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PERSISTENCE OF NEW FULL-TIME STUDENTS:
A STUDY IN A COMMUNITY COLLEGE

by
JANET STEPHINE STENNICK


A dissertation submitted in partial fulfillment of the
requirements for the degree of


DOCTOR OF EDUCATION
in
EDUCATIONAL LEADERSHIP

Portland State University
1989

TO THE OFFICE OF GRADUATE STUDIES:


The members of the Committee approve the dissertation
of Janet Stephine Stennick presented February 7, 1989.


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AN ABSTRACT OF THE DISSERTATION OF Janet Stephine Stennick
for the Doctor of Education in Educational Leadership
presented February 7, 1989.

Title: Persistence of New Full-Time Students: A Study in a
Community College

APPROVED BY THE MEMBERS OF THE DISSERTATION COMMITTEE:


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Norman C. Rose

The purpose of this study was to identify those
retention-associated variables which best account for
persistence and nonpersistence among new full-time students
in a community college.

The major research question for the study was: Within a community college, what differentiates new full-time students who leave and those who stay? Do factors identified in previous studies which helped to explain persistence and nonpersistence in four-year colleges and universities and those colleges that serve large numbers of residential students hold the same power for explaining this phenomenon in community colleges?

Of the 607 new full-time students who enrolled Fall Term, 1987, 552 were sent questionnaires at the end of the fourth week of Fall Term, 1987.

Data within the persister and nonpersister groups were examined using chi-square and ANOVA. Discriminant analysis was used to study simultaneously the differences between persisters and nonpersisters with respect to several variables.

The results of the study found statistically significant differences between persistence and nonpersistence and several community college students' background and environmental characteristics, and social and academic integration into a community college. This study also found among new full-time students who attend a community college, institutional and goal commitment contributed the most to group discrimination between persisters and nonpersisters.

Future research of persisters and nonpersisters in community colleges was recommended. Implications for higher education practices was also suggested.

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CHAPTER I

INTRODUCTION

Most research on persistence/nonpersistence has been conducted at four-year and largely residential institutions and has left out the ever-growing population of students who attend community colleges. Community colleges have experienced the highest rate of attrition among higher educational institutions. Yet, little is known about the factors that influence the persistent and nonpersistent behavior of the increasing numbers of freshmen enrolling in these institutions (Astin, 1975a; Beal and Noel, 1980; Pascarella, Smart, and Ethington, 1986).

Attrition rates have been a point of discussion in higher education for many years. Four-year private and public colleges and universities have experienced freshman attrition rates (one year after entering) from 25-35 percent. Community college freshman attrition rates after one year vary from 40 to 50 (Leaning, Beal, and Saur, 1980). In California it was found that the ratio of sophomores to freshmen among full-time students enrolled in community colleges was one sophomore to three freshmen (Willett, 1983).

Tinto (1982) stated:

The aggregate rate of degree completion, as calculated by the ratio of the number of BAs or first professional degrees given in any year to the number of first-time degree enrollments four years earlier, in post secondary schooling in the last 100 years has remained about 45 percent despite the growth and alteration in the character of the higher education system (p. 94).

There is very little one can do at the national level to substantially reduce dropout from higher education without also altering the character of that education. We can and should act to reduce dropout among certain subgroups of the population where evidence supports the claim that those groups are being unjustly constrained from the completion of higher education. Thus the need for group-specific studies of student disengagement from higher education (p. 96).

The study of student attrition is the first step in reducing the nonpersisters among certain subgroups of the diverse population that will be enrolling in community colleges across the nation. Intervention strategies can then be implemented which will provide opportunities to minimize this withdrawal rate.

STATEMENT OF THE PROBLEM

From an institutional perspective, community colleges are losing too many students. As shown in Table I, the one-year figures represent the number and percentage of students who enrolled in a two-or four-year public institution and who were enrolled in the same institution after one year. On the average, 44 percent of the full-time entering freshmen at two-year public institutions were not

there the second year; at the four-year public institutions 67 percent remained for the second year.

TABLE I
RETENTION BY TYPE OF INSTITUTION
(By number of institutions and percentage)

Institution	<u>Retention after 1 year</u>					
	1975-76		1976-77		1977-78	
	N	%	N	%	N	%
2-year Public	74	55	82	55	92	53
4-Year Public	99	68	103	67	104	66

Source: Adapted from Beal & Noel, 1980.

In 1983, data provided to the American College Testing (ACT) by colleges and universities indicated a 46 percent attrition rate (Fall 1981 to Fall 1982) of freshman to sophomore year in two-year public colleges (Noel et al. 1985).

Tinto (1985) estimated that between 40 and 45 of every 100 first-time entrants to all forms of higher education would eventually obtain four-year degrees. Another 15 would obtain two-year degrees. Taken together, it followed that between 40-45 of every 100 first-time entrants would leave without earning a degree of any sort.

There are two reasons why it is important to retain students. 1) Each nonpersister creates a vacancy in the

classroom that could have been filled by a persister. The departure of this student can cause a financial strain on the community college as it represents a financial loss, and

2) The community college has a commitment to meet the needs and goals of its students (Halpin, 1983).

Three reasons for retaining students were offered by Bean (1986): economic, ethical, and institutional. The economic reason is quite clear as there is a linear relationship between enrollment and income. Secondly, it is unethical to admit students for the benefit of the school and not for the good of the student. Community colleges are experiencing an ever-changing demographic pattern: decreasing numbers of 18-year olds and increasing numbers of older people who make up the population who will enroll in community colleges; mobility of individuals, which is causing population shifts around the country; and increasing numbers of minority students, women students, disabled students, and immigrants (O'Bannion, 1987). As these individuals enter the community college for the first time, through the "open door policy," institutions are being challenged to provide opportunities for their success. O'Bannion (1987) stated:

Student development personnel have the responsibility not only to provide conditions and opportunities in which students might succeed, but to determine and prescribe that which leads to success (p. 2).

Bean (1986) further stated that the attrition rate demonstrated a failure on the part of the institution to select or to socialize students to the academic and social values of the college. The third effect of attrition is institutional; high attrition rates are likely to be associated with low faculty morale which in turn may detract from the quality of the classroom activities.

Studying student attrition at a community college is difficult because of the problems accompanying an open-access policy: low college aptitude, unselected student population, and no assessment upon entry. Many students in open-door colleges are encouraged to set unrealistic goals relative to their academic preparation and ability. They are encouraged by family, friends, or social pressures to attend; and they are doomed for failure. The unselected student body is, therefore, characterized by a large turnover.

Additional problems that face researchers at community colleges are inadequate student data bases, weak research offices, and leadership that is not concerned with current research at the local level.

Institutions will never eliminate the nonpersister problem. It is overly optimistic to believe that this ever will be possible. Community colleges can, however, reduce nonpersistence among certain groups of individuals in the general student population. Several theoretical models can

provide a guide to the identification of variables and their relationship to student persistent/nonpersistent behavior (Bean, 1985; Fishbein and Ajzen, 1975; Pascarella, 1980; Rootman, 1972; Spady, 1970, Tinto, 1975).

PURPOSE OF THE STUDY

The purpose of this study is to identify those retention-associated variables, which best account for persistence and nonpersistence among new full-time students in a community college. Learning more about the importance of social and academic integration of persisters and non-persisters in a community college was the specific area of interest.

The major research question for this study is as follows: Within a community college, what differentiates new full-time students who leave and those who stay? Do factors identified in previous studies which helped to explain persistence and nonpersistence in four-year colleges and universities and those colleges that serve large numbers of residential students hold the same power for explaining this phenomenon in community colleges?

The specific research questions are as follows:

1. Is there a statistically significant difference between persistence and nonpersistence and students' background and environmental characteristics?
2. Is there a statistically significant difference

between persistence and nonpersistence and students' social and academic integration into a community college?

3. Is there a statistically significant difference between persistence and nonpersistence and students' satisfaction with services?

4. Among new full-time students who attend a community college, which of the social and academic integration factors or combination of factors can best account for being a persister or nonpersister?

Key variables that previous research has identified to help account for withdrawal patterns will be used in this study.

Independent Variables

Student background variables

age
gender
ethnic group
educational goal at enrollment
reason enrolled at Clackamas Community College
number terms plan to stay
prior education
pre-enrollment activities
reported GPA/high school or prior college
placement test
declared major
mother's education
father's education
spouse/partner's education
high school program of study
attendance at class advising session
attendance on college success day

Student environment variables

marital status
number dependent children

emotional support system
financial aid
most frequent class time
distance commute one-way
number hours work per week
residence
time with faculty
time with other students

Independent Variables

Social integration

peer group interaction
interaction with faculty

Academic integration

faculty concern for student development and
teaching
academic and intellectual development
institutional and goal commitment

Services

college service
college environment

Dependent Variable

Persistence

persisters
nonpersisters

In Chapter IV each variable is operationalized.

Clackamas Community College administrators gave me the opportunity and support to conduct this study. They provided needed information regarding persisters and nonpersisters at Clackamas Community College. Knowledge of factors that account for nonpersistence would provide a base for developing intervention strategies designed to increase persistence.

SCOPE OF THE STUDY

The population selected for this study was students enrolled at Clackamas Community College in Oregon City, Oregon. The subjects were new full-time students, Fall Term 1987.

Clackamas Community College has experienced a loss of new full-time students from Fall Term to Winter Term each year (see Table II).

TABLE II
RETENTION RATES FOR NEW FULL-TIME STUDENTS

	1983-84	1984-85	1985-86	1986-87	1987-88
Fall Term	567	491	522	613	607
Re-enrolled	83.6%	80.6%	74.6%	73.6%	76.7%

Of the 141 students who did not return Winter Term 1988, only 49 (35 percent) received a 2.00 GPA or better during Fall Term, 1987. The remaining 92 students either totally withdrew or received less than a 2.00 GPA during Fall Term, 1987.

OPERATIONAL DEFINITIONS

New full-time student. An individual who registered Fall Term, 1987 for the first time for a minimum of 12 credit hours (excluding GED students).

Persister. Students who re-enrolled Winter Term, 1988. Lenning, et al. (1980) further defined the persister as one who continued enrollment at the same institution without interruption for the period of study.

Nonpersister. Those who did not re-enroll Winter Term, 1988.

Social integration. Pascarella and Terenzini (1980) defined social integration as "peer group interaction" and "student interaction with faculty."

Academic integration. Pascarella and Terenzini (1980) defined academic integration as "academic and intellectual development," "faculty concern for student development and teaching" and "institutional and goal commitment."

ORGANIZATION OF THE STUDY

The study is organized into six chapters. Chapter I, the Introduction, describes the statement of the problem, the purpose of the study, the scope of the study, and the operational definitions. Chapter II reviews the literature on student attrition. The literature is divided into three components: conceptual and theoretical models by four key researchers, critical variables from previous research, and research designs used in student retention studies.

Chapter III summarizes the preliminary study. Chapter IV explains the design of the study, the methods used, and the procedures followed to gather and analyze the data.

Chapter V reports the study findings. Chapter VI provides a discussion of the results, conclusions, and recommendations.

The following chapter of related literature will review a body of knowledge that is significant to this study.

CHAPTER II

REVIEW OF THE LITERATURE

The literature, divided into three parts, focuses on research pertinent to this study. The intent of the three-part review of the literature is to present the conceptual and theoretical models that have been developed by four key researchers to study student attrition, to review critical variables: Findings from previous studies, and to present three research designs used in retention studies.

Because these models build the framework for the study of student attrition, they should be reviewed in depth.

Bean (1982) stated:

A model of student attrition is a representation of the factors presumed to influence decisions to drop out of an institution. The model identifies the interrelationships among the various factors and the relationships between these factors and dropout decision (p. 18).

It must be stressed at this point that enormous amounts of literature on the topic have been published.

Inconsistency in the factors identified as the reasons for withdrawal make it difficult to synthesize the many articles written on persistence and withdrawal patterns. Halpin (1983) alone stated that he had reviewed literature that cited 108 factors identified as possibly involved in

retention. Further review has shown that one study will use factors that are deemed important while another study will not use those factors at all.

Researchers and theorists in higher education have studied retention from various points of view for 25 years and have come to a common conclusion. According to Lenning, et al. (1980):

....Retention and attrition result from interactions between persons and institutions...
....The characteristics of the interaction, not the student or institution alone, affect a student's decision to stay or drop out (p. 43).

Festinger (1962) added insight into the person-environment interaction by his general formulation of cognitive dissonance. His theory deals with individuals' perceptions and knowledge about themselves (needs, desires, talents, interests, and goals); the social environment (peers, instructors, policies and regulations, living conditions, and interpersonal relations); and individuals' positions and situations within the environment (difficulties with course work, and personal problems).

Dissonance, or "nonfitting relations," among these cognitive or perceived elements gives rise to pressures to reduce the dissonance by seeking new ways to improve the fit of various elements. According to Festinger's theory, students with strong perceptions of personal needs that are not met by the college will be more likely to become non-persisters than those who consider their unmet needs to be less serious.

The first part of the literature review will focus on the development of the more prominent theoretical models of Spady (1970), Tinto (1975), Pascarella (1980), and Bean (1985). These studies are theoretical (not descriptive) models. Bean (1982) wrote:

Kerlinger defines a theoretical model as a set of interrelated constructs (concepts), definitions, and propositions that present a systematic view of phenomena by specifying relationships among variables, with the purpose of explaining and predicting the phenomena (p. 17).

In an atheoretical (or descriptive study), empirical generalizations are made about the characteristics of dropout. These statements represent correlation among variables, not causation. From these statements, an institutional researcher can describe the extent of attrition, the time when students are most likely to drop out, and selected characteristics of dropouts. What one cannot do from a descriptive study is say why a student is likely to drop out of an institution. Descriptive studies are atheoretical because they are not based on a theory that links the variables in the study. Linkages (correlations) may be established but the reasons why variables are related is (sic) not specified (p. 18).

CONCEPTUAL AND THEORETICAL MODELS

Spady's Model

Spady (1970) found that literature in the 1960s on college dropouts focused only on generalizations about the relationship between attrition and family background, ability, or academic performance. He observed that the literature of that time lacked theoretical and empirical coherence on which to base findings. As most of the researchers stressed the need for a model, their

recommendations for new and more thorough approaches lacked any definite theoretical base. Spady, therefore, synthesized the available studies on background variables, sex-linked roles of educational goals and interest, and interpersonal relationships then built a model based on Durkheim's theory of suicide.

According to Durkheim (1951) suicide is more likely to occur when individuals are insufficiently integrated into the fabric of society. Specifically, the likelihood of suicide in society increases when two types of integration are lacking--namely insufficient moral (value) integration and insufficient collective affiliation.

A college can be viewed as a small social system with its own values and social structure. Therefore, it is reasonable to assume that a dropout from higher education would resemble a suicide in society (Tinto, 1975).

The first theoretical model of the dropout process was described by Spady as follows:

The dropout process is best explained by an interdisciplinary approach involving an interaction between the individual student and his particular college environment in which his attributes (i. e., dispositions, interests, attitudes, and skills) are exposed to influences, expectations, and demands from a variety of sources (including courses, faculty members, administrators, and peers). The interaction that results provides the student with the opportunity of assimilating successfully into both the academic and social systems of the college. To the extent that the rewards available with either system appear insufficient, however, the student may decide to withdraw (p. 77).

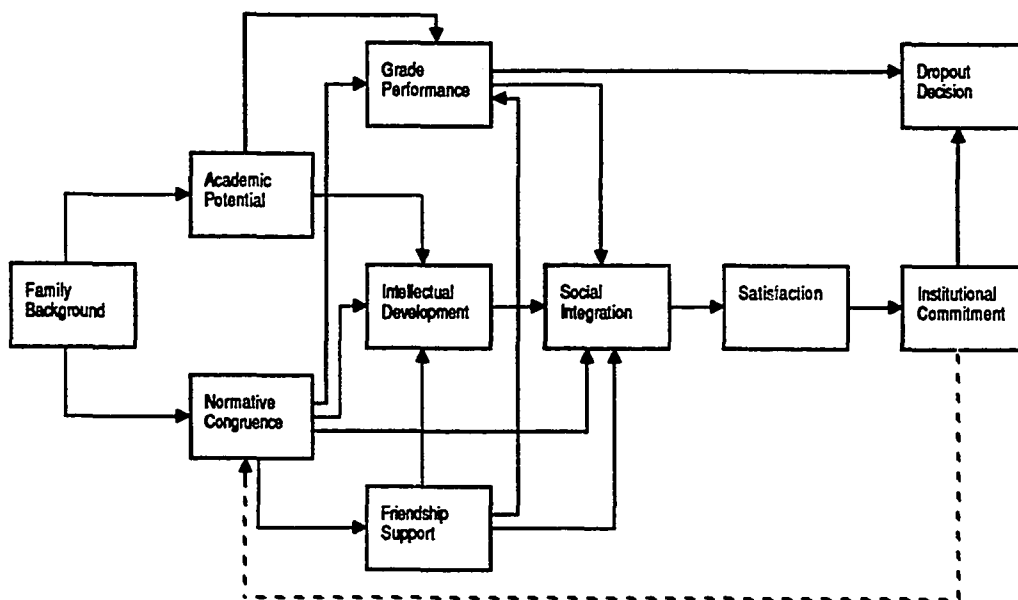


Figure 1. The sociological model of the dropout process by Spady (1970).

In the model design, grade performance, normative congruence, and friendship support were assumed to lead to social integration which was then expected to increase satisfaction. Increased satisfaction was assumed to increase institutional commitment and thereby reduce the likelihood of dropping out.

The Sociological Model of the Dropout Process by Spady cited several important factors related to the dropout process: family background, academic potential, ability, and socio-economic status. To normative congruence and friendship support, Spady added grade performance and intellectual development, factors that lead to greater social integration. Grade performance is shown to have a

direct effect on attrition because a student can fail academically. He further stated that dropout decisions are the result of a longitudinal process.

Tinto's Model

The work of Spady was further expanded by Tinto. Tinto (1975) used the previous work to build a model which would lead to a predictive rather than a descriptive theory of dropout behavior. He, too, viewed Durkheim's theory as a descriptive model that specified the conditions under which varying types of dropout occur.

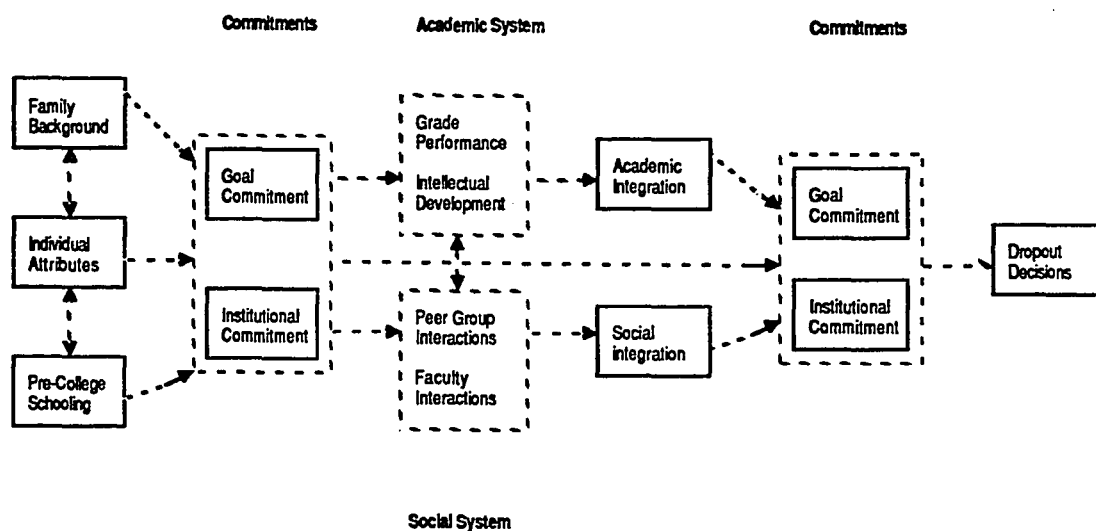


Figure 2. Tinto's (1975) theoretical model of college withdrawal.

