2%	2 1.3 8.3% 11.8%	2 2.3 8.3% 6.5%	3 1.8 12.5% 12.5%	24 7.5%
2.00 Satisfied	24 24.3 16.1% 46.2%	64 62.6 43.0% 47.8%	26 28.5 17.4% 42.6%	8 7.9 5.4% 47.1%	16 14.5 10.7% 51.6%	11 11.2 7.4% 45.8%	149 46.7%
3.00 Neutral	24 23.0 17.0% 46.2%	59 59.2 41.8% 44.0%	29 27.0 20.6% 47.5%	6 7.5 4.3% 35.3%	13 13.7 9.2% 41.9%	10 10.6 7.1% 41.7%	141 44.2%
4.00 Dissatisfied	0 .8 .0% .0%	3 2.1 60.0% 2.2%	1 1.0 20.0% 1.6%	1 .3 20.0% 5.9%	0 .5 .0% .0%	1 .4 .0% .0%	5 1.6%
Column Total	52 16.3%	134 42.0%	61 19.1%	17 5.3%	31 9.7%	24 7.5%	319 100.0%

Chi-Square	D.F.	Significance
6.78913	15	0.9632

at the time of student enrollment at NIACC since transfer student satisfaction with their NIACC preparation as citizens was not related to father's education level at student enrollment.

Mother's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as citizens (CITSAT) was related to mother's education level at the time of student enrollment (MOTHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0267 was not significant at the .05 level. Table 67 presents a cross-classification scheme for transfer student satisfaction with their NIACC preparation as citizens (CITSAT) and mother's education level at the time of transfer student enrollment at NIACC (MOTHERED).

Mother's education level at the time of student enrollment at NIACC was categorized into six groups. Results indicated that 4.8 percent of the mothers had less than a high school diploma at the time of student enrollment at NIACC, 53.3 percent had a high school diploma, 24.8 percent had taken some college courses, 7.6 percent had earned a two-year college degree, 7.0 percent had earned a four-year college degree, and 2.5 percent had taken some post-graduate courses at the time of student enrollment at NIACC.

A calculated chi-square resulted in $X^2 = 9.954$, which was not significant at the .05 level. As a result of these findings, Hypothesis 16 failed to be rejected with respect to mother's education level since transfer student satisfaction with their NIACC preparation as citizens was not related to mother's education level at student enrollment.

Table 67. Student satisfaction with their NIACC preparation as citizens (CITSAT) according to mother's education level at student enrollment (MOTHERED)

Count Exp. Val Row Pct Col Pct	MOTHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
CITSAT 1.00 Very Satisfied	2 1.1 8.3% 13.3%	12 12.8 50.0% 7.1%	7 5.9 29.2% 9.0%	1 1.8 4.2% 4.2%	1 1.7 4.2% 4.5%	1 .6 4.2% 12.5%	24 7.6%
2.00 Satisfied	3 7.1 2.0% 20.0%	81 79.5 54.4% 48.2%	38 36.9 25.5% 48.7%	12 11.4 8.1% 50.0%	11 10.4 7.4% 50.0%	4 3.8 2.7% 50.0%	149 47.3%
3.00 Neutral	10 6.5 7.3% 66.7%	71 73.1 51.8% 42.3%	33 33.9 24.1% 42.3%	10 10.4 7.3% 41.7%	10 9.6 7.3% 45.5%	3 3.5 2.2% 37.5%	137 43.5%
4.00 Dissatisfied	0 .2 .0% .0%	4 2.7 80.0% 2.4%	0 1.2 .0% .0%	1 .4 20.0% 4.2%	0 .3 .0% .0%	0 .1 .0% .0%	5 1.6%
Column Total	15 4.8%	168 53.3%	78 24.8%	24 7.6%	22 7.0%	8 2.5%	315 100.0%

Chi-Square	D.F.	Significance
9.95357	15	0.8227

ACT Composite Score.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as citizens (CITSAT) was related to ACT composite score (ACTCOMP).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0530 was not significant at the .05 level. Presented in Table 68 is a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as citizens (CITSAT) and the independent variable of transfer student ACT composite score (ACTCOMP).

Transfer student ACT composite scores (ACTCOMP) were categorized into eight groups. Results indicated that 3.7 percent of the sample had an ACT composite score between 1 and 10 inclusive, 8.6 percent had an ACT composite score between 11 and 13 inclusive, 13.8 percent had a composite score between 14 and 16 inclusive, 19.7 percent had a composite score between 17 and 19 inclusive, 23.1 percent had a composite score between 20 and 22 inclusive, 17.5 percent had a composite score between 23 and 25 inclusive, 10.2 percent had a composite score between 26 and 28 inclusive, and 3.4 percent had a composite score between 29 and 32 inclusive.

A chi-square calculation for the two variables resulted in $X^2 = 11.162$, which was not significant at the .05 level with 21 degrees of freedom. As a result of these findings, Hypothesis 16 failed to be rejected with regard to ACT composite score since transfer student satisfaction with their NIACC preparation as citizens did not vary significantly by ACT composite score.

Gender.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as citizens (CITSAT) was related to gender (GENDER).

Table 68. Student satisfaction with their NIACC preparation as citizens (CITSAT) according to ACT composite score (ACTCOMP)

Count Exp. Val Row Pct Col Pct	ACTCOMP 1-10 1	11-13 2	14-16 3	17-19 4	20-22 5	23-25 6	26-28 7	29-32 8	Row Total
CITSAT 1.00 Very Satisfied	1 .9 4.2% 8.3%	2 2.1 8.3% 7.1%	2 3.3 8.3% 4.4%	6 4.7 25.0% 9.4%	5 5.5 20.8% 8.8%	5 4.2 20.8% 6.7%	3 2.4 12.5% 9.1%	0 .8 .0% .0%	24 7.4%
2.00 Satisfied	6 5.6 3.9% 50.0%	15 13.1 9.9% 53.6%	26 21.0 17.1% 57.8%	28 29.9 18.4% 43.8%	30 35.7 19.7% 40.0%	24 26.7 15.8% 42.1%	18 15.4 11.8% 54.5%	5 5.1 3.3% 45.5%	152 46.8%
3.00 Neutral	5 5.3 3.5% 41.7%	11 12.4 7.6% 39.3%	17 19.9 11.8% 37.8%	29 28.4 20.1% 45.3%	38 33.2 26.4% 50.7%	26 25.3 18.1% 45.6%	12 14.6 8.3% 36.4%	6 4.9 4.2% 54.5%	144 44.3%
4.00 Dissatisfied	0 .2 .0% .0%	0 .4 .0% .0%	0 .7 .0% .0%	1 1.0 20.0% 1.6%	2 1.2 40.0% 2.7%	2 .9 40.0% 3.5%	0 .5 .0% .0%	0 .2 .0% .0%	5 1.5%
Column Total	12 3.7%	28 8.6%	45 13.8%	64 19.7%	75 23.1%	57 17.5%	33 10.2%	11 3.4%	325 100.0%

Chi-Square	D.F.	Significance
15.64537	21	0.7892

Table 69 presents a cross-classification for the dependent study variable of transfer student satisfaction with their NIACC preparation as a citizens (CITSAT) and the independent variable of transfer student gender (GENDER). Cross-classification results indicated that 42.5 percent of the sample were male transfer students and 57.5 percent were female transfer students.

A chi-square calculation resulted in $X^2 = 3.344$, which was not significant at the

Table 69. Student satisfaction with their NIACC preparation as citizens according to gender (CITSAT) by (GENDER)

Count Exp. Val Row Pct Col Pct	GENDER Male 1	Female 2	Row Total
WRKSAT 1.00 Very Satisfied	13 10.2 54.2% 9.4%	11 13.8 45.8% 5.9%	24 7.4%
2.00 Satisfied	69 64.5 45.4% 50.0%	83 87.5 54.6% 44.4%	152 46.8%
3.00 Neutral	54 61.1 37.5% 39.1%	90 82.9 62.5% 48.1%	144 44.3%
4.00 Dissatisfied	2 2.1 40.0% 1.4%	3 2.9 60.0% 1.6%	5 1.5%
Column Total	138 42.5%	187 57.5%	325 100.0%

chi-square	D.F.	Significance
3.34447	3	0.3415

.05 level with three degrees of freedom. As a result of these findings, Hypothesis 16 failed to be rejected with respect to gender since transfer student satisfaction with their NIACC preparation as citizens was not related to student gender.

Age at Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as citizens (CITSAT) was related to age at enrollment (AGEENRL).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0843 was not significant at the .05 level. Presented in Table 70 is a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as citizens (CITSAT) and the independent variable of transfer student age at enrollment at NIACC (AGEENRL).

Transfer student age at enrollment at NIACC was categorized into four groups. Results indicated that 23.4 percent of the sampled students were 16 or 17 years of age at the time of enrollment at NIACC, 59.4 percent were 18 years of age, 9.5 percent were 19 years of age, and 7.7 percent of the transfer students were between 20 and 99 years of age at the time of enrollment at NIACC.

A chi-square calculation for the two variables resulted in $X^2 = 8.842$, which was not significant at the .05 level with 9 degrees of freedom. As a result of these findings, Hypothesis 16 failed to be rejected with respect to age since transfer student satisfaction with their NIACC preparation as citizens was not related to student age at enrollment.

Summary.

The results of these statistical calculations proved that Hypothesis 16 failed to be rejected in six out of six cases. Specifically, there was no significant relationship in transfer student satisfaction with NIACC's effort to prepare them as citizens

Table 70. Student satisfaction with their NIACC preparation as citizens (CITSAT) according to age (AGEENRL)

Count Exp. Val Row Pct Col Pct	AGEENRL 16-17 Years	18 Years	19 Years	20-99 Years	Row Total
CITSAT 1.00 Very Satisfied	8 5.6 33.3% 10.5%	12 14.3 50.0% 6.2%	2 2.3 8.3% 6.5%	2 1.8 8.3% 8.0%	24 7.4%
2.00 Satisfied	28 35.5 18.4% 36.8%	97 90.3 56.3% 42.0%	18 14.5 11.8% 58.1%	9 11.7 5.9% 36.0%	152 46.8%
3.00 Neutral	39 33.7 27.1% 51.3%	81 83.5 56.3% 42.0%	10 13.7 6.9% 32.3%	14 11.1 9.7% 56.0%	144 44.3%
4.00 Dissatisfied	1 1.2 20.0% 1.3%	3 3.0 60.0% 1.6%	1 .5 20.0% 3.2%	0 .4 .0% .0%	5 1.5%
Column Total	76 23.4%	193 59.4%	31 9.5%	25 7.7%	325 100.0%

Chi-Square	D.F.	Significance
8.84173	9	0.4520

(CITSAT) with respect to the following student characteristics:

1. Cumulative high school GPA
2. Father's education level at student enrollment
3. Mother's education level at student enrollment
4. ACT Composite score
5. Transfer student gender
6. Transfer student age at enrollment

The implications of these findings are discussed in Chapter V of this investigation.

Hypothesis 17

There is no significant difference in transfer student satisfaction with their NIACC preparation as family members according to the following transfer student characteristics:

1. Cumulative High School Grade Point Average
2. Father's Education Level at Student Enrollment
3. Mother's Education Level at Student Enrollment
4. ACT Composite Score
5. Gender
6. Age at Enrollment

Findings

Cumulative High School Grade Point Average.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as family members (FAMSAT) was related to cumulative high school grade point average (HSGPA).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = .0157$ was not significant at the .05 level. Table 71 presents a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as family members (FAMSAT) and the independent variable of high school grade point average (HSGPA). Cross-classification results indicated that 9.8 percent of the

transfer students were "very satisfied" with their NIACC preparation as family members, 48.9 percent were "satisfied", 40.0 percent were "neutral", and 1.2 percent of the sampled transfer students were "dissatisfied" with their NIACC preparation as family members. The distribution of the family member satisfaction variable percentages remained generally constant throughout chi-square Tables 71-76. Percentage variations may exist as the result of missing data. The total number calculated is presented in the lower, right-hand corner of each table.

Table 71. Student satisfaction with their NIACC preparation as family members (FAMSAT) according to cumulative high school GPA (HSGPA)

Count Exp. Val. Row Pct Col Pct	HSGPA 1.01-2.00 1.000	2.01-3.00 2.000	3.01-4.00 3.000	Row Total
FAMSAT 1.00 Very Satisfied	2 2.1 6.3% 9.5%	13 12.9 40.6% 9.9%	17 17.0 53.1% 9.8%	32 9.8%
2.00 Satisfied	12 10.3 7.5% 57.1%	67 64.1 42.1% 51.1%	80 84.6 50.3% 46.2%	159 48.9%
3.00 Neutral	7 8.4 5.4% 33.3%	48 52.4 36.9% 36.6%	75 69.2 57.7% 43.4%	130 40.0%
4.00 Dissatisfied	0 .3 .0% .0%	3 1.6 75.0% 2.3%	1 2.1 25.0% .6%	4 1.2%
Column Total	21 6.5%	131 40.3%	173 53.2%	325 100.0%

chi-square	D.F.	Significance
3.81998	6	0.7010

High school grade point average was categorized into three groups. Results indicated that 6.5 percent of the sample had a high school grade point average between 1.01 and 2.00 inclusive, 40.3 percent had a high school grade point average between 2.01 and 3.00 inclusive, and 53.2 percent had a high school grade point average between 3.01 and 4.00 inclusive.

A chi-square calculation resulted in $X^2 = 3.820$, which was not significant at the .05 level with 6 degrees of freedom. As a result of these findings, Hypothesis 17 failed to be rejected with respect to high school grade point average since transfer student satisfaction with their NIACC preparation as family members was not related to cumulative high school grade point average.

Father's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as family members (FAMSAT) was related to father's education level at the time of student enrollment (FATHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0975 was not significant at the .05 level. Table 72 presents a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as family members (FAMSAT) and the independent variable of father's education level at student enrollment (FATHERED).

Father's education level at the time of student enrollment at NIACC was categorized into six groups. Results indicated that 16.3 percent of the fathers had less than a high school diploma at the time of student enrollment at NIACC, 42.0 percent had a high school diploma, 19.1 percent had taken some college courses, 5.3 percent had earned a two-year college degree, 9.7 percent had earned a four-year college degree, and 7.5 percent had taken some post-graduate courses at the time of student

Table 72. Student satisfaction with their NIACC preparation as family members (FAMSAT) according to father's education level at student enrollment (FATHERED)

Count Exp. Val Row Pct Col Pct	FATHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
FAMSAT 1.00 Very Satisfied	2 5.1 6.5% 3.8%	12 13.0 38.7% 9.0%	7 5.9 22.6% 11.5%	2 1.7 6.5% 11.8%	4 3.0 12.9% 12.9%	4 2.3 12.9% 16.7%	31 9.7%
2.00 Satisfied	26 66.4 16.5% 50.0%	61 30.2 38.6% 45.5%	36 8.4 22.8% 59.0%	6 15.4 3.8% 35.3%	15 11.9 9.5% 48.4%	14 49.5 8.9% 58.3%	158
3.00 Neutral	24 20.5 19.0% 46.2%	60 52.9 47.6% 44.8%	17 24.1 13.5% 27.9%	9 6.7 7.1% 52.9%	11 12.2 8.7% 35.5%	5 9.5 4.0% 20.8%	126 39.5%
4.00 Dissatisfied	0 .7 .0% .0%	1 1.7 25.0% .7%	1 .8 25.0% 1.6%	0 .2 .0% .0%	1 .4 25.0% 3.2%	1 .3 25.0% 4.2%	4 1.3%
Column Total	52 16.3%	134 42.0%	61 19.1%	17 5.3%	31 9.7%	24 7.5%	319 100.0%

Chi-Square	D.F.	Significance
16.76880	15	0.3329

enrollment at NIACC.

A chi-square calculation for the two variables resulted in $X^2 = 16.769$, which was not significant at the .05 level with 15 degrees of freedom. As a result of these findings, Hypothesis 17 failed to be rejected with regard to father's education level since transfer student satisfaction with their NIACC preparation as family members was not related to father's education level at student enrollment.

Mother's Education Level at Student Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as family members (FAMSAT) was related to mother's education level at the time of student enrollment (MOTHERED).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = .0968 was not significant at the .05 level. Presented in Table 73 is the cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as family members (FAMSAT) and the independent variable of mother's education level at the time of transfer student enrollment at NIACC (MOTHERED).

Mother's education level at the time of student enrollment at NIACC was categorized into six groups. Results indicated that 4.8 percent of the mothers had less than a high school diploma at the time of student enrollment at NIACC, 53.3 percent had a high school diploma, 24.8 percent had taken some college courses, 7.6 percent had earned a two-year college degree, 7.0 percent had earned a four-year college degree, and 2.5 percent had taken some post-graduate courses at the time of their student enrollment at NIACC.

A chi-square calculation for the two variables resulted in $X^2 = 13.323$, which

Table 73. Student satisfaction with their NIACC preparation as family members (FAMSAT) according to mother's education level at student enrollment (MOTHERED)

Count Exp. Val Row Pct Col Pct	MOTHERED Less Than H.S.	H.S. Graduate	Some College	Two-Year College	Four-Year College	Post-Graduate	Row Total
FAMSAT 1.00 Very Satisfied	1 1.5 3.2% 6.7%	19 16.5 61.3% 11.3%	8 7.7 25.8% 10.3%	2 2.4 6.5% 8.3%	1 2.2 3.2% 4.5%	0 .8 .0% .0%	31 9.8%
2.00 Satisfied	6 84.3 3.8% 40.0%	81 39.1 51.3% 48.2%	47 12.0 29.7% 60.3%	9 11.0 5.7% 37.5%	11 4.0 7.0% 50.0%	4 50.2% 2.5% 50.0%	158
3.00 Neutral	8 5.8 6.6% 53.3%	67 65.1 54.9% 39.9%	22 30.2 18.0% 28.2%	12 9.3 9.8% 50.0%	9 8.5 7.4% 40.9%	4 3.1 3.3% 50.0%	122 38.7%
4.00 Dissatisfied	0 .2 .0% .0%	1 2.1 25.0% .6%	1 1.0 25.0% 1.3%	1 .3 25.0% 4.2%	1 .3 25.0% 4.5%	0 .1 .0% .0%	4 1.3%
Column Total	15 4.8%	168 53.3%	78 24.8%	24 7.6%	22 7.0%	8 2.5%	315 100.0%

Chi-Square	D.F.	Significance
13.32257	15	0.5774

was not significant at the .05 level with 15 degrees of freedom. As a result of these findings, Hypothesis 17 failed to be rejected with respect to mother's education level since transfer student satisfaction with their NIACC preparation as family members was not related to mother's education level at student enrollment.

ACT Composite Score.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as family members (FAMSAT) was related to ACT composite score (ACTCOMP).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of r = -.0259 was not significant at the .05 level. Table 74 presents a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as family members (FAMSAT) and the independent variable of transfer student ACT composite score (ACTCOMP).

Transfer student ACT composite scores (ACTCOMP) were categorized into eight groups. Results indicated that 3.7 percent of the transfer student sample had an ACT composite score between 1 and 10 inclusive, 8.6 percent had an ACT composite score between 11 and 13 inclusive, 13.8 percent had a composite score between 14 and 16 inclusive, 19.7 percent had a composite score between 17 and 19 inclusive, 23.1 percent had a composite score between 20 and 22 inclusive, 17.5 percent had a composite score between 23 and 25 inclusive, 10.2 percent had a composite score between 26 and 28 inclusive, and 3.4 percent had an ACT composite score between 29 and 32 inclusive.

A chi-square calculation resulted in X^2 = 20.402, which was not significant the .05 level. As a result of these findings, Hypothesis 17, with respect to (ACTCOMP), failed to be rejected since transfer student satisfaction with their NIACC preparation

Table 74. Student satisfaction with their NIACC preparation as family members (FAMSAT) according to ACT composite score (ACTCOMP)

Count Exp. Val Row Pct Col Pct	ACTCOMP 1-10 1	11-13 2	14-16 3	17-19 4	20-22 5	23-25 6	26-28 7	29-32 8	Row Total
FAMSAT 1.00 Very Satisfied	2 1.2 6.3% 16.7%	1 2.8 3.1% 3.6%	3 4.4 9.4% 6.7%	6 6.3 18.8% 9.4%	9 7.4 28.1% 12.0%	7 5.6 21.9% 12.3%	4 3.2 12.5% 12.1%	0 1.1 .0% .0%	32 9.8%
2.00 Satisfied	4 5.9 2.5% 33.3%	15 13.7 9.4% 53.6%	27 22.0 17.0% 60.0%	30 31.3 18.9% 46.9%	34 36.7 21.4% 45.3%	25 27.9 15.7% 43.9%	20 16.1 12.6% 60.6%	4 5.4 2.5% 36.4%	159 48.9%
3.00 Neutral	6 4.8 4.6% 50.0%	12 11.2 9.2% 42.9%	13 18.0 10.0% 28.9%	28 25.6 21.5% 43.8%	30 30.0 23.1% 40.0%	25 27.9 15.7% 43.9%	9 13.2 6.9% 27.3%	4 4.4 5.4% 63.6%	130 40.0%
4.00 Dissatisfied	0 .1 .0% .0%	0 .3 .0% .0%	2 .6 50.0% 4.4%	0 .8 .0% .0%	2 .9 50.0% 2.7%	25 22.8 19.2% 43.9%	0 .4 .0% .0%	0 .1 .0% .0%	4 1.2%
Column Total	12 3.7%	28 8.6%	45 13.8%	64 19.7%	75 23.1%	57 17.5%	34 10.2%	11 3.4%	325 100.0%

Chi-Square	D.F.	Significance
20.40254	21	0.4959

as family members was not related to student ACT composite scores.

Gender.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as family members (FAMSAT) was related to gender (GENDER).

Table 75 presents a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as family members (FAMSAT) and the independent variable of transfer student gender (GENDER). Results indicated

Table 75. Student satisfaction with their NIACC preparation as family members (FAMSAT) according to gender (GENDER)

Count Exp. Val Row Pct Col Pct	GENDER Male 1	 Female 2	 Row Total
FAMSAT 1.00 Very Satisfied	16 13.6 50.0% 11.6%	16 18.4 50.0% 8.6%	32 9.8%
2.00 Satisfied	71 67.5 44.7% 51.4%	88 91.5 55.3% 47.1%	159 48.9%
3.00 Neutral	49 55.2 37.7% 35.5%	81 74.8 62.3% 43.3%	130 40.0%
4.00 Dissatisfied	2 1.7 50.0% 1.4%	2 2.3 50.0% 1.1%	4 1.2%
Column Total	138 42.5%	187 57.5%	325 100.0%

chi-square	D.F.	Significance
2.36050	3	0.5010

that 42.5 percent of the sample were male transfer students and 57.5 percent were female transfer students.

A chi-square calculation resulted in $X^2 = 2.631$, which was not significant at the .05 level with 3 degrees of freedom. As a result of these findings, Hypothesis 17 failed to be rejected with regard to gender since transfer student satisfaction with their NIACC preparation as family members was not related to student gender.

Age at Enrollment.

This hypothesis tested whether transfer student satisfaction with their NIACC preparation as family members (FAMSAT) was related to age at enrollment (AGEENRL).

The results of the two-tailed Pearson Product-Moment Correlation indicated no relationship between the two variables (see Table 22). The statistical finding of $r = -.0756$ was not significant at the .05 level. Presented in Table 76 is a cross-classification for the dependent variable of transfer student satisfaction with their NIACC preparation as family members (FAMSAT) and the independent variable of transfer student age at the time of enrollment at NIACC (AGEENRL).

Transfer student age at enrollment at NIACC was categorized into four groups. Results indicated that 23.4 percent of the 327 sampled students were 16 or 17 years of age at the time of enrollment at NIACC, 59.4 percent were 18 years of age, 9.5 percent were 19 years of age, and 7.7 percent of the transfer students were between 20 and 99 years of age at the time of enrollment at NIACC.

A chi-square calculation for the two variables resulted in $X^2 = 6.521$, which was not significant at the .05 level with 9 degrees of freedom. As a result of these findings, Hypothesis 17 failed to be rejected with regard to age since transfer student satisfaction with their NIACC preparation as family members was not related to student age at enrollment.

Table 76. Student satisfaction with their NIACC preparation as family members (FAMSAT) according to age (AGEENRL)

Count Exp. Val Row Pct Col Pct	AGEENRL 16-17 Years	18 Years	19 Years	20-99 Years	Row Total
FAMSAT 1.00 Very Satisfied	9 7.5 28.1% 11.8%	18 19.0 56.3% 9.3%	2 3.1 6.3% 6.5%	3 2.5 9.4% 12.0%	32 9.8%
2.00 Satisfied	30 37.2 18.9% 39.5%	98 94.4 61.6% 50.8%	19 15.2 11.9% 61.3%	12 12.2 7.5% 48.0%	159 48.9%
3.00 Neutral	35 30.4 26.9% 46.1%	75 77.2 57.7% 38.9%	10 12.4 7.7% 32.3%	10 10.0 7.7% 40.0%	130 40.0%
4.00 Dissatisfied	2 .9 50.0% 2.6%	2 2.4 50.0% 1.0%	0 .4 .0% .0%	0 .3 .0% .0%	4 1.2%
Column Total	76 23.4%	193 59.4%	31 9.5%	25 7.7%	325 100.0%

Chi-Square	D.F.	Significance
6.52077	9	0.6869

Summary.

The results of these statistical calculations proved that Hypothesis 17 failed to be rejected in six out of six cases. Specifically, there was no significant relationship in transfer student satisfaction with NIACC's effort to prepare them as family members (FAMSAT) with respect to the following student characteristics:

1. Cumulative high school GPA
2. Father's education level at student enrollment
3. Mother's education level at student enrollment
4. ACT Composite score
5. Transfer student gender
6. Transfer student age at enrollment

General Summary

This chapter has presented the results of the statistical analyses used to test each of the 17 hypotheses in this investigation. Each of the hypotheses contributed to an evaluation of the effect of the community college on transfer students in terms of cumulative semester credit hours achieved and student satisfaction with the NIACC experience. Five student outcome variables were used to assess the impact or relationship of the college. These outcomes included transfer student cumulative GPA upon graduating from a baccalaureate-granting institution and transfer student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members.

The statistical findings presented in this chapter were recorded as they were observed. No attempt was made to manipulate the data so as to produce a desired statistical response. For example, variable groups, used in this investigation's cross-classification tables, were not expanded in order to provide acceptable minimum frequencies for each cross-classification cell. Rather, the data were presented in their natural state so as to provide an accurate description of the study sample. Consequently, caution should be used in the interpretation of statistical results from

this natural study.

Hypothesis 1 and 2 tested the relationship of selected incoming transfer student characteristic variables and selected college environmental variables (see Figure 1). Summary findings for each of these hypotheses are presented below.

