

**UNDERGRADUATE PERSISTENCE AND GRADUATION AT THE
UNIVERSITY OF CALIFORNIA**

Part III

A Review of the Literature on Undergraduate Persistence

UNIVERSITY OF CALIFORNIA
OFFICE OF THE PRESIDENT



Office of the Assistant Vice President
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November 1994

UNIVERSITY OF CALIFORNIA
OFFICE OF THE PRESIDENT

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Undergraduate Enrollment Demand 2005: An Examination of the Factors That Will Shape Undergraduate Demand at the University of California Into the Next Century. Outreach, Admissions, and Student Affairs, Occasional Paper 3, May 1994

Information Digest: A Reference Guide for Student Affirmative Action Efforts at the University of California. Admissions and Outreach Services, Fall 1994. (Prior years also available.) (510) 987-9574.

University of California Student Expenses and Resources Survey, 1992-93. Student Financial Support, November 1993. (Prior years also available.) (510) 987-9532.

Undergraduate Persistence and Graduation at the University of California: 1991-92. Student Affairs and Services, October 1992. (510) 987-9558.

Report on Student Financial Support, 1992-92. Student Financial Support, June 1994 (Prior years available). (510) 987-9534.

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Early Academic Outreach Program, University of California, 1989-90. Admissions and Outreach Services, Fall 1991 (Prior years available). (510) 987-9574.

Report on University of California Transfer Programs and Transfer Plan for Community College Students. Admissions and Outreach Services, September 1991. (510) 987-9572.

Freshmen Retention at the University of California. Student Research and Operations, September 1991. (510) 987-9558.

Universitywide Survey of Fall 1990 Non-Matriculants. Student Research and Operations, April 1991. (510) 987-9558.

Report on University of California Transfer Programs and Transfer Plan for Community College Students. Admission and Outreach Services, September 1991. (510) 987-9518.

Time-to-Degree at the University of California. Student Research and Operations, March 1991.

Undergraduate Student Affirmative Action Five Year Plan, 1990-1995. Admissions and Outreach Services, January 1990. (510) 987-9565.

Preface

This is the third part of a three part report on undergraduate persistence and graduation at the University of California. This monograph is written for individuals interested in the topic of undergraduate persistence and retention. It presents a broad overview of the concepts and models that have been developed to explain undergraduate persistence as well as reviews the literature on the topic, focusing on the factors found to be most relevant to persistence.. This monograph is not a critical review of the body of research on persistence. Rather, it provides a descriptive inventory of the factors which have been examined by those who have studied the topic. For those interested in a particular aspect of persistence analysis, over three hundred articles on persistence have been cataloged in the accompanying bibliography.

Acknowledgments

A number of individuals made important contributions to this report. Without their assistance, many vital portions would have never been completed. Dennis Galligani, Margaret Heisel, Carla Ferri, Kate Jeffery, and Michael Aldaco contributed through their comments on early drafts of this report. An early draft of this document was completed at UC Santa Cruz with the cooperation of Ricard Jensen, Galen Jarvinen, and Randy Nelson.

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Introduction

One of the more important, and widely used measures of outcomes assessment in higher education is student retention or persistence. Expressed as the proportion of a cohort of new students who continues through the first or second year, the persistence rate serves as both a convenient and sometimes meaningful measure of the effectiveness of a college or university. An institution's persistence rate may be used to assist in the evaluation of a broad range of institutional policies, practices, and services in such areas as admission, curriculum, and the entire sweep of programs related to student services. Persistence rates can tell us how well the institution is serving the needs of students and they can give insight into how well students are adjusting to college life. Because persistence leads to graduation, persistence rates also serve as early indicators of future graduation rates.

Persistence rates have their limitations as well. While they are typically used to evaluate institutional effectiveness, they can be influenced by a broad range of factors that are beyond the ability of colleges and universities to influence. Among the more powerful factors affecting persistence are a host of individual psychological qualities such as academic ability, personality, level of maturity, and motivation. Sociological factors such as parental income and education, gender, and ethnicity may also affect persistence. Economic conditions too, such as levels of unemployment and recession, have been found to influence persistence. If we use persistence rates to evaluate colleges and universities, we must be aware of and mindful of these factors and the limitations they impose on our ability to draw conclusions about institutional effectiveness.