In developing the model which seeks to explain the longitudinal process of interactions that lead different persons to varying forms of persistence and/or dropout behavior, Tinto suggested that background characteristics,

individual attributes, and precollege schooling interacted with each other to influence an individual's educational expectation and motivation for academic achievement. Goal commitment and institutional commitment were elements of Tinto's model not included in Spady's model. Tinto defined goal commitment as "the level of expectation and the intensity with which the expectation is held" (p. 93). He further stated:

An individual's educational goal commitment is an important input variable in the model of dropout because it helps specify the psychological orientations the individual brings with him into the college setting--orientations that are important predictors of the manner in which individuals interact in the college environment (p. 93).

Tinto referred to institutional commitment as "any specific institutional components which predispose him toward attending one institution (or type of institution) rather than another" (p. 93).

Spady's model suggests that two subsystems are found in higher education--social system and academic system. Tinto's model moves in a circular motion: Goal commitment leads to higher grade performance and intellectual development; higher grade performance and intellectual development lead to academic integration; and academic integration leads to greater goal commitment. Institutional commitment generates peer-group and faculty interaction; these interactions foster social integration, which in turn increases institutional commitment. Goal commitment and

institutional commitment are likely to reduce the likelihood of dropout (Bean, 1982). It can be surmised, therefore, that the lack of social and academic integration will lead to low goal and institutional commitment; and because of this, the probability is greater that an individual will leave the institution.

Tinto summarized his model as follows:

In brief, this theoretical model of dropout... argues that the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experiences in those systems (as measured by his/her normative and structural integration) continually modify his/her goal and institutional commitments in ways which lead to persistence and/or to varying forms of dropout (p. 94).

Given individual characteristics, prior experiences, and commitments, the model argues that the individual's integration into the academic and social systems of the college that most directly relates to his/her continuance in that college. Given prior levels of goal and institutional commitment, it is the person's normative and structural integration into the academic and social systems that lead to new levels of commitment. Other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his/her commitment to the specific institution and to the goal of college completion (p. 96).

Pascarella's Model

While Tinto placed interaction with faculty as part of social integration, Pascarella (1980) suggested that faculty interactions might also enhance academic integration.

Drawing on the work of Spady (1970), Tinto (1975), and

extensive review of the literature, Pascarella formed a conceptual model that stressed the importance of student-faculty informal contact.

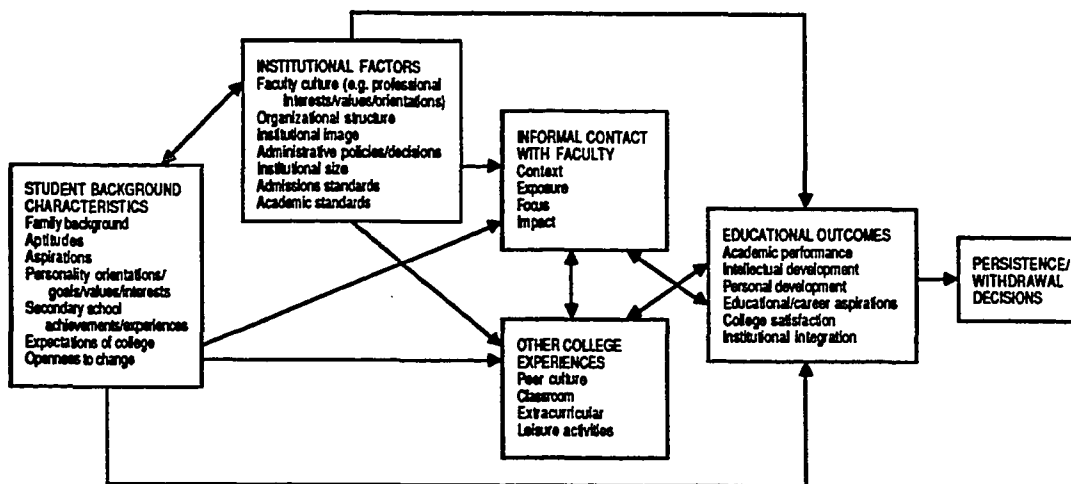


Figure 3. Pascarella's (1980) conceptual model for research on student-faculty informal contact.

In the model, student background characteristics (family background, aptitudes, aspirations, personality orientations, goals, values and interest, secondary school achievement and experiences, expectations of college, openness to change) are anticipated to interact with institutional factors, faculty culture (professional interests, values, and orientations), organizational structure, institutional image, administrative policies and decisions, institutional size, admissions standards, and academic standards. Institutional factors are anticipated to influence informal contact with faculty (context, exposure, focus, impact), other college experiences (peer

culture, classroom, extracurricular, leisure activities), and educational outcomes (academic performance, intellectual development, personal development, education/career aspirations, college satisfaction, and institutional integration).

Educational outcomes are expected to influence persistence/withdrawal decisions. Background characteristics are anticipated to have a direct influence on institutional factors, informal contact with faculty, other college experiences, and educational outcome. Informal contact with faculty is expected to influence other college experiences and be influenced by these informal contacts. Informal contact with faculty is also supposed to influence educational outcomes and be influenced by these informal contacts.

The three models as viewed by Bean (1980) have three points in common: 1) The models are a longitudinal process which describes attrition. 2) The models' theoretical base are on the social and academic integration of students with the institution. 3) The models are very complex in order to enhance accuracy and promote generalizability. Generalizability can only be determined on academic and social integration if the questions are more generic and not specific to the institution.

Bean's Model

The last model discussed is A Longitudinal Model of the Types of Factors Affecting Retention Decisions. Bean developed his model after studying an industrial model by Price and Mueller.

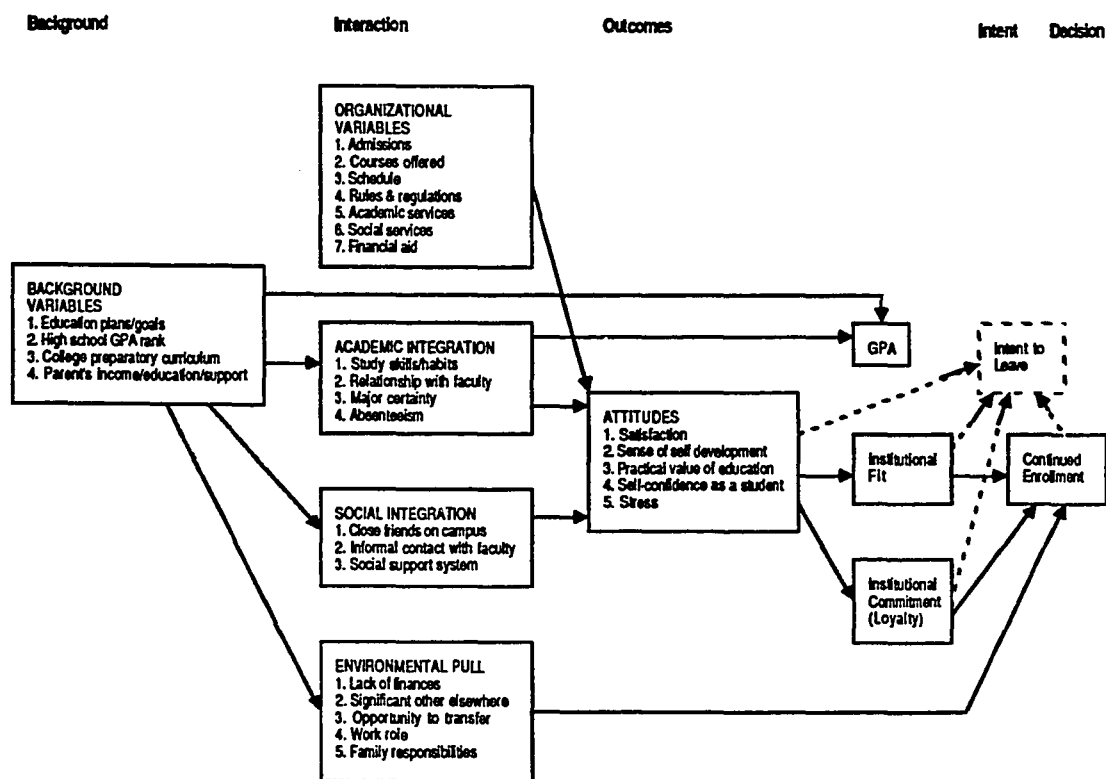


Figure 4. Bean's (1986) longitudinal model of the type of factors affecting retention decisions.

In developing his model, Bean integrated intent to leave which was theorized in a model by Fishbein and Ajzen. Fishbein and Ajzen (1975) indicated that behavior is preceded by an intention to perform that behavior. Intent to leave replaces institutional commitment which is found in

the Spady and Tinto models. In the schematic design intent to leave is the final step before making the withdrawal decision. Bean (1982) stated that in the research he had done, intent to leave had been the best predictor of attrition.

The Bean model is both longitudinal and complex; it also draws on the social and academic interaction of students and their decision to withdraw from an institution.

Bean (1982) summarized the model:

The adapted model contained ten variables, which reflected the student's interaction with the institution (grades, practical value of the education received, the sense of self-development due to schooling, the repetitiveness of school life, information related to the student role, participation in decision making, having close friends, having the courses one wants to take, being treated fairly, and memberships in campus organizations). These variables were all expected to influence satisfaction which in turn was expected to decrease intent to leave. Intent to leave is positively related to dropout. In addition, two variables external to the organization--opportunity to transfer and likelihood of marrying--were directly and positively related to intent to leave and dropout. Variables similar to academic and social integration variable...appear among the variables of interaction with the institution. Also among these variables are several attitudinal variables (p. 24).

After reviewing the four theoretical models from which the framework for most studies is conducted, the literature review focused on relevant studies conducted at two- and four-year colleges and universities that utilized the models.

CRITICAL VARIABLES: FINDINGS FROM PREVIOUS RESEARCH

Social and Academic Integration

Pascarella and Terenzini (1977, 1979) conducted longitudinal studies at a large, independent, residential university in New York state. One purpose of the studies was to identify the interactions between student-faculty relationships and various student-entering characteristics.

Through use of an instrument that tapped the aspects of intellectual development, peer-group interaction, interactions with faculty, and institutional and goal commitments in Tinto's model, Pascarella and Terenzini concluded that the quality and impact of student-faculty relationships made greater estimated contributions to the production of subsequent decisions to persist or withdraw than did scores on the scale concerned with students' peer relationships. Pascarella and Terenzini's findings firmly supported Spady's and Tinto's notion of the sociological complexity of the influences on persistence/withdrawal decisions. Secondly, the findings suggested that the main influence on students to persist was what happened during the freshman year rather than the particular commitments, background characteristics, aspirations or aptitudes which the students brought with them. Thirdly, the nature of the interaction between student-faculty for men compensated for low levels of institutional goal commitment and academic and intellectual development. For women, the frequent contacts

with faculty on intellectual issues seemed to compensate for low levels of satisfaction with the quality and impact of peer relationships. The overall findings of the studies provided reasonably clear support for Tinto's hypothesis of a potentially compensatory association between social and academic integration.

These interactions between social integration and academic integration as a predictive measure were studied by Pascarella and Terenzini in 1980. The study was replicated by Terenzini, Lorang, and Pascarella (1981). The purpose of the studies was:

...to develop a multidimensional instrument which assesses the major dimensions of the Tinto model; and to determine the validity of the instrument, and thereby the model, in accurately identifying freshmen who subsequently persist or drop out voluntarily (p. 13).

The results of the studies showed:

...the Institutional and Goal Commitment Scale was a significant predictor of attendance behavior even after controlling for a variety of students' precollege characteristics. Potential institutional differences in faculty members' influence on retention were identified. A cross-validation classification procedure suggests the five factors are reasonably stable predictors of attrition (p. 109).

The study also generally supported the predictive validity of the major components of Tinto's model.

A significant difference in student-faculty relationship between the two studies was noted. University A persisters' average scores, as measured by the interactions with faculty and the faculty concern for

students' development and teaching scales, were approximately one standard deviation higher than those who left at the end of their freshman year.

University B persisters and nonpersisters' scores, which didn't make a noticeable contribution to the attendance pattern, may be related to the fact that there were more women in the sample; and that students were advised by academic counselors rather than by faculty members.

Research on the relationship between student-faculty interaction has also been examined by others and found to have a direct effect on persistence/withdrawal decisions (Spady, 1971; Astin, 1975; Lenning et al. 1980).

Halpin (1983), using Pascarella and Terenzini's 34-item questionnaire at a two-year, nonresidential community college, stated in his analysis that an important influence of faculty-student interaction on persistence was noted. His assertion (that student integration levels would be more powerful predictors of turnover than the background and environment variables) was partially supported.

The person-environment fit, on which Tinto's model is based, was also tested for predictive validity by Pascarella, Duby, and Iverson (1983) at a nonresidential setting. Academic integration was consistent with studies done at residential universities. Social integration showed a negative influence on persistence which is inconsistent with past studies and theories (Tinto, 1975; Spady, 1971;

Pascarella and Terenzini, 1977, 1979, 1980). This might be explained by the fact that Tinto's model was based on the assumption that the institution provided opportunities for social integration which nonresidential universities were not able to supply. The findings in this study could have strong implications for community college retention studies because most community colleges are nonresidential.

Voorhees (1987) found that academic integration variables (grade-point average, number of informal interactions with faculty outside of class, and number of hours spent studying each week) in a community college setting did not meet statistical criteria to be considered for persistence. He surmised that community college students, because of other commitments, might not have as much time to spend interacting informally with instructors and might have less time to study each week. If Voorhees's idea is accepted, academic integration could be of less importance to explaining persistence at a community college than at a four-year college or university.

Pascarella's et al. (1983) study using goal commitment and institutional commitment variables was also inconsistent with theory (Tinto, 1975; Lenning et al. 1980; Pascarella and Terenzini, 1980; Terenzini et al. 1981). Neither goal commitment nor institutional commitment had a direct positive influence on persistence. Institutional commitment coupled with intention to persist did have an indirect

influence on persistence. Voorhees (1987) results showed that intention to return interacted significantly with community college persistence. These results lend support to Bean's theory (1986) that "students with positive attitudes towards their college or university are likely to remain enrolled in school" (p. 56).

As the literature has shown, social and academic integration are important components in a student's decision to persist or withdraw at a four-year college or university but might not be as significant at a community college.

Other research of community college students have focused on the nontraditional student (Bean and Metzner, 1985); progress of students who intended to earn a degree (Friedlander, 1986); confidence, commitment, and academic performance and retention (Bers, 1983); and reverse transfer and lateral transfer (Mitchell and Grafton, 1985).

Student Background and Environment Characteristics

Pascarella et al. (1986), in a long-term study of students who began their post-secondary education in two-year institutions, used the five different constructs in Tinto's model to explain the long-term persistence of students. The results showed that only four student background characteristics and initial commitments had significant direct effects on the two persistence measures when all other variables in the model were controlled. For men, secondary-school achievement had a positive direct

effect on degree completion; whereas, male degree completion was negatively influenced by commitment to the initial institution of enrollment. For women, socioeconomic status had a positive direct effect on degree persistence, and secondary school social involvement positively influenced degree completion. This study also showed significant differences in factors that influence persistence for men and for women. Institutional commitment had a significantly stronger positive influence on persistence measures for men than for women. Secondary-school social involvement was a significantly more important positive influence on persistence measures for women than for men. The two variables with the most consistent pattern of significant positive effect on degree completion were academic and social integration.

Background characteristics (e.g., academic aptitude, race, sex, affiliation needs) could have a direct effect on persistence at nonresidential universities (Pascarella et al., 1983; Voorhees, 1987). Thompson and Bynum (1983) found that race and sex composition of college classes have an effect on attrition rates. However, there were no significant differences in attrition rates between minority students and whites when other factors such as academic ability and socioeconomic status were controlled (Voorhees, 1987). Lenning et al. (1980) stated, however, that age and race usually are not helpful in studying student attrition.

Satisfaction

Another element that has surfaced in the last ten years is the relationship of satisfaction and persistence. One could make the assumption that students who are satisfied with college would stay and those who are dissatisfied would leave. Hoyt (1978) suggested a series of tenable assumptions based on concepts of satisfaction and commitment:

- 1) Persistence will be chosen when satisfactions (both realized and anticipated) associated with it exceed those associated with another choice.
- 2) Lacking satisfaction in a given situation, individuals will look for alternative choices and select the one that is judged to have the highest probability of providing satisfaction.
- 3) Satisfaction arises from two sources: a sense of progress in reaching personal goals and a sense of comfort with the environment.
- 4) Enduring satisfaction requires support from both of the above sources of satisfaction.

Hoyt's intent was to focus on maximizing satisfaction with choices rather than focusing on improving retention. Thus, persistence might be related more to the willingness or ability to endure dissatisfaction than to the dissatisfaction itself.

Bean (1980) reported that a positive relationship exists between a person who is satisfied with his/her role as a student and university student persistence.

If satisfaction with a single component, such as older

students greater satisfaction with courses than younger students (Lenning and Hanson (1977), then the same could hold true for the general satisfaction with an institution. The results of Voorhees' (1987) study indicated that satisfaction is relatively unimportant in community college persistence decisions.

A study by Bean and Bradley (1986) was the only piece that developed a model that was used to assess the degree of reciprocity between performance and satisfaction and to identify those factors which have the greatest effect on them.

In the last 20 years several articles have been published on levels of satisfaction (Betz, Klingensmith, and Menne, 1970; Pervin, 1967; Schmidt and Sedlacek, 1972; Sturtz, 1971).

Stated Reasons for Leaving

Other factors must be considered. Pantages & Creedon, (1978) focused on the reasons students left during their freshman year. Several studies have identified the academic, social, personal, and financial reasons related to a student's decision to withdraw (Astin, 1975a,b; Brigman, Kuh, Stager, 1982; Herndon, 1984). Lenning et al. (1980) listed five studies that surveyed students' reasons for leaving. These studies listed over 173 reasons of why students withdraw from college.

Alfred (1972), using chi-square analysis, obtained a

significant relationship with student attrition for 17 of the 23 variables he examined: enrollment status, class attendance, class-level status, sex, age, veteran status, self-income, place of residence, financial status, financial-aid intention, work status, mode of transportation, reason for pursuing college, reason for selecting a two-year college, career plans, plans to continue enrollment, and degree plans.

Based on a study by Smith (1983) at the University of Akron, it was determined by 20 percent of the nonpersisters that conflicts with job and studies, not enough money, and the need for a temporary break from school were the main reasons for leaving. Nonpersisters listed counseling and advising services, financial aid opportunities and quality of instruction as the factors which, if appropriate adjustments had been made, would have encouraged them to stay.

Davis (1970) interviewed students who had withdrawn; the reasons for the withdrawals were as follows: finances, the irrelevancy of a college education, discouragement with meeting academic standards, marriage, health, and family problems.

Ramist (1981) noted that financial difficulty is the second most stated reason for dropping out. However, if academic ability and motivation are controlled, there is almost no relationship between income and attrition.

A study by Thurston and Brainard (1973) showed similar findings: transfer to another institution, change of residence, employment, medical problems, marriage, and military obligations were stated as the primary reasons for leaving.

RESEARCH DESIGNS USED IN STUDENT RETENTION STUDIES

Autopsy Design

The "autopsy" or post hoc attrition design is used to collect data after the fact. Terenzini (1982) labeled the design "autopsy" since it involved sending survey questionnaires to students who had withdrawn from the institution. Questionnaires from nonpersisters, only, is not sufficient to ensure internal validity of an attrition study. Terenzini (1982) defined internal validity as:

The design's capability of ensuring that an observed relation between an independent and a dependent variable is not spurious and that alternative explanations for the observed relation have been controlled and be ruled out. Basically, internal validity can be enhanced in either of two ways: (1) through the random assignment of persons to experimental and control groups (probably impossible in attrition studies) or (2) through the use of a nonequivalent comparison group with statistical controls to take initial group differences into account (p. 57).