Hypothesis 1 stated that no difference existed in cumulative semester credit hours earned at NIACC with respect to six student characteristics (listed below). This hypothesis failed to be rejected in four out of six cases. There was no significant difference in semester credit hours earned at NIACC with respect to:

1. Cumulative high school GPA
2. Father's education level at student enrollment
3. ACT composite score
4. Student gender

This hypothesis was rejected with respect to the following two independent variables:

5. Mother's education level at student enrollment
6. Student age at enrollment

Cumulative semester credit hours earned by NIACC transfer students varied significantly by both mother's education level at student enrollment and student age at enrollment.

Hypothesis 2 stated that no difference existed in transfer student satisfaction with the NIACC experience with respect to six student characteristics. This hypothesis failed to be rejected in five out of six cases. There was no relationship in the level of transfer student satisfaction with the NIACC experience with respect to:

1. Cumulative high school GPA
2. Mother's education level at student enrollment
3. ACT composite score
4. Transfer student gender
5. Transfer student age at enrollment

This hypothesis was rejected with respect to the following independent variable:

6. Father's education level at student enrollment

Transfer student satisfaction with the NIACC experience was related to the

father's education level at student enrollment.

Hypothesis 3 through 12 tested the relationship between selected college environmental variables and five selected transfer student outcome variables. Summary findings for each of these hypotheses are listed below.

Hypothesis 3 stated that no significant difference existed in transfer student GPA at graduation from a baccalaureate-granting institution with respect to semester credit hours earned at NIACC. This hypothesis failed to be rejected since no statistically significant difference was found.

Hypothesis 4 stated that no significant difference existed in transfer student GPA at graduation from a baccalaureate-granting institution with respect to transfer student satisfaction with the NIACC experience. This hypothesis failed to be rejected since no statistically significant difference was observed between the two variables.

Hypothesis 5 stated that no significant difference existed in transfer student satisfaction with their NIACC preparation as individuals with respect to cumulative semester credit hours earned at NIACC. This hypothesis failed to be rejected since no relationship was found between the two variables.

Hypothesis 6 stated that no significant difference existed in transfer student satisfaction with their NIACC preparation as individuals with respect to transfer student satisfaction with the NIACC experience. This hypothesis was rejected since a significant relationship was found between transfer student satisfaction with their NIACC preparation as individuals and student satisfaction with the NIACC experience.

Hypothesis 7 stated that there was no significant difference in transfer student satisfaction with their NIACC preparation for the work place with respect to cumulative semester credit hours earned at NIACC. This hypothesis was rejected due to an observed significant relationship among transfer student satisfaction with their

NIACC preparation for the work place and semester credit hours earned by transfer students at NIACC.

Hypothesis 8 stated that there was no significant difference in transfer student satisfaction with their NIACC preparation for the work place with respect to transfer student satisfaction with the NIACC experience. This hypothesis was rejected since there was an observed significant relationship among transfer student satisfaction with their NIACC preparation for the work place and transfer student satisfaction with the NIACC experience.

Hypothesis 9 stated that there was no significant difference in transfer student satisfaction with their NIACC preparation as citizens with respect to cumulative semester credit hours earned at NIACC. This hypothesis failed to be rejected since no significant relationship was observed between the two study variables.

Hypothesis 10 stated that there was no significant difference between transfer student satisfaction with their NIACC preparation as citizens with respect to transfer student satisfaction with the NIACC experience. This hypothesis was rejected since a significant relationship was observed between the two variables.

Hypothesis 11 stated that there was no significant difference in transfer student satisfaction with their NIACC preparation as family members with respect to cumulative semester credit hours earned at NIACC. Since no significant relationship was observed between the two study variables, this hypothesis failed to be rejected.

Hypothesis 12 stated that no significant difference existed in transfer student satisfaction with their NIACC preparation as family members with respect to transfer student satisfaction with the NIACC experience. This hypothesis was rejected since a statistically significant relationship was noted between transfer student satisfaction with their preparation as family members and transfer student satisfaction with the NIACC experience.

Hypotheses 13 through 17 tested the relationship between selected incoming transfer student characteristics and selected transfer student outcome measures (Figure 1). Summary findings for each of these hypotheses are presented below.

Hypothesis 13 stated that no significant difference existed in transfer student cumulative GPA at graduation from a baccalaureate-granting institution with respect to six student characteristics. Hypothesis 13 failed to be rejected in three out of six cases. There was no significant difference in transfer student GPA at graduation from a baccalaureate-granting institution with respect to:

1. Father's education level at student enrollment
2. Mother's education level at student enrollment
3. Student gender

This hypothesis was rejected with respect to the following student characteristics:

4. Cumulative high school GPA
5. ACT composite score
6. Transfer student age at enrollment

Transfer student cumulative grade point average at graduation from a baccalaureate-granting institution varied significantly by transfer student cumulative high school GPA, ACT composite score, and age at enrollment.

Hypothesis 14 stated that there was no significant difference in transfer student satisfaction with their NIACC preparation as individuals with respect to six transfer student characteristics. This hypothesis failed to be rejected in six out of six cases. Specifically, there was no relationship between transfer student satisfaction with their NIACC preparation as individuals with respect to the following student characteristics:

1. Cumulative high school GPA
2. Father's education level at student enrollment
3. Mother's education level at student enrollment
4. ACT composite score
5. Transfer student gender
6. Transfer student age at enrollment

Consequently, this hypothesis remained tenable.

Hypothesis 15 stated that there was no significant difference in transfer student satisfaction with their NIACC preparation for the work place with respect to six transfer student characteristics. This hypothesis failed to be rejected in six out of six cases. Specifically, there was no relationship between transfer student satisfaction with their NIACC preparation for the work place with respect to the following transfer student characteristics:

1. Cumulative high school GPA
2. Father's education level at student enrollment
3. Mother's education level at student enrollment
4. ACT composite score
5. Transfer student gender
6. Transfer student age at enrollment

Consequently, this hypothesis remained tenable.

Hypothesis 16 stated that there was no significant difference in transfer student satisfaction with their NIACC preparation as citizens with respect to six transfer student characteristics. This hypothesis failed to be rejected in six out of six cases. There was no relationship between transfer student satisfaction with their NIACC preparation as citizens with respect to:

1. Cumulative high school GPA
2. Father's education level at enrollment
3. Mother's education level at enrollment
4. ACT composite score
5. Transfer student gender
6. Transfer student age at enrollment

Consequently, this hypothesis was not rejected and remained tenable.

Hypothesis 17 stated that no difference existed in transfer student satisfaction with their NIACC preparation as family members with respect to six student characteristics. This hypothesis failed to be rejected in six out of six cases. Specifically, there was no relationship between transfer student satisfaction with their NIACC preparation as family members with respect to the following student

characteristics:

1. Cumulative high school GPA
2. Father's education level at student enrollment
3. Mother's education level at student enrollment
4. ACT composite score
5. Transfer student gender
6. Transfer student age at enrollment

Consequently, since no relationship was observed between the variables, the hypothesis remained tenable.

These 17 hypotheses tested the relationship/difference between selected incoming transfer student characteristics, college environmental variables, and selected student outcomes. This examination was based on a conceptual model developed by Astin (1970a) (see Figure 1) and adapted for this investigation. Statistically significant relationships were observed between the student incoming characteristics and the college environmental variables, and between the college environmental variables and student outcome variables. However, no statistically significant relationships were observed between the student incoming characteristics and student outcome variables.

Table 77 presents, in tabular form, a summary of those variables which were found to be statistically significant. Specifically, the table presents the independent and dependent variable relationships, the statistical test incorporated, and the level of the statistical significance. In each case listed the independent variable appeared to influence the dependent variable at a significant level. Significant incoming student characteristic independent variables were high school GPA, ACT composite score, age at enrollment, and father's education level. Significant college environment independent variables were semester credit hours earned and student satisfaction with the college experience.

The next chapter provides a detailed discussion of the findings of these

hypotheses, examines the results as they pertain to the purpose of this investigation, and explores the impact of these findings toward further research.

Table 77. Summary of statistically significant variables and variable relationships used in this study

Independent Variables	Dependent Variables	Statistical test(s)	Level of Significance
High School GPA	Semester credit hours earned	Pearson ANOVA	.01 .01
Age at Enrollment	Semester credit hours earned	Pearson ANOVA	.05 .01
Father's education level	Student satisfaction with the college experience	Pearson Chi-Square	N/A .05
Student satisfaction with the college experience	Student satisfaction with preparation as individuals	Pearson Chi-Square	.001 .001
Semester credit hours earned	Student satisfaction with preparation for the work place	Pearson Chi-Square	.001 .05
Student satisfaction with the college experience	Student satisfaction with preparation for the work place	Pearson Chi-Square	.001 .05
Student satisfaction with the college experience	Student satisfaction with preparation as citizens	Pearson Chi-Square	.001 .001
Student satisfaction with the college experience	Student satisfaction with preparation as family members	Pearson Chi-Square	.001 .001
High School GPA	GPA at BA graduation	Pearson ANOVA	.001 .001
ACT Composite Score	GPA at BA graduation	Pearson ANOVA	.01 .05
Age at Enrollment	GPA at BA graduation	Pearson ANOVA	.05 N/A

CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this investigation was to examine the relative effect of the community college on transfer students as measured by achievement and satisfaction. This chapter, which presents the conclusion of the investigation, is organized into the following subsections: Summary of the Findings, Conclusions, General Hypothesis, Recommendations for Future Research, and Contributions of the Investigation.

Summary of the Findings

This study examined selected demographic and educational characteristics of enrolled North Iowa Area Community College (NIACC) transfer students. In addition, the study determined the relative effect of college attendance on student academic achievement at graduation from a baccalaureate-granting institution and student satisfaction with the college experience. Finally, this study determined transfer student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members.

College attendance was measured by the cumulative number of semester credit hours achieved at NIACC. Student academic achievement was measured by the transfer student's cumulative grade point average at graduation from a baccalaureate-granting institution. Lastly, transfer student satisfaction was measured by a mailed questionnaire to a cohort of transfer students who entered NIACC between the fall of 1981 and the summer of 1983 inclusive.

This study included comparisons among transfer students with regard to accumulated NIACC semester credit hours; entering student characteristics including cumulative high school GPA, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment; student satisfaction with the NIACC experience; cumulative grade point average at graduation from a baccalaureate-

granting institution; and student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members. In addition, comparisons among transfer students who graduated from a baccalaureate-granting institution and those who had not attained a Bachelor's Degree at the time of this study were presented. This dichotomy of students was referred to as the Bachelor Degree Group - BDG and the Non-Bachelor Degree Group - NBDG in this investigation.

The review of the literature described selected goals of general education as intended student outcomes of community colleges. The goals, based on B. Lamar Johnson's classic study (1952), were success as an individual, a family member, and a citizen. Astin's model was selected to test the general hypothesis that the effect of the community college on the transfer student varies with the amount of exposure (attendance) to the college environment. College exposure was measured by cumulative semester credit hours earned. Studies by Casey (1963), Cramer (1971), and Giddings (1985) suggested that a high number of semester credit hours earned prior to transfer resulted in a slight increase in academic achievement in students after transfer to a baccalaureate-granting institution. However, the method of analysis for each of these studies varied. In addition, none of these studies examined transfer student satisfaction with general education goals.

The sample characteristics used in this investigation were similar to those used by Lonning (1969) as presented in Chapter II. He hypothesized that there was no significant difference among community college transfer students who graduated according to selected incoming student characteristics. Lonning used a sample size comparable to the present investigation: 506 full-time students. Lonning's tested characteristics included high school grade point average, ACT composite score, student gender, student age at enrollment, and high school class rank. Ultimately,

Lonning suggested that there was a significant difference among community college transfer students who graduated according to incoming student characteristics. The present study suggested a significant difference in semester credit hours earned by NIACC students according to cumulative high school GPA and student age at enrollment. In addition, a significant difference was proven in transfer student satisfaction with the NIACC experience according to father's education level at the time of student enrollment. Lastly, a significant difference was proven in the GPA earned by transfer students at graduation from a baccalaureate-granting institution (i.e., the Bachelor Degree Group - BDG) according to high school GPA and ACT composite score. Consequently, Lonning's sample characteristics and findings and those of the present investigation were similar.

An examination of the sample student characteristics of Adelman's (1988, 1989) analysis of the Post-Secondary Education Transcript Study (PETS) data, revealed both similarity and dissimilarity with this investigation. Specifically, Adelman (1988) stated that 20 percent of the students who attended a community college later transferred to a baccalaureate-granting institution regardless if they graduated from either institution. He further stated that only 11 percent of the students who entered a community college eventually attained a Bachelor's Degree. After correcting problems with the PETS data set, Adelman (1989) later reported that 8.9 percent of the 13,828 students in his study both attended a community college and graduated from a baccalaureate-granting institution.

The results of the present investigation did not support Adelman's (1988, 1989) findings. Of the 327 students included in this study, 101 or 30.89 percent entered a community college, (NIACC), and graduated from a baccalaureate-granting institution.

The findings of the present study supported Adelman's prior research with regard to student age at enrollment. He reported that the majority of community

college entrants in his study did so within one year of high school graduation (1988); 64.8 percent enrolled between their 1972 high school graduation and the end of 1973, with N=4,005 (Adelman, 1989). The current study found transfer student age at enrollment at NIACC at a median of 18.00, an average of 18.382, a mode of 18.00, and a standard deviation of 2.412 (see p. 126 of this investigation). This data supported Adelman's research on community college student age at enrollment.

Adelman (1988) stated that 25 percent of all students who attended two-year institutions earned less than one semester's worth of credits. For comparative purposes, "one semester's worth of credits" was defined as 15 semester credit hours. Table 16 of this investigation reported semester credit hours earned by Bachelor Degree recipients (BDG), Non-Bachelor Degree recipients (NBDG), and total calculations. In the case of the graduates from a baccalaureate-granting institution, 3.96 percent of the students earned less than 15 semester credit hours (N=101). In addition, in the Non-Bachelor Degree Group, 12.83 percent earned less than 15 semester credit hours from a two two-year institution (N=226). In total, 33 or 10.09 percent of the students included in this study earned less than 15 semester credit hours from a two-year institution. These findings did not support Adelman's assertion that 25 percent of all students who attended a two-year institution earned less than a semester's worth of credits. However, it is important to note that this study included only students who had indicated an interest in transfer to a baccalaureate-granting institution at the time of community college enrollment.

A similarity of semester credit hours earned at a community college was observed in Cramer's (1971) research. A proportional sampling of three areas (i.e. non-transfers, transfers, and transfers who received a Bachelor's Degree) reduced the number in the sample from 602 to 200 students. Of the 200 students, Cramer found that: 1) 8 percent of the non-transfers earned less than 14 semester credit hours at a

community college; 2) 0 percent of the transfers earned less than 14 semester credit hours; and 3) 2 percent of the transfers who graduated with a Bachelor's Degree earned less than 14 semester credit hours at a community college.

A final point of comparison between Adelman's findings and those of the present investigation included the student characteristic of gender. In his data, Adelman found a near equal distribution of men and women; 51.0 percent and 49.0 percent respectively (N = 13,828). The current study found that 42.8 percent of the sample were males and 57.2 percent were females (N = 327). These data suggested a difference in the gender distribution between Adelman's research and the current study.

Admittedly, Adelman's 1988 report was generalized in its assertions, stating for example "individuals who attend two-year colleges" or "all students who attend two-year colleges." Consequently, exact comparisons were not possible between his study and the present investigation. However, in his 1989 report at The Association for The Study of Higher Education Conference, Adelman focused on community colleges exclusively. Herein, comparisons were possible between the two investigations in some areas. These comparisons with the present study did not support his findings, with the notable exception of community college student age at enrollment.

The first objective of this investigation was to select a framework with which to examine the impact of the community college on transfer students in terms of academic achievement and satisfaction. This researcher selected a conceptual model developed by Alexander Astin (1965a, 1966, 1970a, 1970b) as the basis for the investigation. The model was comprised of three components: incoming student characteristics, the college environment, and student outcomes. The model required selection of study variables for each of its components.

A second objective of this investigation was to determine reasonable

consequences of student exposure to a general education curriculum and determine if differences in these outcomes existed among community college transfer students. Johnson (1952) reported 12 general education goals that were developed by California junior college faculty. The goals included the development of citizenship, communication, computation, and critical thinking skills; cultural and environmental understanding; health, personal/social adjustment; and family life, vocation, and art appreciation. The value of these goals was later verified by a survey of over 1,300 California community college students. In a study of higher education institutions, Williams (1968) arrived at similar goals of general education. Specifically, these goals included the development of man as a student, as a scholar, in his profession, in his community, and in his leisure hours. These general education goals were integrated with Astin's (1977, 1974) taxonomy of student outcome measures and Ewell's (1987, 1985) six student outcomes. Ultimately, five student outcome variables were selected for the present investigation. These variables represented, on a smaller scale, the general education goals proposed by Johnson (1952) and Williams (1968).

The impact of the community college on transfer students was determined from variables selected from the aforementioned studies. The student outcome measures used in this study were cumulative GPA at graduation from a baccalaureate-granting institution, and transfer student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members. These variables were included in the Astin study model.

A third objective of this investigation was to identify entering student characteristics for inclusion in the study model. Feldman and Newcomb (1973) examined variations in incoming student characteristics and their consequent variation in the nature of the college impact. The authors found that the degree of college impact was a function of similarity/dissimilarity between the college

environment and certain entering student characteristics. Astin (1975) studied over 1,000 freshmen who entered college in 1968. He found student characteristics which could be used as a consistent predictor of students who drop out of college. These characteristics included high school grade point average, college entrance examination composite scores, the education level of parents at student enrollment, and student age at enrollment. The entering transfer student characteristics used in the present investigation were cumulative high school GPA, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment.

The fourth objective of this investigation was to determine variable(s) to measure the degree of impact of the college environment on the transfer student. Astin (1977) suggested that studying college impact was merely a measurement of the length of exposure to the college environment. Casey (1963), Richardson and Doucette (1980), and Giddings (1985) all used semester credit hours earned as variable categories in their studies of community college transfer students. This study also incorporated semester credits earned as a measure of the impact of the community college on the transfer student. In addition, transfer student satisfaction with their college experience was included as a second measure of the college environmental impact. This student satisfaction variable provided a subjective student interpretation of the college's impact, which was used to augment the semester hours earned findings.

Conclusions

The statistical analysis of the conceptual model and the component variables used in this investigation was accomplished in three aspects as depicted in Figure 7.

The first aspect was to determine if a statistically significant difference or relationship existed in the college environment study variables according to selected

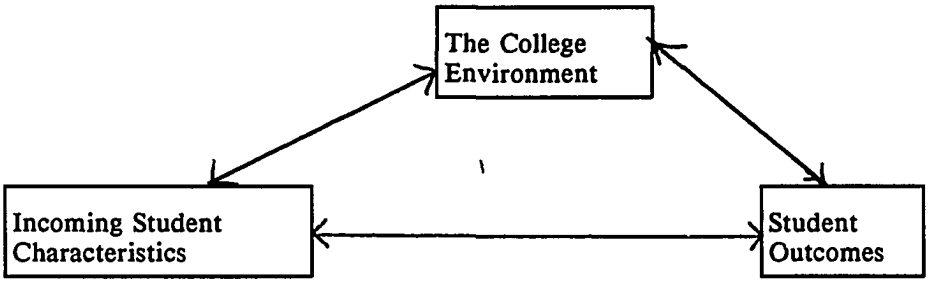

Figure 7. Framework for Statistical Analysis of the Conceptual Model (Adapted from Astin, 1970a)

incoming student characteristics. This aspect is depicted graphically in Figure 7 as "A".

Hypotheses 1 of this investigation examined cumulative semester credit hours earned at NIACC to determine if a difference existed among selected transfer student incoming characteristics. No difference was found in the father's education level at the time of student enrollment at NIACC or the mother's education level at the time of student enrollment at NIACC. No difference was found in transfer student ACT composite scores or transfer student gender.

However, a difference was found in transfer student cumulative high school grade point average and in transfer student age at the time of NIACC enrollment. Specifically, the GPA group with a range of 1.01 through 2.00 differed significantly from the GPA group with a range of 3.01 through 4.00. Students who achieved a higher grade point average in high school earned more semester credit hours at NIACC. This finding supported Astin's assertion that high school GPA is a significant predictor of college retention.

The significant difference observed in transfer student age at enrollment revealed two group differences. Specifically, the age group of 18 years was significantly different from the age groups of 19 years and 20 through 99 years. In

addition, the age group of 16 or 17 years was found to be significantly different from the age group of 19 years of age. Students who enrolled at NIACC immediately after their high school graduation date earned more semester credit hours at NIACC. This finding supported earlier findings by Astin (1975) that older students are more likely to leave college than students of traditional age (17-19).

The remaining incoming student characteristics (i.e., parent's education level at student enrollment, ACT composite score, and student gender) showed no significant difference according to semester credit hours earned at NIACC. These findings did not support Astin's use of college admission tests as an incoming student characteristic to measure college attendance patterns and student tendency toward dropping out. In addition, these findings did not support Astin's suggestion that parents with a high education level could exert pressure on students to remain in college.

The findings of Hypothesis 1 indicated that transfer students earn similar amounts of semester credit hours at NIACC with respect to parent education level at student enrollment, ACT composite score, and gender. Students who enrolled immediately following high school graduation were more likely to complete their degree at NIACC. Students who earned higher grade point averages in high school were also more likely to complete their degrees at NIACC.

Hypothesis 2 of this study examined transfer student satisfaction with their NIACC experience to determine if a relationship existed among selected incoming student characteristics. No relationship was found in the transfer student's cumulative high school grade point average or in the mother's education level at the time of student enrollment at NIACC. No relationship was found in transfer student ACT composite score. No relationship was found in transfer student gender or transfer student age at enrollment. However, a relationship was found in the father's education level at the time of transfer student enrollment at NIACC. The majority of

the fathers held a high school diploma or less at the time of their child's enrollment. It should be noted that the cross-classification statistic used for this test resulted in some of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the transfer student's father, on average, did not attend college. In addition, the data suggested that transfer students who had fathers with "some college" or less at student enrollment were more satisfied with their NIACC experience than those students who had fathers with a "two-year degree" or higher.

The second and principal aspect of this investigation was to examine the impact or relationship of the college environment on relevant selected student outcomes. This aspect is depicted graphically in Figure 7 as "B". The assessment of the college environmental effects on student outcomes included transfer student semester credit hours earned and student satisfaction with their NIACC experience on the student outcome variables of academic achievement at a baccalaureate-granting institution and transfer student satisfaction with their preparation as individuals, for the work place, as citizens, and as family members.

Hypothesis 3 of this study examined transfer student cumulative grade point average at graduation from a baccalaureate-granting institution to determine if a difference existed according to cumulative semester credit hours earned at NIACC. No difference was found between these two variables among the 101 students who graduated from a baccalaureate-granting institution (BDG). These findings suggested that a higher number of semester credit hours earned at a community college did not result in a higher grade point average at a baccalaureate-granting institution. Further, these findings did not support earlier findings of Knoell and Medsker (1965),

Ingram (1967), Cramer (1971), Richardson and Doucette (1980), and Giddings (1985). Rather, these results indicated that NIACC transfer students performed similarly at a baccalaureate-granting institution regardless of the number of semester credit hours completed at NIACC prior to transfer.

These results did not support the thesis of Knoell and Medsker (1965) who stated that junior college transfer students demonstrated better academic achievement at a baccalaureate-granting institution if they completed their two-year course of study prior to transfer. Ingram (1967) found that students who transferred to Drake University with their first two years of study completed, performed better academically than students who transferred after having completed only one year of study. The results of the present investigation did not support Ingram's findings. Cramer (1971) found in his study that a greater percentage of transfer students completed their baccalaureate degree having earned more semester hours prior to transfer.

Similarly, the research of Richardson and Doucette (1980) and that of Giddings (1985) found differences in academic performance at a baccalaureate-granting institution according to semester credit hours earned prior to transfer. Specifically, Richardson and Doucette noted a difference between students who earned between 24 and 36 semester credit hours and students who earned between 48 and 60 semester credit hours. Giddings, to a lesser degree, noted a difference between students who earned 36-47 semester credit hours, 48-59 semester credit hours, and 60 or more semester credit hours. The resultant findings suggested that NIACC transfer students performed equally well academically at a baccalaureate-granting institution, regardless of the number of semester credit hours earned prior to transfer. These findings further suggested that it was neither advantageous or disadvantageous for students to begin their educational pursuit of a Bachelor's Degree at a community

college.

Hypothesis 4 of this investigation examined transfer student cumulative grade point average at graduation from a baccalaureate-granting institution to determine if a difference existed among transfer student satisfaction with the NIACC experience. No significant difference was found among these two study variables among the 101 students who graduated from a baccalaureate-granting institution (BDG). These results indicated that the level of transfer student satisfaction with the NIACC experience had no impact on their subsequent academic performance at a baccalaureate-granting institution. Rather, all satisfaction groups performed similarly after transfer from NIACC.

Hypothesis 5 of this study examined transfer student satisfaction with their NIACC preparation as individuals to determine if a relationship existed in cumulative semester credit hours earned at NIACC. No significant relationship was found among the two study variables. These results suggested that the amount of semester credit hours earned at NIACC was not related to transfer student satisfaction with their NIACC preparation as individuals. However, it should be noted that the cross-classification statistic used for this test resulted in 40 percent of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the quantity of semester credit hours earned at NIACC had no relationship with student satisfaction with their NIACC preparation as individuals. Consequently, increased exposure to the Community College was neither positively nor negatively related to student perception of their preparation as individuals; a reasonable consequence of general education.

Hypothesis 6 of this investigation examined transfer student satisfaction with

their NIACC preparation as individuals to determine if a relationship existed according to transfer student satisfaction with the NIACC experience. A significant relationship was observed between the two variables. Table 40 revealed that 173 students from the sample of 327 students were both "satisfied" with their NIACC preparation as individuals and with the NIACC experience as well. These findings indicated that transfer student satisfaction with their experience at NIACC was related to their level of satisfaction with their NIACC preparation as individuals. However, it should be noted that the cross-classification statistic used for this test resulted in 50 percent of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the higher the transfer student level of satisfaction with the NIACC experience, the higher the level of satisfaction with their NIACC preparation as individuals.

Hypothesis 7 of this study examined transfer student satisfaction with their NIACC preparation for the work place to determine if a relationship existed among the number of semester credit hours earned at NIACC. A significant relationship was observed among the study variables. The largest count of respondents in a cross-classification cell was 96 (N=326). These students were "satisfied" with their NIACC preparation for the work place and had attained 61 or more semester credit hours at the College. These results indicated that a high number of semester credit hours earned at NIACC was related to a high degree of transfer student satisfaction with their NIACC preparation for the work place. However, it should be noted that the cross-classification statistic used for this test resulted in 40 percent of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of

variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that as transfer students earned more semester credit hours at the Community College, the more satisfied they were with their NIACC preparation for the work place; a reasonable consequence of general education.