Campbell and Stanley (1963) stated that "basic to scientific evidence...is the process of comparison, of recording differences, or of contrast...Securing scientific evidence involves making at least one comparison" (p. 6). Therefore, a comparison group of persisters should be

selected to take group differences into account. Without this comparison group, statistical controls are meaningless. Data is gathered, therefore, from persisters at the same time and under the same conditions as data from the nonpersisters.

Cross-Sectional Design

Terenzini (1982) described the cross-sectional design. It is used for the one-time collection of data from currently enrolled students. As collection of the data is one moment in the student's academic career, it is best to collect the data near the end of a semester or academic year. A sample group of persisters and nonpersisters can be identified through enrollment data generated at the beginning of the next semester or academic year.

The major feature of the cross-sectional design is the ability to compare persisters and nonpersisters on the same measures taken at the same time and under similar conditions.

The data set that is selected must include measurements for the precollege differences between the groups so internal validity will not be threatened. A college data base could provide some information for controlling the precollege differences (high school achievement and academic aptitude test, placement scores).

Since the study would be conducted while the students are on campus, a high response rate would be likely. It would be important to get a high response rate to increase

the likelihood of detecting differences in persisters and nonpersisters.

Longitudinal Design

The longitudinal design is used to collect data from the same group at two or more points in time.

As Terenzini (1982) points out:

The longitudinal design provides for the extensive planned control of many variables thought to be potential influences on the attendance behavior of students. For the reason the longitudinal design is the most internally valid of the designs. Information collected prior to matriculation can be used statistically to equate dropouts and nondropouts (p. 61).

The longitudinal design produces a likely response rate of 40 to 60 percent. The high rate is needed to offset the mortality rate in subsequent collections. It is best to use as large a sample as the study can afford.

The following table gives a summary of the three designs discussed.

TABLE III
THREE DESIGNS FOR STUDYING ATTRITION

Consideration	Autopsy Studies	Cross-Sectional Studies	Longitudinal Studies
Research considerations			
Instrument reliability ^a	Probably limited	Possible	Possible
Instrument validity ^a	Probably limited	Possible	Possible ^b
Likely response rates	15-40%	50-80%	40-60%
Sample representativeness	Unlikely	More likely	More likely
Internal validity			
Comparisons with non-dropouts	No	Yes	Yes
Controls for initial group differences	No	Limited ^c	Yes
Analytical procedures	Usually descriptive or bivariate	Bivariate or multivariate	Multivariate
Applicability of data to other purposes	None-Limited	Moderate-High	Moderate-High
Planning considerations			
Needed training/ experience of project staff	Minimal	Moderate-Advanced	Advanced
Time to complete study	3-5 months	6-9 months	15 months
Direct costs (relative)	Low	Low-Moderate	High
Planning needed	Limited	Limited-Moderate	Considerable
Data management problems and requirements	Few	Few-Moderate	Many

a Depends more on the training and skill of the person(s) designing the study than on the study adopted

b Response rates, expressed as proportions of an initial sample, decline with each subsequent data

c Assumes that the only pre-college information available for study respondents is typically collected at time of application for admission.

Source: Terenzini, 1982

The major question is, then, within a community college, what differentiates new full-time students who leave and those who stay. This study sought to answer the question by asking new full-time students to fill out a questionnaire.

The answers were analyzed to see if student background, student environment, social and academic integration or satisfaction with services influenced a student's decision to persist or withdraw.

The next chapter will focus on a preliminary study using the autopsy design.

CHAPTER III

FIRST STUDY: THE USE AND RESULTS OF AN AUTOPSY DESIGN

The "autopsy" or post hoc attrition design was used to collect data for the original study. The response rate was so low using the "autopsy" design that not enough data was collected to obtain adequate results. Thus the activity was labeled a preliminary study. Using the 1986-87 enrollment data, 162 cohorts were identified as nonpersisters. Of that group 157 met the specifications for the preliminary study.

Another 157 persisters were identified by a random sample.

PROCEDURES

Sample

Two general sets of subjects were selected for participation in the study. The persister and nonpersisters were selected from the new full-time students who enrolled Fall Term, 1986, at Clackamas Community College, Oregon City, Oregon.

Of the 613 new full-time students who enrolled Fall Term, 1986, 162 (26.4%) did not return for Winter Term, 1987. The student names of nonpersisters were retrieved from the college data base at the end of the second week,

Winter Term, 1987. The end of the second week is the last day that students can enroll in classes without the consent of the instructor. Of the 162 students who did not return, five were excluded from the study: One was deceased and four did not leave their forwarding addresses (N=157).

The persisters (N=157) were identified at the end of the second week of classes by a simple random sampling, using SPSS, of the new full-time students who returned Winter Term, 1987, and registered for a minimum of 12 credit hours.

Since the response rate of the nonpersisters was so low (26%), reliable analysis was not possible using the data gathered from the questionnaires. The college data base provided the following demographic and background information about the persisters and nonpersisters.

The age of the persisters and nonpersisters is displayed in Table IV to show the age distribution breakdown after the random sampling was completed.

A chi-square, goodness of fit test, $\chi^2(2, N = 309) = 5.64$, $p < .05$, revealed no statistical significant difference between age and persistence and nonpersistence of new-full time students. It should be noted that if $p < .10$ was used, the difference moved toward significance.

TABLE IV
AGE DISTRIBUTION
(By number and percent)

Age Range	Persisters		Nonpersisters	
	N	%	N	%
Under 23	120	77	103	67
23-29	12	8	24	15
30 and up	<u>23</u>	<u>15</u>	<u>27</u>	<u>18</u>
Total	155	100	154	100
Missing	2		3	

The gender of the persisters and nonpersisters displayed in Table V shows the distribution after the random sampling was completed.

No statistically significant difference between gender and persistence and nonpersistence of new full-time students was detected at $X^2(1, N = 310) = 1.98, p < .05$.

TABLE V
GENDER DISTRIBUTION
(By number and percent)

Gender	Persisters		Nonpersisters	
	N	%	N	%
Female	75	48	61	39
Male	82	52	92	59
No response	<u>0</u>	<u>0</u>	<u>4</u>	<u>2</u>
Total	157	100	157	100

Students were encouraged but not required to take placement tests. Table VI shows the distribution of those who did and did not take the placement test.

There was a statistically significant difference, $\chi^2(1, N = 314) = 5.76, p < .05$, between completion and noncompletion of a placement test and persistence and nonpersistence of new full-time students. Persisters were more likely to have taken the placement test.

Students were encouraged but not required to declare a major when they registered Fall Term. Table VII shows the distribution of those who declared a specific major or a general studies major.

TABLE VI
PLACEMENT TEST DISTRIBUTION
(By number and percent)

Testing	Persisters		Nonpersisters	
	N	%	N	%
Completed	101	64	80	51
Not completed	<u>56</u>	<u>36</u>	<u>77</u>	<u>49</u>
Total	157	100	157	100

No statistically significant difference, $\chi^2(1, N = 314) = .24, p < .05$, was found between declaring a major and persistence and nonpersistence of new full-time students.

TABLE VII
DECLARED MAJOR DISTRIBUTION
(By number and percent)

Major	Persisters		Nonpersisters	
	N	%	N	%
General Studies	57	36	53	34
Specific Majors	<u>100</u>	<u>64</u>	<u>104</u>	<u>66</u>
Total	157	100	157	100

The persisters and nonpersisters selection of transfer programs, Associate of Science Degree and Certificate occupational programs, and other programs is shown in Table VIII.

No statistically significant differences, $\chi^2(1, N = 314) = .24, p < .05$, between transfer/nontransfer and persistence and nonpersistence of new full-time students were found.

TABLE VIII
TRANSFER AND NONTRANSFER DISTRIBUTION
(By number and percent)

Program	Persisters		Nonpersisters	
	N	%	N	%
Transfer	62	40	54	34
Nontransfer	38	24	50	32
Other	<u>57</u>	<u>36</u>	<u>53</u>	<u>34</u>
Total	157	100	157	100

From the 1986-87 demographic findings, the following description of a nonpersister was developed: A nonpersister is more likely to be a male between the ages of 23-29 who had not taken a placement test.

The next chapter will focus on the design of the study, operationalization of the variables, instrumentation, data collection, and data analysis procedures.

CHAPTER IV

METHODS AND PROCEDURES

The purpose of this study was to identify those retention-associated variables, which best account for persistence and nonpersistence among new full-time students in a community college. The major research questions posed in the first chapter were as follows: Within a community college, what differentiates students who leave and those who stay? Do factors identified in previous studies which helped to explain persistence and nonpersistence in four-year colleges and universities and those serving large numbers of residential students hold the same power for explaining this phenomenon in community colleges? The specific research questions were also presented. 1) Was there a statistical significant difference between persistence and nonpersistence and students' background and environmental characteristics? 2) Was there a statistical significant difference between persistence and nonpersistence and students' social and academic integrations into a community college. 3) Was there a statistical significant difference between persistence and nonpersistence and students' satisfaction with services? 4) Among new full-time students who attend a community college,

which of the social and academic integration factors or combination of factors can best account for being a persister or nonpersister.

This chapter presents the methodology used to address the research questions. Separate sections discuss the research design of the study, variables identified and operationalized, procedures (sample, instrument, data collection), data analysis, and limitations.

RESEARCH DESIGN

As described in Chapter II, the longitudinal design provides the most extensive planned control of the many variables thought to be potential influences on the attendance behavior of students. However, to be effective, the longitudinal design requires: a project staff with advanced training, substantial amount of time to complete, and a great deal of money. These three requirements were not available for this study, therefore, the cross-sectional design was chosen.

A major feature of the cross-sectional design is the capacity to compare a group of persisters and nonpersisters on the same measures taken at the same time and under similar conditions.

As stated by Terenzini (1982):

The design involves the measurement of potentially attrition-related experiences and attitudes at the very time they are presumably exerting their influence (p. 59).

Internal validity of the study could be threatened by the inability of the cross-sectional design to account for precollege differences. The potentially important attrition predictors, precollege commitment of completion of a degree, educational and career aspirations or goals, and expectations of the college experience, were independent variables used to account for the differences. The students were surveyed while they were still on campus which allowed for a higher response rate than that of the preliminary autopsy study. The higher the response rate, the greater the likelihood that true differences might be detected among the persisters and nonpersisters on a statistical basis.

VARIABLES FOR THE STUDY

The variables for the study were listed in Chapter I. The independent variables (student background characteristics and student environment characteristics) were selected for making group comparisons on the basis of extensive literature review. Many of the characteristics are representative of a community college population.

The independent variables (social and academic integration) were derived from Tinto's model and were selected by Terenzini and Pascarella (1980) for use in their Likert-item instrument.

The independent variables (college services and environment) were selected for making group comparison on

the basis of research conducted by The ACT Evaluation/Survey Service.

The student background and environment variables were operationally defined as follows:

Student Background Variables

The background variables represented student characteristics and educational goals prior to enrollment.

Age. Age intervals.

Gender. "Male" or "female."

Ethnic Group. "Black Non-Hispanic Origin," "White Non-Hispanic Origin," "Asian or Pacific Islander," "American Indian/Alaskan Native," or "Hispanic."

Educational goal at enrollment. "Take a few classes," "earn a GED certificate," "earn a one-year certificate," "earn a two-year degree," "earn a four-year degree," "license/ recertification."

Reason enrolled at Clackamas Community College. "Get a job," "improve current job skills," "get a better job," "personal enrichment/interest," "explore career options," "earn transfer credit," "improve basic skills," "sports," or "other."

Number terms plan to stay. "One term," "two terms," "three terms (1 year)," "four-six terms (2 years)," or "more than six terms."

Prior education. "Less than high school," "some high school," "high school completed," "GED," "one year of

college," "two years of college," "three years of college," "four-year college degree," or "graduate degree."

Pre-enrollment activities. "Entered directly from high school," "entered after working for period of time (exclude summer work)," "entered after parenting," "transferred from another 2-year college," "transferred from a four-year college or university," "entered after completing military service," "other."

Reported GPA/high school or prior college. "Below 2.0," "2.0-2.5," "2.6-3.0," "3.1-3.5," "3.5 or higher."

Placement test. Taken from the college data base.

Declared major at Clackamas. Taken from the college data base.

Educational level of mother, father, spouse/partner. "less than high school," "some high school," "high school completed," "some college," "college degree" "does not apply."

High school program of study. "Vocational," college preparation," "other program."

Attendance at class advising session. "Yes" or "no."

Attendance on college success day. "Yes" or "no."

Student Environment Variables

The environment variables represented external and internal interactions which might or might not influence a student's decision to withdraw.

Marital status. "Single," "married," "separated," "divorced," or "widowed."

Number dependent children. "None," "one," "two," "three," or "four or more."

Emotional support system. "Very positive support," "somewhat positive support," "neutral," "somewhat negative support," "very negative support," "does not apply."

Receive financial aid. Taken from the college data base.

Most frequent class time. "Day," "weekend," or "evening (6 p.m. or after)."

Distance commuted one-way. "Less than one mile," "1-5 miles," "6-10 miles," "11-20 miles," or "over 20 miles."

Number hours work per week. "0 or occasional jobs," "1-10 hours," "11-20 hours," "21-31 hours," or "over 31 hours per week."

Residence. "Rental apartment/room/house," "home of parents or relatives," or "your own home."

Time with faculty. "None," "less than $\frac{1}{2}$ hour per week," " $\frac{1}{2}$ to 1 hour per week," "over 1 hour/less than 2 hours per week," "2 hours or more."

Time with other students. "None," "less than $\frac{1}{2}$ hour per week," " $\frac{1}{2}$ to 1 hour per week," "over 1 hour/less than 2 hours per week" "2 hours or more."

The independent variables in Section II were as follows:

Social Integration

Peer Group Interaction. Agreement or disagreement with questionnaire items 1-7. (e.g., "The student friendships I have developed have been personally satisfying.")

Interaction with Faculty. Agreement or disagreement with questionnaire items 8-12. (e.g., "My nonclassroom interactions with faculty have had a positive influence on my career goals.")

Academic Integration

Faculty Concern for Student Development and Teaching. Agreement or disagreement with questionnaire items 13-17. (e.g., "Few of the faculty members I have had contact with are generally interested in students.")

Academic and Intellectual Development. Agreement or disagreement with questionnaire items 18-24. (e.g., "My academic experience has had a positive influence on my intellectual growth and interest in ideas.")

Institutional and Goal Commitments. Agreement or disagreement with questionnaire items 25-30. (e.g., "It is important for me to graduate from college.")

The following independent variables in Section III were:

Services and Environment

College services. Level of satisfaction with questionnaire items 1-23. (e.g., academic advising service,

personal counseling services, career planning service.)

College environment. Level of satisfaction with questionnaire items 24-50. (e.g., general admissions/entry procedures, availability of your adviser.)

The following dependent variable was derived from Tinto's model:

Persistence

Persisters. Students who re-enrolled the next term with a minimum of one hour.

Nonpersisters. Students who enrolled full-time (12 hours or more) Fall Term 1987, but failed to enroll for any hours the following term.

PROCEDURES

Sample

Enrollment trends of new full-time students at Clackamas Community College indicated that the population size would be between 500-600 and that 100-160 (20-26%) would not re-enroll the next term.

Using the 1987-88 data, 607 new full-time students enrolled Fall Term, 1987. All students were asked to participate. The students were sent questionnaires at the end of the fourth week of Fall Term, 1987. The fourth week was chosen to allow the students time to familiarize

themselves with the community college environment and to experience the academic and social systems.

Thirteen students were excluded from the study due to incorrect addresses; thirty-four did not want to take part in the study; and eight no longer attended the community college. Thus, 552 new full-time students became the usable population for this study. Three hundred and six (55.4% of the usable population) students returned the questionnaires. Twenty-three had no social security numbers; thus 283 usable questionnaires (51.3% of the usable population) were used for this study.

The student names were retrieved from the college data base at the end of the third week, Winter Term, 1988. The end of the third week is the last day that students could withdraw from classes and receive a refund. Total respondents are shown in Table IX.

TABLE IX
RESPONSE RATES OF STUDENTS
(By number and percent)

	Population	Respondents	Percent
Persisters	453	242	53.4
Nonpersisters	99	41	41.4

The Setting: Clackamas Community College

Clackamas Community College was founded in 1966 to provide college level educational opportunities and vocational training to the residents of Clackamas County. Accredited by the Northwest Association of Schools and Colleges in 1971, Clackamas is a public two-year college, with 156 full-time and 441 part-time faculty, offering comprehensive programs in college transfer, occupational training, continuing education, and developmental learning skills (See Table X).

In 1987 Clackamas served more than 20,000 students at a spacious and modern campus located 20 miles from Portland on 175 acres of rolling farmland south of Oregon City, and at more than 80 off-campus locations throughout the district. A 1987-88 profile of Clackamas County is included in Appendix A.

The 1986-87 enrollment distribution is shown in Table XI.

TABLE X
CLACKAMAS COMMUNITY COLLEGE PROGRAM GUIDE

Accounting	■ ●	Merchandising Management	●
Anthropology	■	Music	■
Art	■	Nursing	■ ● ▲
Auto Body Repair	● ▲	Office Administration	● ▲
Auto Refinishing	● ▲	Ornamental Horticulture	● ▲
Auto Mechanics	● ▲	Parts Merchandising	▲
Biology	■	Philosophy	■
Botany	■	Physical Education & Health	■
Business Administration	■	Physics	■
Chemistry	■	Political Science	■
Clerical Office Assistant	▲	Psychology	■
Computer Science	■	Real Estate	▲
Computer Software Technician	●	Refrigeration/Heating/Ventilation	● ▲
Criminal Justice	■ ●	Religious Studies	■
Drafting Technology	●	Science	■
Economics	■	Social Science	■
Education	■	Sociology	■
Electronics Technology	● ▲	Spanish	■
Engineering	■	Speech	■
English	■	Supervisory Training	▲
Fire Science	●	Theatre Arts	■
Fluid Power Mechanics	● ▲	Wastewater Technology	● ▲
French	■	Waterworks Technology	● ▲
Geography	■	Welding Technology	● ▲
Geology	■	Writing	■
German	■	Zoology	■
Gerontology	■ ▲		
Graphic Arts & Printing	▲		
History	■		
Home Economics	■		
Industrial Maintenance Technology	●	Transfer	■
Japanese	■	Occupational	●
Journalism	■	Certificate	▲
Law Enforcement	■ ●		
Manufacturing Technology	● ▲		
Mathematics	■		
Medical Assistant	▲		
Medical Receptionist	▲		

TABLE XI
ENROLLMENT DISTRIBUTION
(By number and percent)

Program	FTE	%	Headcount	%
Lower division transfer	1,678	47	5,307	28
Occupational	729	20	1,945	10
Occupational supplementary	373	10	4,169	22
Developmental education	521	15	1,646	09
Self-improvement	<u>258</u>	<u>08</u>	<u>6,038</u>	<u>31</u>
Total	3,559	100	19,105	100

The average age of women attending classes full time was 25.9; for men 24.3. The average age for all credit students was 31.1.

While continuing to serve the needs of traditional students, the college is expanding its services to meet emerging community needs. In partnership with other local agencies, Clackamas now provides management assistance to small businesses, employee training programs to industry, and alternative high school completion and vocational skills programs to high-risk youths.

Instrument

The questionnaire used for differentiating persisters and nonpersisters was adapted from 1) The American College Testing Program's Withdrawing/Nonreturning Student Opinion

Survey and 2) Pascarella and Terenzini (1979, 1980), and Terenzini, et al. (1981) academic and social integration instrument. Permission was granted in January, 1987, from Mike Valiga, Assistant Director of Institutional Service, ACT, and Patrick Terenzini to use the instruments.

Section I of the questionnaire adapted from ACT contained information regarding background and student environment variables. Changes in wording were primarily institutional references.

Section II from Pascarella and Terenzini (1980) contained 30 Likert-items for measuring academic and social integration. The items were divided into five groups for factoring: peer group interactions, interaction with faculty, faculty concern for student development and teaching, academic and intellectual development, and institutional and goal commitments. The Likert scale was used for coding purposes. (5=agree strongly, 4=agree somewhat, 3=neutral, 2=disagree somewhat, and 1=disagree strongly).

Section III from the ACT questionnaire explored student level of satisfaction with services, programs, and environment at the institution. The respondents marked: very satisfied, satisfied, neutral, dissatisfied, very dissatisfied, does not apply.

The questionnaire is included in Appendix A.

Reliability and Validity

The ACT Evaluation/Survey Service User's Guide (1985) stated that the instruments were developed after a thorough review of the pertinent literature and after consultation with expert practitioners in the relevant fields. Many items were selected from instruments that had been used in previous large-scale ACT research studies and research services; others were suggested by the literature and by professional educators. Each of the instruments were examined for clarity and accuracy by a small sample of currently enrolled postsecondary students.

Following the reviews, a pilot version of the instruments was administered to several hundred students or former students at several institutions across the country. Data from the pilot tests were analyzed to determine which items and sections appeared confusing to the students. After the analysis, the final drafts were developed. ACT based the validity of the items on literature review, consultation with content experts, and pilot testing of the instruments as well as ACT's experience in instrument design and construction. ACT felt the most direct evidence of the face validity and content validity of the instruments was in the easy-to-read, straightforward questions which dealt directly with particular aspects of the college (ACT, 1985).

ESS instruments were used for identifying the relative importance of satisfaction with college programs and

services. Appendix A presents the reliability coefficients from items of the Student Opinion Survey. The table provides Pearson product-moment correlation coefficients between the average satisfaction ratings obtained during a test-retest of the instrument. From the correlations (.92 and .95), it is evident that the average satisfaction rating for various aspects of the institution exhibits a high degree of stability, (ACT, 1985).

To examine the predictive validity of their instrument, Pascarella and Terenzini (1980) derived five factors from a set of 34 items using factor analysis. Alpha reliabilities ranged from .71 to .84 and intercorrelations among the five scales ranged from .01 to .33 (median, .23) which indicated that the scales appeared to assess independent dimensions of integration and commitment. A replication of the study by Terenzini et al. (1981) yielded alpha reliability scores of .58 to .84.

Pascarella and Terenzini (1980) correctly classified 79.5% of the calibration sample and 78.5% of the cross-validation sample (with significant improvement on chance conservatively set at .50 for the population) which appears to support the predictive validity of the scales.

Prior to distribution of the questionnaire, a pilot survey was given to twenty students in a computer applications class at Clackamas Community College. The class was chosen because the demographics of the class

was representative of the students who were enrolled in the community college Fall Term. The class was an entry-level hands-on computer class identified as a general education course. The pilot study was conducted for the purpose of field testing the clarity of questions, instructions, and format.

The following changes were made in Section I:

- 1) Under educational goal, "take one class" was omitted.
- 2) Under reason for enrolling, "earn transfer credit" was added.
- 3) Under distance commuted, "21-40 miles" and "over 40 miles" was changed to "over 20 miles."
- 4) Under number hours worked last term, "21-30" was changed to "21-31" and "31-40" was changed to "over 31."
- 5) "Prior education" was added.

A consent form (Appendix A) was developed for the purpose of emphasizing response confidentiality. Respondents were assured that their signatures on the consent forms were for consent purposes only and not identification purposes.

A final revision of the instrument was made after the preliminary study. The following changes were made in Section I:

- 1) Under racial/ethnic, "other" was omitted.
- 2) Under educational goal, "license re-certification" was added.
- 3) Under reason for enrolling, "sports" was added.
- 4) Under number of terms planned to stay, "undecided" was omitted.
- 5) Under residence last term, "other" was

omitted. "Rental apartment/room/house" were grouped together. 6) "High school and prior GPA" was added. 7) "Declared major" was added. 8) "Interaction with other students" was added. 9) "Interaction with faculty" was added. 10) "Educational level of mother, father, spouse/partner" was added. 11) "Emotional support from parents, spouse/partner, children, employer, friends" was added. 12) "Type of tuition" was deleted. 13) "Financial aid" was deleted. 14) Under amount of education, "some high school" was added. 15) "Attendance at advising session and college success day" was added.

Data Collection

Dillman's (1978) suggested steps for data collection were used. College support was granted, thus the research office took responsibility for mailing the questionnaires.

The questionnaires were mailed to the students October 21, 1987, with a cover letter explaining the questionnaire and its use. If no response had been received by November 2, 1987, a post card was sent as a reminder to return the questionnaire. On November 9, 1987, reminder phone calls were made to the nonrespondents. A second questionnaire was mailed and reminder phone call was made to the nonrespondents on November 23, 1987. The data collection process was completed on December 12, 1987.

DATA ANALYSIS

Statistical analysis of the research data was generated using (SPSS) Statistical Package for the Social Sciences. The following analytical methods were used for the research question:

Frequencies were examined (See Appendix B) in Section I to determine the extent to which the variables would be collapsed. Variables were collapsed as follows:

Student Background Variables

Age. "Under 19," "20-29," "30-39," "over 40."

Ethnic Group. "Nonwhite," "white."

Educational goal at enrollment. "Not four-year degree," "1- or 2-year diploma," "four-year degree."

Reason enrolled at Clackamas Community College. "Job," "other," "transfer credit."

Number terms plan to stay. "Less than or equal to three terms," "more than three terms."

Prior education. "Less than or equal to 12 years," "1-2 years of college," "3-4 years of college."

Pre-enrollment activities. "High school," "not high school," "transfer."

Reported GPA/high school or prior college. "Less than or equal to 2.5," "2.6-3.0," "above 3.1."

Placement test. "Yes," "no."

Declared major at Clackamas. "Transfer,"

"nontransfer," "other."

Educational level of mother, father, spouse/partner.

"Less than high school," "high school completed," "college."

Student Environment Variables

Marital status. "Not married," "married."

Number dependent children. "0 children," "children."

Receive financial aid. "Yes," "no."

Distance commuted one-way. "Less than five miles,"

"more than five miles."

Number hours work per week. "Less than 20 hours,"

"more than 20 hours."

Residence. "On own," "with parents."

Time with faculty. "None," "less than $\frac{1}{2}$ hour," "more than $\frac{1}{2}$ hour."

Time with other students. "None," "less than $\frac{1}{2}$ hour," "more than $\frac{1}{2}$ hour."

The data was cross tabulated by the dependent variable with each of the independent variables which were formed from the background and environmental information collected on the survey instrument.

Chi-square, goodness of fit test, was chosen to measure the over all difference between the observed frequencies and persistence and nonpersistence.

However, ANOVA was used for the variable emotional support to determine if significant differences existed between the persister and nonpersister mean scores.

Social and Academic Integration Variables

ANOVA was used to test for significant differences between the dependent variable and the independent variables which were formed from the social and academic integration questions in Section II.

Based on the consistency of the factor loading and alpha reliability scores of Pascarella and Terenzini (1980), Terenzini et al (1981), and Halpin (1983), the same scores were used to isolate the five factors. (It need be noted that the scoring on negatively worded items were reversed before the factor scales scores were calculated).

ANOVA was also used to test for significant differences between the dependent variable and the five individual factors.

Discriminant analysis was then used to determine the predictive validity of the five factors.

Satisfaction with Services

ANOVA was again used to test for significant differences between persisters and nonpersisters and satisfaction with services at Clackamas Community College.

LIMITATIONS

This study provided needed information regarding persisters and nonpersisters at Clackamas Community College. Clackamas Community college is similar to other medium-sized suburban community colleges in course offerings, retention

rates, and student characteristics. The results, however, may/may not be generalizable to similar colleges serving similar populations.

The questionnaires were not coded in a manner that would allow tracking of respondents who did not use social security numbers. Because of this 23 completed questionnaires could not be coded as a persister or nonpersister.

Part-time students account for an ever increasing percent of the total population, however, only full-time new students were used in this study.

The total number of students involved in this study was 283 which was lower than expected or desired. As stated in the data collection section, all the steps that Dillman (1978) suggested were followed. The 242 persisters and 41 nonpersisters were used for the analysis.

This research took two steps in studying student retention at a community college. The first use of the data was to describe the demographic characteristics which the institution could use in identifying who is a persister or nonpersister.

The second step was the use of academic and social integration factors in predicting persistence. The student demographics were not used as predictive measures because that analysis was beyond the scope of this study.

CHAPTER V

FINDINGS

This study examined the difference between student background and environment variables and persistence and nonpersistence at a community college. The study also examined the difference between social and academic integration and persistence and nonpersistence; and the difference between satisfaction with services and the two groups. Finally, the study determined whether a measure of social and academic integration would significantly discriminate between persisters and nonpersisters.

The purpose of this chapter is to report the findings of each specific research question. Discussion and conclusions will follow in chapter VI.

Frequencies were examined (See Table XII) for each variable that was used to answer the research questions.

Is there a statistically significant difference between persistence and nonpersistence and students' background and environmental characteristics?

No significant differences (See Table XIII) were found between the dependent variable persistence and nonpersistence and the following background variables: age, ethnic group (Ethnic), reason enrolled at Clackamas Community College (Reason), pre-enrollment activities

(Prior), reported GPA/high school or prior college (HSGPA/CGPA), mothers' education (Mom), spouse/partner's education (Spouse), high school program of study (HSprog), or attendance on college success day (Orient).

Significant differences (See Table XIII) were found for the following background variables: gender, educational goal at enrollment (Goal), number of terms plan to stay (Terms), prior education (Educ), placement test (Pltest), declared major (Major), father's education (Dad), and attendance at class advising session (Advis).

Among the new full-time students, women showed a higher percentage of persistence than men.

Students with long-term educational goals had a higher percentage of persistence than students with short-term educational goals.

A higher percentage of persisters planned to stay at Clackamas Community more than three terms while a higher percentage of nonpersisters planned to stay less than three terms.

New full-time students with a high school diploma or less were more likely to persist while those with prior college were less likely to persist.

A higher percentage of persisters were more likely to have taken the placement test than nonpersisters,

Students declaring a transfer major were more likely to persist while those declaring a nontransfer or general studies or other were more likely to be nonpersisters.

A higher percentage of fathers of persisters were more likely to have completed high school than fathers of nonpersisters.

Persisters were more likely to have attended the advising session than nonpersisters.

No significant differences (See Table XIV and Table XV) were found between the dependent variable persistence and nonpersistence and the following environment variables: marital status (Marital), number dependent children (Children), emotional support system (Spouse/partner, Kids, Employer), distance commute one-way (Commute), number hours work per week (Work), residence (Resid), and time with other students (Stud).

Significant differences (See Table XIV and Table XV) were found for the following environment variables: emotional support (parents, friends), financial aid (Finaid), most frequent class time (Attend), and time with faculty (Fac).

There were a higher percentage of recipients of financial aid in the persister group than in the nonpersister group

It is important to note that 96.1% of all respondents (n=270) attended day classes, therefore, the significance did not help account for persistence or nonpersistence.

A higher percentage of persisters spent more than $\frac{1}{2}$ hour interacting with faculty outside of class while nonpersisters spent less than $\frac{1}{2}$ hour.

Persisters were more likely to have emotional support from parents and friends than nonpersisters.

TABLE XII
FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
<u>Background</u>						
Age						
Under 19	165	58.7	143	86.7	22	13.3
20-29	60	21.4	50	83.3	10	16.7
30-39	39	13.9	35	89.7	4	10.3
Over 40	17	6.0	12	70.6	5	29.4
*Gender						
Male	129	45.9	103	79.8	26	20.2
Female	152	54.1	137	90.1	15	9.9
Ethnic						
Nonwhite	16	5.7	14	87.5	2	12.5
White	264	94.3	226	85.6	38	14.4
**Goal						
Not 4-year	21	7.4	12	57.1	9	42.9
1-2 yr dipl	117	41.5	95	81.2	22	18.8
4-yr dipl	144	51.1	134	93.1	10	6.9
Reason						
Get job	71	26.9	58	81.7	13	18.3
Other	72	27.3	60	83.3	12	16.7
Transfer	121	45.8	108	89.3	13	10.7
*Terms						
Less or eq1 3 terms	95	33.9	74	77.9	21	22.1
More 3 tms	185	66.1	166	89.7	19	10.3
**Educ						
Less or eq1 3 terms	233	82.9	205	88.0	28	12.0
1-2 college	37	13.2	30	81.1	7	18.9
3-4 college	11	3.9	6	54.5	5	45.5
Prior						
Dir HS	136	52.1	120	88.2	16	11.8
Not HS	106	40.6	92	86.8	14	13.2
Transfer	19	7.3	15	78.9	4	21.1

* $\leq .05$ ** $\leq .01$ (See Table XIII for X^2 value)

FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
HSGPA						
Less or eq 2.5	72	25.8	61	84.7	11	15.3
2.6-3.0	109	39.1	92	84.4	17	15.6
3.1 higher	98	35.1	86	87.8	12	12.2
CGPA						
Less or eq 2.5	19	29.7	13	68.4	6	31.6
2.6-3.0	18	28.1	15	83.3	3	16.7
3.1 higher	27	42.2	21	77.8	6	22.2
*Pltest						
Yes	217	76.7	191	88.0	26	12.0
No	66	23.3	51	77.3	15	22.7
**Major						
Trans	93	32.9	88	94.6	5	5.4
Nontrans	89	31.4	80	89.9	9	10.1
Other	101	35.7	74	73.3	27	26.7
Mom						
Less HS	30	11.5	26	86.7	4	13.3
HS	105	40.1	94	89.5	11	10.5
College	127	48.5	104	81.9	23	18.1
**Dad						
Less HS	48	18.0	32	66.7	16	33.3
HS	73	27.3	69	94.5	4	5.5
College	146	54.7	126	86.3	20	13.7
Spouse						
Less HS	12	15.4	10	83.3	2	16.7
HS	19	24.4	17	89.5	2	10.5
College	47	60.3	40	85.1	7	14.9
HSprog						
Vocational	47	19.3	36	76.6	11	23.4
Col prep	124	50.8	111	89.5	13	10.5
Other prog	73	29.9	60	82.2	13	17.8
**Advis						
Yes	122	43.4	113	92.6	9	7.4
No	159	56.6	127	79.9	32	20.1
Orient						
Yes	71	25.3	63	88.7	8	11.3
No	210	74.7	177	84.3	33	15.7

FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
<u>Environment</u>						
Marital						
Not Md	239	85.1	203	84.9	36	15.1
Married	42	14.9	37	88.1	5	11.9
Children						
None	222	78.7	188	84.7	34	15.3
Children	60	21.3	53	88.3	7	11.7
**Finaid						
Yes	125	44.2	116	92.8	9	7.2
No	158	55.8	126	79.7	32	20.3
*Attend						
Day	270	96.1	234	86.7	36	13.3
Evening	11	3.9	6	54.5	5	45.5
Commute						
Less 5-miles	65	23.3	55	84.6	10	15.4
Over 5 mile	214	76.7	183	85.5	31	14.5
Work						
Less 20-hrs	204	72.6	178	87.3	26	12.7
More 20-hrs	77	27.4	62	80.5	15	19.5
Resid						
On own	120	42.7	98	81.7	22	18.3
Parents	161	57.3	142	88.2	19	11.8
**Fac						
None	141	50.4	111	78.7	30	21.3
Less ½ hr	63	22.5	58	92.1	5	7.9
Over ½ hr	76	27.1	70	92.1	6	7.9
Students						
None	70	24.9	57	81.4	13	18.6
Less ½ hr	33	11.7	29	87.9	4	12.1
Over ½ hr	178	63.3	154	86.5	24	13.5
Emotional Support						
*Parents						
Very posit	187	66.1	169	90.4	18	9.6
Somewhat p	42	14.8	33	78.6	9	21.4
Neutral	19	6.7	14	73.7	5	26.3
Somewhat n	5	1.8	5	100.0	0	00.0
Very neg	0	00.0	0	00.0	0	00.0
Does not appl	11	3.9	5	45.5	6	54.5
Missing	19	6.7	16	84.2	3	15.8

* $\leq .05$ ** $\leq .01$ (See Table XIV for X^2 value)

FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
Spouse/Partner						
Very posit	64	45.4	56	87.5	8	12.5
Somewhat p	11	7.8	10	90.9	1	9.1
Neutral	9	6.4	7	77.8	2	22.2
Somewhat n	3	2.1	3	100.0	0	00.0
Very neg	0	00.0	0	00.0	0	00.0
Does not app	0	00.0	0	00.0	0	00.0
Missing	54	38.3	42	77.8	12	22.2
Kids						
Very posit	30	24.0	25	83.3	5	16.7
Somewhat p	13	10.4	13	100.0	0	00.0
Neutral	9	7.2	8	88.9	1	11.1
Somewhat n	2	1.6	2	100.0	0	00.0
Very neg	1	.8	1	100.0	0	00.0
Does not app	0	00.0	0	00.0	0	00.0
Missing	70	56.0	55	78.6	15	21.4
Employer						
Very posit	65	33.2	59	90.8	6	9.2
Somewhat p	34	17.3	29	85.3	5	14.7
Neutral	38	19.4	32	84.2	6	15.8
Somewhat n	7	3.6	5	71.4	2	28.6
Very neg	2	1.0	1	50.0	1	50.0
Does not app	0	00.0	0	00.0	0	00.0
Missing	50	25.5	40	80.0	10	20.0
**Friends						
Very posit	148	54.0	136	91.9	12	8.1
Somewhat p	48	17.5	38	79.2	10	20.8
Neutral	53	19.3	43	81.1	10	18.9
Somewhat n	5	1.8	3	60.0	2	40.0
Very neg	1	.4	0	00.0	1	100.0
Does not app	0	00.0	0	00.0	0	00.0
Missing	19	6.9	14	73.7	5	26.3

* $\leq .05$ ** $\leq .01$ (See Table XV for F ratio)

TABLE XIII
DIFFERENCES BETWEEN STUDENT BACKGROUND
AND PERSISTENCE AND NONPERSISTENCE

Characteristic	χ^2	df.	Significance
Age	4.001	3	(N.S.)
Gender	5.128	1	.0235
Ethnic	.000	1	(N.S.)
Goal	21.950	2	.0000
Reason	2.494	2	(N.S.)
Terms	6.246	1	.0124
Educ	10.385	2	.0056
Prior	1.274	2	(N.S.)
HSGPA	.542	2	(N.S.)
CGPA	1.184	2	(N.S.)
Pltest	3.889	1	.0486
Major	19.831	2	.0000
Mom	2.739	2	(N.S.)
Dad	18.056	2	.0001
Spouse	.290	2	(N.S.)
HSprog	4.989	2	(N.S.)
Advis	8.009	1	.0047
Orient	.528	1	(N.S.)

TABLE XIV
DIFFERENCES BETWEEN STUDENT ENVIRONMENT
AND PERSISTENCE AND NONPERSISTENCE

Characteristic	χ^2	df.	Significance
Marital	.089	1	(N.S.)
Children	.255	1	(N.S.)
Finaid	8.573	1	.0034
Attend	6.363	1	.0117
Commute	.000	1	(N.S.)
Work	1.530	1	(N.S.)
Resid	1.859	1	(N.S.)
Fac	10.000	2	.0067
Students	1.227	2	(N.S.)

TABLE XV
DIFFERENCES BETWEEN STUDENT ENVIRONMENT
AND PERSISTENCE AND NONPERSISTENCE

Source of variable	Mean	SD	F Ratio	F Prob
Emotional Support				
Parents				
Persisters	1.9463	2.1034	5.244	.0228
Nonpersisters	2.7805	2.4547		
Spouse/partner				
Persisters	4.1271	3.6970	2.213	(N.S.)
Nonpersisters	5.3913	3.8933		
Kids				
Persisters	5.6058	3.6773	1.890	(N.S.)
Nonpersisters	6.8095	3.5724		
Employer				
Persisters	3.6024	3.1659	2.320	(N.S.)
Nonpersisters	4.5667	3.3289		
Friends				
Persisters	2.0470	1.9395	7.531	.0065
Nonpersisters	3.0000	2.5013		

The F-ratios were inspected at this stage of the analysis. Statistically significant differences were found for the following social and academic integration variables:

Is there a statistically significant difference between persistence and nonpersistence and students' social and academic integration into a community college?