Hypothesis 8 of this investigation examined transfer student satisfaction with their NIACC preparation for the work place to determine if a relationship existed according to the student's level of satisfaction with the NIACC experience. A statistically significant relationship was observed between the two variables. The highest cross-classification cell count was 150 students (N=326) who were both "satisfied" with their NIACC preparation for the work place and with their NIACC experience. These findings indicated that transfer student satisfaction with their Community College experience was related to student satisfaction with their NIACC preparation for the work place. However, it should be noted that the cross-classification statistic use for this test resulted in 50 percent of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the higher the transfer student level of satisfaction with their NIACC experience, the higher the level of satisfaction with their NIACC preparation for the work place.

These results supported the findings of Midgen (1987). Specifically, he found former students who were satisfied with their educational preparation at college were also satisfied with their present employment in terms of job responsibilities, pay, promotion, employer respect, peer respect, job security, and job competency. These results also supported the findings of Havemann and West (1952). These authors

found that from 9,000 survey respondents, 84 percent were satisfied with their college experience. In addition, 98 percent of the respondents were satisfied with their vocational preparation for employment.

Hypothesis 9 of this study examined transfer student level of satisfaction with their NIACC preparation as citizens to determine if a relationship existed according to the amount of semester credit hours achieved at NIACC. No significant relationship was observed between the variables. These findings suggested that the quantity of semester credit hours earned at NIACC was not significantly related to the level of student satisfaction with their NIACC preparation as citizens. However, it should be noted that the cross-classification statistic used for this test resulted in 40 percent of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the quantity of semester credit hours earned at NIACC had no relationship with student satisfaction with their NIACC preparation as citizens. Consequently, increased exposure to the Community College was neither positively nor negatively related to student preparation as citizens; a reasonable consequence of general education.

Hypothesis 10 of this investigation examined the level of transfer student satisfaction with their NIACC preparation as citizens to determine if a relationship existed among transfer student satisfaction with the NIACC experience. A statistically significant relationship was observed among the two variables. The highest cross-classification cell count was 120 students (N=325) who were both "satisfied" with their NIACC preparation as citizens and with their NIACC experience. These results indicated that transfer student satisfaction with their NIACC experience was related to student satisfaction with their NIACC preparation

as citizens. However, it should be noted that the cross-classification statistic used for this test resulted in 50 percent of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the higher the transfer student level of satisfaction with their NIACC experience, the higher the level of satisfaction with their NIACC preparation as citizens.

These results supported the findings of Havemann and West (1952). In their findings, the authors reported that 84 percent of the 9,000 survey respondents indicated that they would "go back to the same college if they had to do it all over again." In addition, 79 percent of the respondents stated that they had signed a petition for the repeal of some piece of legislation, and 23 percent stated that they had written to a political official during the past year. The majority of the respondents were involved in civic activities.

Hypothesis 11 of this study examined transfer student satisfaction with their NIACC preparation as family members to determine if a relationship existed according to the number of semester credit hours earned at NIACC. No relationship was found among the two variables. These results indicated that the number of semester credit hours accumulated by NIACC transfer students was not related to the level of satisfaction with their NIACC preparation as family members. However, it should be noted that the cross-classification statistic used for this test resulted in 40 percent of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the quantity of

semester credit hours earned at NIACC had no relationship with student satisfaction with their NIACC preparation as family members. Consequently, increased exposure to the Community College was neither positively nor negatively related to student preparation as family members: a reasonable consequence of general education.

Hypothesis 12 of this investigation examined the level of transfer student satisfaction with their NIACC preparation as family members to determine if a relationship existed according to their level of satisfaction with the NIACC experience. A statistically significant relationship was observed between the two variables. The largest variable classification was 127 students (N=325) who were both "satisfied' with their NIACC preparation as family members and with the NIACC experience. These results indicated that transfer student satisfaction with the NIACC experience was related to student satisfaction with their NIACC preparation as family members. However, it should be noted that the cross-classification statistic used for this test resulted in 50 percent of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the higher the transfer student level of satisfaction with their NIACC experience, the higher the level of satisfaction with their NIACC preparation as family members.

The third and final aspect of this investigation was to determine if a statistically significant difference or relationship existed in selected student outcome variables according to incoming student characteristics. This aspect is depicted graphically in Figure 7 as "C". Astin (1970a) stated that this aspect identified a relationship where student outcomes were also effected by incoming student characteristics. The assessment of the incoming student characteristics on student

outcomes included transfer student cumulative high school grade point average, education level of parents at student enrollment, ACT composite score, gender, and age at enrollment. The student outcome variables used in this study were transfer student cumulative grade point average at graduation from a baccalaureate-granting institution, and student satisfaction with their NIACC preparation as individuals, for the work place, as family members, and as citizens.

Hypothesis 13 in this investigation examined transfer student cumulative grade point average at graduation from a baccalaureate-granting institution to determine if a difference existed among selected incoming student characteristics. No difference was found in the father's education level at the time of student enrollment at NIACC. This supported the findings of Fleming (1972) who found no significant difference in the father's education level among transfer students. No difference was found in the mother's education level at the time of student enrollment at NIACC. This did not support Fleming (1972) who found a statistically significant difference in mother's education level among transfer students. In addition, no difference was observed in transfer student gender.

However, a difference or relationship was observed in the transfer student's cumulative high school grade point average, ACT composite score, and age at enrollment. A multiple comparison test (Tukey-b) revealed statistically significant different group means at the .05 level for high school grade point average. Specifically, students with a high school GPA between 2.01 and 3.00 differed significantly from those with a GPA between 3.01 and 4.00. Students with a higher high school GPA had a better GPA at graduation from a baccalaureate-granting institution than those students with a lower high school GPA. These resultant findings suggested that students who performed better academically in high school performed better in a baccalaureate-granting institution.

A Tukey-b multiple comparison test for GPA at baccalaureate graduation and ACT composite score revealed a statistically significant difference at the .05 level. Specifically, students who had ACT composite scores of 14 through 16 differed significantly from students who scored between 26 and 28 inclusive and those who scored between 29 and 32 inclusive. Students who earned a higher ACT composite score had a higher cumulative GPA at graduation from a baccalaureate-granting institution. These results supported Cramer's (1971) findings that the ACT composite score was a significant variable in predicting academic performance at a baccalaureate-granting institution.

The Analysis of Variance procedure did not reveal a significant difference between GPA at graduation from a baccalaureate-granting institution and student age at enrollment. However, a Pearson Product-Moment Correlation (see Table 23) indicated a moderately positive relationship between the two variables at a significance level of .05. These results suggested that older students performed better academically than younger students at a baccalaureate-granting institution.

Hypothesis 14 of this study examined transfer student satisfaction with their NIACC preparation as individuals to determine if a relationship existed between selected incoming student characteristics. No relationship was found in transfer student cumulative high school grade point average. No relationship was found in the father's education level or the mother's education level at the time of student enrollment at NIACC. No relationship was found in transfer student ACT composite score. No relationship was found in transfer student gender or in transfer student age at enrollment.

It should be noted that the cross-classification statistic used for this test resulted in some of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of

the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the incoming student characteristics incorporated into this investigation had no relationship with student satisfaction with their NIACC preparation as individuals.

Hypothesis 15 of this investigation examined the level of transfer student satisfaction with their NIACC preparation for the work place to determine if a relationship existed between selected incoming student characteristics. No relationship was found in transfer student cumulative high school grade point average. No relationship was found in the father's education level or the mother's education level at the time of transfer student enrollment at NIACC. No relationship was found in student ACT composite score. No relationship was found in transfer student gender or in transfer student age at enrollment.

It should be noted that the cross-classification statistic used for this test resulted in some of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the incoming student characteristics incorporated into this investigation had no relationship with student satisfaction with their NIACC preparation for the work place.

Hypothesis 16 of this study examined the level of transfer student satisfaction with their NIACC preparation as citizens to determine if a relationship existed between selected incoming student characteristics. No relationship was found in transfer student cumulative high school grade point average. No relationship was found in the father's education level or the mother's education level at the time of student enrollment at NIACC. No relationship was found in transfer student ACT composite score. No relationship was found in student gender or in transfer student

age at enrollment.

It should be noted that the cross-classification statistic used for this test resulted some of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the incoming student characteristics incorporated into this investigation had no relationship with student satisfaction with their NIACC preparation as citizens.

Hypothesis 17 of this investigation examined transfer student satisfaction with their NIACC preparation as family members to determine if a relationship existed between selected incoming student characteristics. No relationship was found in transfer student cumulative high school grade point average. No relationship was found in the father's education level or the mother's education level at the time of student enrollment at NIACC. No relationship was found in transfer student ACT composite score. No relationship was found in student gender or in transfer student age at enrollment.

It should be noted that the cross-classification statistic used for this test resulted in some of the cells having less than an expected frequency of five students. Since it was the intent of this investigation to accurately describe the natural appearance of the data, the number of variable classification categories was not reduced to achieve a higher expected frequency. The resultant findings suggested that the incoming student characteristics incorporated into this investigation had no relationship with student satisfaction with their NIACC preparation as family members.

This section presented a review of the findings for each of the 17 hypotheses included in this investigation. The statistical analysis of each hypothesis was according to Astin's (1970a) conceptual model (see Figure 7) and its three aspects.

Comparisons were made, where possible, with the resultant findings of this investigation and the research presented in Chapter II. The next section considers the general hypothesis and research questions presented in Chapter I, with respect to the findings of this study.

General Hypothesis

In Chapter I of this study, a general hypothesis presented a blueprint to guide this investigation. This section reconsiders this and presents a response based on the findings of the preceding section.

The general hypothesis stated early in this investigation is presented below.

> "This study tested the general hypothesis that the effect of the community college on the transfer student varies with the amount of exposure (attendance) to the college environment. The specific amount of college exposure may be measured by cumulative semester credit hours earned. Simply stated, the greater the cumulative number of semester credit hours earned, the greater the college effect in academic achievement at a baccalaureate-granting institution, and the greater the student satisfaction with the community college experience."

The general hypothesis was principally addressed by Hypotheses 3, 5, 7, 9, and 11. Each of these hypotheses failed to be rejected, with the notable exception of Hypothesis 7. No significant difference or relationship was observed between semester credit hours earned at NIACC and GPA at graduation from a baccalaureate-granting institution (Hypothesis 3). No significant difference was observed between semester credit hours earned at NIACC and student satisfaction with their NIACC preparation as individuals (Hypothesis 5), as citizens (Hypothesis 9), or as family members (Hypothesis 11). In Hypothesis 7, a significant relationship was observed between semester credit hours earned at NIACC and transfer student satisfaction with their NIACC preparation for the work place.

These findings did not fully support the general hypothesis that the effect of

the community college on the transfer student varies with amount of exposure to the community college environment, since the general hypothesis failed to be rejected in four out of five cases. These resultant findings suggested that the quantity of semester credit hours earned at NIACC had little or no relationship to selected student outcomes. However, the data did prove that the length of NIACC attendance was not negatively related to selected student outcomes.

Students were highly satisfied with their NIACC college experience, as well as their preparation as individuals, for the work place, as citizens, and as family members. Specifically, 73.0 percent of the Non-Bachelor Degree Group and 81.18 percent of the Bachelor Degree Group were at least "satisfied" with the NIACC experience (see Table 17). In addition to these data, student satisfaction with the College experience was verified in anecdotal information provided by the student (see Appendix T). For example, student 46 stated "very satisfied and happy with my education I received at NIACC...." Student 49 reported a similar satisfaction level. This high level of satisfaction with the College was noted by other students as well.

High levels of student satisfaction were also observed with regard to their college preparation as individuals, for the work place, as citizens, and as family members. Specifically, 77.67 percent of the students sampled were at least "satisfied" with their preparation as individuals (see Table 18); 63.91 percent were at least "satisfied" with their preparation for the work place (see Table 19); 53.82 percent were at least "satisfied" with their preparation as citizens (see Table 20); and 58.41 percent were at least "satisfied" with their preparation as family members. Anecdotal student comments also supported these findings. For example, students 31 and 37 were satisfied with their preparation for the work place. Other examples included students 46, 53, 65, and 80 who supported the finding of high student satisfaction with their preparation as individuals, citizens, and family members (see Appendix T).

Recommendations for Future Research

This investigation was part of a continuing effort to examine the impact of the community college on transfer students. The methodological development and subsequent results of this study identified areas which may be appropriate for further research.

Specific suggestions for future research would include: 1) The use of additional incoming student characteristics; 2) A comparative study with other community colleges; and 3) The addition of other environmental variables.

The use of additional incoming student characteristics might include high school class rank, parental contribution toward the student's college education, a determination if the community college was the student's first choice for college attendance, and family/marital status upon college entrance. Indeed, Astin (1975) recommended consideration of other potential characteristics including religion and race. These variables might provide additional relevant information to aid in the determination of college effects.

A similar investigation incorporating other community colleges would provide comparative data. Ultimately, the findings from other colleges would aid the findings of the present investigation by determining its similarity or dissimilarity to community colleges in general. In addition, a multiple institutional comparison might identify differences between urban, metropolitan, and rural community colleges.

Incorporating additional environmental characteristics might further strengthen future investigations. Specifically, future studies should consider other environmental variables, such as cumulative grade point average earned at the community college, and the student's program of study/course selection. Community college GPA would provide an additional objective measure of college effects. Program of study/course selection would also provide an objective measure of college

effects. Perhaps even more importantly, course selection would provide the added benefit of determining where the college effects were the greatest. Course selection would provide an indication of the curriculum which had the greatest effect on general education goal attainment (i.e. student outcomes).

A future study on the impact of the community college on the transfer student should exclude the subjective student responses of levels of satisfaction. Future studies should consider the administration of a general education entrance and outcomes assessment to community college transfer students in order to eliminate the subjectiveness of the study. As Adelman (1988, 1989) pointed out, an imperical artifact such as a transcript, or in this case, examination, neither exaggerates nor forgets. The examination results could be tested for relationships with other objective environmental variables and incoming student characteristics. The findings would be free from subjectively, thereby inherently strengthening the study. Still an additional alternative may be to minimize the subjectivity of student satisfaction through the use of a marginal utility model. Specifically, the model, paralleled after its use in the field of economics, could better examine the relationship of educational utility to student satisfaction. Perhaps by evaluating satisfaction as a mathematical-type model, subjectivity may be lessened.

Finally, chi-square, as a statistical method to evaluate the significance of transfer student satisfaction levels, was difficult to interpret. In order to have a clear understanding of the impact of the college on students, ordinal data would have had to be compressed such that all cells had a minimum expected frequency. The tradeoff, however, would have been a loss of the nature of the data. In the case of this investigation, the data were not compressed in order to evaluate their natural appearance. As a result, confidence was lost in the significance of these findings.

This section of Chapter V presented recommendations for future research

involving community college effects. Specific recommendations included the use of additional incoming student characteristics, a multiple institutional comparison, the addition of other environmental variables, and the elimination of subjectivity. It was proposed that each of these suggestions would reinforce future studies.

Contributions of The Investigation

This investigation has contributed to the accumulated body of knowledge on the impact of the community college on transfer students. The findings of this study may be used to further the knowledge of individuals examining transfer student academic achievement at a baccalaureate-granting institution and satisfaction with college general education preparation. In addition, specific groups may derive benefits from this investigation. These groups include North Iowa Area Community College (NIACC), the Iowa Department of Education (IDOE), other community colleges, and federal higher education agencies. Each benefitting group is presented more fully below.

As discussed in Chapter I, North Iowa Area Community College (NIACC) was the intended primary beneficiary of this research. The investigation was precipitated by legislative interest in student outcomes in the state of Iowa and by an impending review by the North Central Accrediting Association in 1993. The College has determined from this study that transfer student satisfaction with their NIACC preparation as individuals, for the work place, as citizens, and as family members was independent of incoming student characteristics. In addition, transfer student satisfaction with their NIACC experience was strongly related to these same general education outcome variables. In short, a contented student was likely to be a satisfied individual, worker, citizen, and family member, and NIACC can effect that.

The results of this investigation were shared with NIACC faculty, counselors, administrators, and The Board of Directors. In addition, the results will be

incorporated into future requests of student outcomes information by the state legislature and those of the North Central Accreditation Association.

The Iowa Department of Education (IDOE) was a second beneficiary of the results of this investigation. The Department of Education has made increased commitments to community colleges in Iowa during the past two years. Specifically, a new Division of Community Colleges was established in order to address the emerging needs of this sector of higher education. In addition, multiple bills exist in the 1990 legislative session proposing the establishment of a board separate from the Department of Education. The results of this study provided IDOE with data on the effectiveness of one of Iowa's community colleges. Ultimately, the results might be included with other data used to inform the legislature of the importance of the community colleges within the State.

Community colleges both statewide and nationwide were a third beneficiary of the results of this investigation. Higher education is at the peak of institutional effectiveness and outcomes investigation in the 1990s. These findings added to the ever increasing data base on community college effects. Other community colleges can use these findings to better understand their own institutions and their effect on transfer students.

The United States Department of Education and other federal education agencies were considered to be a fourth beneficiary of the results from the present investigation. The federal agencies can use these data to increase their understanding of the effect of the community college on its transfer students. In addition, these agencies will be able to evaluate the effect of transfer student satisfaction on general education goal attainment.

This section presented contributions of the results of the present investigation to five groups. The beneficiaries of this study were individuals researching community

college effects, North Iowa Area Community College, the Iowa Department of Education, other community colleges, and federal higher education agencies. Ultimately, this research continued the effort in higher education to study the relative effect of the community college on transfer students.

APPENDIX A.

NORTH IOWA AREA COMMUNITY COLLEGE ENROLLMENT CARD

NIACC STUDENT SCHEDULE CARD

Date 19

Social Security Number

NAME:

Last First Middle Maiden

STUDENT ADDRESS:

Street Phone

City State Zip

HOME ADDRESS:

Street Phone

City State Zip

PRE-BACCALAUREATE MAJOR: _____

Have you enrolled for college credit classes at NIACC within the past calendar year?

YES _____ NO _____

If prior NIACC or MCJC record is under a different name, please enter:

_____

Last First Middle

Freshman (26 hrs. or less) _____

OR

Sophomore (more than 26 hrs.) _____

COUNSELOR _____

OFFICE USE ONLY:

TOTAL HOURS _____ COMPUTER ENTRY INITIAL _____

Dept./ Course No.	Section	Course Name & Labs	S.H. Credit
:			
:			
:			
:			
:			
:			
:			
:			
:			

APPENDIX B.

NORTH IOWA AREA COMMUNITY COLLEGE PERMANENT TRANSCRIPT

NORTH IOWA AREA COMMUNITY COLLEGE

500 COLLEGE DRIVE - MASON CITY, IOWA 50401

Name [redacted] Social Security No. [redacted]

Date: Entered [redacted]

Withdrew

Graduated [redacted]

Sex: Male..... Female..X....

Permanent Address [redacted]

Date of Birth

Place of Birth

Parent/Guardian

High School

Graduation Date

H.S. Average ..... Rank/Size .....

Previous College

ACT TEST SCORES	(Stand)	(%ile)
English		
Mathematics		
Social Studies		
Natural Science		
Composite		

LEGEND

MARKING SYSTEM:
- A—Excellent
- B—Above average
- C—Average
- D—Below average
- F—Failure
- I—Incomplete
- W—Withdrew
- X—Repeat
- N—Audit
- T—Credit by Testing
- E—Excused without credit
- L—Credit by prior education or experience

Grade Points: A-4, B-3, C-2, D-1, F-0

COURSE CODE:
- Art—10
- Business—15
- Education—20
- Engineering—25
- English—30
- Foreign Language—35
- Mathematics—40
- Music—50
- Physical Education—60
- Science—70
- Social Science—80
- Technical—90

NAME [redacted]

SOC. SEC. [redacted] TERM [redacted]

COURSE NO.	COURSE NAME	CREDITS	GRADE	GRADE PTS.
70:109	Microbiology	4.00	B	12.00
80:230	Hu Grth & Dev	3.00	B	9.00
90:109	Nurs Seminar	1.00	B	3.00
CURR. G.P.A. 3.00	EARNED CREDITS 8.00	8.00		24.00
CUM. G.P.A. 3.00	EARNED CREDITS 8.00	8.00		24.00

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NAME [redacted]

SOC. SEC. [redacted] TERM [redacted]

COURSE NO.		COURSE NAME	CREDITS	GRADE	GRADE PTS.
80110	2	SOCIOLOGY	3.00	C	6.00
70250	2	ANATO & PHYSI	4.00	C	8.00
80101	4	GEN PSYCH	3.00	C	6.00
90110	1	FUND OF NURS I	8.00	C	16.00
CURR. GPA 2.00		EARNED CREDITS 18.00	18.00		36.00
CUM. GPA 2.31		EARNED CREDITS 26.00	26.00		60.00

NAME [redacted]

SOC. SEC. [redacted] TERM [redacted]

COURSE NO.		COURSE NAME	CREDITS	GRADE	GRADE PTS
70251	3	ANATOMY & PHYSI	4.00	B	12.00
70115	1	PHYS SCI FOR HEA OCC	4.00	C	8.00
90111A	1	FUND OF NURS II	2.00	C	4.00
90111B	1	MAT NEWBORN NURS	7.00	C	14.00
CURR. GPA 2.24		EARNED CREDITS 17.00	17.00		38.00
CUM GPA 2.28		EARNED CREDITS 43.00	43.00		98.00

NAME [redacted]

SOC. SEC. [redacted] TERM [redacted]

COURSE NO.		COURSE NAME	CREDITS	GRADE	GRADE PTS.
90112	1	NURS IN MENT ILL	7.00	B	21.00
CURR. G.P.A. 3.00		EARNED CREDITS 7.00	7.00		21.00
CUM. G.P.A. 2.38		EARNED CREDITS 50.00	50.00		119.00

Good standing is certified unless indicated otherwise.

COLLEGE SEAL

Date .....

.....

APPENDIX C.

LETTER OF TRANSCRIPT REQUEST TO BACCALAUREATE-GRANTING INSTITUTIONS

NORTH IOWA AREA COMMUNITY COLLEGE
500 College Drive
Mason City, Iowa 50401
(515) 423-1264

TO: Whom It May Concern

FROM: Brenda Young

DATE: XXXXXXXXXXXXXXXX

SUBJECT: Transcript Request

Please return the transcript(s) in the postage-paid envelope(s) which are enclosed. If there is a fee for this service, please include a statement or bill the following address:

North Iowa Area Community College
Attn: Brenda Young
500 College Drive
Mason City, Iowa 50401

Thank you in advance for your time.

bc:BY
encl.
pc:file

APPENDIX D.

NORTH IOWA AREA COMMUNITY COLLEGE ALUMNI SURVEY WITH SUPPLEMENTAL QUESTIONS

ALUMNI SURVEY *(2-Year College Form)*

DIRECTIONS: The information you supply on this questionnaire will be kept completely confidential. Your Social Security number is requested for research purposes only and will not be listed on any report. However, if any item requests information that you do not wish to provide, please feel free to omit it.

Please use a soft-lead (No. 1 or 2) pencil to fill in the oval indicating your response. DO NOT use a ball-point pen, fountain pen, marker, or colored pencil. Some items may not be applicable to you or to this 2-year college (community college, junior college, etc.). If this is the case, skip the item or mark the "Does Not Apply" option. If you wish to change your response to an item, erase your first mark completely and then blacken the correct oval. Select only ONE response for each item.

PAGE 1 USE A SOFT LEAD PENCIL ONLY

SECTION I—BACKGROUND INFORMATION

Begin by printing your Social Security number in the large boxes at the top of Block A. Then, in the column below each box, blacken the appropriate oval. Complete the remaining blocks by blackening the single most appropriate oval in each case.

A — SOCIAL SECURITY NUMBER (Identification Number)

			–			–			
0	0	0		0	0		0	0	0	0
1	1	1		1	1		1	1	1	1
2	2	2		2	2		2	2	2	2
3	3	3		3	3		3	3	3	3
4	4	4		4	4		4	4	4	4
5	5	5		5	5		5	5	5	5
6	6	6		6	6		6	6	6	6
7	7	7		7	7		7	7	7	7
8	8	8		8	8		8	8	8	8
9	9	9		9	9		9	9	9	9

B — AGE

- O 19 or Under
- O 20 or 21
- O 22 or 23
- O 24 or 25
- O 26 to 29
- O 30 to 39
- O 40 to 49
- O 50 to 61
- O 62 or Over

C — RACIAL/ETHNIC GROUP

- O Afro-American/Black
- O American Indian or Alaskan Native
- O Caucasian-American/White
- O Mexican-American/Chicano
- O Asian-American, Oriental, or Pacific Islander
- O Puerto Rican, Cuban, or Other Hispanic Origin
- O Other
- O Prefer Not to Respond

D — HOW MANY YEARS HAS IT BEEN SINCE YOU LAST ATTENDED THIS 2-YEAR COLLEGE? (To the Nearest Year)

- O Less Than 1 Year
- O 1 Year
- O 2 Years
- O 3 Years
- O 4 Years
- O 5 to 9 Years
- O 10 or More Years

E — INDICATE THE *HIGHEST* DEGREE, CERTIFICATE, OR DIPLOMA YOU NOW HOLD

- O High School Diploma
- O Technical Program Certificate or Diploma
- O Associate Degree
- O Bachelor's Degree
- O Master's Degree
- O Doctor's Degree
- O Professional Degree
- O Other

F — INDICATE YOUR MAJOR AREA OF STUDY AT THIS 2-YEAR COLLEGE

Using the List of College Majors and Occupational Choices included with this questionnaire, find the 3-digit code for your major area of study, write it in the boxes above, and then blacken the appropriate oval in the column below each box.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
		O

G — SEX

- O Male
- O Female

H — WERE YOU MARRIED AT THE TIME YOU ATTENDED THIS COLLEGE?

- O Yes
- O No

I — WHAT WAS YOUR PRIMARY ENROLLMENT STATUS AT THIS COLLEGE?

- O Full-Time Student
- O Part-Time Student

J — WHICH OF THE FOLLOWING WAS TRUE FOR YOU AT THE TIME YOU FIRST ENTERED THIS COLLEGE?

- O Entered Directly from High School
- O Entered after Working for a Period of Time (Excluding Summer Work)
- O Transferred from Another 2-Year College
- O Transferred from a 4-Year College or University
- O Entered after Completing Military Service
- O Other

K — HOW FAR FROM THIS COLLEGE ARE YOU CURRENTLY LIVING?

- O 0 to 24 Miles
- O 25 to 49 Miles
- O 50 to 99 Miles
- O 100 to 199 Miles
- O 200 or More Miles

L — DO YOU PLAN TO ATTEND THIS COLLEGE IN THE FUTURE?