Social integration variables

Peer-group interaction questions 3 and 4. Persisters were more likely than nonpersisters to have had positive influences on their personal growth, attitudes and values through interpersonal relationships with other students, $F(1, 274) = 5.73, p < .05$; as well as positive influences on their intellectual growth and interest in ideas, $F(1, 278) = 6.04, p < .05$.

Interaction with faculty question 10. Persisters were more likely than nonpersisters to have had nonclassroom interaction with faculty which had a positive influence on their career goals, $F(1, 271) = 8.20, p < .01$.

Academic integration variables

Academic and intellectual development question 20. Persisters were more satisfied with their academic experience at Clackamas than nonpersisters, $F(1, 276) = 5.40, p < .05$.

Institutional and goal commitment questions 25, 26, 27, 28, 30. Analysis of variance indicated a statistically significant difference between persisters and nonpersisters and goal commitment. Persisters were more likely to point

out the importance of graduating from college than nonpersisters, $F(1, 277) = 6.98, p < .01$. When the importance of graduating from college was written in the negative, persisters strongly disagreed, $F(1, 274) = 5.31, p < .05$.

Persisters were more likely than nonpersisters to have stated they made the right decision in choosing Clackamas, $F(1, 277) = 7.48, p < .01$, and stated they were likely to register at Clackamas, Winter Term, $F(1, 277) = 50.16, p < .001$.

Persisters were more likely to disagree than nonpersisters that getting good grades was not important to them, $F(1, 276) = 17.10, p < .001$.

The variables used for analysis are displayed in the following table. The text of each question can be found in Appendix A.

TABLE XVI
MEANS AND STANDARD DEVIATIONS FOR
VARIABLES USED FOR ANALYSIS

Source of variable	Mean	SD	F Ratio	F Prob
Peer-group interaction				
Question 1 (Develop personal relationships with students)				
Persisters	3.1004	1.2462	.672	(N.S.)
Nonpersisters	2.9268	1.2921		

MEANS AND STANDARD DEVIATIONS FOR
VARIABLES USED FOR ANALYSIS

Source of variable	Mean	SD	F Ratio	F Prob
Peer-group interaction (continued)				
Question 2 (Friendships personally satisfying)				
Persisters	3.4916	1.2282	.366	(N.S.)
Nonpersisters	3.3659	1.2401		
Question 3 (Students influenced personal growth/attitudes)				
Persisters	3.2966	1.2225	5.726	.0174
Nonpersisters	2.800	1.1591		
Question 4 (Students influenced intellectual growth)				
Persisters	3.2510	1.1756	6.042	.0146
Nonpersisters	2.7561	1.2802		
Question 5 (Difficult to meet and make friends)				
Persisters	2.6485	1.3635	.602	(N.S.)
Nonpersisters	2.8293	1.4646		
Question 6 (Students willing to listen and help)				
Persisters	2.6891	1.1889	2.553	(N.S.)
Nonpersisters	2.3659	1.2401		
Question 7 (Students' values different from own)				
Persisters	2.9706	1.0729	.086	(N.S.)
Nonpersisters	3.0244	1.1723		
Nonclassroom interactions with faculty				
Question 8 (Positive influence on personal growth)				
Persisters	3.1373	1.1589	.107	(N.S.)

MEANS AND STANDARD DEVIATIONS FOR
VARIABLES USED FOR ANALYSIS

Source of variable	Mean	SD	F Ratio	F Prob
Interactions with faculty (continued)				
Nonpersisters	3.0732	1.1487		
Question 9 (Positive influence on intellectual growth)				
Persisters	3.2017	1.1286	.613	(N.S.)
Nonpersisters	3.0500	1.1536		
Question 10 (Positive influence on career goals)				
Persisters	3.1974	1.0925	8.202	.0045
Nonpersisters	2.6500	1.2517		
Question 11 (Relationship with at least one faculty member)				
Persisters	2.3277	1.2906	.030	(N.S.)
Nonpersisters	2.3659	1.3371		
Question 12 (Satisfied with informal faculty interaction)				
Persisters	3.4874	1.1052	.070	(N.S.)
Nonpersisters	3.5366	1.0511		
Faculty concern for student development and teaching				
Question 13 (Few faculty members interested in students)				
Persisters	2.6793	1.3271	.000	(N.S.)
Nonpersisters	2.6750	1.2687		
Question 14 (Few faculty members outstanding teachers)				
Persisters	2.8950	1.2365	.551	(N.S.)
Nonpersisters	3.0488	1.1608		

MEANS AND STANDARD DEVIATIONS FOR
VARIABLES USED FOR ANALYSIS

Source of variable	Mean	SD	F Ratio	F Prob
Faculty concern (continued)				
Question 15 (Few faculty spend time outside of class)				
Persisters	2.7669	1.3082	.677	(N.S.)
Nonpersisters	2.9500	1.2598		
Question 16 (Most faculty interested in helping students grow in more than just academic areas)				
Persisters	3.6946	.9498	.036	(N.S.)
Nonpersisters	3.7250	.9055		
Question 17 (Faculty interested in teaching)				
Persisters	4.1506	.8759	1.371	(N.S.)
Nonpersisters	3.9750	.8912		
Academic and intellectual development				
Question 18 (Satisfied with intellectual development)				
Persisters	3.8613	.9946	.280	(N.S.)
Nonpersisters	3.7692	1.0873		
Question 19 (Academic experience influenced intellectual growth)				
Persisters	3.9496	.9218	.920	(N.S.)
Nonpersisters	3.7949	1.0047		
Question 20 (Satisfied with academic experience)				
Persisters	3.9833	.9569	5.400	.0209
Nonpersisters	3.5897	1.1173		

MEANS AND STANDARD DEVIATIONS FOR
VARIABLES USED FOR ANALYSIS

Source of variable	Mean	SD	F Ratio	F Prob
Academic and intellectual development (continued)				
Question 21 (Few courses intellectually stimulating)				
Persisters	2.6737	1.2580	1.325	(N.S.)
Nonpersisters	2.9231	1.2223		
Question 22 (Interest in intellectual matters increased)				
Persisters	3.6597	1.0422	1.564	(N.S.)
Nonpersisters	3.4359	.9946		
Question 23 (Likely to attend cultural events now)				
Persisters	2.7143	1.3065	1.024	(N.S.)
Nonpersisters	2.4872	1.2539		
Question 24 (Performed academically as well as anticipated)				
Persisters	3.3291	1.1130	.001	(N.S.)
Nonpersisters	3.3333	1.1317		
Institutional and goal commitments				
Question 25 (Important for me to graduate from college)				
Persisters	4.7657	.6111	6.983	.0087
Nonpersisters	4.4750	.8161		
Question 26 (Confident in school choice)				
Persisters	4.4393	.8523	7.480	.0066
Nonpersisters	4.0250	1.0739		

MEANS AND STANDARD DEVIATIONS FOR
VARIABLES USED FOR ANALYSIS

Source of variable	Mean	SD	F Ratio	F Prob
Institutional and goal commitment (continued)				
Question 27 (Likely that I will register again winter term)				
Persisters	4.7741	.7328	50.159	.0000
Nonpersisters	3.6750	1.6075		
Question 28 (Not important to graduate from Clackamas)				
Persisters	1.7939	1.2948	5.307	.0220
Nonpersisters	2.3000	1.3996		
Question 29 (I have no idea at all what I want to major in)				
Persisters	1.8824	1.3418	1.605	(N.S.)
Nonpersisters	2.1750	1.4122		
Question 30 (Getting good grades is not important to me)				
Persisters	1.2899	.8394	17.096	.0000
Nonpersisters	1.9500	1.3765		

Is there a statistically significant difference between persistence and nonpersistence and students' satisfaction with services?

Analysis of variance was used to test for significant differences between the dependent variable persistence and nonpersistence and the 50 college service and environment variables. No significant differences were found;

therefore, proceeding with further analysis of the variables was unjustified.

Among new full-time students who attend a community college, which of the social and academic integration factors or combination of factors can best account for being a persister or nonpersister?

Using the five factors derived from the 30-item instrument of Pascarella and Terenzini (1980), further analysis was used to determine whether a measure of social and academic integration would significantly discriminate between persisters and nonpersisters.

Analysis of variance was used on the five factors to see if they were judged adequate for discriminate analysis.

No significant differences (See Table XVII) were found between the dependent variable persistence and nonpersistence and the following social and academic factors: peer-group interaction, interaction with faculty, faculty concern for student development and teaching, and academic and intellectual development.

Five of the six items of the institutional and goal commitment factor showed statistical significance. Therefore, when grouped together the factor revealed that persisters were more likely to have institutional and goal commitments, $F(1, 274) = 27.09$, $p < .001$, than nonpersisters.

The variables used for analysis are displayed in the following table.

TABLE XVII
MEANS AND STANDARD DEVIATIONS FOR
VARIABLES USED FOR ANALYSIS

Source of variable	Mean	SD	F Ratio	F Prob
Peer-group interaction				
Persisters	22.9313	5.6929	1.892	(N.S.)
Nonpersisters	21.5750	6.1556		
Interaction with faculty				
Persisters	15.3478	4.3645	.689	(N.S.)
Nonpersisters	14.7250	4.4663		
Faculty concern for student development				
Persisters	17.4979	3.7180	.757	(N.S.)
Nonpersisters	16.9487	3.2114		
Academic and intellectual development				
Persisters	24.8658	4.8431	2.504	(N.S.)
Nonpersisters	23.5263	4.7859		
Institutional and goal commitment				
Persisters	27.0254	3.4934	27.091	.0000
Nonpersisters	23.7500	4.6506		

Finally, discriminant analysis was used to study the differences between persisters and nonpersisters with respect to several variables simultaneously.

The discriminant function had a canonical correlation with group membership of .29 and yielded an approximate chi-square value of 21.06 with five degrees of freedom ($p < .001$). The chi-square results showed group differences that were significantly different before the derivation of any discriminant function. These results also indicate that the first function would be statistically significant. Although the variables significantly discriminated the persister and nonpersister groups, the modest canonical correlation (.29) between the interaction categories and group membership suggest that there is also considerable group overlap.

The standardized canonical discriminant function coefficient indicated the relative contribution of each variable to the function. The larger the magnitude, the greater is that variable's contribution. The coefficients were examined (See Table XVIII) to discover the relative contribution of each of the five scales that comprise the integration variable set to the discriminant function. Institutional and goal commitment focusing on educational goals contributed the most to group discrimination. It was followed by faculty concern for student development,

interaction with faculty, peer-group interaction, and academic and intellectual development.

TABLE XVIII
STANDARDIZED CANONICAL DISCRIMINANT
FUNCTION COEFFICIENTS

Variable	Function 1
Institutional and goal commitment	1.07524
Faculty concern for student development and teaching	.09092
Interaction with faculty	.08241
Peer-group interaction	-.13446
Academic and intellectual development	-.19915

Pooled-within-group correlation between discriminating variables and canonical discriminant functions was calculated to observe how the function is related to the variables within the groups. The variables ordered by size of correlation within the function are shown in Table XIX. Again, institutional and goal commitment marked the largest contribution to the discriminate function.

TABLE XIX
POOLED-WITHIN-GROUP
STRUCTURE MATRIX

Variable	Function 1
Institutional and goal commitment	.97667
Academic and intellectual development	.28465
Faculty concern for student development and teaching	.16732
Peer-group interaction	.15904
Interaction with faculty	.15418

Another use of discriminant analysis is the classification analysis. Classification as defined by Klecka (1980) "is a separate activity in which either the discriminating variables or the canonical discriminant functions are used to predict the group to which a case most likely belongs" (p. 42). For all groups, the prior probability of correct classification was set at .50. Correct classification was 73.8% when the function was applied to the cross-validation sample. Such classification results suggest reasonable discriminating power and stability in the function. Table XX shows the classification results.

TABLE XX
CLASSIFICATION RESULTS

Actual Group Membership	No. of Cases	Predicted Group Membership	
		1	2
Group 1 Persisters	215	163 75.8%	52 24.2%
Group 2 Nonpersisters	37	14 37.8%	23 62.2%
Percent of "grouped" cases correctly classified: 73.8%			

The next chapter will provide a discussion of the findings, conclusions and recommendations for future research.

CHAPTER VI

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

An investigation into the differences between background and environmental characteristics, social integration, academic integration, and satisfaction with service and persistence and nonpersistence at a community college was the focus of this study. A discussion of the findings will be presented in the context of the following major research question: Within a community college, what differentiates new full-time students who leave and those who stay? Do factors identified in previous studies which helped to explain persistence and nonpersistence in four-year colleges and universities and those colleges that serve large numbers of residential students hold the same power for explaining this phenomenon in community colleges? Conclusions and recommendations for future research will also be discussed.

DISCUSSION

Several student background and environmental characteristics, social, and academic items which help to explain a student's persistence at four-year colleges and universities hold the same power for explaining the

phenomenon in a community college. A discussion of these factors follow:

Studies by Spady (1970), Bean (1980) and Pascarella et al. (1983) have found gender to interact substantially with other predictor variables. This study found that women in a community college were more likely to persist than men. Gender differences in attrition can be related to such differences as motivation, socioeconomic level and marital status. Because men and women have distinctive roles outside of college which affect their enrollment decisions, the type of institution did not seem to be of consequence.

Tinto (1987) stated:

The most common ... are those who enter college seeking to gain additional skills, learn a specific content area, and/or acquire an additional number of course credits. Not infrequently such limited forms of educational participation are associated with occupation needs or demands (p. 41).

This may be why students in this study with a high school diploma or less were more likely to persist than those with prior college. Students with prior college may have completed degree requirements available through the community college and were seeking additional skills in an ever changing occupational market while those with a high school diploma or less were beginning their programs of study.

Studies by Pantages and Creedon (1978, Lenning et al. (1980), and Spady (1970) concluded that students degree

of certainty about their academic majors were positively related to persistence in college. My research also found that community college students declaring a transfer major were more likely to persist than those declaring a nontransfer or general studies or other major.

Studies of four-year institutions by Panos and Astin (1968) and Astin (1975) revealed a positive relationship between parents' education and persistence. Parents' levels of formal education were among the most powerful predictors of student persistence among the many socioeconomic status variables. This study also found that fathers of persisters were more likely to have completed high school than fathers of nonpersisters.

Academic advising sessions in which students take placement tests is an important component of any retention program at a community college. One of the key factors of advising is the placement test in writing, in reading, and in math. If students are placed in courses in which they have an opportunity to succeed, there will be a greater chance of persistence. It is known that students placed in classes beyond their abilities leads to frustration, dissatisfaction, disappointment, and eventually withdrawal. Tinto (1987) noted in his review of the literature "...that students were more likely to withdraw when they perceived too great a decrease in academic performance" (p. 55).

This study found that persisters were more likely to have attended the advising sessions than nonpersisters.

Researchers have noted that finances are an important reason for leaving (Lenning et al, 1980; Bean, 1982; Noel et al., 1985; Alfred, 1972). Tinto (1987) stated that finances play an important role in the process of withdrawal. This study also found that students with financial aid were more likely to persist.

Theory has long suggested that emotional support or parental encouragement toward a student's college attendance was positively related to student persistence in college (Spady, 1970; Tinto, 1975; Lenning et al., 1980). MacMillan (1970) found the variable to be significant in discriminating between persisters and nonpersisters who were full-time students at 23 community colleges. My research also indicated that persisters were more likely to have emotional support from parents than nonpersisters were.

Spady (1970), Tinto (1975), and Lenning et al. (1980) theorized that students' close friends exerted emotional support to persist. My research indicated that the emotional support of friends was more important among persisters than nonpersisters.

Persisters were more likely than nonpersisters to have reported positive influences on their personal growth, attitudes and values, intellectual growth, and interest in

ideas through interpersonal relationships with other students. Similar conclusions were drawn through extensive research on the effects of student-student contact (Tinto, 1975; Terenzini and Pascarella, 1977; Pascarella and Terenzini, 1977; Pascarella and Terenzini, 1983). The degree and quality of interaction with others on campus are necessary elements in the process of persistence as they provide the personal bonds that are the basis for membership into the community.

Pascarella and Terenzini (1977) provided additional evidence to support Tinto's model that the frequency of interaction with faculty by students affects student retention and persistence. This study has shown that persisters were more likely to spend more than one-half hour interacting with faculty outside of class while nonpersisters were more likely to spend less than one-half hour. Persisters were also more likely than nonpersisters to have had nonclassroom interaction with faculty which had a positive influence on their career goals. Pascarella and Terenzini (1979) reported the following implications from their study:

Various measures of the frequency and quality of student-faculty relationships made significant contributions to the prediction of male and female persistence with the influence of twelve entering characteristics and five other measures of social and academic integration held constant. Extent of influence in any one dimension of student-faculty

relationships, however, generally depended upon student background characteristics, commitment to graduation and level of integration in other areas.

...measures of student-faculty relationships as frequency of informal contacts to discuss career concerns....may provide interpersonal links with important adults in the institution which may compensate for the influence of an initially low commitment to the goal of graduation or the relative absence of parental role models (p. 209).

Voorhees (1987) found that intention to return interacted significantly with community college persistence.

Lenning (1982) stated:

Intention upon entrance to drop out (for example, students' expectations that they will dislike college and leave) suggests more likelihood of withdrawal, while a firm and concrete intention to persist suggests less likelihood to withdraw (p. 38).

My research revealed that students with long-term educational goals who intend to stay at the community college for at least three terms were more likely to persist. Students who felt graduating from college was important were also more likely to be persisters. Persisters were also more likely than nonpersisters to indicate they had made the right decision in choosing the community college. They also stated they were more likely to register the following term.

Getzlaf, Sedlacke, Kearney, and Blackwell (1984) found that students were more likely to withdraw when they perceived too great a decrease in academic performance. My

research found persisters more likely to point out the importance of getting good grades.

Pantages and Creedon (1978) stated that "the quality of the relationship between a student and her or his professors is of crucial importance in determining satisfaction with the institution" (p. 79). Bean (1980) also reported that a positive relationship existed between a person who is satisfied with his/her role as a student and university student persistence. Persisters in this study were more satisfied with their academic experience than nonpersisters.

Voorhees (1987) stated that "...general satisfaction with the institution is an important topic among community college administrators" (p. 127). However, his research concluded that satisfaction was relatively unimportant in community college persistence decisions. The results of this study also indicated that no significant difference was found between persisters and nonpersisters and satisfaction with services.'

When looking at satisfaction, it is important to note again Hoyt's third assumption that satisfaction arises from two sources: a sense of progress in reaching personal goals and a sense of comfort with the environments. Satisfaction with academic experiences becomes a part of academic integration while satisfaction with services is part of the student-environment fit.

Tinto (1987) defined institutional and goal commitment:

Goal commitment refers to a person's commitment to the educational and occupational goals one holds for oneself. Institutional commitment refers to the person's commitment to the institution in which he/she is enrolled. It indicates the degree to which one is willing to work toward the attainment of one's goals within a given higher educational institution.

Pascarella and Chapman (1983), in tracing persistence/withdrawal of two-year college freshmen for one year, found that institutional commitment played a significant role in persistence. Pascarella and Terenzini (1980) and Terenzini et al. (1981) in studies of large independent universities found that the largest single contributor in group discrimination was the institutional and goal commitment scale.

Pascarella et al. (1983) in testing and reconceptualizing Tinto's theoretical model of college withdrawal in a non-residential university found that institutional commitment was not totally consistent with Tinto's theoretical expectations.

Pascarella et al. (1983) stated:

Entering commitment to the institution had a direct influence on academic integration rather than on social integration; and academic integration, rather than social integration, had a direct effect on subsequent institutional commitment. Thus it would appear that in non-residential institutions commitment to the institution at the end of the freshman year is defined largely by successful and personally satisfying interactions with the academic rather than the social systems of the institution. Neither institutional nor goal commitment measured at the end of the freshman year, however, had a

significant direct influence on persistence/withdrawal behavior; although each had a positive zero-order correlation with persistence (p. 95).

Pascarella et al. (1983) surmised that "...social integration may be somewhat of a liability in that it precipitates rising expectation for social interaction which the (sic) non-residential environment may not be able to adequately satisfy" (p. 97).

An additional finding of the study confirmed that, relative to the effects of the college environment, pre-college characteristics (e.g., sex, academic aptitude) may have a stronger direct influence on persistence in commuter institutions than in residential institutions. Voorhees (1987) and this study also confirmed these findings.

Of the five factors (peer-group interaction, interaction with faculty, faculty concern for student development and teaching, academic and intellectual development, and institutional and goal commitment) derived from the 30-item instrument used for this study, institutional and goal commitment showed statistical significance ($p < .001$) between persistence and nonpersistence.

Further analysis was then conducted to determine whether a measure of social and academic integration would significantly discriminate between persisters and

nonpersisters. Again, institutional and goal commitment contributed the most to group discrimination.

This study has identified specific background, environmental and social and academic integration factors related to persistence and nonpersistence in a community college. The combination of knowledge gained from this research plus the review of the literature leads us to the conclusions.

CONCLUSIONS

Several conclusions can be derived from this study.

First, this study found statistically significant differences between persistence and nonpersistence and several community college students' background and environmental characteristics.

Second, this study found statistically significant differences between persistence and nonpersistence and students' social and academic integration into a community college.

Third, this study found no statistically significant difference between persistence and nonpersistence and community college students' satisfaction with services.

Fourth, this study found that among new full-time students who attend a community college, institutional and goal commitment contributed the most to group discrimination between persisters and nonpersisters.

RECOMMENDATIONS FOR FUTURE RESEARCH

Future studies of community college persistence should include the following research agenda:

Academic Integration Focus

This study suggests that among new full-time students in a community college, academic integration may be more important than social integration. This is contrary to the belief that campus social life is the key to the retention of students. Therefore, further research should continue to focus on academic integration with special attention given to institutional and goal commitment variables.

Cross-sectional Research Design

A research design which fits the needs of the institution should be identified. Time, cost and expertise of the research must be taken into consideration. The cross-sectional design should be used for the one-time collection of data from currently enrolled students. It is best to collect the data near the end of the semester or academic year while the students are on campus. The end of the semester or academic year will allow the students to familiarize themselves with campus life. To guarantee immediate response, questionnaires should be distributed and collected during class time.

Defined Subgroups

This study included only the subgroup new full-time students to investigate persistence and nonpersistence. Further research of defined subgroups (e.g. men or women, part-time versus full-time, older versus younger) in a community college could be conducted using the social and academic integration instrument such as the one designed by Pascarella and Terenzini (1980).

Multi-institutional Studies

Multi-institutional studies of community colleges are needed for analyses of large groups (e.g. four-year versus two-year, commuter versus residential, intercity versus suburban). Studies of this kind would help validate the generalizability of findings to different kinds of institutions. The data obtained would further enhance the body of knowledge that has been gathered and help provide a framework for making recommendations for policy and practice. Again, the social and academic integration instrument designed by Pascarella and Terenzini (1980) could be used for these studies.

Institutional and Goal Commitment

Pascarella and Terenzini, in developing their questionnaire, constructed six questions which they judged to be adequately tapping the dimension of institutional and goal commitment in Tinto's model. The questions were not

goal specific; therefore, in future research additional questions may need to be added. The more specific questions (e.g., I plan to major in accounting) could give practitioners a clearer picture of a student's short-term goals. These short-term goals may also be what motivates a student to stay in school rather than only the long-term goals. If this is true, then the global questions asked in the institutional and goal commitment section of the questionnaire (e.g., It is important for me to graduate from college) may not be the only questions to be asked when conducting a study. Therefore, instrument development may be a focal point of future research.

Lastly as institutional and goal commitment contributed the most to group discrimination, future research needs to determine the value of including the other four factors in the predictive statistical computations.

IMPLICATIONS FOR HIGHER EDUCATION PRACTICES

Student persistence at four-year colleges and universities has long been of interest to researchers. During the 60s and 70s, most research had been atheoretical. The studies and research conducted during that time made it difficult to formulate generalizations.

In 1975 Tinto explained Spady's work and developed a major theoretical conceptualization of the student persistence and withdrawal process. This model, which has

also been the focus of substantial research, has made a valuable contribution to the understanding of the longitudinal process of persistence and withdrawal behaviors in higher education. Research focusing on the model has supported Tinto's notion of the person-environment fit. However, researchers have been unable to replicate findings between institutions (Pascarella and Terenzini, 1977, 1980; Terenzini, Lorang, & Pascarella, 1981; Pascarella and Terenzini, 1983). Thus the factors shown to influence persistence may not be applicable for all institutions. If this is the case, research need be conducted to understand the dynamics of student persistence and nonpersistence unique to each institution. Administrators can then take action which will ensure the development of effective institutional and goal commitment strategies.

Specific institutional and goal commitment strategies to ensure student persistence should be implemented. Those strategies to consider are:

1. During new student orientation the student should identify a clear statement of an educational goal. After the goal has been identified, educational planning should take place to help the student meet his/her goal.
2. An assessment of the student's reading and writing skills should be taken to show the student if he/she is ready to begin course work designed to reach his/her

educational goal or whether developmental classes should be taken to upgrade these skills.

3. Registration should ensure that the goals of the students are recorded on a database which can be used for follow-up and advising of students.

4. Follow-up letters containing relevant information pertaining to his/her goal will help the student in the educational planning process.

5. The database will help the student's advisor keep abreast of the match between student's transcript and stated goal.

6. Departments within the institution should conduct graduate outcome studies to present to students who are undecided. Not only are these studies inspirational to students who are in the program, in addition these studies also will give student feedback to the institution.

7. Departments within the institutions should work together because of the crossover of skills and students. The collegial effort will help the student in his/her educational planning which will have a direct effect on the student's ability to reach his/her goal.

Even though institutional and goal commitment may not contribute the most to group discrimination between persistence and nonpersistence of students in every college and university, institutional and goal commitment should be

the responsibility of all members of the institution. As

Tinto (1987) stated:

...institutional commitment is the commitment on the part of each and every member of the institution for the welfare, the social and intellectual growth, of all members of the institution. It is a commitment to the notion of education broadly understood which is not limited by either time or place (p. 190).

Educators must accomplish student retention goals by assessing students' potential, preparedness, and progress in order to provide the guidance and direction that will improve the students' chances of achieving their goals.

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APPENDIX A

A PLACE TO BE

FOR BUSINESS, because of cooperative government, an expanding economy, growing population, versatile transportation, available work force and supportive services.

FOR LIVING, because of stable and pollution-free residential areas, nearby recreational opportunities only minutes away and spectacular natural beauty.

Clackamas County invites you to explore its potentials and opportunities. This summary and the enclosed fact sheets describe employment resources, employee training programs, available industrial land, and various characteristics of this County which offers all the advantages of a major urban area as well as the amenities of suburban and rural lifestyles.

A Place for Commerce and Industry

Clackamas County is part of one of the most diversified metropolitan economies in the nation. The economy of the region provides a multi-faceted base for economic stability. Available industrial and commercial sites are just minutes from over 1,750,000 people and from Portland International Airport and most have convenient access to I-5 or the new I-205 freeway that bypasses Portland City Center for travel from California and Washington. The County offers excellent access by air, rail, water and roads.

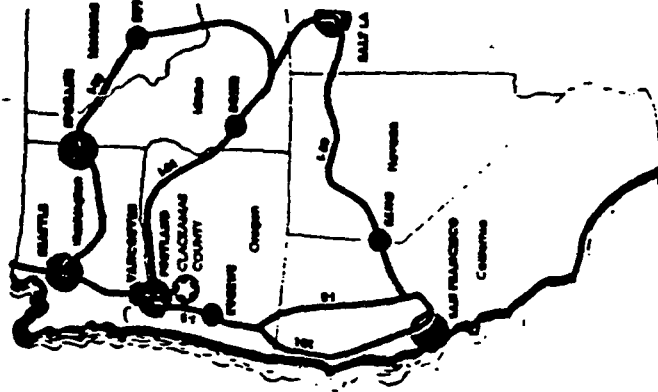
The County energetically promotes business expansion. A one stop permit system centralizes government approvals in a single location and also provides an industrial land inventory planning and permit information and current data on financial and demographic trends.

Clackamas County's adopted Comprehensive Plan identifies sites for industrial, commercial, and residential development. Zoning for industrial and commercial use is already in place. Development can be expedited and building permits issued in as little as three weeks.

The Clackamas County Economic Development Commission (EDC) is a business/government leadership body responsible for making things happen. The EDC oversees public/private programs to:

- provide needed services to industrial land.
- attract new business and create existing business.
- provide financial assistance via industrial revenue bonds and a variety of other State and local programs and provides for needed labor and training.

The EDC has an adopted Economic Development Plan to ensure quality economic growth into the future.



A Place for Living

Clackamas County is a place of history and character of warm summer and mild winter and of recreational opportunities suburban and rural areas are less than an hour's drive to

snow covered Mt Hood the only year round ski resort in North America and only 60 minutes from the Oregon Coast.

Annual precipitation varies from 38 inches in the valley to 130 inches at Mt. Hood with 60% falling between November and March.

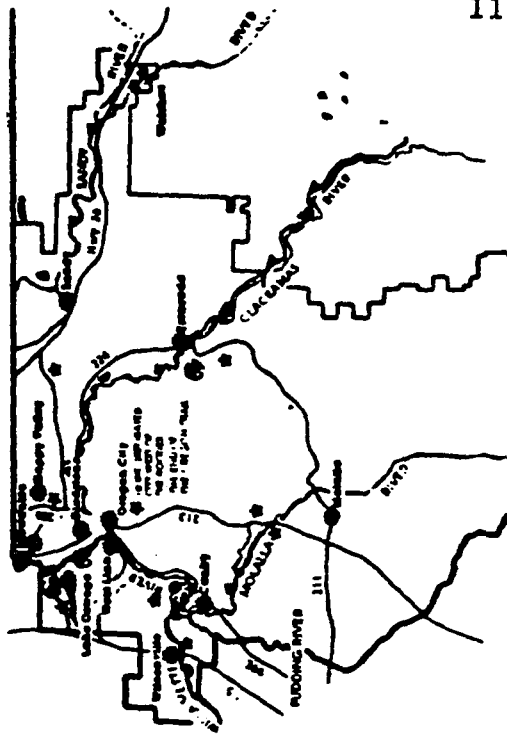
Cultural and entertainment opportunities are here too. The metropolitan area population of over 1,250,000 supports a quality symphony, a 3,000-seat Civic Auditorium, a symphonic choir, an Opera Association.

COMPARATIVE WEATHER DATA FOR MAJOR U.S. CITIES (1941-1970)

CITY	ANNUAL PRECIPITATION	% ANNUAL RELATIVE HUMIDITY (AUG)	AUG. PRECIPITATION	ANNUAL TEMPERATURE
New Orleans	65.77	44	68.0	68.0
Atlanta	49.24	43	43.0	70
Boston	48.19	66	43.1	52.5
Seattle	43.58	66	39.8	51.5
New York	41.61	65	33.1	50.7
Portland	38.79	60	39.7	54.5
San Francisco	37.41	64	28.1	57.5
Chicago	34.71	64	28.5	57.5
Minneapolis	30.94	54	19.5	51.9
Denver	16.81	54	28.9	51.5
Los Angeles	11.80	58	22.8	64.5
Phoenix	11.80	58	22.8	64.5

* Clackamas County is in the southern part of the Portland Metropolitan area. SOURCE: U.S. Dept. of Commerce, National Climatic Center.

CLACKAMAS COUNTY • PLACES OF INTEREST





ATTRACTIVE CITIES

The ten major cities in Clackamas County provide a variety of attractive working and living environments including:

- Prestigious suburban settings.
- Rapidly growing residential and industrial communities.
- Historic towns.
- Small towns nestled at the foot of the Cascade Mountains.
- Towns surrounded by prime Willamette Valley farmland.

LIVABILITY

All of the cities in Clackamas County take pride in their livability. Assets frequently cited include:

- Good schools
- Parks
- Good neighborhoods.
- Friendly people.
- Excellent accessibility to jobs, shopping, and recreational activities.
- Low crime rates.
- Quality government services.
- A great place to live, work, and play.

CITY PROFILES

Lake Oswego is the County's largest and most prestigious city. Lake Oswego, built on rolling, wooded hills around a lake, is home to many of Portland's businessmen and professionals. Its average family income is the highest in the State.

Lake Oswego's location, as well as its amenities, explain its continued popularity as a place to live. Located in the northwestern corner of the County between State Highway 43 and I-5, it is only minutes to downtown Portland employment and commercial centers in Washington County. Since 1970, Lake Oswego's population has increased 78% from 14,573 in 1970 to 26,035 in 1986.

Business and employment opportunities are also available. The western portion of the City and adjacent unincorporated areas have experienced significant office and commercial development during the last ten years, and now boasts a million square feet of the highest quality office space in the region. An additional million square feet of Class A office space is anticipated during the next ten years along Kruse Way, a recently completed expressway.

Milwaukie, with a population of 17,685, is Clackamas County's second largest city. It is located on the east bank of the Willamette River just south of the City of Portland.

Milwaukie is a well established older suburban community with a good industrial base. Several of the County's larger industrial firms are located here, and the City has one of the finest industrial parks in the region. Substantial industrial growth has occurred in the City along Highway 224, an expressway connecting Federal Highway 99E and I-205. Less than 100 acres of industrial land remains to be developed in this prime location.

Milwaukie provides a good location for a business or a home. It is in the center of the Southeast Metropolitan Area and houses a good cross section of lower-middle to upper income families. It is only five miles from downtown Portland along Federal Highway 99E, which is scheduled for major improvements.

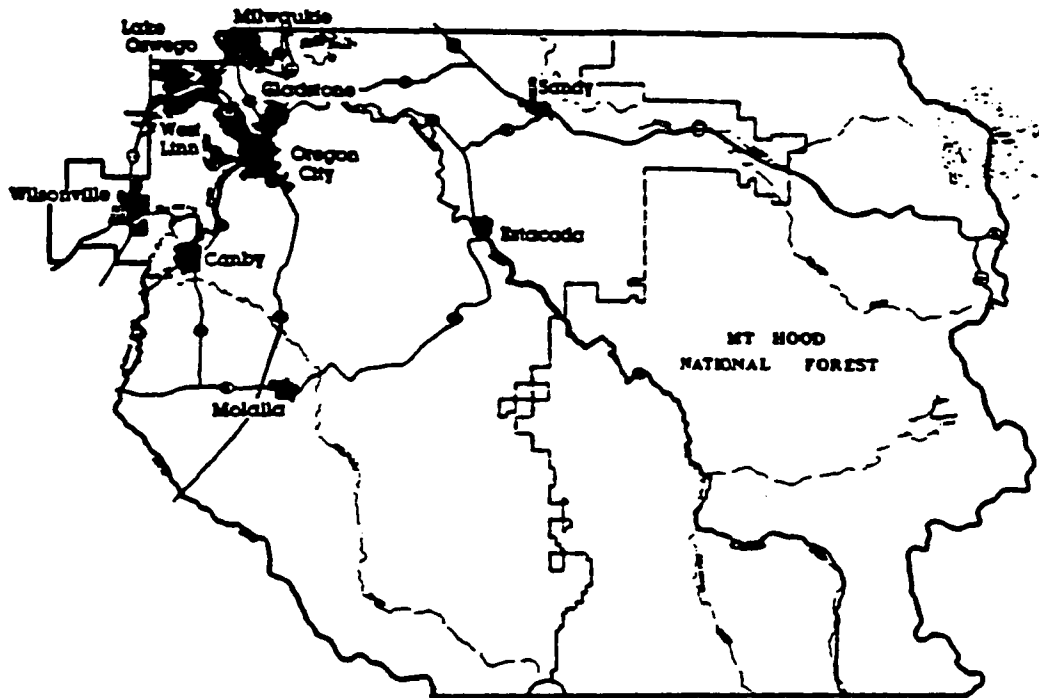
Significant improvement in transit service is planned, and there is the possibility of light rail service. I-205 is only two miles to the west and is connected to Milwaukie by an expressway.

Milwaukie has a variety of advantages including:

- A low city tax rate.
- An excellent fire insurance rating.
- A hospital.
- Surplus sewer and water capacity.
- Good access to Portland International Airport and downtown Portland.

Oregon City

is one of the County's most interesting cities. It is the oldest city west of the Mississippi River and has a large number of attractive historic homes and buildings. It is the County seat and the third largest city in the County. Since 1970, it has experienced a growth spurt from a population of 9,176 to 14,920 in 1981.



Oregon City's location on hills overlooking the Willamette River and the Oregon City Falls is one of the most attractive settings in the State. It is also strategically located on the intersection of I-205 and State Highway 99E. This provides the City with excellent access east and west as well as north and south.

Oregon City provides a full range of quality urban services. It has an excellent fire insurance rating, good streets, a hospital, a good water supply, and is home for Clackamas Community College. The sewer treatment plant has been expanded to meet needs for the remainder of this century.

The recent completion of the Oregon City Bypass, an expressway, provides direct access for the southern part of Oregon City to I-205, making approximately 200 acres of

campus and light industrial land surrounding the college prime for development.

West Linn.

with a population of 13,130 is the County's fourth largest city and one of the fastest growing cities in the County. Since 1970, its population has increased 85 percent.

West Linn is attractively located along the west bank of the Willamette River extending from Lake Oswego past Oregon City Falls. It is rapidly becoming a prestigious upper-middle income City as it continues to attract businessmen and professionals. With the recent completion of the tri-cities sewer plant expansion, rapid residential growth is expected to continue.

West Linn is served by State Highway 43 and I-205. This gives the City good access to employment, shopping,

and recreational activities in addition to good access. West Linn offers basic urban services, an excellent park system, and low city taxes.

There are limited commercial and industrial opportunities in West Linn due to limited amounts of commercial and industrial land, but there are excellent opportunities for those sites that are available.

Gladstone.

with a population of 9,570, offers the advantage of living in a small town within an urban area. Residents are particularly proud of their schools and friendly small town atmosphere.

Gladstone is conveniently located north of Oregon City at the junction of the Willamette and Clackamas Rivers. Gladstone's location offers excellent access to

employment, shopping, and recreational activities in Clackamas County and the metropolitan area. It is directly served by State Highway 99E and I-205.

Gladstone offers full public services and has a low city tax rate. It has a plentiful supply of high-quality city water. With the recent completion of the tri-cities sewer plant, sewer needs are met for the next twenty years. The City also has an excellent park system.

Gladstone also offers some industrial and commercial opportunities. It has one 80-acre site with excellent locational features.

Canby.

the second oldest community in the State, is an exceptional place for living or locating a business. In Canby you can live in an attractive, established, small town surrounded by prime

agricultural land and remain within easy commuting distance of the urban area. This attractive setting has been discovered by others as Canby has more than doubled in size since 1970 growing from a population of 3,813 to 7,835 in 1981. Canby is located five miles south of Oregon City on Highway 99E and is within five miles of I-5 and the growing employment center in Wilsonville.

Canby offers a number of other advantages including:

- Some of the lowest electrical rates in the region. (It receives low-cost BPA electricity, because it has a publicly owned public utility district.)

- Less expensive telephone rates.

- Full urban services.

- A low city tax rate.

- Sewer and water capacity is adequate for the next 20 years.

Canby is also prepared to attract business and industry. They have an active economic development committee and have designated several hundred acres for industrial development in their comprehensive plan.