- O Yes
- O Undecided
- O No

SECTION II—CONTINUING EDUCATION

NOTE: Complete this section ONLY if you have continued your formal education since completing your program of study at this 2-year college. If you have not, skip to Section III.

A — WHAT IS THE *MAJOR* REASON YOU CONTINUED YOUR EDUCATION? (Blacken Only ONE Oval)

- O To Satisfy Job/Career Requirements
- O To Learn a New Occupation
- O To Increase Earning Power
- O To Obtain or Maintain a License or Certification
- O For General Self-Improvement
- O Other

B — INDICATE THE TYPE OF EDUCATIONAL INSTITUTION THAT YOU HAVE MOST RECENTLY ATTENDED

- O Trade School or Business School
- O 2-Year College (Community College, Junior College, etc.)
- O 4-Year College or University
- O Other

C — MAJOR AREA OF STUDY SINCE COMPLETING YOUR PROGRAM AT THIS 2-YEAR COLLEGE

Use the List of *College Majors* and Occupational Choices to indicate your most recent area of study.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
		O

D — HOW MANY COURSES HAVE YOU TAKEN FOR CREDIT SINCE LEAVING THIS COLLEGE?

- O I Am Not Taking Courses for Credit
- O 1 or 2 Courses
- O 3 to 5 Courses
- O 6 to 10 Courses
- O 11 or More Courses

E — HOW WELL DID THIS 2-YEAR COLLEGE PREPARE YOU FOR CONTINUING YOUR EDUCATION?

- O Exceptionally Well
- O More Than Adequately
- O Adequately
- O Less Than Adequately
- O Very Poorly

F — WHAT IS THE *HIGHEST* DEGREE OR CERTIFICATE YOU EVENTUALLY PLAN TO OBTAIN?

- O I Do Not Plan to Obtain Another Degree or Certificate
- O Technical Program Certificate or Diploma
- O Associate Degree
- O Bachelor's Degree
- O Master's Degree
- O Doctor's Degree
- O Professional Degree
- O Other

PAGE 2 DO NOT TEAR OR STAPLE THIS FORM

SECTION III—EDUCATIONAL EXPERIENCES

Please complete each of the following questions related to your education at this 2-year college.

A INDICATE YOUR RATING OF THIS 2-YEAR COLLEGE AT THE TIME YOU APPLIED FOR ADMISSION

- O It Was My First Choice
- O It Was My Second Choice
- O It Was My Third Choice
- O It Was My Fourth Choice or Lower

B IF YOU COULD START COLLEGE OVER, WOULD YOU CHOOSE TO ATTEND THIS COLLEGE?

- O Definitely Yes
- O Probably Yes
- O Uncertain
- O Probably No
- O Definitely No

C IF YOU COULD START COLLEGE OVER, WOULD YOU SELECT THE SAME MAJOR AREA OF STUDY?

- O Definitely Yes
- O Probably Yes
- O Uncertain
- O Probably No
- O Definitely No

D HOW WOULD YOU COMPARE THE QUALITY OF EDUCATION PROVIDED AT THIS COLLEGE WITH THAT OF OTHER COLLEGES?

- O Better
- O About the Same
- O Worse
- O Unable to Judge

E REGARDLESS OF THE FINANCIAL BENEFITS, HAS YOUR COLLEGE EDUCATION IMPROVED THE QUALITY OF YOUR LIFE?

- O Definitely Yes
- O Probably Yes
- O Uncertain
- O Probably No
- O Definitely No

F WHAT WAS YOUR *PRIMARY* REASON FOR ATTENDING THIS COLLEGE? (Blacken Only ONE Oval)

- O Offered the Courses I Wanted
- O Convenient Location
- O Good Academic or Vocational Reputation
- O Low Cost of Attending
- O Good Chance of Personal Success
- O Could Work While Attending
- O Liked Social Atmosphere
- O Availability of Scholarship or Financial Aid
- O Advice of Parents or Relatives
- O Advice of High School Personnel
- O Wanted to Be with Friends
- O Other

G INDICATE WHETHER EACH OF THE FOLLOWING WAS A MAJOR SOURCE, A MINOR SOURCE, OR NOT A SOURCE OF FUNDS FOR YOUR COLLEGE EDUCATION

MAJOR SOURCE OF FUNDS	MINOR SOURCE OF FUNDS	NOT A SOURCE OF FUNDS	
O	O	O	Parents, Relatives, or Friends
O	O	O	Employment While Attending College
O	O	O	Summer Employment
O	O	O	Personal Savings
O	O	O	Spouse's Income
O	O	O	Social Security Benefits
O	O	O	Veteran's Benefits
O	O	O	Educational Grants (Pell Grants, Private Grants, etc.)
O	O	O	Scholarships (Private, Federal, College, etc.)
O	O	O	Loans (Student Loans, NDSL, Bank Loans, etc.)
O	O	O	Reimbursement by Employer

H RATE EACH OF THE FOLLOWING SERVICES OFFERED AT THIS COLLEGE

EXCELLENT	GOOD	FAIR	POOR	VERY POOR	DOES NOT APPLY	
O	O	O	O	O	O	Advising and Career Planning Services
O	O	O	O	O	O	Job Placement Services
O	O	O	O	O	O	Library (Learning Resources Center) Services
O	O	O	O	O	O	Financial Aid Services
O	O	O	O	O	O	Parking Services and Facilities
O	O	O	O	O	O	Cafeteria/Food Services

I HOW MUCH DID YOUR EDUCATIONAL EXPERIENCE AT THIS COLLEGE CONTRIBUTE TO YOUR PERSONAL GROWTH IN EACH OF THE FOLLOWING AREAS?

VERY MUCH	SOMEWHAT	VERY LITTLE	DOES NOT APPLY	
O	O	O	O	Writing Effectively
O	O	O	O	Speaking Effectively
O	O	O	O	Understanding Written Information
O	O	O	O	Working Independently
O	O	O	O	Following Directions
O	O	O	O	Working Cooperatively in a Group
O	O	O	O	Organizing Your Time Effectively
O	O	O	O	Learning on Your Own
O	O	O	O	Managing Personal/Family Finances
O	O	O	O	Understanding Consumer Issues
O	O	O	O	Caring for Your Own Physical and Mental Health
O	O	O	O	Planning and Carrying Out Projects
O	O	O	O	Persisting at Difficult Tasks
O	O	O	O	Leading/Guiding Others
O	O	O	O	Recognizing Your Rights, Responsibilities, and Privileges as a Citizen

29

J PLEASE BLACKEN THE OVAL INDICATING YOUR LEVEL OF SATISFACTION WITH EACH OF THE FOLLOWING ASPECTS OF THIS COLLEGE

VERY SATISFIED	SATISFIED	NEUTRAL	DISSATISFIED	VERY DISSATISFIED	DOES NOT APPLY	
O	O	O	O	O	O	Testing/Grading System
O	O	O	O	O	O	Quality of Instruction in Your Major Area of Study
O	O	O	O	O	O	Out-of-Class Availability of Your Instructors
O	O	O	O	O	O	Attitude of the Faculty Toward Students
O	O	O	O	O	O	Variety of Courses Offered at this 2-Year College
O	O	O	O	O	O	Flexibility to Design Your Own Program of Study
O	O	O	O	O	O	Preparation You Are Receiving for Your Future Occupation
O	O	O	O	O	O	General Registration Procedures
O	O	O	O	O	O	Availability of the Courses You Want at Times You Can Take Them
O	O	O	O	O	O	Concern for You as an Individual
O	O	O	O	O	O	Attitude of College Nonteaching Staff Toward Students
O	O	O	O	O	O	Opportunities for Student Employment
O	O	O	O	O	O	Opportunities for Personal Involvement in Campus Activities
O	O	O	O	O	O	General Condition of Buildings and Grounds
O	O	O	O	O	O	This College in General

PAGE 3

USE A SOFT LEAD PENCIL ONLY

SECTION IV—EMPLOYMENT HISTORY

Please respond to the following questions related to your employment since you left this 2-year college. Complete ONLY the parts of this section that apply to you.

PART A: TO BE COMPLETED BY ALL ALUMNI

A WHICH OF THE FOLLOWING *BEST* DESCRIBES WHAT YOU ARE CURRENTLY DOING? (Blacken Only ONE Oval)

- O Employed (Including Full-Time and Part-Time Employment, Self-Employment, Farming, etc.)
- O Continuing My Education (College, Vocational School, etc.)
- O Serving in the Armed Forces
- O Caring for a Home/Family
- O Unemployed
- O Retired
- O Other

PART B: COMPLETE THE FOLLOWING QUESTIONS ONLY IF YOU HAVE EVER HELD A *FULL-TIME* JOB SINCE LEAVING THIS 2-YEAR COLLEGE

B FROM WHICH SOURCE DID YOU LEARN ABOUT THE *FIRST* JOB YOU HELD AFTER COMPLETING YOUR PROGRAM AT THIS COLLEGE? (Blacken Only ONE Oval)

- O College Placement Office
- O College Counselor/Advisor
- O Faculty at the College
- O Parent or Relative
- O Newspaper/Trade Publication
- O Professional Meeting
- O Another Student/Friend
- O Recruited by Employer
- O Public/Private Employment Agency
- O Other

C INDICATE WHETHER EACH OF THE FOLLOWING WAS A MAJOR PROBLEM, A MINOR PROBLEM, OR NOT A PROBLEM IN OBTAINING YOUR *FIRST* JOB AFTER LEAVING THIS COLLEGE

MAJOR PROBLEM	MINOR PROBLEM	NOT A PROBLEM	
O	O	O	Deciding What I Wanted to Do
O	O	O	Finding a Job for Which I Was Trained
O	O	O	Finding the Kind of Job I Wanted
O	O	O	*Knowing How to Find Job Openings*
O	O	O	Finding a Job That Paid Enough
O	O	O	Scheduling Interviews
O	O	O	Writing a Resume, Vita, or Letter of Introduction
O	O	O	*Completing Job Applications*
O	O	O	Finding a Job Where I Wanted to Live
O	O	O	Race/Sex Discrimination

D WHAT WAS YOUR ANNUAL SALARY/INCOME IN THE *FIRST* JOB YOU HELD AFTER COLLGE?

- O Less than $6,000
- O $6,000 to $8,999
- O $9,000 to $11,999
- O $12,000 to $14,999
- O $15,000 to $17,999
- O $18,000 to $20,999
- O $21,000 to $23,999
- O $24,000 to $26,999
- O $27,000 to $29,999
- O $30,000 to $39,999
- O $40,000 to $50,000
- O Over $50,000

PART B: CONTINUED

E HOW LONG DID IT TAKE YOU TO OBTAIN YOUR *FIRST* FULL-TIME JOB AFTER LEAVING THIS COLLEGE?

- O Obtained the Job Prior to Leaving College
- O Less Than 1 Month
- O 1 to 3 Months
- O 4 to 6 Months
- O 7 to 12 Months
- O Over 12 Months

F INDICATE THE NUMBER OF FULL-TIME JOBS YOU HAVE HELD SINCE LEAVING THIS COLLEGE

- O 1
- O 2
- O 3
- O 4
- O 5 or More

PART C: COMPLETE THESE QUESTIONS ONLY IF YOU ARE *CURRENTLY UNEMPLOYED*

G INDICATE THE *PRIMARY* REASON YOU ARE NOW UNEMPLOYED

- O Have Been Unable to Find a Full-Time Job Since College
- O Was Laid Off by Employer
- O Quit to Find Another Job
- O Health/Personal Reasons
- O Do Not Desire Employment at This Time
- O Other

H HOW LONG HAVE YOU ACTIVELY BEEN SEEKING EMPLOYMENT?

- O Not Seeking Employment
- O Less Than 1 Month
- O 1 to 3 Months
- O 4 to 6 Months
- O 7 to 12 Months
- O Over 12 Months

I HAVE YOU SOUGHT HELP FROM THIS COLLEGE'S PLACEMENT OFFICE?

- O Yes, It Has Been Helpful
- O Yes, but It Has Not Been Helpful
- O No

PART D: COMPLETE THESE QUESTIONS ONLY IF YOU ARE *CURRENTLY EMPLOYED*

J INDICATE YOUR CURRENT OCCUPATION

Use the List of College Majors and Occupational Choices to indicate your current occupation.

0	0	0
1	1	1
2	2	2
3	3	3
	4	4
	5	5
	6	6
	7	7
	8	8
	9	9

K WHAT IS YOUR CURRENT ANNUAL SALARY/INCOME?

- O Less than $6,000
- O $6,000 to $8,999
- O $9,000 to $11,999
- O $12,000 to $14,999
- O $15,000 to $17,999
- O $18,000 to $20,999
- O $21,000 to $23,999
- O $24,000 to $26,999
- O $27,000 to $29,999
- O $30,000 to $39,999
- O $40,000 to $50,000
- O Over $50,000

L HOW WELL DID THIS COLLEGE PREPARE YOU FOR YOUR PRESENT OCCUPATION?

- O Very Well
- O Adequately
- O Poorly
- O Not at All

M HOW CLOSELY IS YOUR CURRENT OCCUPATION RELATED TO YOUR MAJOR AREA OF STUDY AT THIS COLLEGE?

- O Highly Related
- O Moderately Related
- O Slightly Related
- O Not Related

N DO YOU FEEL YOU ARE CURRENTLY UNDEREMPLOYED?

- O Yes
- O No

O INDICATE YOUR SATISFACTION WITH THE FOLLOWING ASPECTS OF YOUR PRESENT JOB

VERY SATISFIED	SATISFIED	NEUTRAL	DISSATISFIED	VERY DISSATISFIED	
O	O	O	O	O	Challenge
O	O	O	O	O	Location
O	O	O	O	O	Salary and Benefits
O	O	O	O	O	Advancement Potential
O	O	O	O	O	Working Conditions
O	O	O	O	O	Career Potential

MAKE NO STRAY MARKS ON THIS FORM

SECTION V—ADDITIONAL QUESTIONS

If an additional set of multiple-choice questions is included with this form, please use this section to record your responses. Twelve ovals are provided for each question, but few questions require that many choices. Simply ignore the extra ovals. If no additional questions are enclosed, leave this section blank.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

SECTION VI—MAILING ADDRESSES

PLEASE PRINT YOUR NAME AND CURRENT ADDRESS ON THE LINES PROVIDED BELOW.

First Name MI Maiden Name Last Name

Street Address/P.O. Box

City State

Zip Code Area Code/Telephone No.

PLEASE PRINT THE NAME AND ADDRESS OF SOMEONE WHO CAN FORWARD MAIL TO YOU, SHOULD YOU MOVE.

Name

Street Address/P.O. Box

City

State Zip Code

PLEASE PRINT YOUR CURRENT BUSINESS ADDRESS ON THE LINES PROVIDED BELOW.

Name of Organization

Street Address/P.O. Box

City

State Zip Code

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SECTION VII—COMMENTS AND SUGGESTIONS

If you wish to make any comments or suggestions concerning this 2-year college, please use the lines provided below.

DO NOT WRITE BELOW THIS LINE.

SECTION V - ADDITIONAL QUESTIONS

Directions: Match each question on this sheet with the numbers appearing in Section V on the Alumni Survey. Then, in each column below the matching question number, blacken the appropriate oval. Mark only one oval for each question.

1. Please indicate the highest level of formal education completed by your father when you attended NIACC.

   a) Eighth grade or less
   b) Some high school
   c) High school graduate
   d) Technical or business school
   e) Some college
   f) Two-year college graduate
   g) Four-year college graduate
   h) Some post-graduate study
   i) Received an advanced degree
   j) Do not know

2. How would you rate your overall experience at NIACC?

   a) Excellent
   b) Good
   c) Average
   d) Below average
   e) No opinion

3. Since leaving NIACC, have you applied for admission to any other institution of higher education?

   a) Yes, and I have been admitted
   b) Yes, and I have not been admitted
   c) Yes, and I have completed my course of study
   d) No, but I intend to apply in the next year
   e) No, and I don't intend to apply in the next year, but possibly later
   f) No, and I never plan to apply

4. Please indicate the highest level of formal education completed by your mother when you attended NIACC.

   a) Eighth grade or less
   b) Some high school
   c) High school graduate
   d) Technical or business school
   e) Some college
   f) Two-year college graduate
   g) Four-year college graduate
   h) Some post-graduate study
   i) Received an advanced degree
   j) Do not know

5. Since leaving NIACC, have you enrolled/transferred to:

   a) Iowa State University
   b) University of Iowa
   c) University of Northern Iowa
   d) Mankato State University
   e) Drake University
   f) Buena Vista College, Mason City Center
   g) Other (Please list below the university/college name and state)

   _____

   h) Did not transfer

6. I am satisfied with the way my undergraduate experience at NIACC has affected me as a family member?

   a) Agree strongly
   b) Agree
   c) No opinion
   d) Disagree
   e) Disagree strongly

7. I am satisfied with the way my undergraduate experience at NIACC has prepared me for the work place or for a job?

   a) Agree strongly
   b) Agree
   c) No opinion
   d) Disagree
   e) Disagree strongly

8. I am satisfied with the way my undergraduate experience at NIACC has prepared me for being a citizen of the United States?

   a) Agree strongly
   b) Agree
   c) No opinion
   d) Disagree
   e) Disagree strongly

9. I am satisfied with the way my undergraduate experience at NIACC has prepared me as an individual?

   a) Agree strongly
   b) Agree
   c) No opinion
   d) Disagree
   e) Disagree strongly

10. How satisfied are you with NIACC as a whole?

   a) Very satisfied
   b) Satisfied
   c) Indifferent
   d) Unsatisfied
   e) Very dissatisfied

11. How satisfied are you with the impact NIACC has had on you in the work place?

    a) Very satisfied
    b) Satisfied
    c) Indifferent
    d) Unsatisfied
    e) Very dissatisfied

12. How satisfied are you with the impact NIACC has had on you as a citizen of the United States?

    a) Very satisfied
    b) Satisfied
    c) Indifferent
    d) Unsatisfied
    e) Very dissatisfied

13. How satisfied are you with the impact NIACC has had on you as a family member?

    a) Very satisfied
    b) Satisfied
    c) Indifferent
    d) Unsatisfied
    e) Very dissatisfied

14. How satisfied are you, as an individual, with the affect the college has had on your personal life?

    a) Very satisfied
    b) Satisfied
    c) Indifferent
    d) Unsatisfied
    e) Very dissatisfied

15. How would you rate concern for you as an individual at NIACC?

    a) Very satisfied
    b) Satisfied
    c) Neutral
    d) Dissatisfied
    e) Very dissatisfied

16. How would you rate the opportunities for personal involvement in college activities at NIACC?

    a) Very satisfied
    b) Satisfied
    c) Neutral
    d) Dissatisfied
    e) Very dissatisfied

MISSION OF THE COLLEGE

Philosophy

As a comprehensive community college, the North Iowa Area Community College functions as an area-governed institution with a philosophy that education is the fabric of a Democratic society in which a major objective is the optimum development of all human potential.

Mission Statement

The mission of the North Iowa Area Community College is to provide a greater quality of life to the people of North Iowa. The College strives to be a resource for the enhancement of the abilities and self-image of its people and for the development of its communities through programs and services.

Institutional Goals

The College attempts to fulfill this mission by striving to:

* Provide a comprehensive program of instruction which offers opportunities for lifelong learning through pre-baccalaureate, career, and continuing education programs.

* Provide services to students in order to enhance the accessibility and effectiveness of educational offerings.

* Maintain a program which is accessible to the largest possible segment of the community with responsiveness to the special needs of emerging constituencies.

* Maintain the pursuit of excellence as the guiding principle for staffing and programming.

* Maintain the emphasis within the College on recognizing and realizing each individual student's full potential.

* Maintain institutional awareness and responsiveness to social, political, economic, and other community forces which affect the

College.

* Promote educational, cultural, and recreational enrichment of the communities by extending College facilities and resources to the communities.

* Maintain the greatest possible flexibility for the student in regard to curriculum selection, instructional and learning methods, and recognition of both formal and informal learning experiences.

* Maintain the cooperative relationships with other educational institutions and agencies at all levels to facilitate smooth articulation to and from college programs.

* Maintain cooperative relationships with public and social agencies and area businesses and industries through close communication and provision of services and programs as needed or requested.

* Promote a college environment which instills pride and fosters a commitment to quality and purpose in all who come into contact with it.

* Achieve good stewardship of entrusted public resources.

* Maintain the systematic participation of the staff and the community in College governance.

LIST OF COLLEGE MAJORS AND OCCUPATIONAL CHOICES

Since we could not list all possible occupations and programs of study, you may not be able to find an exact description of the one that applies to you. If that is the case, you should select a general area—for example, 100 (Agricultural Fields), 200 (Engineering Fields), 220 (Fine and Applied Arts).

If you are completely undecided about your answer, mark 000.

000 Undecided

100 **AGRICULTURE,** general
101 Agricultural Business
102 Agricultural Economics
103 Agricultural and Farm Management (farming and ranching)
104 Agriculture, Forestry, and Wildlife Technologies
105 Agronomy (field crops and crop management)
106 Animal Science (husbandry)
107 Fish, Game, and Wildlife Management
108 Food Science and Technology
109 Forestry
110 Horticulture/Ornamental Horticulture
111 Natural Resources Management (soil conservation)

120 **ARCHITECTURE,** general
121 Architecture Technology
122 City, Community, and Regional Planning
123 Environmental Design, general
124 Interior Design
125 Landscape Architecture

130 **BIOLOGICAL SCIENCES,** general
131 Biology
132 Biochemistry
133 Botany
134 Ecology
135 Microbiology
136 Zoology

140 **BUSINESS AND COMMERCE,** general
141 Accounting
142 Banking and Finance
143 Business Economics
144 Business Management and Administration
145 Food Marketing
146 Hotel and Restaurant Management
147 Labor and Industrial Relations
148 Office Management
149 Marketing and Purchasing (sales and retailing)
150 Real Estate and Insurance
151 Recreation and Tourism
152 Secretarial Studies
153 Transportation and Public Utilities

160 **COMMUNICATIONS,** general
161 Journalism
162 Radio/Television (related to broadcasting)
163 Advertising
164 Library Science

170 **COMPUTER AND INFORMATION SCIENCES,** general
171 Computer Programming
172 Information Systems and Sciences
173 Systems Analysis
174 Data Processing Technology
175 Computer Operating
176 Data Systems Repair

180 **EDUCATION,** general
181 Agricultural Education
182 Art Education
183 Business, Commerce, and Distributive Education
184 Educational Administration
185 Elementary Education
186 English Education
187 Home Economics Education
188 Industrial Arts, Vocational/Technical Education
189 Mathematics Education
190 Music Education
191 Physical Education
192 Postsecondary Education, general
193 Science Education
194 Secondary Education, general
195 Social Science Education
196 Special Education
197 Speech Education
198 Student Guidance and Counseling

200 **ENGINEERING,** general
201 Aerospace, Aeronautical, and Astronautical Engineering
202 Agricultural Engineering
203 Architectural Engineering
204 Chemical Engineering
205 Civil Engineering
206 Electrical, Electronics, and Communications Engineering
207 Environmental and Ecological Engineering
208 Geological Engineering
209 Industrial and/or Management Engineering
210 Mechanical Engineering
211 Metallurgical and Materials Engineering
212 Mining and Mineral Engineering
213 Nuclear Engineering
214 Ocean Engineering
215 Petroleum Engineering

220 **FINE AND APPLIED ARTS,** general
221 Applied Design (ceramics, weaving, commercial art)
222 Art (painting, drawing, sculpture)
223 Art History and Appreciation
224 Dance
225 Dramatic Arts (theater arts)
226 Music (liberal arts)
227 Music (performing, composition, theory)
228 Music History and Appreciation
229 Photography/Cinematography

230 **FOREIGN LANGUAGES,** general
231 French
232 German
233 Italian
234 Latin
235 Spanish
236 Russian

240 **HEALTH PROFESSIONS,** general
241 Dentistry
242 Dental Assistant
243 Dental Hygiene
244 Dental Lab Technology
245 Environmental Health Technologies
246 Medicine, general
247 Medical Assistant or Medical Office Assistant
248 Medical or Laboratory Technology
249 Nursing (registered)
250 Nursing (licensed practical nurse)
251 Occupational Therapy
252 Optometry
253 Pharmacy
254 Physical Therapy
255 Public Health
256 Radiology
257 X-ray Technology
258 Surgical Technology (surgeon's assistant, etc.)
259 Veterinary Medicine

260 **HOME ECONOMICS,** general
261 Clothing and Textiles
262 Consumer Economics and Home Management
263 Family Relations and Child Development
264 Foods and Nutrition (including Dietetics)
265 Institutional Management

270 **LETTERS** (humanities), general
271 Classics
272 Comparative Literature
273 Creative Writing
274 English, general
275 Linguistics
276 Literature, English
277 Philosophy
278 Religion and Theology
279 Speech, Debate, Forensic Science

280 **MATHEMATICS,** general
281 Applied Mathematics
282 Statistics (mathematical and theoretical)

285 **PHYSICAL SCIENCE,** general
286 Astronomy
287 Chemistry
288 Earth Sciences
289 Geology
290 Oceanography
291 Physics

300 **COMMUNITY SERVICE,** general
301 Criminal Justice and Law Enforcement (police science, corrections, etc.)
302 Parks and Recreation Management
303 Public Administration
304 Social Work
305 Military

310 **SOCIAL SCIENCES,** general
311 Anthropology
312 Area Studies (American civilization, American studies, etc.)
Criminal Justice (see code 301)
313 Economics
314 Ethnic Studies (Asian studies, Black studies, Chicano studies, etc
315 Geography
316 History
317 International Relations
318 Law (prelaw)
319 Political Science
320 Psychology
321 Sociology

330 **TRADE, INDUSTRIAL, AND TECHNICAL,** general
331 Agricultural Mechanics and Technology
332 Air Conditioning, Refrigeration, and Heating Technology
333 Aeronautical and Aviation Technology
334 Appliance Repair
335 Automobile Body Repair
336 Automobile Mechanics
337 Business Machine Maintenance
338 Carpentry and Construction
339 Drafting/Engineering Graphics
340 Electricity and Electronics
341 Engineering Technology—Aeronautical
342 Engineering Technology—Automotive
343 Engineering Technology—Civil
344 Engineering Technology—Industrial/Manufacturing
345 Engineering Technology—Mechanical
346 Graphic Arts (printing, typesetting)
347 Heavy Equipment Operating
348 Dry Cleaning, Laundry, and Clothing Technology
349 Industrial Arts
350 Leatherworking (shoe repair, etc.)
351 Machinework (tool and die, etc.)
352 Masonry (brick, cement, stone, etc.)
353 Metalworking
354 Plumbing and Pipefitting
355 Radio/TV Repair
356 Small Engine Repair
357 Upholstering
358 Watch Repair and Other Instrument Maintenance and Repair
359 Welding
360 Woodworking (cabinetmaking, millwork)

370 **GENERAL STUDIES**

APPENDIX E.

SAMPLE TRANSFER INSTITUTION PERMANENT STUDENT TRANSCRIPT (IOWA STATE UNIVERSITY)

FALL 83 — 08/03/63 — FEMALE — OFFICIAL — RPO

UNDERGRADUATE — [redacted] — IOWA RESIDENT — [redacted] — 05/81 — 08/16/89

STATUS — STUDENT NUMBER — RESIDENCY STATUS — HIGH SCHOOL — HIGH SCHOOL GRADUATION DATE — PRINT DATE

DESCRIPTIVE TITLE	DEPARTMENT	COURSE NUMBER	CREDITS	GRADE OR MARK	SPECIAL SYMBOLS
ADMITTED TO DEGREE PROG IN PSYCH F 83					
ADMITTED AS A JUNIOR					
TRANSFER CREDITS ACCEPTED FROM					
NORTH IOWA AREA COMMUNITY COLLEGE 81-83					
ENGL 104(3)105(3)			6		
SP CM 212(2)			2		
SPAN 101(4)			4		
LIB 160(R)			R		
FRNCH 101(4)102(4)			8		
PHIL 201(3)			3		
ENGL 353(3)			3		
BIOL 110(3)110L(1)			4		
PSYCH 101(3)230(3)333(3)			9		
(100)PSYCH-CHLD PSYCH(3)			3		
(100)SOC S-LIFE PLANNING(1)			1		
SOC S 134(3)219(3)			6		
MATH 195(3)			3		
(100)MATH -INTERM ALG(3)			3		
(200)BUSAD-HU RELATION(3)			3		
(100)H S -HLTH & NUTR(3)			3		
TOTAL TRANSFER CREDITS			61		
CHANGED TO D FN 10-20-83					
FALL 1983 (SEM)					
SKY & SOLAR SYSTEM	ASTRO	120	3.0	B	
INTRO PROB & MATRIC	MATH	104	3.0	B	
SOCIAL PSYCHOLOGY	PSYCH	280	3.0	B+	
NORMAL PERSONALITY	PSYCH	360	3.0	C	
TERM TOTALS			12.0 33.99	2.83	
CHANGED TO AD P 04-16-84					
FALL 1984 (SEM)					
FOUND OF ART & DSN	ART	101	2.0	B+	
BASIC DSN STUDIO	ART	102	2.0	C	
GENERAL CHEMISTRY	CHEM	163	4.0	D+	
GENERAL CHEM LAB	CHEM	163L	1.0	C	
DRAWING I	DSN S	135	3.0	C	
INTRO TO HOME EC	HE ST	101	1.0	S	
CLOTHING CONST	T C	121	3.0	B	
TERM TOTALS			15.0 32.98	2.20	
SPRING 1985 (SEM)					
INTRO WESTERN CIV	HIST	201	3.0	B	
MOD THEATRE PRACT	SP CM	255	4.0	B	
CLOTHING CONTEM SOC	T C	165	2.0	B+	
INTRO TO TEXTILES	T C	204	4.0	A-	
ALTERNG&FITTNG APP	T C	221	1.0	C-	
FASHION ILLUST I	T C	278	3.0	B-	
CLASSIFIED AS SR					
TERM TOTALS			17.0 52.02	3.06	
FALL 1985 (SEM)					
HUMAN NUTRITION	F N	107	3.0	B	
PUBLICITY METHODS	JL MC	205	2.0	B	
COSTUM STG TV FILM	SP CM	356	4.0	A	
CLOTHING SELECTION	T C	245	3.0	A	
FASHION INDUSTRIES	T C	275	3.0	B-	
FASHION DESIGN	T C	345	3.0	B	
TERM TOTALS			18.0 60.01	3.33	
SPRING 1986 (SEM)					
HISTORY OF ART II	ART	281	3.0	A-	
BUSINESS COMMUNIC	ENGL	302	3.0	B-	
FLAT PATTERN DSN	T C	225	3.0	B	
FASHION ILLUST II	T C	279	3.0	B-	
STUDY TOUR	T C	380	1.0	S	
TERM TOTALS			12.0 36.03	3.00	
FALL 1986 (SEM)					
HISTORY OF ART I	ART	280	3.0	C	
FAM LIFE DEVELOP	C D	102	3.0	X	
PROFESSIONAL'S ROLE	HE ST	301	1.0	S	
TEXTILE TESTING	T C	305	3.0	B-	
DRAPING	T C	325	3.0	C	
HISTORY COSTUME I	T C	354	3.0	A	
EXP CLOTHING CONST	T C	521	2.0	B	
TERM TOTALS			14.0 38.01	2.72	
SPRING 1987 (SEM)					
PRINCIPLES OF ECON	ECON	201	4.0	C+	
BUSINESS ORG & MGT	MGMT	370	3.0	C-	
EXPERIMNT FASH DSGN	T C	324X	3.0	B	
APPAREL PROD MGNT	T C	331	3.0	C	
HISTORY TEXTILES I	T C	355	3.0	B	
TERM TOTALS			16.0 38.33	2.40	
DEGREES CONFERRED					
B.S. APPAREL DESIGN & PATTERNMAKING					
05-16-87					
********** END OF RECORD **********					

GRADE POINT SUMMARY	TOTAL HRS	ISU CUM HRS	ISU CUM QUAL PTS	ISU CUM GPA
	168.0	104.0	291.37	2.8

MARKING SYSTEM

GRADE	QUALITY POINTS	MARK
A	400	I - Incomplete
A-	367	
B+	333	X - Drop (Not used Winter 1971 thru Fall 1977)
B	300	
B-	267	NP - Not Pass (NP is not counted in the grade point average)
C+	233	
C	200	T - Test out
C-	167	
D+	133	S - Satisfactory
D	100	
D-	067	P - Pass
F	000	

All indicate satisfactory progress. Credits are added to total hours but are not counted in grade point average.

SPECIAL SYMBOLS

R Grade superseded by a later grade.
* Course repeated. Only the most recent grade used in cumulative totals. (Effective Fall 1973)
< Course taken under Pass - Not Pass option (Fall 1967 - Summer 1970 'F' received under Pass - Fail option not counted in grade point average)
+ Removal of previous I (Incomplete)
H Honors Course

Audit Courses are not evaluated.

ISU Changed to the semester system Fall 1981.

Federal law prohibits release of information contained in this transcript to a third party without written consent of the student.

FRED STEAR

Good standing is implied unless "not permitted to register" appears above.
Record valid when signed and sealed by the Registrar

APPENDIX F.

FIRST INTRODUCTORY SURVEY LETTER TO STUDENTS

NORTH IOWA AREA COMMUNITY COLLEGE
500 College Drive
Mason City, Iowa 50401
(515) 423-1264

July 6, 1989

<FIRST> <LAST>
<ADDRESS>
<CITY> <STATE> <ZIP>

Dear <FIRST>:

The College is in the process of conducting a follow-up study of Arts and Science and Career Option students who have enrolled at NIACC between the fall, 1981 through the summer of 1983. The results of this study will provide significant and vital information as we seek to assist the College in its efforts to improve the quality of its programs and services. I believe that the best way to accomplish this task is to get answers to pertinent questions directly from you, a former student.

You have been randomly selected, as part of a small number of former NIACC students, to give your opinion on the impact the College has had on you. In order that the results will truly represent the thinking of former students, it is important that each questionnaire be completed and returned.

You may be assured of complete confidentiality. The questionnaire uses an identification number and your social security number for mailing and monitoring purposes only. Your name will never be placed on the questionnaire or in the study results.

Since I believe that your input is vitally important to us, I would like you to complete the enclosed brief questionnaire. It takes less than 20 minutes to answer! So please take a moment, now if at all possible, complete the questionnaire with the enclosed pencil, and return it in the enclosed pre-paid envelope as soon as possible. It is important that your responses are as accurate as possible, so please read the directions carefully. In addition, I ask that you sign and return the enclosed consent form which gives me your permission to study the survey and your transcripts.

Don't forget, your returned survey qualifies you for one of four prizes. I would be most happy to answer any questions you might have. Please write or call. My telephone number is (515) 421-4352 or Iowa in-watts (800) 392-5685, Ext. 352.

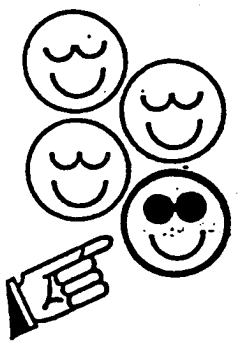
Sincerely,

Daniel J. Phelan
Project Researcher

Enclosures

APPENDIX G.

SURVEY REMINDER POST CARD



Dear Student,

A survey seeking your opinion about North Iowa Area Community College was mailed to you last week. Your name was drawn from a sample of transfer students who have attended NIACC.

If you completed and returned it to us, please accept our thanks; if not, please do so today. The survey was sent to a small sample of NIACC transfer students and it is very important yours be included in the study if the results are to be useful.

If you did not receive the survey, or it was misplaced, please call me at (515) 421-4352 or 1-800-392-5685 ext 352 and I will send another one to you.

Sincerely,

Daniel J. Phelan
Project Researcher

North Iowa Area Community College
Student Services Division
500 College Drive
Mason City, Iowa 50401

APPENDIX H.

SECOND FOLLOW-UP SURVEY MAILING COVER LETTER

NORTH IOWA AREA COMMUNITY COLLEGE
500 College Drive
Mason City, Iowa 50401
(515) 423-1264

July 24, 1989

<FIRST> <LAST>
<ADDRESS>
<CITY>, <STATE> <ZIP>

Dear <FIRST>:

About two weeks ago I wrote you seeking your opinion on the impact North Iowa Area Community College has had on various aspects of your life. As of today we have not yet received your completed survey.

This study has been undertaken in order to provide necessary information to assist the College in assessing its overall effectiveness. To do this, we are interested in compiling opinions from former transfer students like yourself.

I am writing to you again because of the significance each survey has to the usefulness of this study. Your name was drawn through a scientific sampling process of former NIACC transfer classified students. Nearly 400 former students, like you, are being asked to complete this questionnaire. In order for the results of this study to be truly representative of the opinions of all former NIACC transfer students it is essential that each person in the sample return their survey.

In the event that your survey has been misplaced a replacement is enclosed. Please be sure to sign the enclosed consent form which gives me permission to study your survey and transcripts. Please return the consent form and the survey in the enclosed postage-paid envelope. Remember, your returned, completed survey qualifies you to win one of four prizes.

Your cooperation is greatly appreciated!

Sincerely,

Daniel J. Phelan
Project Researcher

csm

Enclosures

APPENDIX I.

FINAL CERTIFIED MAILING COVER LETTER

NORTH IOWA AREA COMMUNITY COLLEGE
500 College Drive
Mason City, Iowa 50401
(515) 423-1264

August 4, 1989

<FIRST> <LAST>
<ADDRESS>
<CITY>, <STATE> <ZIP>

Dear <FIRST>:

I am writing to you about our study of former NIACC transfer students. We have not yet received your completed survey.

The large number of surveys is very encouraging. But whether we will be able to accurately describe how former NIACC transfer students feel about the impact the College has had on their lives depends upon you and the others who have not yet responded. This is because our past experiences suggest that those of you have have not yet sent in your survey may hold quite different opinions of NIACC's influence than those who have.

This is the first comprehensive student study that has ever been done by the College. Therefore, the results are of particular importance to citizens, legislators, instructors, college administrators, and students alike as the College plans for increasing institutional effectiveness. The usefulness of our results depends on how accurately we are able to describe the opinions of former NIACC students.

It is for these reasons that I am sending this survey by certified mail to insure delivery. In case our other correspondence has not reached you, a replacement questionnaire is enclosed. May I urge you to complete and return it as quickly as possible. Please don't forget to sign the consent form which gives me your permission to study the survey and transcripts. Your returned survey qualifies you to win one of four prizes.

I'll be happy to send you a copy of the results if you want one. Simply put your name, address, and "copy of results requested" on the back of the return envelope. We expect to have them ready to send late fall.

Your contribution to the success of this study will be appreciated greatly.

Most sincerely,

Daniel J. Phelan
Project Researcher

csm

Enclosures

APPENDIX J.

WRITER'S WORKBENCH READABILITY ANALYSIS OF THE SURVEY REMINDER POST CARD (APPENDIX G)

May 23 14:58 1989 "Run by user -pheland-. File name is -wwb-" Page 1

*** STYLE ***

```
sentence info:
    av sent leng: 22.2
    % of sent 5 words shorter than av:  20% (1)
    % of sent 10 words longer than av:   0% (0)
sentence types
    simple    0%  (0) complex  100% (5)
verb choice
    forms of to be: 50%  (7)
    passives as % of non-inf verbs  38% (5)
    nominations  1% (1)
sentence beginnings:
    subject openers:  noun (0) pron (0) pos (1) adj (1) art (1) TOTAL  60%
    other openers:  prep  0% (0) adv  0% (0)
           verb   0% (0)  sub_conj  40% (2) conj   0% (0)

other information
    no. sent:  5;  no. wds.:  111
    av word leng:  4.28
    (Kincaid) 10.4  (auto)  9.8  (Coleman-Liau)  8.1  (Flesch)  9.0  (60.2)
```

APPENDIX K.

LIST OF NORMED COMMUNITY COLLEGES WHO HAVE USED THE ACT ALUMNI SURVEY TWO-YEAR COLLEGE FORM

ALUMNI SURVEY (2-YEAR COLLEGE) USER LIST

College Code	State Code	School Name
0009	AL	S D Bishop St Jr College
0263	CA	Foothill College
0497	CO	Arapahoe Comm. College
0801	GA	Brewton-Parker College
0905	IL	Honolulu Comm. College
1027	IL	Felician College
1056	IL	Illinois Valley Comm. College
1159	IL	Waubonsee Comm. College
1213	IA	American Institute of Business
1275	IA	Kirkwood Comm. College
1415	KS	Haskell Indian Junior College
1439	KS	Seward County Comm. College
1573	LA	Bossier Parish Comm. College
1875	MA	North Shore Comm. College
2006	MI	Henry Ford Comm. College
2039	MI	Monroe County Comm. College
2082	MN	Austin Community College
2093	MN	Aroka-Ramsey Comm. College
2244	MS	Mississippi Delta Jr Comm. College
2313	MO	Jefferson College
2694	NY	Clinton Community College
2715	NY	Columbia-Greene Comm. College
2821	NY	Monroe Community College
3263	OH	Cuyahoga Community College-- Metropolitan Campus
3328	OH	Providence Hospital School of Radiologic Tech
3659	PA	Pierce Jr College of Optometry
3832	SC	Anderson College

3953	TN	Columbia State Community College
3955	TN	Cleveland State Community College
3967	TN	Jackson State Community College
3969	TN	Dyersburg State Community College
3983	TN	Nashville State Tech Institute
3985	TN	Roane State Community College
4003	TN	Motlow State Community College
4005	TN	Shelby State Community College
4019	TN	State Tech Institute of Memphis
4021	TN	Tri-Cities State Tech Institute
4028	TN	State Tech Institute--Knoxville
4037	TN	Volunteer State Community College
4041	TN	Chattanooga State Tech C. C.
4067	TX	Brazosport College
4268	UT	College of Eastern Utah
4272	UT	Dixie College
4273	UT	Snow College
4278	UT	Utah Tech College at Provo
4290	UT	Utah Tech College at Salt Lake
4323	VT	Vermont Tech College
4477	WA	Spokane Falls Comm. College
4481	WA	Spokane Community College

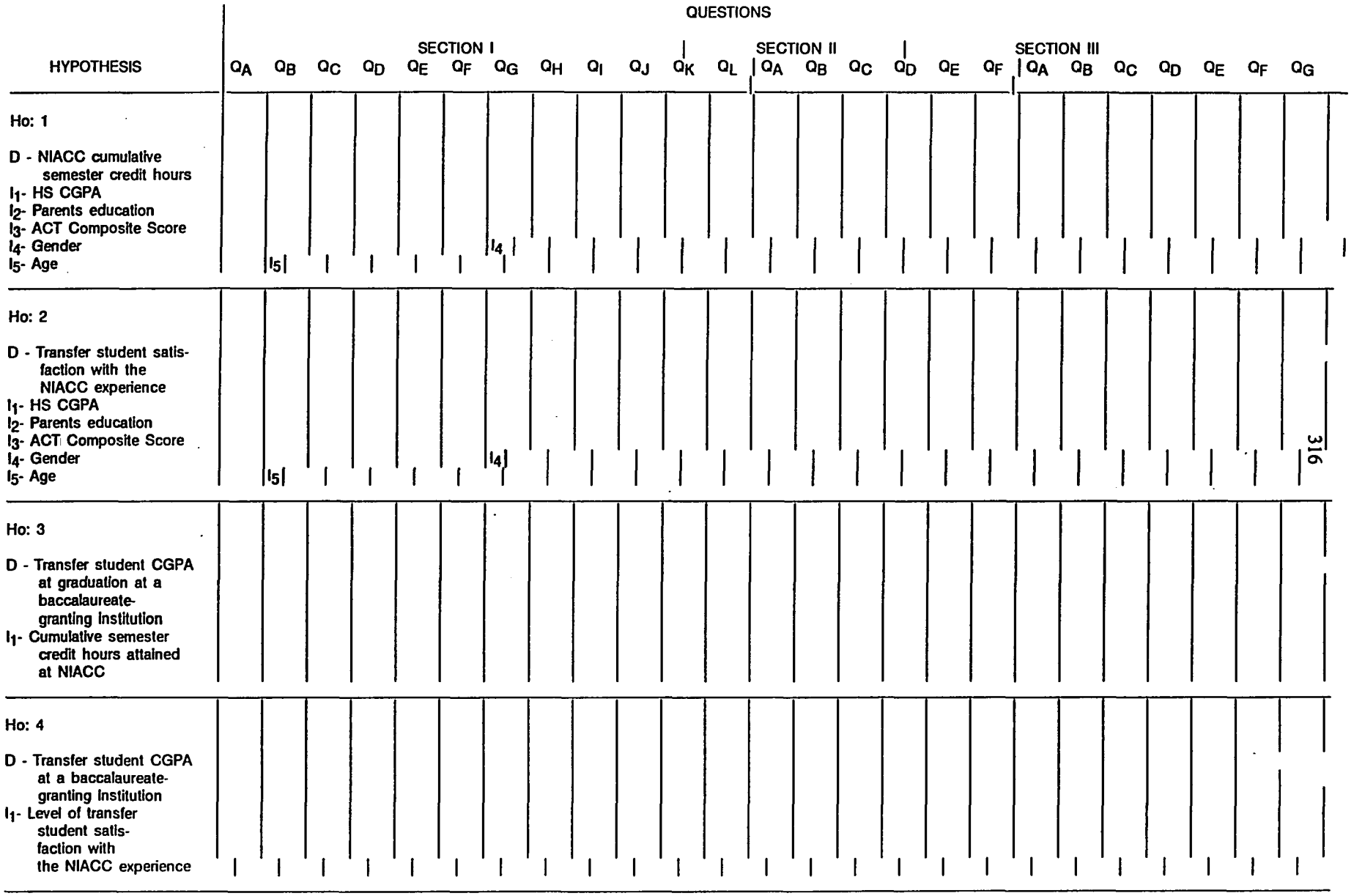
APPENDIX L.

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	SECTION I												SECTION II						SECTION III						
	Q_A	Q_B	Q_C	Q_D	Q_E	Q_F	Q_G	Q_H	Q_I	Q_J	Q_K	Q_L	Q_A	Q_B	Q_C	Q_D	Q_E	Q_F	Q_A	Q_B	Q_C	Q_D	Q_E	Q_F	Q_G
Ho: 1																									

HYPOTHESIS/SURVEY QUESTION MATRIX



HYPOTHESIS/SURVEY QUESTION MATRIX

QUESTIONS

HYPOTHESIS	SECTION IV																	SECTION V						
	Q_H	Q_I	Q_J	Q_A	Q_B	Q_C	Q_D	Q_E	Q_F	Q_G	Q_H	Q_I	Q_J	Q_K	Q_L	Q_M	Q_N	Q_O	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7
Ho: 1																								
D - NIACC cumulative semester credit hours																								
I_1- HS CGPA																								
I_2- Parents education																								
I_3- ACT Composite Score																		I_2						
I_4- Gender																								
I_5- Age																								
Ho: 2																								
D - Transfer student satisfaction with the NIACC experience			D																I_2			D		
I_1- HS CGPA																								
I_2- Parents education																								
I_3- ACT Composite Score																								
I_4- Gender																								
I_5- Age																								
Ho: 3																								
D - Transfer student CGPA at graduation at a baccalaureate-granting institution																								
I_1- Cumulative semester credit hours attained at NIACC																								
Ho: 4																								
D - Transfer student CGPA at a baccalaureate-granting institution																								
I_1- Level of transfer student satisfaction with the NIACC experience			I_1																			I_1		

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS: Q_8	Q_9	Q_{10}	Q_{11}	Q_{12}	Q_{13}	Q_{14}	Q_{15}	Q_{16}	Collection sources other than the Survey:
Ho: 1 D - NIACC cumulative semester credit hours I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age									D - NIACC permanent student records	I_1- NIACC permanent student records
Ho: 2 D - Transfer student satisfaction with the NIACC experience I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age					D				I_1	I_1- NIACC permanent student records
Ho: 3 D - Transfer student CGPA at graduation at a baccalaureate-granting institution I_1- Cumulative semester credit hours attained at NIACC										
Ho: 4 D - Transfer student CGPA at a baccalaureate-granting institution I_1- Level of transfer student satisfaction with										

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS
	Q_{76} Q_{77} Q_{78} Q_{79} 80 Q_{81} Q_{82} Q_{83} Q_{84} Q_{85} Q_{86} Q_{87} Q_{88} Q_{89} Q_{90} Q_{91} Q_{92} Q_{93} Q_{94} Q_{95} Q_{96} Q_{97} Q_{98} Q_{99} Q_{100}
Ho: 1 D - NIACC cumulative semester credit hours HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age	
Ho: 2 D - Transfer student satisfaction with the NIACC experience I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age	
Ho: 3 D - Transfer student CGPA at graduation at a baccalaureate-granting institution I_1- Cumulative semester credit hours attained at NIACC	
Ho: 4 D - Transfer student CGPA at a baccalaureate-granting institution I_1- Level of transfer student satisfaction with	

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS Q_{101} Q_{102} Q_{103} Q_{104} Q_{105} Q_{106} Q_{107} Q_{108} Q_{109} Q_{110} Q_{111} Q_{112} Q_{113} Q_{114} Q_{115} Q_{116} Q_{117} Q_{118} Q_{119} Q_{120} Q_{121} Q_{122} Q_{123} Q_{124} Q_{125}
Ho: 1 D - NIACC cumulative semester credit hours HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age	
Ho: 2 D - Transfer student satisfaction with the NIACC experience I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age	
Ho: 3 D - Transfer student CGPA at graduation at a baccalaureate-granting institution I_1- Cumulative semester credit hours attained at NIACC	
Ho: 4 D - Transfer student CGPA at a baccalaureate-granting institution I_1- Level of transfer student satisfaction with	

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS Q_{126}	Q_{127}	Q_{128}	Q_{129}	Q_{130}	Q_{131}	Q_{132}	Q_{133}
Ho: 1 D - NIACC cumulative semester credit hours HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age								
Ho: 2 D - Transfer student satisfaction with the NIACC experience I_1-HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age								
Ho: 3 D - Transfer student CGPA at graduation at a baccalaureate-granting institution I_1- Cumulative semester credit hours attained at NIACC								
Ho: 4 D - Transfer student CGPA at a baccalaureate-granting institution I_1- Level of transfer student satisfaction with								

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9	Q_{10}	Q_{11}	Q_{12}	Q_{13}	Q_{14}	Q_{15}	Q_{16}	Q_{17}	Q_{18}	Q_{19}	Q_{20}	Q_{21}	Q_{22}	Q_{23}	Q_{24}	Q_{25}
Ho: 1 D - NIACC cumulative semester credit hours HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 2 D - Transfer student satisfaction with the NIACC experience I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 3 D - Transfer student CGPA at graduation at a baccalaureate-granting institution I_1- Cumulative semester credit hours attained at NIACC																									
Ho: 4 D - Transfer student CGPA at a baccalaureate-granting institution I_1- Level of transfer student satisfaction with																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9	Q_{10}	Q_{11}	Q_{12}	Q_{13}	Q_{14}	Q_{15}	Q_{16}	Q_{17}	Q_{18}	Q_{19}	Q_{20}	Q_{21}	Q_{22}	Q_{23}	Q_{24}	Q_{25}
Ho: 5 D - NIACC transfer student satisfaction as an individual I - Cumulative semester credit hours attained at NIACC																									
Ho: 6 D - NIACC transfer student satisfaction as an individual I - Level of transfer student satisfaction with the NIACC experience																									
Ho: 7 D - NIACC transfer student satisfaction in the workplace I - Cumulative semester credit hours attained at NIACC																									
Ho. 8 D - NIACC transfer student satisfaction in the workplace I - Level of transfer student satisfaction with the NIACC experience																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50
Ho: 5 D - NIACC transfer student satisfaction as an individual I - Cumulative semester credit hours attained at NIACC																									
Ho: 6 D - NIACC transfer student satisfaction as an individual I - Level of transfer student satisfaction with the NIACC experience																									
Ho: 7 D - NIACC transfer student satisfaction in the workplace I - Cumulative semester credit hours attained at NIACC																									
Ho: 8 D - NIACC transfer student satisfaction in the workplace I - Level of transfer student satisfaction with the NIACC experience																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_{51}	Q_{52}	Q_{53}	Q_{54}	Q_{55}	Q_{56}	Q_{57}	Q_{58}	Q_{59}	Q_{60}	Q_{61}	Q_{62}	Q_{63}	Q_{64}	Q_{65}	Q_{66}	Q_{67}	Q_{68}	Q_{69}	Q_{70}	Q_{71}	Q_{72}	Q_{73}	Q_{74}	Q_{75}
Ho: 5 D - NIACC transfer student satisfaction as an individual I - Cumulative semester credit hours attained at NIACC																									
Ho: 6 D - NIACC transfer student satisfaction as an individual I - Level of transfer student satisfaction with the NIACC experience																									
Ho: 7 D - NIACC transfer student satisfaction in the workplace I - Cumulative semester credit hours attained at NIACC																									
Ho: 8 D - NIACC transfer student satisfaction in the workplace I - Level of transfer student satisfaction with the NIACC experience																									