Wilsonville

located in the western portion of the County along I-5, has been incorporated less than 20 years, yet has become one of the major employment centers in the region. It is the only City in the County that has more jobs than population. Wilsonville has attracted several distribution centers, hi-tech firms, corporate headquarters, suburban office buildings, a major hotel, and many small businesses.

Some of the assets which have attracted firms to Wilsonville include:

Direct access to I-5

An easy commute to the western portions of Clackamas and Washington Counties.

An attractive setting

1,000 acres of prime vacant industrial land.

A very low city tax rate

An excellent fire insurance rating.

Rail service

Industrial parks.

A positive attitude toward economic development.

These assets will continue to attract business and industry to Wilsonville, and rapid population growth is also expected. Since 1970, Wilsonville's population has more than quadrupled, growing from 1,009 in 1970 to 4,180 in 1986. Much of this growth occurred in Charbonneau, a large upper-middle income planned development complete with a 27-hole golf course. Growth has also occurred in attractive sites along the Willamette River and throughout the City. Wilsonville will be one of the fastest growing cities in the region for the remainder of this century.

Sandy

offers a place to live, work and play. Located on U.S. Highway 26 in the eastern portion of the Willamette Valley and the northern part of Clackamas County.

Sandy provides a number of locational advantages including:

- Unparalleled access to skiing and recreational activities on Mt. Hood.

- Good access to the large urban population in East Multnomah County.

- An attractive, growing, small town.

- An active Economic Development Commission.

Full urban services

High quality serviced industrial and commercial sites.

An exceptionally natural setting overlooking the Sandy River.

Sandy's advantages have resulted in substantial growth since 1970. Its population has increased 130% from 1,544 in 1970 to 3,560 in 1986. Sandy has also attracted several new businesses and a number of industrial firms in its two industrial parks. There are still several sites available in the industrial parks, and substantial additional land adjacent to U.S. Highway 26 is planned for industrial use.

Estacada

offers unique opportunities for residential living or locating a business. Located on State Highway 211 and the scenic Clackamas River in the eastern portion of the Willamette Valley, Estacada offers small town living at its best and is still within 30 miles of the densely populated urban area surrounding Portland. Outdoor recreational activities are only minutes away including:

- Rafting the rapids on the Clackamas River.

- Salmon, steelhead, and trout fishing.

- Boating and water skiing on nearby reservoirs.

- Cross-country skiing.

- Hiking or backpacking.

Estacada's locational advantages for business and industry include:

- A Local Development Corporation to assist in economic development and provide financial assistance.

- A publicly owned full service industrial park.

- Ample sewer and water capacity.

Less expensive industrial land.

A large labor force in surrounding rural areas.

A small town atmosphere.

Over 200 acres of land planned for industrial use.

Estacada is being discovered as indicated by a population increase of over 50% since 1970. With a 1986 population of 1,970 in the City and an additional 15,000 in surrounding rural areas, Estacada has sufficient population to support industrial and commercial expansion.

Molalla

is an attractive town of 3,180 population located 15 miles south of Oregon City on State Highway 211. Its location provides access to both the Portland and Salem urban areas.

Molalla is surrounded by farms and rural residential development and has attracted many new residents. Since 1970, its population has increased 55%. Some of Molalla's assets include:

- Friendly, small town life-style.

- Full urban services.

- Good schools.

- Excellent golf course.

- Moderate housing and land costs.

Molalla also offers opportunities for locating business and industry. It has an Economic Development Commission. Major attractions to industry include:

- Available, moderately priced land.

- Surplus sewer and water capacity.

- Within five miles of a proposed general aviation reliever airport at Mulino.

- A quality, available labor force.

AN EXPANDING ECONOMY

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Clackamas County's economy is expanding with:

- Electronic Firms like Tektronix and OECO.
- Metal Fabrication like Omark, Stanley Hydraulic Tools, and Gem Top.
- Distribution Centers like Safeway, Fred Meyer, United Grocers, Payless Drug Stores, G.I. Joe's and Nike.
- Regional Corporate Headquarters like Safeco Insurance, Safeway, ADP, and SAIF.
- Natural Resource Industries like Smurfit Paper Company and James River Corporation.

These and other firms have moved Clackamas County from its resource-based economy to a healthy diversification. The economy of this metropolitan area is the most diverse on the West Coast and ranks ninth among all United States SMSAs in diversity.

Clackamas County's excellent transportation position, its experienced work force and its reputation as a good place to live continue to attract new businesses.

Commercial and industrial development surround the 11 million square foot Town Center, a regional shopping mall which employs 2,500 people. An additional 700,000 square feet of retail space in three new shopping centers near the Town Center have been built or are under construction. Approximately 150,000 square feet of Class A office space is under construction, with 100,000 square feet of additional space planned for the immediate future.

Additional modern commercial complexes have developed along Kruse Way west of Lake Oswego with over a million square feet of Class A office being built in the last ten years. This has emerged as the premier suburban Class A office area in the region. McLoughlin Boulevard between Oregon City and Portland has developed into a major strip commercial area. In response to increased demand for services, significant commercial areas have also developed within the Mt. Hood corridor and within the County's major cities.

Agriculture is an over-\$100 million/year Clackamas County industry because of fertile soils, favorable climatic conditions and proximity to agricultural markets. Horticulture and specialty crops contribute \$50 million annually to the County's agricultural income, with increasing acreages in nursery and greenhouse crops. Specialty crops include vegetables, berries, fruits and

nuts. The Liberty nut, unique to the Willamette Valley, is a significant crop. Poultry production means almost \$25 million a year in Clackamas County, which leads the State in raising turkeys and broilers.

Approximately 850,000 acres in the County are commercial forest lands, with three fourths of it in

public ownership. The Mt. Hood National Forest alone comprises almost one-half million acres. The County has the largest saw and pulp mill capacity in the region and also produces the region's major share of logs.

EXISTING & PROJECTED EMPLOYMENT BY INDUSTRIAL SECTOR CLACKAMAS COUNTY 1985 & 2005

INDUSTRIAL SECTOR	EXISTING EMPLOYERS 1985	PROJECTED NO. EMPLOYED 2005
TOTAL WAGES & SALARY	67,500	112,000
Construction	2,500	4,100
Manufacturing	12,000	20,100
Trans. Comm. & Util.	2,300	2,600
Trade	28,700	35,800
Finance, Insurance & Real Estate	2,800	3,400
Services	11,000	20,000
Government	11,200	14,000

SOURCE: State of Oregon, Employment Division & Metro Year 2005 Population and Employment Projections.

CLACKAMAS COUNTY GROSS AGRICULTURAL INCOMES

CROP	1979	1980	1984
Horticultural & Specialty Crops	\$36,387,000	\$43,671,000	\$ 54,439,000
Farm Forestry	7,210,000	4,682,000	18,180,000
Field Crops	9,213,000	10,479,000	9,436,000
Livestock & Dairy	14,106,000	17,416,000	16,287,000
Poultry	28,349,000	17,143,000	28,224,000
Total Estimated Agricultural Income	\$85,347,000	\$97,780,000	\$119,914,000

SOURCE: Clackamas County Extension Office

CLACKAMAS COUNTY EMPLOYMENT BY MAJOR SECTOR

	1976	EMPLOYMENT	1985% DISTRIBUTION 1985	% GROWTH BY SECTOR
MANUFACTURING	28,042		13,900	29.6
Lumber & Wood Products	2,327		2,300	3.3
Shops	1,363		2,700	4.9
Machinery	1,529		2,700	5.5
Paper & Allied Products	1,979		1,300	1.9
Other (Including Electronics & Instruments)	2,639		4,800	5.9
NON-MANUFACTURING	21,667		52,600	79.4
Construction	2,367		3,000	4.6
Trans. Comm. & Util.	1,206		2,400	3.6
Trade	11,673		28,700	28.7
FINANCE	1,764		2,800	4.1
Services	8,389		11,000	14.9
Government	9,604		11,300	16.7
Other	354		2,800	

HIGHER EDUCATION

A number of prestigious universities in the metropolitan area offer both undergraduate and graduate level courses of direct benefit to the technical needs of business and industry. In addition, three community colleges, Clackamas, Mt. Hood and Portland, serve Clackamas County.

• **Portland State University**, the largest facility in the area, offers 15 master's degrees and 5 Ph.D. programs. The curriculum includes civil, mechanical and electrical engineering, computer science, marketing, accounting, and business administration. The state legislature in cooperation with private industry has recently bolstered the competitiveness of Portland State University in its high-tech curriculum.

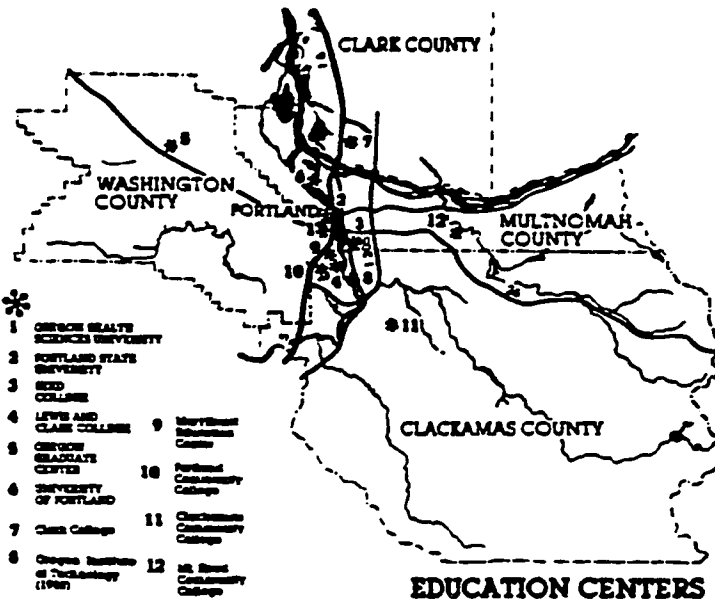
• **The Oregon Health Sciences University** offers degrees in Medicine, Dentistry and Nursing. Its teaching hospital also adds to the quality health care in the area. It is also becoming a major research institution with \$81 million in grants for 1985-86.

• **Clackamas Community College** offers a comprehensive lower division transfer program and associate degree programs. An Employee and Management Development Department cooperatively plans, develops and implements tailor-made training and educational programs to meet the needs of businesses.

• **Portland and Mt. Hood Community Colleges** also provide technical training and enrichment courses.

• **Marylhurst College for Life Long Learning** offers Bachelor degrees in management, communications and related subjects, training in management and other programs for working adults, and a career planning center for midlife career changes.

• **The Oregon Institute of Technology (OIT)** is establishing a branch campus in the fall of 1988 in Clackamas County to serve upper division technical education needs throughout the metropolitan area. OIT's program in engineering technology is widely acclaimed.



Employment Training

Clackamas County Employment, Training and Business Services Division (ETBS) provides:

- On the job training program
- Targeted Job Tax Credit Program
- A large supply of job-ready applicants
- A professional staff available to help design and implement specific training programs

Elementary and Secondary Education

All of the 28 school districts in Clackamas County academically exceed Oregon State standards. Programs include strong basic curriculum, career and vocational education, computer science, and programs for the gifted and talented. Several of the school districts have received national awards for academic achievement. Clackamas County's award-winning Community School Program, a cooperative effort among eight school districts, Clackamas Community College and cities, provides adult education opportunities, leisure activities, youth recreation, and neighborhood service projects.

Outstanding private colleges and universities in the area include the University of Portland, Reed College, Lewis and Clark College and its Northwestern School of Law and Pacific University.

Clackamas County Training and Education Consortium

Major institutions and agencies in Clackamas County have formed the Clackamas County Training and Education Consortium. The purpose of the consortium is to provide business and industry with a complete range of training and education programs. New firms and existing firms can expect to have specific needs met via the consortium.

COMMUNITY COLLEGES

Clackamas Community College John Kaiser, Ph.D., President	657-8400	1600 S. Molalla Avenue Oregon City, OR 97045
Mt. Hood Community College	367-0422	26000 S.E. Stark Gresham, OR 97030
Portland Community College	293-5123	2000 S.W. 49th Portland, OR 97219

ETBS

Del Smith	635-4591	P.O. Box 215 Marylhurst, OR 97036
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15869 S. Wilshire Circle
Oregon City, OR 97045
December 10, 1986

Mr. Mike Valiga
ACT
P.O. Box 168
Iowa City, IA 52243

Dear Mike

This letter is a follow up to our conversation, December 2, 1986, in regard to the ACT withdrawing and student surveys that I would like to adapt to the research I am conducting for my dissertation through Portland State University.

Enclosed is a copy of the surveys that I will be using. I assure you they will only be used for my project and they will not be reproduced for others.

I am going to survey new students at Clackamas Community College as to their reasons for withdrawel and level of satisfaction of persisters and nonpersisters with college services and environment.

I will be happy to share the results with you after they are compiled.

Thank you for giving me the opportunity to use the ACT material.

Jan Stennick



January 7, 1987

Jan Stennick
15469 S. Wilshire Circle
Oregon City, Oregon 97045

Dear Ms. Stennick:

Thank you for sending me draft copies of the surveys you are designing for use with your dissertation. After reviewing the documents, I see no reason that you may not use the items and scales from the ACT survey forms in the manner you indicated. Therefore, you have ACT's permission to use the specified items from the Student Opinion Survey and the Withdrawing/Nonreturning Student Survey in your proposed instruments. Please understand that this permission covers only the one-time use of our items/scales in the research you described. This exception to our copyright policies is granted because our instruments did not entirely meet your research needs in this particular study.

We are pleased with your interest in ACT's survey program. Good luck with your survey project. I look forward to receiving a copy of any publication that may result from your work. If you have any questions, feel free to give me a call at 319/337-1102.

Sincerely,

A handwritten signature in cursive script that reads "Michael J. Valiga".

Michael J. Valiga
Assistant Director
Institutional Services
Research Division

MN:jh

2201 North Dodge Street, P.O. Box 188
Iowa City, Iowa 52243
(319) 337-1000

March 7, 1988

Cheryl Greenway
Jossey-Bass Inc., Publishers
350 Sansome Street
San Francisco, CA 94104

Dear Ms Greenway

I am a doctoral student at Portland State University, Portland, Oregon. I am currently working on my dissertation and would like permission to use the models that are discussed in the New Directions for Institutional Research Series, STUDYING STUDENT ATTRITION, Ernest T. Pascarella, Editor, Number 36, December 1982, pp 17-33 and p. 63.

The models will be only used for dissertation research purposes and will not be copied for any other publication.

Sincerely

Jan Stennick

TABLE 7
Student Opinion Survey 5-Choice (Likert)
Satisfaction Items

Type of Items	Correlation between the average ratings ^a of satisfaction-related items on the two administrations of the instrument
Section II—Satisfaction with College Programs and Services	.92
Section III—Satisfaction with Various Aspects of the College Environment	.95

^aTo compute average satisfaction ratings, responses are coded as follows: Very Satisfied = 5, Satisfied = 4, Neutral = 3, Dissatisfied = 2, Very Dissatisfied = 1. Average satisfaction rating for each item is simply the mean of these values for all respondents.

I hereby give my consent to participate in the pilot study of levels of satisfaction in college services and environment. The purpose of the pilot study has been explained to me, and I realize that my data is for consent purposes only and not for identification. I further understand that I may withdraw from this pilot study at any time.

Signature

Date

**CLACKAMAS COMMUNITY COLLEGE
NEW STUDENT SURVEY
Fall, 1987**

SECTION 1: BACKGROUND INFORMATION

Please check your response to
each of the following questions:

1. SOCIAL SECURITY NUMBER

2. AGE

- | | |
|-----------------|-----------------|
| [1] 17 or Under | [2] 18 |
| [3] 19 | [4] 20 |
| [5] 21 | [6] 22 |
| [7] 23 to 25 | [8] 26 to 29 |
| [9] 30 to 39 | [10] 40 to 49 |
| [11] 50 to 61 | [12] 62 or Over |

3. GENDER

- [1] Male [2] Female

4. RACIAL/ETHNIC GROUP

- [1] Black Non-Hispanic Origin
[2] White Non-Hispanic Origin
[3] Asian or Pacific Islander
[4] Amer Indian/Alaskan Native
[5] Hispanic

5. MARITAL STATUS

- [1] Single [2] Married
[3] Separated [4] Divorced
[5] Widowed

**6. NUMBER OF DEPENDENT
CHILDREN**

- | | | |
|----------|---------------|-------|
| [0] None | [1] 1 | [2] 2 |
| [3] 3 | [4] 4 or More | |

7. WHAT IS YOUR EDUCATIONAL GOAL
(Check only one)

- [1] Take a Few Classes
[2] Earn a GED Certificate
[3] Earn a One-Year Certificate
[4] Earn a Two-Year Degree
[5] Earn a Four-Year Degree
[6] License/Recertification

**8. WHAT IS YOUR REASON FOR
ENROLLING AT CLACKAMAS?**
(Check only one)

- [1] Get a Job
[2] Improve Current Job Skills
[3] Get a Better Job
[4] Personal Enrichment/Interest
[5] Explore Career Options
[6] Earn Transfer Credit
[7] Improve Basic Skills
[8] Sports
[9] Other _____

**9. WHEN DO YOU MOST FREQUENTLY
ATTEND CLASSES AT CLACKAMAS?**

- | | |
|-----------------------------|-------------|
| [1] Day | [3] Weekend |
| [2] Evening (6 PM or later) | |

**10. HOW FAR FROM CLACKAMAS
COMMUNITY COLLEGE DO YOU
COMMUTE?**

- [1] Less than 1 Mile
[2] 1-5 Miles
[3] 6-10 Miles
[4] 11-20 Miles
[5] Over 20 Miles

TURN THE PAGE----->

11. HOW MANY TERMS DO YOU PLAN TO STAY AT CLACKAMAS?

- [1] 1 Term
- [2] 2 Terms
- [3] 3 Terms (1 Year)
- [4] 4-6 Terms (2 Years)
- [5] More Than 6 Terms

12. CHECK THE NUMBER OF HOURS PER WEEK YOU WORK

- [1] 0 or Occasional Jobs
- [2] 1-10 Hours
- [3] 11-20 Hours
- [4] 21-31 Hours
- [5] Over 31 Hours

13. WHERE DO YOU LIVE?

- [1] Rental Apartment/Room/House
- [2] Home of Parents or Relatives
- [3] Your Own Home

14. AMOUNT OF EDUCATION EARNED BEFORE COMING TO CLACKAMAS
(Check only one)

- [1] Less than High School
- [2] Some High School
- [3] High School Completed
- [4] GED
- [5] 1 year of College
- [6] 2 years of College
- [7] 3 years of College
- [8] 4 year College Degree
- [9] Graduate Degree

15. IN HIGH SCHOOL WERE YOU IN A:

- [1] Vocational Program
- [2] College Preparation Program
- [3] Other Program

16. HIGH SCHOOL G.P.A.
(C=2.00 B=3.00 A=4.00)

- [1] Below 2.0
- [2] 2.0 - 2.5
- [3] 2.6 - 3.0
- [4] 3.1 - 3.5
- [5] 3.6 or higher

17. PRIOR COLLEGE G.P.A.
(C=2.00 B=3.00 A=4.00)

- [1] Below 2.0
- [2] 2.0 - 2.5
- [3] 2.6 - 3.0
- [4] 3.1 - 3.5
- [5] 3.6 or higher
- [6] Doesn't apply

18. WHICH OF THE FOLLOWING WAS TRUE FOR YOU AS YOU ENTERED CLACKAMAS COMMUNITY COLLEGE?
(Check only one)

- [1] Entered Directly from HS
- [2] Entered After Working for a Period of Time
(Exclude Summer Work)
- [3] Entered after Parenting
- [4] Transferred From Another 2-Year College
- [5] Transferred From a 4-Year College or University
- [6] Entered After Completing Military Service
- [7] Other _____

19. EDUCATIONAL LEVEL OF MOTHER:

- [1] Less than High School
- [2] Some High School
- [3] High School Completed
- [4] Some College
- [5] College Degree
- [6] Does Not Apply

20. EDUCATIONAL LEVEL OF FATHER:

- [1] Less than High School
- [2] Some High School
- [3] High School Completed
- [4] Some College
- [5] College Degree
- [6] Does Not Apply

21. EDUCATIONAL LEVEL OF SPOUSE/PARTNER:

- [1] Less than High School
- [2] Some High School
- [3] High School Completed
- [4] Some College
- [5] College Degree
- [6] Does Not Apply

22. DID YOU ATTEND A 2-HOUR CLASS ADVISING SESSION BETWEEN AUGUST 10 & SEPTEMBER 3?

- [1] Yes
- [2] No

23. DID YOU ATTEND COLLEGE SUCCESS DAY ON SEPTEMBER 8?

- [1] Yes
- [2] No

24. OUTSIDE OF CLASS, HOW MANY HOURS PER WEEK DO YOU SPEND INTERACTING WITH FACULTY?

- [1] None
- [2] Less than 1/2 hour
- [3] 1/2 to 1 hour
- [4] Over 1 hour/less than 2 hours
- [5] 2 hours or more

25. OUTSIDE OF CLASS HOW MANY HOURS PER WEEK DO YOU SPEND INTERACTING WITH OTHER STUDENTS?

- [1] None
- [2] Less than 1/2 hour
- [3] 1/2 to 1 hour
- [4] Over 1 hour/less than 2 hours
- [5] 2 hours or more

26. WHAT TYPE OF EMOTIONAL SUPPORT TO CONTINUE YOUR EDUCATION ARE YOU RECEIVING FROM:

- 1=very positive support
- 2=somewhat positive support
- 3=neutral
- 4=somewhat negative support
- 5=very negative support
- 6=does not apply

	1	2	3	4	5	6
Parents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spouse/partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TURN THE PAGE----->

SECTION II: ACADEMIC AND SOCIAL LIFE

The following is a list of statements about various aspects of academic and social life at Clackamas Community College. Please indicate the extent of your agreement or disagreement with each statement as it applies to your Clackamas Community College experience by circling the appropriate number.