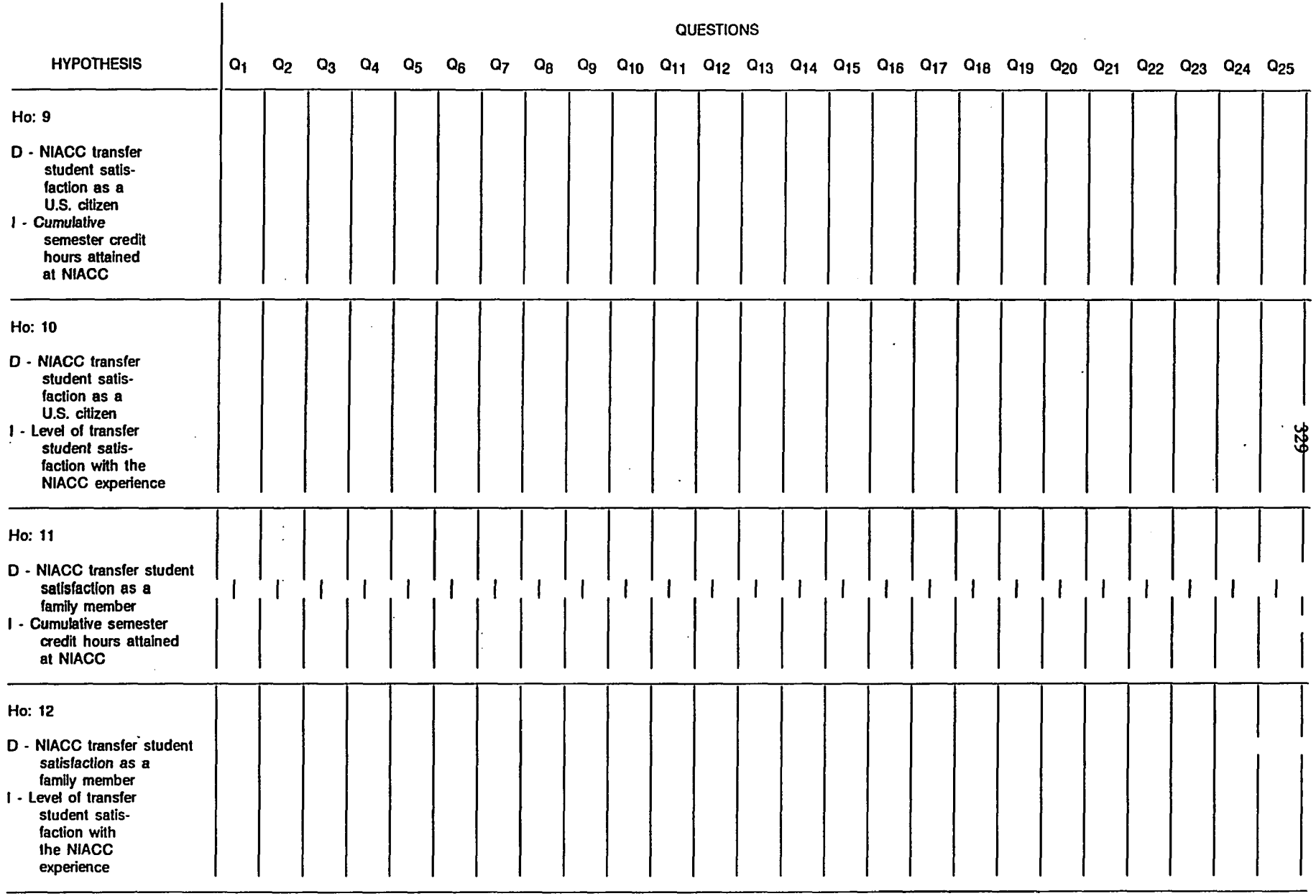
HYPOTHESIS	QUESTIONS																								
	Q76	Q77	Q78	Q79	80	Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100
Ho: 5 D - NIACC transfer student satis-faction as an individual I - Cumulative semester credit hours attained at NIACC																									
Ho: 6 D - NIACC transfer student satis-faction as an individual I - Level of transfer student satis-faction with the NIACC experience																									
Ho: 7 D - NIACC transfer student satisfaction in the workplace I - Cumulative semester credit hours attained at NIACC																									
Ho: 8 D - NIACC transfer student satisfaction in the workplace I - Level of transfer student satis-faction with the NIACC experience																									

HYPOTHESIS	QUESTIONS
	Q_{101} Q_{102} Q_{103} Q_{104} Q_{105} Q_{106} Q_{107} Q_{108} Q_{109} Q_{110} Q_{111} Q_{112} Q_{113} Q_{114} Q_{115} Q_{116} Q_{117} Q_{118} Q_{119} Q_{120} Q_{121} Q_{122} Q_{123} Q_{124} Q_{125}
Ho: 5 D - NIACC transfer student satisfaction as an individual I - Cumulative semester credit hours attained at NIACC	
Ho: 6 D - NIACC transfer student satisfaction as an individual I - Level of transfer student satisfaction with the NIACC experience	
Ho: 7 D - NIACC transfer student satisfaction in the workplace I - Cumulative semester credit hours attained at NIACC	
Ho: 8 D - NIACC transfer student satisfaction in the workplace I - Level of transfer student satisfaction with the NIACC experience	

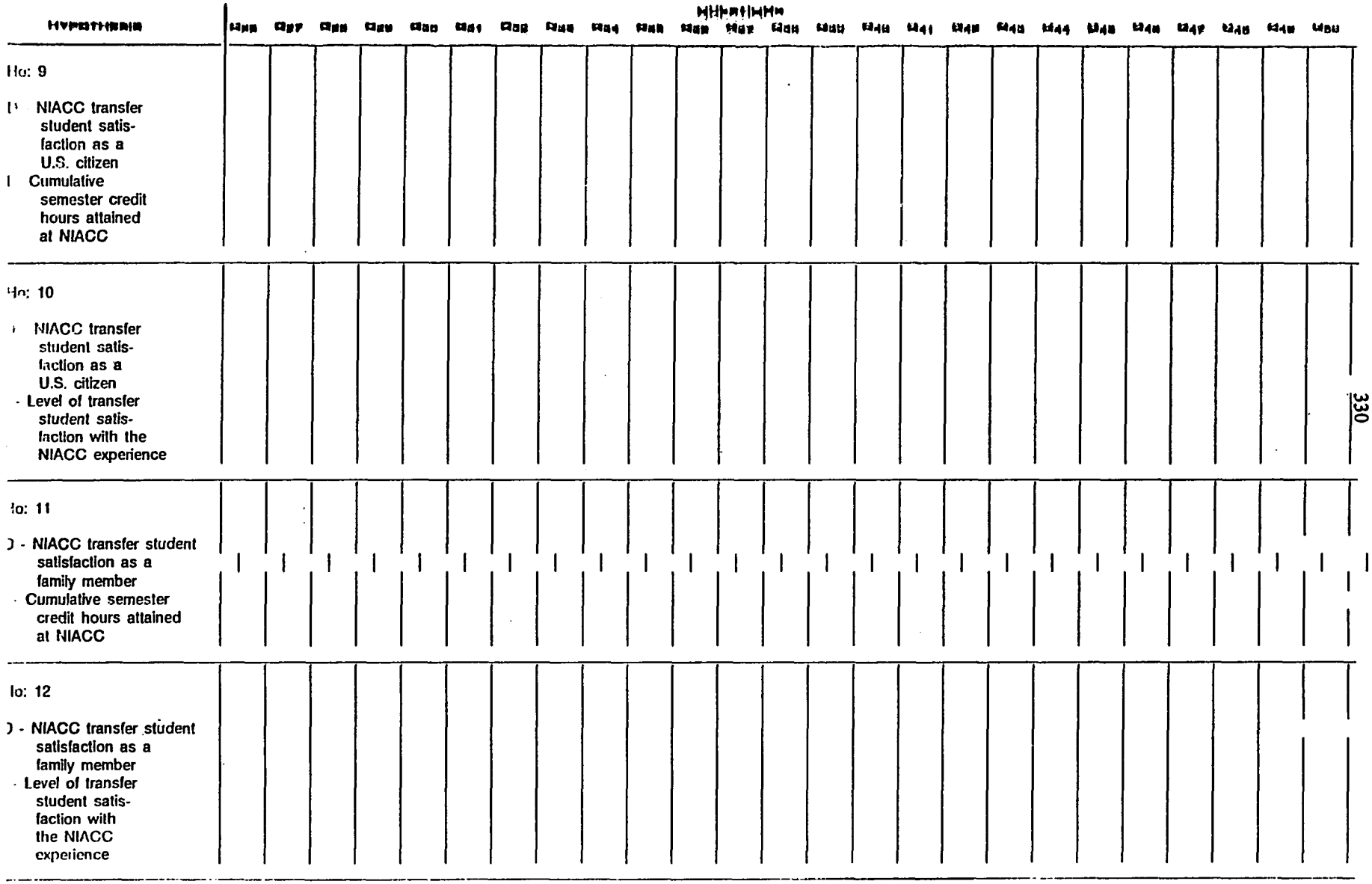
HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS							
	Q_{126}	Q_{127}	Q_{128}	Q_{129}	Q_{130}	Q_{131}	Q_{132}	Q_{133}
Ho: 5 | D - NIACC transfer student satisfaction as an individual I - Cumulative semester credit hours attained as NIACC								
Ho: 6 | D -NIACC transfer student satisfaction as an individual I - Level of transfer student satisfaction with the NIACC experience								
Ho: 7 | D - NIACC transfer student satisfaction in the workplace I - Cumulative semester credit hours attained at NIACC								
Ho: 8 | D - NIACC transfer student satisfaction in the workplace I - Level of transfer student satisfaction with the NIACC experience								

HYPOTHESIS/SURVEY QUESTION MATRIX

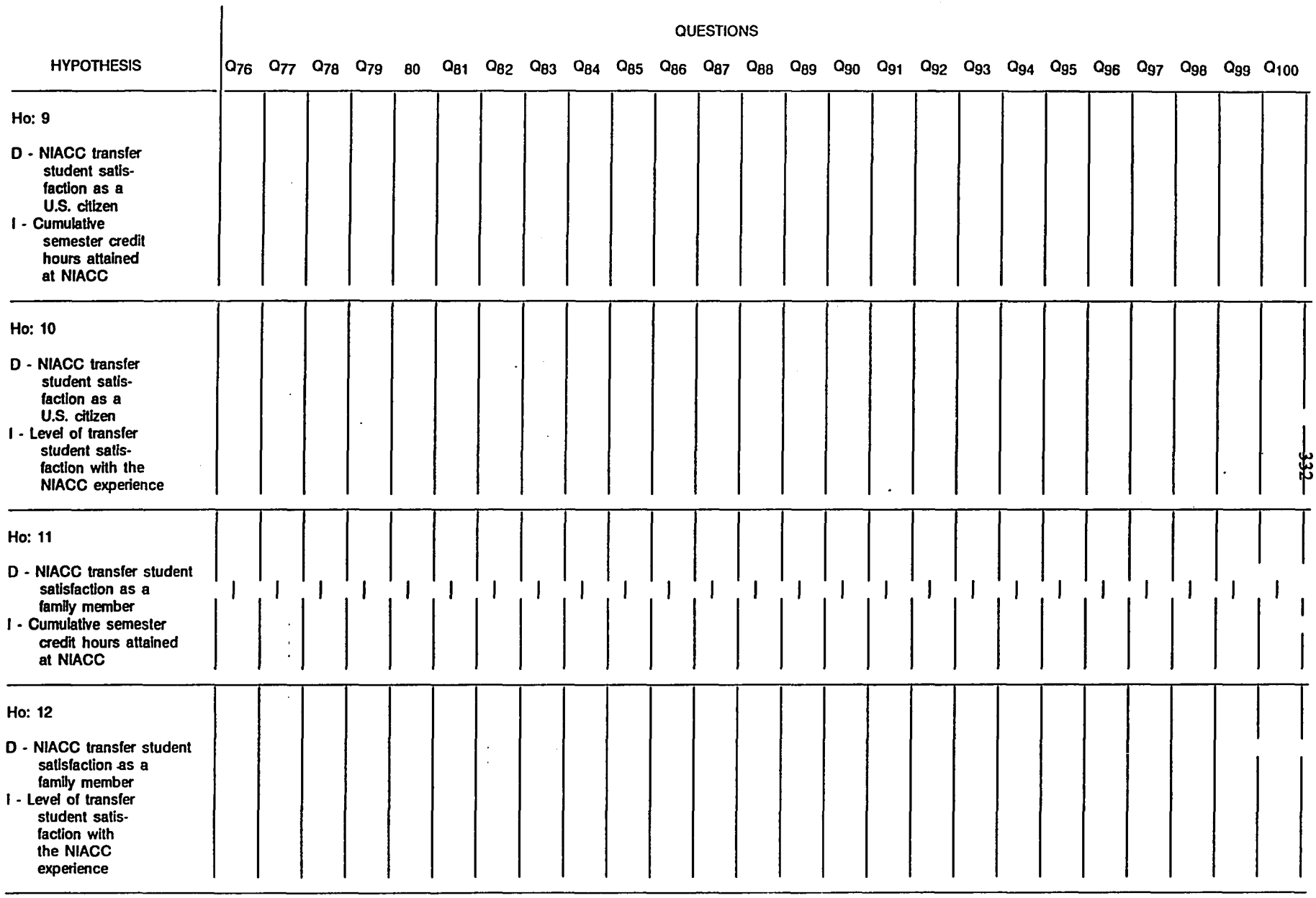


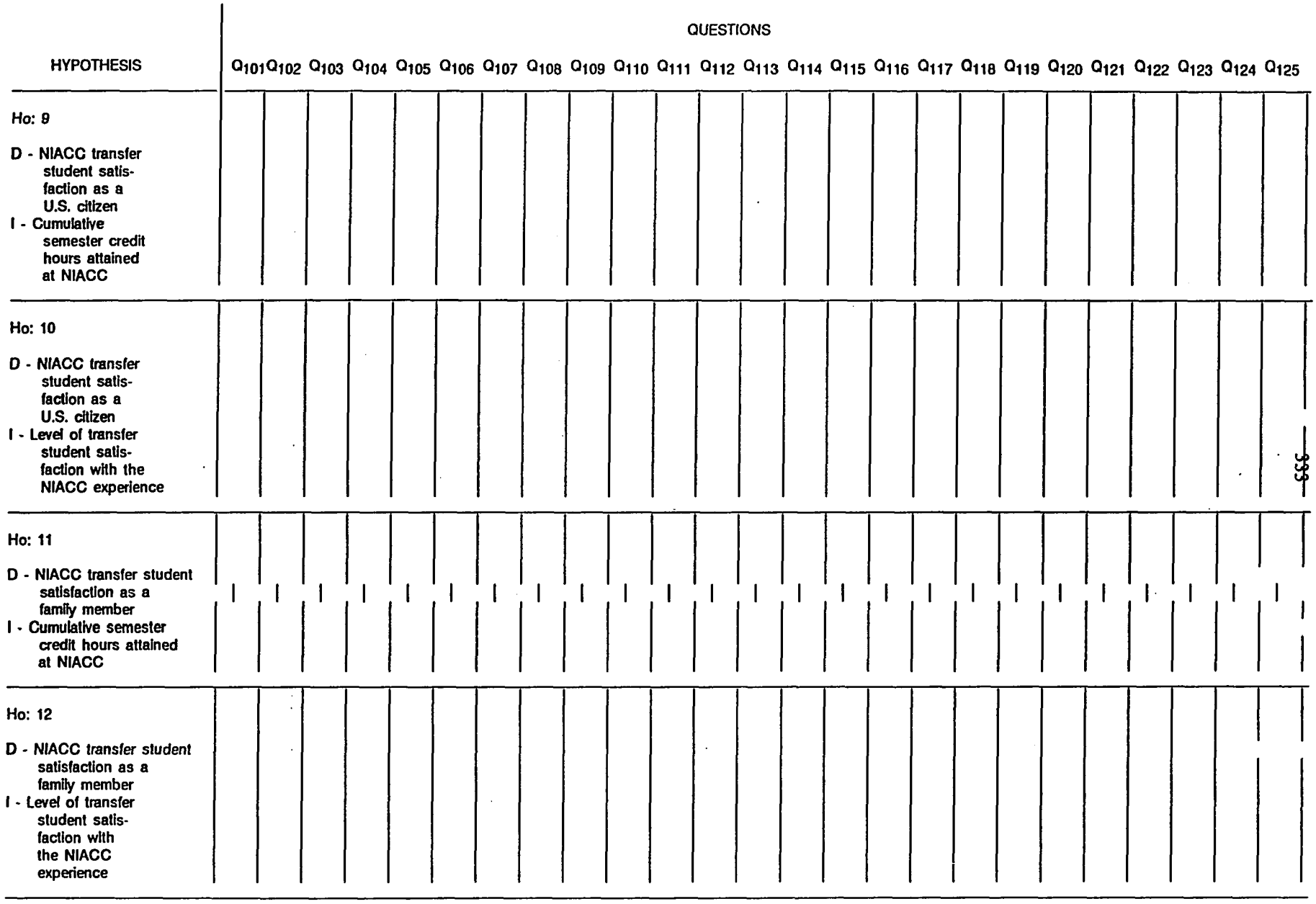
HYPOTHESIS/SURVEY QUESTION MATRIX



HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																									
	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75
Ho: 9 D - NIACC transfer student satis-faction as a U.S. citizen I - Cumulative semester credit hours attained at NIACC																									
Ho: 10 D - NIACC transfer student satis-faction as a U.S. citizen I - Level of transfer student satis-faction with the NIACC experience																									
Ho: 11 D - NIACC transfer student satisfaction as a family member I - Cumulative semester credit hours attained at NIACC																									
Ho: 12 D - NIACC transfer student satisfaction as a family member I - Level of transfer student satis-faction with the NIACC experience																									


QUESTIONS
HYPOTHESIS
Q76 Q77 Q78 Q79 80 Q81 Q82 Q83 Q84 Q85 Q86 Q87 Q88 Q89 Q90 Q91 Q92 Q93 Q94 Q95 Q96 Q97 Q98 Q99 Q100
Ho: 9
D - NIACC transfer student satis-faction as a U.S. citizen
I - Cumulative semester credit hours attained at NIACC
Ho: 10
D - NIACC transfer student satis-faction as a U.S. citizen
I - Level of transfer student satis-faction with the NIACC experience
Ho: 11
D - NIACC transfer student satisfaction as a family member
I - Cumulative semester credit hours attained at NIACC
Ho: 12
D - NIACC transfer student satisfaction as a family member
I - Level of transfer student satis-faction with the NIACC experience


QUESTIONS
HYPOTHESIS
Q101 Q102 Q103 Q104 Q105 Q106 Q107 Q108 Q109 Q110 Q111 Q112 Q113 Q114 Q115 Q116 Q117 Q118 Q119 Q120 Q121 Q122 Q123 Q124 Q125
Ho: 9
D - NIACC transfer student satis-faction as a U.S. citizen
I - Cumulative semester credit hours attained at NIACC
Ho: 10
D - NIACC transfer student satis-faction as a U.S. citizen
I - Level of transfer student satis-faction with the NIACC experience
Ho: 11
D - NIACC transfer student satisfaction as a family member
I - Cumulative semester credit hours attained at NIACC
Ho: 12
D - NIACC transfer student satisfaction as a family member
I - Level of transfer student satis-faction with the NIACC experience

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS							
	Q_{126}	Q_{127}	Q_{128}	Q_{129}	Q_{130}	Q_{131}	Q_{132}	Q_{133}
Ho: 9								
D - NIACC transfer student satisfaction as a U.S. citizen I - Cumulative semester credit hours attained at NIACC								
Ho: 10								
D - NIACC transfer student satisfaction as a U.S. citizen I - Level of transfer student satisfaction with the NIACC experience								
Ho: 11								
D - NIACC transfer student satisfaction as a family member I - Cumulative semester credit hours attained at NIACC								
Ho: 12								
D - NIACC transfer student satisfaction as a family member I - Level of transfer student satisfaction with the NIACC experience								

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9	Q_{10}	Q_{11}	Q_{12}	Q_{13}	Q_{14}	Q_{15}	Q_{16}	Q_{17}	Q_{18}	Q_{19}	Q_{20}	Q_{21}	Q_{22}	Q_{23}	Q_{24}	Q_{25}
Ho: 13 D - NIACC transfer student CGPA at a baccalaureate-granting institution I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 14 D - NIACC transfer student satisfaction as an individual I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 15 D - NIACC transfer student satisfaction in the workplace I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_{26}	Q_{27}	Q_{28}	Q_{29}	Q_{30}	Q_{31}	Q_{32}	Q_{33}	Q_{34}	Q_{35}	Q_{36}	Q_{37}	Q_{38}	Q_{39}	Q_{40}	Q_{41}	Q_{42}	Q_{43}	Q_{44}	Q_{45}	Q_{46}	Q_{47}	Q_{48}	Q_{49}	Q_{50}
Ho: 13 D - NIACC transfer student CGPA at a baccalaureate-granting institution I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 14 D - NIACC transfer student satisfaction as an individual I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 15 D - NIACC transfer student satisfaction in the workplace I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_{51}	Q_{52}	Q_{53}	Q_{54}	Q_{55}	Q_{56}	Q_{57}	Q_{58}	Q_{59}	Q_{60}	Q_{61}	Q_{62}	Q_{63}	Q_{64}	Q_{65}	Q_{66}	Q_{67}	Q_{68}	Q_{69}	Q_{70}	Q_{71}	Q_{72}	Q_{73}	Q_{74}	Q_{75}
Ho: 13 D - NIACC transfer student CGPA at a baccalaureate-granting institution I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 14 D - NIACC transfer student satisfaction as an individual I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 15 D - NIACC transfer student satisfaction in the workplace I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS
	Q_{76} Q_{77} Q_{78} Q_{79} Q_{80} Q_{81} Q_{82} Q_{83} Q_{84} Q_{85} Q_{86} Q_{87} Q_{88} Q_{89} Q_{90} Q_{91} Q_{92} Q_{93} Q_{94} Q_{95} Q_{96} Q_{97} Q_{98} Q_{99} Q_{100}
Ho: 13 D - NIACC transfer student CGPA at a baccalaureate-granting institution I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age	
Ho: 14 D - NIACC transfer student satisfaction as an individual I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age	
Ho: 15 D - NIACC transfer student satisfaction in the workplace I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age	

HYPOTHESIS/SURVEY QUESTION MATRIX

QUESTIONS

	Q_{101}	Q_{102}	Q_{103}	Q_{104}	Q_{105}	Q_{106}	Q_{107}	Q_{108}	Q_{109}	Q_{110}	Q_{111}	Q_{112}	Q_{113}	Q_{114}	Q_{115}	Q_{116}	Q_{117}	Q_{118}	Q_{119}	Q_{120}	Q_{121}	Q_{122}	Q_{123}	Q_{124}	Q_{125}
Ho: 13																									
D - NIACC transfer student CGPA at a baccalaureate-granting institution																									
I_1- HS CGPA																									
I_2- Parents education																									
I_3- ACT Composite Score																									
I_4- Gender																									
I_5- Age																									
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I_4- Gender																									
I_5- Age																									
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D - NIACC transfer student satisfaction in the workplace																									
I_1- HS CGPA																									
I_2- Parents education																									
I_3- ACT Composite Score																									
I_4- Gender																									
I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS							
	Q_{126}	Q_{127}	Q_{128}	Q_{129}	Q_{130}	Q_{131}	Q_{132}	Q_{133}
Ho: 13 D - NIACC transfer student CGPA at a baccalaureate-granting institution I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age								
Ho: 14 D - NIACC transfer student satisfaction as an individual I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age								
Ho: 15 D - NIACC transfer student satisfaction in the workplace I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age								

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9	Q_{10}	Q_{11}	Q_{12}	Q_{13}	Q_{14}	Q_{15}	Q_{16}	Q_{17}	Q_{18}	Q_{19}	Q_{20}	Q_{21}	Q_{22}	Q_{23}	Q_{24}	Q_{25}
Ho: 16 D - NIACC transfer student satisfaction as a U.S. citizen I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 17 D - NIACC transfer student satisfaction as a family member I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9	Q_{10}	Q_{11}	Q_{12}	Q_{13}	Q_{14}	Q_{15}	Q_{16}	Q_{17}	Q_{18}	Q_{19}	Q_{20}	Q_{21}	Q_{22}	Q_{23}	Q_{24}	Q_{25}
Ho: 16 D - NIACC transfer student satisfaction as a U.S. citizen I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 17 D - NIACC transfer student satisfaction as a family member I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									

HYPOTHESIS	QUESTIONS Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9	Q_{10}	Q_{11}	Q_{12}	Q_{13}	Q_{14}	Q_{15}	Q_{16}	Q_{17}	Q_{18}	Q_{19}	Q_{20}	Q_{21}	Q_{22}	Q_{23}	Q_{24}	Q_{25}
Ho: 16 D - NIACC transfer student satisfaction as a U.S. citizen I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 17 D - NIACC transfer student satisfaction as a																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_{26}	Q_{27}	Q_{28}	Q_{29}	Q_{30}	Q_{31}	Q_{32}	Q_{33}	Q_{34}	Q_{35}	Q_{36}	Q_{37}	Q_{38}	Q_{39}	Q_{40}	Q_{41}	Q_{42}	Q_{43}	Q_{44}	Q_{45}	Q_{46}	Q_{47}	Q_{48}	Q_{49}	Q_{50}
Ho: 16																									
D - NIACC transfer student satisfaction as a U.S. citizen																									
I_1- HS CGPA																									
I_2- Parents education																									
I_3- ACT Composite Score																									
I_4- Gender																									
I_5- Age																									
Ho: 17																									
D - NIACC transfer student satisfaction as a family member																									
I_1- HS CGPA																									
I_2- Parents education																									
I_3- ACT Composite Score																									
I_4- Gender																									
I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_{51}	Q_{52}	Q_{53}	Q_{54}	Q_{55}	Q_{56}	Q_{57}	Q_{58}	Q_{59}	Q_{60}	Q_{61}	Q_{62}	Q_{63}	Q_{64}	Q_{65}	Q_{66}	Q_{67}	Q_{68}	Q_{69}	Q_{70}	Q_{71}	Q_{72}	Q_{73}	Q_{74}	Q_{75}
Ho: 16																									
D - NIACC transfer student satisfaction as a U.S. citizen																									
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D - NIACC transfer student satisfaction as a family member																									
I_1- HS CGPA																									
I_2- Parents education																									
I_3- ACT Composite Score																									
I_4- Gender																									
I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS																								
	Q_{76}	Q_{77}	Q_{78}	Q_{79}	Q_{80}	Q_{81}	Q_{82}	Q_{83}	Q_{84}	Q_{85}	Q_{86}	Q_{87}	Q_{88}	Q_{89}	Q_{90}	Q_{91}	Q_{92}	Q_{93}	Q_{94}	Q_{95}	Q_{96}	Q_{97}	Q_{98}	Q_{99}	Q_{100}
Ho: 16 D - NIACC transfer student satisfaction as a U.S. citizen I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									
Ho: 17 D - NIACC transfer student satisfaction as a family member I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

	QUESTIONS																								
	Q_{101}	Q_{102}	Q_{103}	Q_{104}	Q_{105}	Q_{106}	Q_{107}	Q_{108}	Q_{109}	Q_{110}	Q_{111}	Q_{112}	Q_{113}	Q_{114}	Q_{115}	Q_{116}	Q_{117}	Q_{118}	Q_{119}	Q_{120}	Q_{121}	Q_{122}	Q_{123}	Q_{124}	Q_{125}
Ho: 16																									
D - NIACC transfer student satisfaction as a U.S. citizen																									
I_1- HS CGPA																									
I_2- Parents education																									
I_3- ACT Composite Score																									
I_4- Gender																									
I_5- Age																									
Ho: 17																									
D - NIACC transfer student satisfaction as a family member																									
I_1- HS CGPA																									
I_2- Parents education																									
I_3- ACT Composite Score																									
I_4- Gender																									
I_5- Age																									

HYPOTHESIS/SURVEY QUESTION MATRIX

HYPOTHESIS	QUESTIONS							
	Q_{126}	Q_{127}	Q_{128}	Q_{129}	Q_{130}	Q_{131}	Q_{132}	Q_{133}
Ho: 16 D - NIACC transfer student satisfaction as a U.S. citizen I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age								
Ho: 17 D - NIACC transfer student satisfaction as a family member I_1- HS CGPA I_2- Parents education I_3- ACT Composite Score I_4- Gender I_5- Age								

APPENDIX M.

ADVISORY PANEL OF PROFESSIONAL NORTH IOWA AREA COMMUNITY COLLEGE STAFF MEMBERS

SURVEY ADVISORY PANEL

1. Jean Bate
   Employment Facilitator, Student Services
   North Iowa Area Community College
   Mason City, Iowa

2. Sue Norton
   Admissions Counselor, Student Services
   North Iowa Area Community College
   Mason City, Iowa

3. Mary Lou Frangos
   Instructor, Competency-Based Education,
   Independent Study Laboratory
   North Iowa Area Community College
   Mason City, Iowa

4. Tucki Folkers
   Director, Developmental Education,
   Independent Study Laboratory
   North Iowa Area Community College
   Mason City, Iowa

5. Jerald Torgerson
   Director of Transfer Relations/Counselor,
   Transfer Students, Student Services
   North Iowa Area Community College
   Mason City, Iowa

APPENDIX N.

SUPPLEMENTAL QUESTIONS

SECTION V - ADDITIONAL QUESTIONS

Directions: Match each question on this sheet with the numbers appearing in Section V on the Alumni Survey. Then, in each column below the matching question number, blacken the appropriate oval. Mark only one oval for each question.

1. Please indicate the highest level of formal education completed by your father when you attended NIACC.

   a) Eighth grade or less
   b) Some high school
   c) High school graduate
   d) Technical or business school
   e) Some college
   f) Two-year college graduate
   g) Four-year college graduate
   h) Some post-graduate study
   i) Received an advanced degree
   j) Do not know

2. How would you rate your overall experience at NIACC?

   a) Excellent
   b) Good
   c) Average
   d) Below average
   e) No opinion

3. Since leaving NIACC, have you applied for admission to any other institution of higher education?

   a) Yes, and I have been admitted
   b) Yes, and I have not been admitted
   c) Yes, and I have completed my course of study
   d) No, but I intend to apply in the next year
   e) No, and I don't intend to apply in the next year, but possibly later
   f) No, and I never plan to apply

4. Please indicate the highest level of formal education completed by your mother when you attended NIACC.

   a) Eighth grade or less
   b) Some high school
   c) High school graduate
   d) Technical or business school
   e) Some college
   f) Two-year college graduate
   g) Four-year college graduate
   h) Some post-graduate study
   i) Received an advanced degree
   j) Do not know

5. Since leaving NIACC, have you enrolled/transferred to:

   a) Iowa State University
   b) University of Iowa
   c) University of Northern Iowa
   d) Mankato State University
   e) Drake University
   f) Buena Vista College, Mason City Center
   g) Other (Please list below the university/college name and state)

   _____

   h) Did not transfer

6. I am satisfied with the way my undergraduate experience at NIACC has affected me as a family member?

   a) Agree strongly
   b) Agree
   c) No opinion
   d) Disagree
   e) Disagree strongly

7. I am satisfied with the way my undergraduate experience at NIACC has prepared me for the work place or for a job?

   a) Agree strongly
   b) Agree
   c) No opinion
   d) Disagree
   e) Disagree strongly

8. I am satisfied with the way my undergraduate experience at NIACC has prepared me for being a citizen of the United States?

   a) Agree strongly
   b) Agree
   c) No opinion
   d) Disagree
   e) Disagree strongly

9. I am satisfied with the way my undergraduate experience at NIACC has prepared me as an individual?

   a) Agree strongly
   b) Agree
   c) No opinion
   d) Disagree
   e) Disagree strongly

10. How satisfied are you with NIACC as a whole?

   a) Very satisfied
   b) Satisfied
   c) Indifferent
   d) Unsatisfied

11. How satisfied are you with the impact NIACC has had on you in the work place?

    a) Very satisfied
    b) Satisfied
    c) Indifferent
    d) Unsatisfied
    e) Very dissatisfied

12. How satisfied are you with the impact NIACC has had on you as a citizen of the United States?

    a) Very satisfied
    b) Satisfied
    c) Indifferent
    d) Unsatisfied
    e) Very dissatisfied

13. How satisfied are you with the impact NIACC has had on you as a family member?

    a) Very satisfied
    b) Satisfied
    c) Indifferent
    d) Unsatisfied
    e) Very dissatisfied

14. How satisfied are you, as an individual, with the affect the college has had on your personal life?

    a) Very satisfied
    b) Satisfied
    c) Indifferent
    d) Unsatisfied
    e) Very dissatisfied

15. How would you rate concern for you as an individual at NIACC?

    a) Very satisfied
    b) Satisfied
    c) Neutral
    d) Dissatisfied
    e) Very dissatisfied

16. How would you rate the opportunities for personal involvement in college activities at NIACC?

    a) Very satisfied
    b) Satisfied
    c) Neutral
    d) Dissatisfied
    e) Very dissatisfied

APPENDIX O.

STUDENT PILOT TEST QUESTIONS

SURVEY PILOT TEST QUESTIONS TO STUDENTS

1. Did you find the directions throughout the survey easy to understand? If not, in what areas is clarification needed?

2. Did you find the survey questions throughout the survey easy to understand? If not, which questions need re-wording?

3. Did you find the survey to be too personal? Intimidating?

4. Do you prefer to complete a machine scored survey over another type of survey? If so, which type of survey in particular?

5. Do you enjoy completing surveys? If not, why?

6. How did you feel about the length of this survey? Too long? Adequate?

7. Do you have any general comments about this survey that may be helpful to us in administering it to other transfer students?

APPENDIX P.

SAMPLE PAGE OF STUDENT SURVEY CODE BOOK

CONFIDENTIAL

Transfer Student Coding Scheme
Academic Year: 1981-1982

			Survey Information					Transcript Information		
Student Name (last, first, m.i.)	Social Security Number	Assigned Code	Survey Mailed	Postcard Mailed	2nd Survey	Contacted by Phone	Survey Recev'd	Approval Recev'd	Transcript Requested	Transcript Recev'd

APPENDIX Q.

MAILING LIST QUALIFICATION COVER LETTER

NORTH IOWA AREA COMMUNITY COLLEGE
500 College Drive
Mason City, Iowa 50401
(515) 423-1264

June 14, 1989

<FIRST> <LAST>
<ADDRESS>
<CITY>, <STATE> <ZIP>

Dear <FIRST>:

I need your help! Will you take just a few moments to help me and North Iowa Area Community College with a very important task?

The College is in the process of conducting a follow-up study of Arts and Science students who have attended NIACC from fall, 1981 to spring, 1983. The results of this study will provide significant and vital information as we seek to assist the College in its efforts to improve the quality of its programs and services. I believe that the best way to accomplish this task is to get answers directly from you, a former student.

This letter merely serves as an announcement of a forthcoming survey which will provide us with your opinions as a former NIACC student. If your address at the top of this letter is incorrect, please include your correct address on the enclosed, postage-paid post card and return it. This will ensure prompt delivery of the survey.

As an added measure of goodwill and fun, when you return your completed survey, your identification number will be placed in a raffle. You may win one of four prizes! 1) "Dinner for Four" in the amount of $50.00 at the restaurant of your choice, or 2) "Dinner for Two" in the amount of $25.00 at the restaurant of your choice, or 3) A NIACC shirt/sweatshirt of your choice, or 4) Five Iowa Lottery tickets. So remember, watch for the survey and return it promptly.

Thank you for your assistance in this important matter.

Sincerely,

Daniel J. Phelan, Project Director
North Iowa Area Community College

csm

Enclosure

APPENDIX R.

MAILING LIST QUALIFICATION RETURN POST CARD

Address Correction Form for NIACC Survey

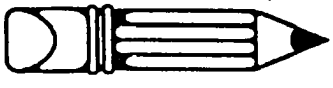
NAME _____

ADDRESS _____

_____

CITY _____ **STATE** _____ **ZIP** _____

Thanks for your help!



NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 278 MASON CITY, IOWA

POSTAGE WILL BE PAID BY ADDRESSEE

Student Services Division
North Iowa Area Community College
500 College Drive
Mason City, Iowa 50401

APPENDIX S.

SUMMARY OF SURVEY RESULTS

TRANSFER STUDENT SURVEY SUMMARY

Section I

Block B: Age

0-19 years	0	.0%
20-21 years	0	.0%
22-23 years	0	.0%
24-25 years	143	46.7%
26-29 years	147	48.0%
30-39 years	12	3.9%
40-49 years	4	1.3%
50-61 years	0	.0%
62 & above	0	.0%
Total:	306	100.0%

Block C: Racial/Ethnic Group

Afro-American/Black	0	.0%
American Indian or Alaskan Native	1	.3%
Caucasian-American/White	296	96.7%
Mexican-American/Chicano	0	.0%
Asian-Amer, Orient, or Pac. Islander	1	.3%
Puerto Ric, Cuban, other Hisp Origin	1	.3%
Other	3	1.0%
Prefer Not to Respond	2	.7%
Total:	306	100.0%

Block D: How Many Years Has It Been Since You Last Attended This 2-Year College? (To the Nearest Year)

Less Than 1 Year	10	3.3%
1 Year	2	.7%
2 Years	6	2.0%
3 Years	6	2.0%
4 Years	27	8.8%
5 to 9 Years	255	83.3%
10 or More Years	0	.0%
Total:	306	100.0%

Block E: Indicate the Highest Degree, Certificate, or Diploma You Now Hold

High School Diploma	47	15.4%
Tech Program Cert or Diploma	19	6.2%
Associate Degree	94	30.7%
Bachelor's Degree	135	44.1%
Master's Degree	5	1.6%
Doctor's Degree	2	.7%
Professional Degree	3	1.0%
Other	0	.0%
Total:	306	100.0%

Block F: Indicate Your Major Area of Study at This 2-Year College

Undecided	12	3.9%
Agriculture	8	2.6%
Architecture	1	.3%
Bio. Sciences	7	2.3%
Business/Commerce	112	36.6%
Communications	8	2.6%
Computer Science	14	4.6%
Education	25	8.2%
Engineering	10	3.3%
Applied/Fine Arts	8	2.6%
Foreign Languages	0	.0%
Health Professions	33	10.8%
Home Economics	2	.7%
Letters	1	.3%
Mathematics	0	.0%
Physical Science	0	.0%
Community Service	8	2.6%
Social Sciences	3	1.0%
Trade/Technical	5	1.6%
General Studies	46	15.0%
Total:	306	100.0%

Block G: Sex

Male	130	42.5%
Female	176	57.5%
Total:	306	100.0%

Block H: Were You Married at the Time You Attended This College?

Yes	19	6.2%
No	287	93.8%
Total:	306	100.0%

Block I: What Was Your Primary Status at This College?

Full-Time Student	297	97.1%
Part-Time Student	9	2.9%
Total:	306	100.0%

Block J: Which of the Following Was True For You at the Time You First Entered This College?

Entered Direct from h.s.	245	80.1%
After working for a period	22	7.2%
Trans from another 2 yr college	8	2.6%
Trans from a 4 yr clg or univ	19	6.2%
Entered after military	2	.7%
Other	10	3.3%
Total:	306	100.0%

Block K: How Far From This College Are You Currently Living?

0 to 24 Miles	77	25.2%
25 to 49 Miles	38	12.4%
50 to 99 Miles	39	12.7%
100 to 199 Miles	80	26.1%
200 or More Miles	72	23.5%
Total:	306	100.0%

Block L: Do You Plan to Attend This College in The Future?

Yes	27	8.8%
Undecided	63	20.6%
No	215	70.3%
Total:	306	100.0%

Section II

Block A: What is the Major Reason You Continued Your Education?

To Satisfy Job/Career Requirements	96	31.4%
To Learn a New Occupation	18	5.9%
To Increase Earning Power	44	14.4%
To Obtain or Maintain Lic or Cert	13	4.2%
For General Self-Improvement	31	10.1%
Other	4	1.3%
Total:	306	100.0%

Block B: Indicate the Type of Educational Institution That You Have Most Recently Attended

Trade School or Business School	12	3.9%
2-Year College (CC, Jr Clg, etc)	26	8.5%
4-Year College or University	162	52.9%
Other	8	2.6%
Total:	306	100.0%

Block C: Major Area of Study Since Completing Your Program at This 2-Year College

Undecided	2	.7%
Agriculture	8	2.6%
Architecture	1	.3%
Bio. Sciences	3	1.0%
Business/Commerce	68	22.2%
Communications	9	2.9%
Computer Science	13	4.2%
Education	26	8.5%
Engineering	8	2.6%

Applied/Fine Arts	5	1.6%
Foreign Languages	0	.0%
Health Professions	20	6.5%
Home Economics	4	1.3%
Letters	2	.7%
Mathematics	3	1.0%
Physical Science	3	1.0%
Community Service	5	1.6%
Social Sciences	10	3.3%
Trade/Technical	8	2.6%
General Studies	2	.7%
Total:	306	100.0%

Block D: How Many Courses Have You Taken For Credit Since Leaving This College?

I Am Not Taking Courses for Credit	44	14.4%
1 or 2 Course	9	2.9%
3 to 5 Courses	12	3.9%
6 to 10 Courses	8	2.6%
11 or More Courses	132	43.1%
Total:	306	100.0%

Block E: How Well Did This 2-Year College Prepare You For Continuing Your Education?

Exceptionally Well	37	12.1%
More Than Adequately	76	24.8%
Adequately	73	23.9%
Less Than Adequately	10	3.3%
Very Poorly	5	1.6%
Total:	306	100.0%

Block F: What is the Highest Degree or Certificate You Eventually Plan to Obtain?

I Do Not Plan to Obtain Another Degree or Certificate	58	19.0%
Tech Program Cert or Diploma	3	1.0%
Associate Degree	4	1.3%
Bachelor's Degree	44	14.4%
Master's Degree	72	23.5%
Doctor's Degree	12	3.9%
Professional Degree	8	2.6%
Other	4	1.3%
Total:	306	100.0%

Section III

Block A: Indicate Your Rating of this 2-Year College at the Time You Applied for Admission

It Was My First Choice	227	74.2%
It Was My Second Choice	63	20.6%
It Was My Third Choice	9	2.9%
It Was My Fourth Choice or Lower	6	2.0%
Total:	306	100.0%

Block B: If You Could Start College Over, Would You Choose to Attend This College?

Definitely Yes	76	24.8%
Probably Yes	124	40.5%
Uncertain	50	16.3%
Probably No	46	15.0%
Definitely No	9	2.9%
Total:	306	100.0%

Block C: If You Could Start College Over, Would You Select the Same Major Area of Study?

Definitely Yes	79	25.8%
Probably Yes	94	30.7%
Uncertain	48	15.7%
Probably No	58	19.0%
Definitely No	26	8.5%
Total:	306	100.0%

Block D: How Would You Compare the Quality of Education Provided at This College With That of Other Colleges?

Better	52	17.0%
About the Same	157	51.3%
Worse	18	5.9%
Unable to Judge	78	25.5%
Total:	306	100.0%

Block E: Regardless of the Financial Benefits, Has Your College Education Improved the Quality of Your Life?

Definitely Yes	157	51.3%
Probably Yes	96	31.4%
Uncertain	28	9.2%
Probably No	20	6.5%
Definitely No	3	1.0%
Total:	306	100.0%

Block F: What Was Your Primary Reason For Attending This College?

Offered the Courses I Wanted	43	14.1%
Convenient Location	115	37.6%
Good Acad. or Voc. Reputation	9	2.9%
Low Cost of Attending	61	19.9%
Good Chance of Personal Success	1	.3%
Could Work While Attending	8	2.6%
Liked Social Atmosphere	2	.7%
Availability of Sclrshp or Fin Aid	7	2.3%
Advice of Parents or Relatives	22	7.2%
Advice of High School Personnel	3	1.0%
Wanted to Be with Friends	11	3.6%
Other	21	6.9%
Total:	306	100.0%

Block G: Indicate Whether Each of the Following Was a Major Source, A Minor Source, or Not a Source of Funds For Your College Education

	MAJOR	MINOR	NOT A SOURCE
Parents, Relatives, or Friends	129 42.2%	96 31.4%	79 25.8%
Employment While Attending College	75 24.5%	132 43.1%	87 28.4%
Summer Employment	89 29.1%	124 40.5%	80 26.1%
Personal Savings	80 26.1%	96 31.4%	120 39.2%
Spouse's Income	4 1.3%	8 2.6%	280 91.5%
Social Security Benefits	8 2.6%	9 2.9%	275 89.9%
Veteran's Benefits	2 .7%	2 .7%	288 94.1%
Educational Grants (Pell, Private, etc.)	80 26.1%	31 10.1%	182 59.5%
Scholarships (Private, Federal, College, etc.)	43 14.1%	74 24.2%	176 57.5%
Loans (Student Loans, NDSL, Bank Loans, etc.)	118 38.6%	34 11.1%	145 47.4%
Reimbursement by Employer	4 1.3%	2 .7%	285 93.1%

Block H: Rate Each of the Following Services Offered at This College: Excellent, Good, Fair, Poor, Very Poor, Does Not Apply

	E	G	F	P	VP	DNA
Advising and Career Planning Services	15	99	106	30	26	25
	4.9%	32.4%	34.6%	9.8%	8.5%	8.2%
Job Placement Services	6	34	49	27	44	141
	2.0%	11.1%	16.0%	8.8%	14.4%	46.1%
Library (Learning Resources Center) Services	54	180	62	2	1	4
	17.6%	58.8%	20.3%	.7%	.3%	1.3%
Financial Aid Services	32	80	66	14	19	92
	10.5%	26.1%	21.6%	4.6%	6.2%	30.1%
Parking Services and Facilities	77	153	57	4	3	8
	25.2%	50.0%	18.6%	1.3%	1.0%	2.6%
Cafeteria/Food Services	26	165	72	12	4	24
	8.5%	53.9%	23.5%	3.9%	1.3%	7.8%

Block I: How Much Did Your Educational Experience at This College Contribute to Your Personal Growth in Each of the Following Areas? Very Much, Somewhat, Very Little, Does Not Apply

	Very Much	Somewhat	Very Little	DN Apply
Writing Effectively	71	170	53	9
	23.2%	55.6%	17.3%	2.9%
Speaking Effectively	80	165	47	10
	26.1%	53.9%	15.4%	3.3%
Understanding Written Information	52	195	44	11
	17.0%	63.7%	14.4%	3.6%
Working Independently	90	148	47	18
	29.4%	48.4%	15.4%	5.9%
Following Directions	61	179	44	18
	19.9%	58.5%	14.4%	5.9%
Working Cooperatively in a Group	65	164	60	15
	21.2%	53.6%	19.6%	4.9%
Organizing Your Time Effectively	77	159	54	11
	25.2%	52.0%	17.6%	3.6%

Learning on Your Own	89	172	32	9
	29.1%	56.2%	10.5%	2.9%
Managing Personal and Family Finances	33	105	80	83
	10.8%	34.3%	26.1%	27.1%
Understanding Consumer Issues	21	110	95	75
	6.9%	35.9%	31.0%	24.5%
Caring for Your Own Physical & Mental Health	46	91	98	65
	15.0%	29.7%	32.0%	21.2%
Planning and Carrying Out Projects	55	163	65	17
	18.0%	53.3%	21.2%	5.6%
Persisting at Difficult Tasks	68	165	51	17
	22.2%	53.9%	16.7%	5.6%
Leading/Guiding Others	39	149	75	37
	12.7%	48.7%	24.5%	12.1%
Recognizing Your Rights, Resp, & Priv as Citizens	26	136	92	47
	8.5%	44.4%	30.1%	15.4%

Block J: Indicate Your Level of Satisfaction With Each of the Following Aspects of This College: Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied, Does Not Apply

	VS	S	N	D	VD	DNA
Testing/Grading System	42	190	58	11	1	1
	13.7%	62.1%	19.0%	3.6%	.3%	.3%
Quality of Instruction in Your Major Area of Study	71	137	53	22	7	13
	23.2%	44.8%	17.3%	7.2%	2.3%	4.2%
Out-of-Class Availability of Your Instructors	59	126	87	19	2	9
	19.3%	41.2%	28.4%	6.2%	.7%	2.9%
Attitude of the Faculty Toward Students	71	145	66	15	2	2
	23.2%	47.4%	21.6%	4.9%	.7%	.7%
Variety of Courses Offered at This 2-Year College	78	162	46	15	0	2
	25.5%	52.9%	15.0%	4.9%	.0%	.7%

Flexibility to Design Your Own Program of Study	50 16.3%	118 38.6%	86 28.1%	21 6.9%	4 1.3%	22 7.2%
Preparation You Are Receiving for Your Future Occupation	34 11.1%	120 39.2%	90 29.4%	21 6.9%	8 2.6%	28 9.2%
General Registration Procedures	26 8.5%	145 47.4%	94 30.7%	19 6.2%	14 4.6%	3 1.0%
Availability of the Courses You Want at Times You Can Take Them	46 15.0%	159 52.0%	63 20.6%	20 6.5%	8 2.6%	6 2.0%
Concern for You as an Individual	30 9.8%	127 41.2%	105 34.3%	20 9.5%	9 2.6%	3 1.0%
Attitude of College Nonteaching Staff Toward Students	27 8.8%	117 38.2%	117 38.2%	14 4.6%	4 1.3%	22 7.2%
Opportunities for Student Employment	16 5.2%	59 19.3%	93 30.4%	25 8.2%	14 4.6%	94 30.7%
Opportunities for Personal Involvement in Campus Activities	25 8.2%	100 32.7%	110 35.9%	23 7.5%	7 2.3%	36 11.8%
General Condition of Buildings and Grounds	150 49.0%	132 43.1%	19 6.2%	0 .0%	0 .0%	1 .3%
This College in General	77 25.2%	178 58.2%	37 12.1%	8 2.6%	1 .3%	1 .3%

Section IV

Block A: Which of the Following Best Describes What You Are Currently Doing?

Employed (Including Full-Time and Part-Time Employment, Self-Employment, Farming, etc.)	270	88.2%
Continuing My Education (College, Vocational School, etc.)	16	5.2%
Serving in the Armed Forces	2	.7%
Caring for a Home/Family	11	3.6%
Unemployed	2	.7%
Retired	0	.0%
Other	0	.0%
Total:	306	100.0%

Block B: From Which Source Did You Learn About the First Job You Held After Completing Your Program At This College?

College Placement Office	16	5.2%
College Counselor/Advisor	2	.7%
Faculty at the College	13	4.2%
Parent or Relative	40	13.1%
Newspaper/Trade Publication	58	19.0%
Professional Meeting	6	2.0%
Another Student/Friend	29	9.5%
Recruited by Employer	32	10.5%
Public/Private Employment Agency	16	5.2%
Other	60	19.6%
Total:	306	100.0%

Block C: Indicate Whether Each of the Following Was a Major Problem, A Minor Problem, or Not a Problem in Obtaining Your First Job After Leaving This College

	MAJOR	MINOR	NO PROBLEM
Deciding What I Wanted to Do	51	80	136
Finding a Job for Which I Was Trained	70	92	105
Finding the Kind of Job I Wanted	87	90	89
Knowing How to Find Job Openings	33	79	154
Finding a Job That Paid Enough	87	102	78
Scheduling Interviews	11	50	205
Writing a Resume, Vita, or Letter of Introduction	19	81	167
Completing Job Applications	3	26	237
Finding a Job Where I Wanted to Live	50	73	143
Race/Sex Discrimination	0	5	262

Block D: What Was Your Annual Salary/Income in the First Job You Held After College?

Less than $6,000	30	9.8%
$6,000 to $8,999	49	16.0%
$9,000 to $11,999	60	19.6%
$12,000 to $14,999	42	13.7%
$15,000 to $17,999	38	12.4%
$18,000 to $20,999	25	8.2%
$21,000 to $23,999	17	5.6%
$24,000 to $26,999	8	2.6%
$27,000 to $29,999	2	.7%
$30,000 to $39,999	3	1.0%
$40,000 to $50,000	0	.0%
Over $50,000	0	.0%
Total:	306	100.0%

Block E: How Long Did it Take You To Obtain Your First Full-Time Job After Leaving This College?

Obtained Job Prior to Leaving College	58	19.0%
Less than 1 Month	28	9.2%
1 to 3 Months	42	13.7%
4 to 6 Months	29	9.5%
7 to 12 Months	14	4.6%
Over 12 Months	92	30.1%
Total:	306	100.0%

Block F: Indicate the Number of Full-Time Jobs You Have Held Since Leaving This College

1	104	34.0%
2	90	29.4%
3	44	14.4%
4	27	8.8%
5 or More	11	3.6%
Total:	306	100.0%

Block G: Indicate the Primary Reason You Are Now Unemployed

Have Been Unable to Find a Full-Time Job Since College	2	.7%
Was Laid Off by Employer	2	.7%
Quit to Find Another Job	1	.3%
Health/Personal Reasons	1	.3%
Do Not Desire Employment at This Time	9	2.9%
Other	7	2.3%
Total:	306	100.0%

Block H: How Long Have You Actively Been Seeking Employment?

Not Seeking Employment	18	5.9%
Less Than 1 Month	1	.3%
1 to 3 Months	3	1.0%
4 to 6 Months	0	.0%
7 to 12 Months	0	.0%
Over 12 Months	1	.3%
Total:	306	100.0%

Block I: Have You Sought Help From This College's Placement Office?