Please circle only one number for each statement.

- 5=Agree Strongly
 4=Agree Somewhat
 3=Not Sure
 2=Disagree Somewhat
 1=Disagree Strongly

- | | | | | | |
|--|---|---|---|---|---|
| 1. Since coming to Clackamas I have developed close personal relationships with other students. | 5 | 4 | 3 | 2 | 1 |
| 2. The student friendships I have developed have been personally satisfying. | 5 | 4 | 3 | 2 | 1 |
| 3. My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes and values. | 5 | 4 | 3 | 2 | 1 |
| 4. My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas. | 5 | 4 | 3 | 2 | 1 |
| 5. It has been difficult for me to meet and make friends with other students. | 5 | 4 | 3 | 2 | 1 |
| 6. Few of the students I know would be willing to listen and help me if I had a personal problem. | 5 | 4 | 3 | 2 | 1 |
| 7. Most students at Clackamas have values and attitudes different from my own. | 5 | 4 | 3 | 2 | 1 |
| 8. My nonclassroom interactions with faculty had positive influence on my personal growth/values/attitudes. | 5 | 4 | 3 | 2 | 1 |
| 9. My nonclassroom interactions with faculty have had a positive influence on my intellectual growth and interest in ideas. | 5 | 4 | 3 | 2 | 1 |
| 10. My nonclassroom interactions with faculty have had a positive influence on my career goals. | 5 | 4 | 3 | 2 | 1 |
| 11. Since coming to Clackamas I developed a close, personal relationship with at least one faculty member. | 5 | 4 | 3 | 2 | 1 |
| 12. I am satisfied with the opportunities to meet and interact informally with faculty members. | 5 | 4 | 3 | 2 | 1 |
| 13. Few of the faculty members I have had contact with are generally interested in students. | 5 | 4 | 3 | 2 | 1 |

- | | | | | | |
|---|---|---|---|---|---|
| 14. Few of the faculty members I have had contact with are generally outstanding or superior teachers. | 5 | 4 | 3 | 2 | 1 |
| 15. Few of the faculty members I have had contact with are willing to spend time outside of class to discuss issues of interest and importance to students. | 5 | 4 | 3 | 2 | 1 |
| 16. Most of the faculty I have had contact with are interested in helping students grow in more than just academic areas. | 5 | 4 | 3 | 2 | 1 |
| 17. Most faculty members I have had contact with are genuinely interested in teaching. | 5 | 4 | 3 | 2 | 1 |
| 18. I am satisfied with the extent of my intellectual development since enrolling at Clackamas. | 5 | 4 | 3 | 2 | 1 |
| 19. My academic experience has had a positive influence on my intellectual growth & interest in ideas. | 5 | 4 | 3 | 2 | 1 |
| 20. I am satisfied with my academic experience at Clackamas. | 5 | 4 | 3 | 2 | 1 |
| 21. Few of my courses this year have been intellectually stimulating. | 5 | 4 | 3 | 2 | 1 |
| 22. My interest in ideas and intellectual matters has increased since coming to Clackamas. | 5 | 4 | 3 | 2 | 1 |
| 23. I am more likely to attend a cultural event (for example, a concert, lecture, or art show) now than I was before coming to Clackamas. | 5 | 4 | 3 | 2 | 1 |
| 24. I have performed academically as well as I anticipated I would. | 5 | 4 | 3 | 2 | 1 |
| 25. It is important for me to graduate from college. | 5 | 4 | 3 | 2 | 1 |
| 26. I am confident that I made the right decision in choosing to attend Clackamas. | 5 | 4 | 3 | 2 | 1 |
| 27. It is likely that I will register at Clackamas Winter term. | 5 | 4 | 3 | 2 | 1 |
| 28. It is not important to me to graduate from Clackamas. | 5 | 4 | 3 | 2 | 1 |
| 29. I have no idea at all what I want to major in. | 5 | 4 | 3 | 2 | 1 |
| 30. Getting good grades is not important to me. | 5 | 4 | 3 | 2 | 1 |

TURN THE PAGE ----->

SECTION III: COLLEGE SERVICES AND ENVIRONMENT

Please check the box that indicates your level of satisfaction with each of the following services or characteristics of Clackamas Community College. If any item does not apply to you or if you did not use a service, check the box in the "Does Not Apply" column and proceed to the next item.

(Please respond to each item by checking only one box.)

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Does Not Apply
1 Academic advising services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 Personal counseling services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Career planning services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Recreational and intramural programs and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Library facilities and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Student health services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 College-sponsored tutorial services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 College bookstore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 Financial aid services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 Student employment services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 Community center lounge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 Community center game room	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13 Food services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14 College-sponsored social activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15 Cultural programs and activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16 College orientation program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17 Credit by-examination program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18 Billing & fee payment procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19 Opportunity for student employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20 Laboratory and computer labs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21 Transcript services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22 Veterans services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23 Day care services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24 Accuracy of information you received before enrolling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25 Student government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26 College newspaper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27 General admissions/entry procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Does Not Apply
28 Assistance provided by the college staff when you entered the college	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29 Testing/grading system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30 Course content in your major field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31 Out-of-class availability of your instructors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32 Instruction in your major field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33 Class size relative to the type of course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34 Variety of courses offered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35 General registration procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36 Availability of counselors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37 Value of the information provided by the counseling department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38 Preparation you are receiving for your future occupation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39 Student voice in college policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40 College rules governing student conduct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41 Attitude of teachers toward students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42 Classroom facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43 Athletic/recreation facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44 Parking facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45 Attitude of non-teaching staff toward students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46 Racial harmony at Clackamas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47 Concern for you as an individual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48 Opportunities for personal involvement in campus activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49 Personal security/safety at Clackamas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50 Clackamas Community College in general	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



October 21, 1987

Dear Student:

Our records indicate that you are currently registered at Clackamas Community College. The College is surveying students who are new full-time students Fall term 1987.

The purpose of the survey is to learn about the kinds of experiences you and other students are having at Clackamas. The information will help to improve the college's programs and services.

For the results to truly represent the thinking of current students, it is important that each questionnaire be completed and returned. Therefore, please complete the survey and return it to the Research Office in the enclosed postage-paid envelope within one week.

You may be assured of confidentiality. Your Social Security number is included for research purposes only, and you will never be individually identified on any report.

Surveys such as this help us to gather valuable information from students — the people who know Clackamas Community College best.

Thank you for your assistance.

A handwritten signature in cursive script that reads "Jan Stennick".

Jan Stennick
Project Director

A handwritten signature in cursive script that reads "John Keyes".

John Keyes
President

JS/JK/cm

Enclosure

October 30, 1987

Dear Student:

On October 21 we mailed you a survey to help determine the kinds of experiences you are having at Clackamas Community College

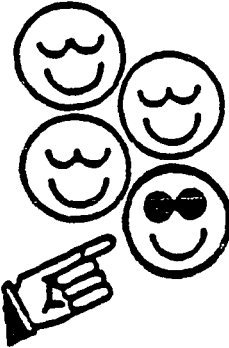
If you've already returned the survey, we thank you for your cooperation. If not, please fill it out and return it to us as soon as possible. If you need another copy of the survey, please call the Research Office at 657-8400, extension 317.

Your participation is extremely important. You've been selected to represent many students similar to yourself, and the information you provide will help us improve Clackamas Community College.

Thanks for your help!

Jan Stennick

Jan Stennick, Project Director



you
have been selected

November 23, 1987

Dear Clackamas Student:

WE NEED YOUR HELP!

We have not yet received the survey we mailed you last month. I know it's easy to overlook surveys with all the mail that comes each day.

Your response to the questionnaire is important to help improve the college's programs and services. Please take a few minutes to complete the survey and return it in the enclosed postage paid envelope as soon as possible.

As noted in the first letter you received, responses will be kept strictly confidential. If you've already returned the survey, we thank you for your cooperation.

Thank you!

Jan Stennick
Project Director

Enclosure

JS/cm

APPENDIX B

FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
Background						
Age						
Under 19	165	58.7	143	86.7	22	13.3
20-29	60	21.4	50	83.3	10	16.7
30-39	39	13.9	35	89.7	4	10.3
over 40	17	6.0	12	70.6	5	29.4
Gender						
Male	129	45.9	103	79.8	26	20.2
Female	152	54.1	137	90.1	15	9.9
Ethnic						
Black	2	.7	1	50.0	1	50.0
White	264	93.3	226	85.6	38	14.4
Asian	4	1.4	4	100.0	0	00.0
Am Ind/Alas	5	1.8	4	80.0	1	20.0
Hispanic	5	1.8	5	100.0	0	00.0
missing	3	1.1	2	66.7	1	33.3
Goal						
Few class	21	7.4	12	57.1	9	42.9
Earn GED	0	0.0	0	0.0	0	0.0
Earn certif	16	5.7	13	81.3	3	18.8
Assoc degr	96	33.9	80	83.3	16	16.7
BA/BS	144	51.2	134	93.1	10	6.9
Lis/certif	5	1.8	2	40.0	3	60.0
Reason						
Get job	20	7.1	18	90.0	2	10.0
Improv skill	14	4.9	10	71.4	4	28.6
Better job	37	13.1	30	81.1	7	18.9
Enrichment	15	5.3	13	86.7	2	13.3
Career explo	34	12.0	29	85.3	5	14.7
Trans cred	121	42.8	108	89.3	13	10.7
Basic skills	6	2.1	5	83.3	1	16.7
Sports	17	6.0	13	76.5	4	23.5
missing	19	6.8	16	84.2	3	15.8
Terms						
1 term	15	5.4	1	6.7	14	93.3
2 terms	6	2.1	5	83.3	1	16.7
3 terms	74	26.4	68	91.9	6	8.1
4-6 terms	164	58.6	146	89.0	18	11.0
more 6 terms	21	7.5	20	95.2	1	4.8
Educ						
Less HS	4	1.4	2	50.0	2	50.0
Some HS	6	2.1	5	83.3	1	16.7
HS complete	206	73.3	183	88.8	23	11.2

FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
Educ(continued)						
GED	17	6.0	15	88.2	2	11.8
1-yr col	20	7.1	16	80.0	4	20.0
2-yr col	17	6.0	14	82.4	3	17.6
3-yr col	6	2.1	3	50.0	3	50.0
4-yr degree	5	1.8	3	60.0	2	40.0
Prior						
Dir HS	136	48.1	120	88.2	16	11.8
Work	68	24.0	58	85.3	10	14.7
Parenting	30	10.6	27	90.0	3	10.0
Trans 2-yr	10	3.5	9	90.0	1	10.0
Trans 4-yr	9	3.2	6	66.7	3	33.3
Military	8	2.8	7	87.5	1	12.5
Other	19	6.7	13	68.4	6	31.6
Missing	3	1.1	2	66.7	1	33.3
HSGPA						
Below 2.0	5	1.8	5	100.0	0	00.0
2.0-2.5	67	24.0	56	83.6	11	16.4
2.6-3.0	109	39.1	92	84.4	17	15.6
3.1-3.5	81	29.0	70	86.4	11	13.6
3.6 higher	17	6.1	16	94.1	1	5.9
CGPA						
Below 2.0	5	5.7	5	100.0	0	00.0
2.0-2.5	14	15.9	8	57.1	6	42.9
2.6-3.0	18	20.5	15	83.3	3	16.7
3.1-3.5	18	20.5	13	72.2	5	27.8
3.6 higher	9	10.2	8	88.9	1	11.1
missing	24	27.3	22	91.7	2	8.3
Pltest						
Yes	217	76.7	191	88.0	26	12.0
No	66	23.3	51	77.3	15	22.7
Major						
Trans	93	32.9	88	94.6	5	5.4
Nontrans	89	31.4	80	89.9	9	10.1
GenStudies	101	35.7	74	73.3	27	26.7
Mom						
Less HS	11	4.1	11	100.0	0	00.0
Some HS	19	7.1	15	78.9	4	21.1
HS complete	105	39.2	94	89.5	11	10.5
Some col	82	30.6	64	78.0	18	22.0
Col degree	45	16.8	40	88.9	5	11.1
Missing	6	2.2	5	83.3	1	16.7

FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
Dad						
Less HS	21	7.8	15	71.4	6	28.6
Some HS	27	10.0	17	63.0	10	37.0
HS complete	73	27.0	69	94.5	4	5.5
Some col	76	28.1	65	85.5	11	14.5
Col degree	70	25.9	61	87.1	9	12.9
Missing	3	1.1	3	100.0	0	00.0
Spouse						
Less HS	8	8.1	7	87.5	1	12.5
Some HS	4	4.0	3	75.0	1	25.0
HS complete	19	19.2	17	89.5	2	10.5
Some col	27	27.3	22	81.5	5	18.5
Col degree	20	20.2	18	90.0	2	10.0
Missing	21	21.2	16	76.2	5	23.8
HSprog						
Vocational	47	16.6	36	76.6	11	23.4
Col prep	124	43.8	111	89.5	13	10.5
Other prog	73	25.8	60	82.2	13	17.8
Missing	39	13.8	35	89.7	4	10.3
Advis						
Yes	122	43.4	113	92.6	9	7.4
No	159	56.6	127	79.9	32	20.1
Orient						
Yes	71	25.3	63	88.7	8	11.3
No	210	74.7	177	84.3	33	15.7
Environment						
Marital						
Single	218	77.0	188	86.2	30	13.8
Married	42	14.8	37	88.1	5	11.9
Separated	5	1.8	3	60.0	2	40.0
Divorced	16	5.7	12	75.0	4	25.0
Missing	2	.7	2	100.0	0	00.0
Children						
None	222	78.7	188	84.7	34	15.3
One	21	7.4	16	76.2	5	23.8
Two	22	7.8	21	95.5	1	4.5
Three	10	3.5	9	90.0	1	10.0
Four/more	7	2.5	7	100.0	0	00.0
Finaid						
Yes	125	44.2	116	92.8	9	7.2
No	158	55.8	126	79.7	32	20.3

FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
Attend						
Day	270	96.1	234	86.7	36	13.3
Evening	11	3.9	6	54.5	5	45.5
Commute						
Less 1-mile	7	2.5	7	100.0	0	00.0
1-5 miles	58	20.8	48	82.8	10	17.2
6-10 miles	74	26.5	67	90.5	7	9.5
11-20 miles	96	34.4	85	88.5	11	11.5
over 20 mil	44	15.8	31	70.5	13	29.5
Work						
0 or occas	94	33.5	79	84.0	15	16.0
1-10 hrs	28	10.0	26	92.9	2	7.1
11-20 hrs	82	29.2	73	89.0	9	11.0
21-31 hrs	48	17.1	39	81.3	9	18.8
over 31 hrs	29	10.3	23	79.3	6	20.7
Resid						
Rental	97	34.3	81	83.5	16	16.5
Parents	161	56.9	142	88.2	19	11.8
Own home	23	8.1	17	73.9	6	26.1
Missing	2	.7	2	100.0	0	00.0
Fac						
None	141	49.8	111	78.7	30	21.3
Less ½ hr	63	22.3	58	92.1	5	7.9
½ to 1 hr	44	15.5	39	88.6	5	11.4
Ov 1 less 2	14	4.9	13	92.9	1	7.1
2 hrs more	18	6.4	18	100.0	0	00.0
Missing	3	1.1	3	100.0	0	00.0
Students						
None	70	24.7	57	81.4	13	18.6
Less ½ hr	33	11.7	29	87.9	4	12.1
½ to 1 hr	46	16.3	38	82.6	8	17.4
Ov 1 less 2	29	10.2	28	96.6	1	3.4
2 hrs more	102	36.0	87	85.3	15	14.7
Missing	3	1.1	3	100.0	0	00.0
Emotional Support						
Parents						
Very posit	187	66.1	169	90.4	18	9.6
Somewhat p	42	14.8	33	78.6	9	21.4
Neutral	19	6.7	14	73.7	5	26.3
Somewhat n	5	1.8	5	100.0	0	00.0
Very neg	0	00.0	0	00.0	0	00.0
Does not ap	11	3.9	5	45.5	6	54.5
Missing	19	6.7	16	84.2	3	15.8

FREQUENCIES OF BACKGROUND AND
ENVIRONMENT CHARACTERISTICS

Characteristics	Total		Persister		Nonpersister	
	N	%	N	%	N	%
Spouse/Partner						
Very posit	64	45.4	56	87.5	8	12.5
Somewhat p	11	7.8	10	90.9	1	9.1
Neutral	9	6.4	7	77.8	2	22.2
Somewhat n	3	2.1	3	100.0	0	00.0
Very neg	0	00.0	0	00.0	0	00.0
Does not app	0	00.0	0	00.0	0	00.0
Missing	54	38.3	42	77.8	12	22.2
Kids						
Very posit	30	24.0	25	83.3	5	16.7
Somewhat p	13	10.4	13	100.0	0	00.0
Neutral	9	7.2	8	88.9	1	11.1
Somewhat n	2	1.6	2	100.0	0	00.0
Very neg	1	.8	1	100.0	0	00.0
Does not app	0	00.0	0	00.0	0	00.0
Missing	70	56.0	55	78.6	15	21.4
Employer						
Very posit	65	33.2	59	90.8	6	9.2
Somewhat p	34	17.3	29	85.3	5	14.7
Neutral	38	19.4	32	84.2	6	15.8
Somewhat n	7	3.6	5	71.4	2	28.6
Very neg	2	1.0	1	50.0	1	50.0
Does not app	0	00.0	0	00.0	0	00.0
Missing	50	25.5	40	80.0	10	20.0
Friends						
Very posit	148	54.0	136	91.9	12	8.1
Somewhat p	48	17.5	38	79.2	10	20.8
Neutral	53	19.3	43	81.1	10	18.9
Somewhat n	5	1.8	3	60.0	2	40.0
Very neg	1	.4	0	00.0	1	100.0
Does not app	0	00.0	0	00.0	0	00.0
Missing	19	6.9	14	73.7	5	26.3