Yes, It Has Been Helpful	0	.0%
Yes, but It Has Not Been Helpful	1	.3%
No	24	7.8%
Total:	306	100.0%

Block J: What is Your Current Occupation?

Undecided	13	4.2%
Agriculture	14	4.6%
Architecture	2	.7%
Bio. Sciences	2	.7%
Business/Commerce	104	34.0%
Communications	3	1.0%
Computer Science	23	7.5%
Education	21	6.9%
Engineering	6	2.0%
Applied/Fine Arts	3	1.0%
Foreign Languages	0	.0%
Health Professions	32	10.5%
Home Economics	4	1.3%
Letters	1	.3%
Mathematics	1	.3%
Physical Science	3	1.0%
Community Service	8	2.6%
Social Sciences	3	1.0%
Trade/Technical	30	9.8%
General Studies	0	.0%
Total:	306	100.0%

Block K: What is Your Current Annual Salary/Income?

Less than $6,000	7	2.3%
$6,000 to $8,999	15	4.9%
$9,000 to $11,999	34	11.1%
$12,000 to $14,999	31	10.1%
$15,000 to $17,999	37	12.1%
$18,000 to $20,999	45	14.7%
$21,000 to $23,999	39	12.7%
$24,000 to $26,999	20	6.5%
$27,000 to $29,999	10	3.3%
$30,000 to $39,999	24	7.8%
$40,000 to $50,000	6	2.0%
Over $50,000	1	.3%
Total:	306	100.0%

Block L: How Well Did This College Prepare You For Your Present Occupation?

Very Well	35	11.4%
Adequately	157	51.3%
Poorly	15	4.9%
Not at All	70	22.9%
Total:	306	100.0%

Block M: How Closely is Your Current Occupation Related to Your Major Area of Study at This College?

Highly Related	80	26.1%
Moderately Related	66	21.6%
Slightly Related	59	19.3%
Not Related	74	24.2%
Total:	306	100.0%

Block N: Do You Feel You Are Currently Underemployed?

Yes	103	33.7%
No	174	56.9%
Total:	306	100.0%

Block O: Indicate Your Satisfaction With the Following Aspects of Your Present Job: Very Satisfied, Satisfied, Neutral, Dissatisfied, Very Dissatisfied

	VS	S	N	D	VD
Challenge	100	108	43	13	13
	32.7%	35.3%	14.1%	4.2%	4.2%
Location	131	80	39	23	4
	42.8%	26.1%	12.7%	7.5%	1.3%
Salary and Benefits	60	96	44	59	17
	19.6%	31.4%	14.4%	19.3%	5.6%
Advancement Potential	69	74	69	34	31
	22.5%	24.2%	22.5%	11.1%	10.1%
Working Conditions	79	122	52	16	8
	25.8%	39.9%	17.0%	5.2%	2.6%
Career Potential	77	76	59	44	20
	25.2%	24.8%	19.3%	14.4%	6.5%

Section V

1. Please indicate the highest level of formal education completed by your father when you attended NIACC.

a) Eighth grade or less	25	8.2%
b) Some high school	23	7.5%
c) High school graduate	130	42.5%
d) Technical or business school	27	8.8%
e) Some college	31	10.1%
f) Two-year college graduate	13	4.2%
g) Four-year college graduate	28	9.2%
h) Some post-graduate study	5	1.6%
i) Received an advanced degree	17	5.6%
j) Do not know	6	2.0%
Total:	306	100.0%

2. How would you rate your overall experience at NIACC?

a) Excellent	68	22.2%
b) Good	159	52.0%
c) Average	61	19.9%
d) Below average	16	5.2%
e) No opinion	2	.7%
Total:	306	100.0%

3. Since leaving NIACC, have you applied for admission to any other institution of higher education?

a) Yes, and I have been admitted	75	24.5%
b) Yes, and I have not been admitted	1	.3%
c) Yes, and I have completed my course of study	117	38.2%
d) No, but I intend to apply in the next year	8	2.6%
e) No, and I don't intend to apply in the next year, but possibly later	79	25.8%
f) No, and I never plan to apply	26	8.5%
Total:	306	100.0%

4. Please indicate the highest level of formal education completed by mother when you attended NIACC.

a) Eighth grade or less	8	2.6%
b) Some high school	6	2.0%
c) High school graduate	161	52.6%
d) Technical or business school	34	11.1%
e) Some college	38	12.4%
f) Two-year college graduate	22	7.2%
g) Four-year college graduate	20	6.5%
h) Some post-graduate study	4	1.3%
i) Received an advanced degree	3	1.0%
j) Do not know	9	2.9%
Total:	306	100.0%

5. Since leaving NIACC, have you enrolled/transferred to:

a) Iowa State University	42	13.7%
b) University of Iowa	20	6.5%
c) University of Northern Iowa	63	20.6%
d) Mankato State University	11	3.6%
e) Drake University	1	.3%
f) Buena Vista College, Mason City Center	8	2.6%
g) Other	60	19.6%
h) Did not transfer	52	17.0%
Total:	306	100.0%

6. I am satisfied with the way my undergraduate experience at NIACC has affected me as a family member?

a) Agree strongly	34	11.1%
b) Agree	124	40.5%
c) No opinion	135	44.1%
d) Disagree	9	2.9%
e) Disagree strongly	0	.0%
Total:	306	100.0%

7. I am satisfied with the way my undergraduate experience at NIACC has prepared me for the work place or for a job?

a) Agree strongly	27	8.8%
b) Agree	166	54.2%
c) No opinion	80	26.1%
d) Disagree	27	8.8%
e) Disagree strongly	4	1.3%
Total:	306	100.0%

8. I am satisfied with the way my undergraduate experience at NIACC has prepared me for being a citizen of the United States?

a) Agree strongly	23	7.5%
b) Agree	119	38.9%
c) No opinion	148	48.4%
d) Disagree	13	4.2%
e) Disagree strongly	1	.3%
Total:	306	100.0%

9. I am satisfied with the way my undergraduate experience at NIACC has prepared me as an individual?

a) Agree strongly	31	10.1%
b) Agree	193	63.1%
c) No opinion	66	21.6%
d) Disagree	14	4.6%
e) Disagree strongly	1	.3%
Total:	306	100.0%

10. How satisfied are you with NIACC as a whole?

a) Very satisfied	74	24.2%
b) Satisfied	181	59.2%
c) Indifferent	41	13.4%
d) Unsatisfied	7	2.3%
e) Very dissatisfied	3	1.0%
Total:	306	100.0%

11. How satisfied are with the impact NIACC has had on you in the work place?

a) Very satisfied	18	5.9%
b) Satisfied	163	53.3%
c) Indifferent	101	33.0%
d) Unsatisfied	17	5.6%
e) Very dissatisfied	4	1.3%
Total:	306	100.0%

12. How satisfied are you with the impact NIACC has had on you as a citizen of the United States?

a) Very satisfied	18	5.9%
b) Satisfied	131	42.8%
c) Indifferent	150	49.0%
d) Unsatisfied	4	1.3%
e) Very dissatisfied	0	.0%
Total:	306	100.0%

13. How satisfied are you with the impact NIACC has had on you as a family member?

a) Very satisfied	23	7.5%
b) Satisfied	135	44.1%
c) Indifferent	139	45.4%
d) Unsatisfied	7	2.3%
e) Very dissatisfied	0	.0%
Total:	306	100.0%

14. How satisfied are you, as an individual, with the affect the college has had on your personal life?

a) Very satisfied	49	16.0%
b) Satisfied	165	53.9%
c) Indifferent	77	25.2%
d) Unsatisfied	10	3.3%
e) Very dissatisfied	3	1.0%
Total:	306	100.0%

15. How would you rate concern for you as an individual at NIACC?

a) Very satisfied	34	11.1%
b) Satisfied	149	48.7%
c) Indifferent	91	29.7%
d) Unsatisfied	26	8.5%
e) Very dissatisfied	3	1.0%
Total:	306	100.0%

16. How would you rate the opportunities for personal involvement in college activities at NIACC?

a) Very satisfied	44	14.4%
b) Satisfied	111	36.3%
c) Indifferent	117	38.2%
d) Unsatisfied	23	7.5%
e) Very dissatisfied	6	2.0%
Total:	306	100.0%

APPENDIX T.

SUMMARY OF SURVEY COMMENTS

SECTION VII - COMMENTS AND SUGGESTIONS

Transfer Students Fall 1981-Summer 1983

Student 1. Note that I only completed one year at NIACC. Some of the questions imply a completion of a degree or program.

Student 2. I felt that the classroom and educational aspects were very good. I was greatly disappointed in the "counselors" and "Financial Aid" areas. I felt that I was not helped with pre-nursing scheduling and was even misinformed about availability of classes for a specific semester. Though I was told that I did not qualify for any grant, I later found out that, indeed, I did. It would have been very beneficial to have been properly informed.

Student 3. Coming from a small Iowa high school, NIACC was a good place to make a transition before entering a university.

Student 4. Enjoyed many things about NIACC.

Student 5. I was very satisfied with the availability of the teachers if I needed any extra help or had any questions. Most of them had a good attitude of us and themselves.

Student 6. I feel that you should improve your job placement. I cannot get a job in my career--accounting because I have no experience. Offer your students hands-on experience!!!

Student 7. I attended NIACC for just one year, 1981-82, and lived at home in Mason City at the time, so my involvement with NIACC was rather limited. I enjoyed my time there. As far as education and employment are concerned, I will soon obtain an MA in History from UNI and am currently working two part-time jobs before I go on for another Masters (in Library Science) at the University of Wisconsin (Madison) next year.

Student 8. Say Hi to my instructor for me. He was a great accounting teacher.

Student 9. Mother of student completed this survey for him. I telephoned him on questions of his opinion, and I answered the basic information questions. He gave permission to sign his name and understands this survey may be used for research at NIACC. He is employed with R.J. Reynolds/Nabisco and is in the process of moving to Omaha, NE.

Student 10. The only thing I would like to see improved in the Retail Merchandising program is the business law class. I don't feel you learn enough about law concerning you, as a retailer. Otherwise, I liked the program very much and learned a lot.

Student 11. Hello!

Student 12. NIACC provides an excellent, low cost alternative to beginning one's post-high school education. It is good quality for the price. The survey does not allow to make clear the following: After 2 years at NIACC, I received a BA in accounting at UNI, 1985, and received a Juris Doctor degree in May, 1988 from the University of Iowa College of Law.

Student 13. Overall, I was satisfied with the academics, but overall, the dorm life was unsatisfactory. I do believe the college did prepare me very well for Iowa State University.

Student 14. One thing that upset me was classes that I had A's on tests and papers and B's in Chemistry because of attendance. Over the following four years, post-NIACC, I was graded on my abilities as a student, not to show up and sleep through a class.

Student 15. Continue to seek past students' opinions to improve college. Continue to expand and update facilities to ensure future growth. Develop a new college logo. Bring new and varied activities to campus.

Student 16. The only negative comment I have about NIACC is in the counseling area. When I wanted to drop out of the accounting program and take the clerical diploma program, I was not encouraged by my counselor; in fact, he down-played this program. I graduated from the Clerical program and have a successful career now. Encourage the students, no matter what they choose.

Student 17. It is difficult to single out my time spent at NIACC and apply it to being a family member, a citizen of the U.S. or my job/workplace because there are so many other factors to consider. By "undergraduate experience" do you mean the classes I attended or the entire 2 years, socially, mentally, etc.? I highly recommend NIACC as an excellent "prep" for any four-year college.

Student 18. I was glad I made the choice to attend NIACC prior to enrollment at a larger institution. The size of the college and the one-on-one individualized attention was well worth the "social" sacrifices of a larger university.

Student 19. I'm sure you are confused about where X-ray fits in. I attended St. Joseph's School of Radiologic Technology in Mason City for two years immediately after graduation from NIACC. I, then, worked as an X-ray tech while attending Buena Vista's Spencer Center. I earned a BA in human services in 1987. My AA degree transferred very well.

Student 20. There was absolutely no individual concern; no guidance.

Student 21. I went one year to NIACC and was able to complete several courses needed for my pre-vet requirements at a low cost and with the convenience of being close to home while adjusting to college life.

Student 22. I was only enrolled at NIACC for one semester. My interest was in Art. Since NIACC has no Art Major, I shouldn't have gone. I did like the school.

Student 23. I was admitted to Law School at Drake in 1986, but chose not to go. Am currently working on MA in Special Education at Drake (2/3 done). If you need further information, don't hesitate to call or write.

Student 24. Personally, my choice to attend NIACC was made because I didn't know what course I wanted to follow in my college career. That first semester, an instructor and Basic Computer Science made my mind up. I will always be grateful to him for that. There are four other instructors all from different fields who shared my way of thinking and living to this day. Thank you, NIACC, for offering great instructors in varying fields.

Student 25. Under Section IV, employment history: you do not recognize the fact of going on to a four-year college, etc., before having a full-time job.

Student 26. I answered employment history, Section IV, B, C, D, based on graduation from four-year college: UNI.

Student 27. I completed this form once and returned it. It must have been lost in mail.

Student 28. You did not have Chiropractic as a career choice. I put medicine general. Please make note of this.

Student 29. Overall, my experience as a student at NIACC was good. However, unless things have changed since I graduated (5/83), the college job placement service was a joke. This :service" was of no help to me in finding a job that utilized my talents and abilities. Eight months after graduation, I finally got a job 2 1/2 hours away from where I really wanted to be.

Student 30. I enjoyed my experience at NIACC.

Student 31. I am completely satisfied with the way my course of study prepared me for my present occupation. I realize that there are services that NIACC offers that I have not needed to use,

but I have friends who have and they have been more than satisfied.

Student 32. Very good school.

Student 33. The reason that NIACC did not prepare me to go on to ISU was that my advisor had me take the wrong major area of study. She had full knowledge of my intentions to go on into engineering. Also, in a couple of classes like Calculus I, for instance, the classes were not taught far enough for me to continue the next class in line (Calc II) at ISU. There was an information space in between where one left off and the other picked up.

Student 34. I have yet to finish my program at NIACC and could not answer all questions.

Student 35. While I was at UNI I felt I had an advantage over other two-year college transfers.

Student 36. Part D, Section I: My occupation is Quality Assurance Specialist, Ammunition Surveillance. I work for the Department of the Army.

Student 37. I feel NIACC provided an excellent start to a career in nursing. You also provide excellent opportunities for CEU's. I did feel, however, that the counselors I visited with weren't very familiar with the ADN program in regard to classes to take first (I took a year of non-nursing classes before actually beginning the program) and which classes would benefit me more if or when I'm ready for further education. I also feel the education provided to us is better eligible.

Student 38. I really could have used better counseling as to career options since I was not sure what I wanted to major in. Also, due to health problems, I really could have used more prerequisite classes in spring semester, such as Accounting Principles I, etc. so I could take the next class in the summer or the next spring.

Student 39. I think NIACC is a very good two-year college.

Student 40. This survey does not totally concern me since I did not receive my degree. Overall, I think NIACC is a good college. However, I wish they offered more health related majors. but that is because they are my main interests. NIACC is in a very good location for me to continue my education. Sorry this is late.

Student 41. Please don't send me any more questionnaires. Thanks. I would like to know the results of this one.

Student 42. For a two-year college, NIACC is fine. After going to a University, it is hard to grade NIACC on its own level. For my needs at that time, NIACC was very helpful.

Student 43. I enjoy sports. As a younger student, I currently am still very involved with health and physical body skills. My comment as a ;young woman, 81 was difficult year. I was not mature enough to battle the social pressures of the drug culture. Now, I am forgiving myself for wasted 1978. NIACC provides science courses I enjoy.

Student 44. If I were to do it all over again, I would have started at a four-year college. I lasted one semester at UNI. My first year away from home and my hardest year of classes was not a good combination. At my place of employment, a two-year degree is a lot closer to the high school graduate salary than a four-year degree and I find that hard to live with every day.

Student 45. In 1984-85, I feel wordprocessing in the secretarial programs was very inadequate. I hope this has been updated.

Student 46. Very satisfied and happy with my education I received at NIACC; gained knowledge; enjoyed atmosphere; and met new people.

Student 47. Need to set the educational level of a two-year college to that required of a four-year educational system. I wasn't challenged to the effect that I was at the University of Northern IA. I fell behind because my writing skills were not adequate. Very few of my classes at NIACC didn't require writing. Two instructors I thought were very exceptional.

Student 48. I wish the school would have continued and look into retaining a wrestling program. How can you win 2 National Titles and drop the sport? Iowa is the best state to promote the sport and Mason City is in the hot bed of wrestling in the USA. I would have went to NIACC right out of High School, no questions asked if you had a program. With support of the Administration and other school officials, wrestling at NIACC can be a reality again.

Student 49. I really enjoyed my time at NIACC. The people at the school treated me very well. I will be attending Harvard University this fall to begin work on a PH.D.

Student 50. I feel the college needs to evaluate and update the curriculum. I feel the college needs to evaluate the quality of the instructional staff. I feel the college needs to offer a wider range of equipment variety and more self-operated

equipment (no menus) in the computer labs and instructional areas. (Do not teach on only Personal Computers).

Student 51. I do not understand what you mean by underemployed in question N.

Student 52. I feel that NIACC prepared me well for the rest of my Bachelor's Degree at ISU. At ISU, the first two years of engineering school are used to weed out students whereas at NIACC, the instructors were only concerned with teaching the subject not how many students they could get to drop out. I continue to recommend NIACC as a starting point for prospective four-year students as well as people seeking an Associate Degree.

Student 53. I feel the college would be very helpful for someone who knows their direction in life. It honestly didn't do that much for me. I also thought the additional questions were redundant.

Student 54. My Communications teacher should be commended! I obtained vast knowledge from him and I hope that he is still there to help other students. The business classes all had exceptional teachers.

Student 55. Very impressed with the students, facilities, classes available, etc., an instructor was very impressive. Very impressive. Only one negative experience and that was with a member of the faculty which I feel was very unprofessional, my Art Instructor. NIACC is much better off without him now.

Student 56. An excellent job is done in providing courses that will transfer to four-year schools.

Student 57. I am very glad I went to NIACC before moving to larger schools!

Student 58. Keep up the good work.

Student 59. The thing that disappointed me the most about the college was their refund policies regarding tuition. I was very ill and had to withdraw from college and received no refund whatsoever.

Student 60. Some of the teachers I had were very good/helpful. My pre-calc teacher was very helpful and I loved my children's lit. class which I would probably major in if I did over. I thought my Comm. Skills class was worthless because of my instructor. Section I-F major was Accounting/computer operation. Not satisfied at all with extra curricular activities.

Student 61. I really feel it was not necessary for me to fill this out since I attended a University after attending NIACC. I feel it's more important to those who started their career after graduation at NIACC.

Student 62. The college did a good job for my two-year education, but I felt it was more useful when I continued my education in the last two years. I have never used my Associates of Arts in education degree yet.

Student 63. My instructor had a great impact on me. I learned to form independent opinions and values and think on my own. He is truly a great teacher.

Student 64. I enjoyed my education at NIACC, but in many ways did not give it my all. One major disappointment I did have while attending this school is that I never learned how to study; therefore, I felt somewhat frustrated when starting UNI. I am now teaching, and I thoroughly enjoy my job!!

Student 65. I would like to say that my Comm Skills teacher had a very positive influence on my personal and professional life. He is to be highly commended in his role of teacher and friend.

Student 66. I believe at a two-year school, more emphasis should be given to careers. Students need more counseling concerning the future, information on types of jobs, further education, etc.

Student 67. No questions about part-time employment or returning to school at an older age. Questions directed at high school graduates going to college. Did not find the personal growth questions pertinent for me. I feel NIACC's ADN program is a quality program.

Student 68. The courses were very good. I did feel that some of the instructors could have instructed us differently. The main think that I disliked was a couple of the instructors and how the class was taught.

Student 69. Some time in the future, I would like to continue my education.

Student 70. Housing is one of my major regrets. I stayed in the dorms and was very dissatisfied. Absolutely no way to study without walking a mile to the library. My counselor never helped me explore real areas of interest; didn't really want business major.

Student 71. Overall, my experiences at NIACC were very good. NIACC had one weak spot when I was there. It was a teacher who I and

many others felt was incompetent, rude, played favoritism and had no business teaching. I just hope he is no longer there. I learned absolutely nothing when I took his Trigonometry classes.

Student 72. I am very satisfied with the services and the education I was provided by NIACC. However, during my undergraduate studies, I enrolled in nine semester hours at Buena Vista College on the NIACC Campus. I was very disappointed in the quality of these classes and since the B.V. program is a joint venture with NIACC, my image of NIACC is tarnished.

Student 73. The questions in relation to NIACC affecting my patriotism and my familial role were laughable. By concentrating on a broad curriculum with top notch instructors, the educational experience will take care of itself. Keep it simple and meaty. Don't play a parent's role in the educational experience. You don't want teach people what to think. You want to teach them how to think for themselves. For me, that was the educational experience.

Student 74. If Counselor is still there, I suggest he be dismissed or severely reprimanded. Although it has been 5 years since I last attended NIACC, I still remember his rude and unprofessional behavior. During my scheduled visits, he was very impatient and uncaring about advising me in my academic career choices.

Student 75. At the time I attended NIACC, I was not sure what career choices I would be making. Although, I feel NIACC is an outstanding educational junior college, and I will never regret attending NIACC, I just regret not putting forth my full potential. I also feel NIACC had some top-notch instructors who cared about their students.

Student 76. I attended NIACC for 1 year. It was a year of my life that I'd just as soon forget. However, the college had nothing to do with that. I just wanted to have fun and I did. That was the problem. I am considering returning in the near future.

Student 77. Yes, I didn't complete college and I don't care to be bothered with your surveys! Thanks.

Student 78. The science department needs to do more work with lab write-ups and scientific papers.

Student 79. Need to teach students in secretarial field how to use a word processor much more than what was offered in 1984.

Student 80. Main reason for attending NIACC was to play football. I wasn't mature enough to know what I wanted to do with my life. The most important thing NIACC did for me was showing me that

there was more to life than football, and if I was ever going to amount to anything, I was going to have to grow up. Getting away from home!

Student 81. One thing I've found in talking with other NIACC graduates who have come to ISU is that we have all had to make major adjustments in our study habits to keep up. None of those who I have spoken with (and myself) had to do much studying in high school or at NIACC, but at ISU, it was a whole different ball game and this sudden increase in class size, unavailability of instructors, etc. really took its toll on some. Perhaps, something could be done to make students more aware of the change they are facing in transferring to a four-year university and some program developed to show students who don't feel they needs to study, how to study. Good Luck!

Student 82. Let the Students be more aware of the job placement program and work more closely with those seeking employment immediately after graduating from NIACC.

Student 83. Mine is a business degree. My first job after college was operating a paint gun in a factory. During the last four years, my degree has not helped at all in my employment searches. Do you offer any correspondence courses?

Student 84. I would like to see more classes offered on a once a week basis to save on transportation, time and costs. I would also like to see more opportunities in the foreign languages because they are my main interest.

Student 85. The communication skills I achieved at NIACC were outstanding in regards to my career. I deal with an office environment every day as an installation technician in the data information systems field, and it has enhanced my verbal skills with the customer. An instructor also made a great impact on my pride in the U.S.

Student 86. Overall, I feel NIACC has a very good academic program and very well kept facilities. My only complaint was with a few of the medical assistant instructors. The courses would have been very educational and useful in my field, but they simply were very poorly taught. A real waste of my time.

Student 87. I started NIACC out of high school, left for 2 years and came back after attending Sheridan College in Wyoming. I was unhappy with the counseling and grading at NIACC. I don't feel anyone ever really took the time to help me find the classes best suited for me and my career. Being graded on attendance seems kind of silly when I'm paying for my education. I surely can make my own decisions plus some of us had to work and miss for that reason.

Student 88. I just want to say the education offered at NIACC is overall very good, but I was very dissatisfied with the help and placement. NIACC had advertised so much on how well they helped graduates find a job in their field of study. I went to get help, but didn't feel any concern. I was helped better at the job placement office in Mason City.

Student 89. I feel that NIACC is a "great" college and has a lot to offer anyone who wants to apply him/herself. Since I only attended for 1 semester and then was hospitalized 2 weeks right at the end of my term, had to drop a few classes and then obtained my job. I sure wish that I would have gone to NIACC straight out of high school instead of wasting 1 1/2 years at Kirkwood. I really think NIACC is a fine college!

Student 90. I truly believe that I would not have been able to afford a major college directly out of high school. I'm not sure I would have been able to earn a four-year degree without NIACC. I felt the education I received at NIACC was equal to, if not better than, what I received at my four-year university.

APPENDIX U.

TRANSFER STUDENT CONSENT FORM FOR TRANSCRIPTS

NORTH IOWA AREA COMMUNITY COLLEGE

FORMER STUDENT CONSENT FORM

I give my permission to North Iowa Area Community College,(NIACC), to use my NIACC transcripts and to request and receive copies of my transcripts from other colleges and universities, that I have or am currently attending, for purposes of institutional research at NIACC.

I understand that the information contained on my transcripts will be combined with my survey to provide needed information on former students which will ultimately assist in the future direction of the College.

I further understand that my name, address, phone number, social security number, and any other information that may identify me individually will not be released to the project researcher at NIACC and that the results will not identify any individual student in any way.

Finally, I understand that I may receive a copy of the final results if I notify the College in writing. In addition, it shall remain my right to withdraw my survey and consent at anytime, for any reason without prejudice.

_____ _____

Student Signature Date

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AUTOBIOGRAPHICAL STATEMENT

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Mr. Phelan is the Executive Director of the Business and Industry Institute at Johnson County Community College in Overland Park, Kansas. He is a Ph.D. candidate in Higher Education Administration from Iowa State University. Mr. Phelan received his Masters in Business Administration from St. Ambrose University in Davenport, Iowa, and his Bachelor's Degree in Business Administration from Mount St. Clare College in Clinton, Iowa.

Mr. Phelan was employed by North Iowa Area Community College (NIACC) from September, 1984, through June, 1990. While at NIACC he was responsible for administering the Iowa New Jobs Training Programs and establishing various regional and industry partnerships with the College. In addition, he provided directorship for the training and retraining of the work force of the North Iowa area. Mr. Phelan was involved in positions of leadership for NIACC's education centers, community education efforts, Adult Basic Education/GED and Literacy programs, and adult and continuing education.

Mr. Phelan is the 1989-1990 President of the Iowa Association for Lifelong Learning (IALL) and has received the "Rookie of the Year" Award from that same Association. Mr. Phelan is also an active member in the American Society for Training and Development (ASTD), the American Association of Community and Junior Colleges (AACJC), the Association for the Study of Higher Education (ASHE), and the Missouri Valley Adult Education Association (MVAEA).