Report Organization

The monograph has been divided into four sections and an accompanying bibliography. Section one provides the reader with an overview of the concepts used in persistence research and describes how they affect persistence. Included are such things as the role of the individual's goals on persistence, the different definitions of persistence, an exploration into the difference between voluntary and involuntary withdrawal, and the timing of withdrawal and its relation to causal factors. Section two introduces the reader to the theoretical framework most widely used in persistence analysis. Covered in this section are the effects on persistence of such things as individual psychological and motivational attributes, social and academic integration, academic and social skills, and faculty contact. Section three is an extension of the information presented in the previous chapter. Chapter three provides the reader with a brief description of the factors and

variables used to explain withdrawal and persistence. A distinction is drawn between external factors, that is, factors which are external to the campus environment such as a student's pre-college experiences, and internal factors, those forces which are internal to the campus such as the social and academic environments of the campus. Among the specific types of variables described in this chapter are demographic, academic, aspirations and motivation, personality and values, institutional, interaction, campus size and location, and employment. Section four is devoted exclusively to the topic of the persistence of underrepresented students. Among the factors described in this chapter are social factors, family support, psychological factors, and academic integration.

I. An Overview of Retention and Persistence

In this section we will undertake a broad overview of retention and persistence. We will begin by articulating seven commonly acknowledged outcomes of undergraduate education and describe their relevance to persistence rates. This will be followed by a discussion of the relationship between the student goals and the decision by the student to persist or withdraw from college. We will then review six separate definitions of persistence and describe how the various definitions can change the measurement of persistence. From there, we will discuss the need to differentiate between voluntary withdrawal, a generally positive decision made by the student to leave an institution, and involuntary withdrawal, an action forced upon the student. Finally, we will describe the way in which the timing of withdrawal serves as an indication of the cause of withdrawal. Our goal in this section is to enrich the readers understanding of these widely used measures of institutional effectiveness.

Outcome Measures of Institutional Effectiveness

The terms persistence, retention, attrition, and withdrawal seem straight forward and easy to understand. Persistence and retention refer to the act of remaining enrolled at a college or university while attrition and withdrawal refer to the act of leaving. One and two year retention and persistence to graduation are among the most often utilized criteria used to measure institutional effectiveness. There are two qualities which make retention and persistence to graduation such widely used measures. First, they are fairly easy to calculate and compile. Second, they allow for comparability, both over time and across institutions.

Persistence and graduation are only convenient measures of institutional success. Institutions of higher education are expected to instill and develop a number of qualities in students. There are at least seven outcomes which could be used to assess institutional success. They are:

1. Grades or Learning
2. Personality Development
3. Intellectual Development
4. Social Development
5. Aesthetic-Cultural Development
6. Moral and Philosophical Development
7. Motivational and Aspirational Development

It is important to keep these definitions of institutional success in mind when examining retention and persistence rates. The measurement of these seven outcomes is extremely difficult. Retention and persistence rates merely serve as expedient substitutes for the outcomes described above. Retention and persistence are not the goals of higher education. They are merely measures. It is assumed that if the goals of higher education are being met, this should be reflected in measurements of persistence rates.

The Relationship Between Student Goals and Persistence

In most instances, persistence is viewed in positive terms while withdrawal is viewed negatively. The emotive values assigned to these terms can be in conflict with the values assigned by students. Students may understand withdrawal as a positive step either toward attaining their goals or establishing their identity. Timmons found that withdrawal may be a positive step towards forming an identity, establishing one's own priorities, and meeting developmental needs such as independence from parents and self-responsibility.¹ Haagan cites numerous cases where it was beneficial for a student to leave.² The proper understanding of persistence and withdrawal should therefore be based upon an understanding of the role the student's individual goals play in the decision to persist or withdraw.

¹ Frank R. Timmons. "Freshman Withdrawal from College: A Positive Step Toward Identity Formation? A Follow-Up Study." *Journal of Youth and Adolescence* 7 (1978): 159-173.

² Hess C. Haagen. *Venturing Beyond the Campus: Students Who Leave College*. (Middletown, Conn.: Wesleyan University Press, 1977). Even "upward bound" programs have recognized that the student who leaves school in order to think things through or to weigh whether or not he really wants a college education is making an attempt at mature decision-making.

A great number of goals characterize the intentions of entering students. Some of these goals may not be compatible with the goals of the university. There are always some students whose educational goals are more limited than those of the campus. Other students may come to find that higher education in general or that offered by a particular institution is not for them. A number of students gave little serious thought to their choice of institution. Finally, it should be remembered that a surprisingly large percentage of students entering college have little clear notion of why they are there. The process of goal clarification will invariably lead some of these students to withdraw from higher education altogether or transfer to other institutions or programs which more closely match their aspirations. To label such withdrawal as failure is to deny the importance of intellectual and emotional maturation.

A key point to keep in mind when examining persistence and withdrawal is that not all attrition should be viewed as institutional failure. One researcher into the problem has noted that:

Not all student withdrawal is bad, nor should it necessarily be the concern of the institution. Some students may find the academic and social communities of a campus unsuited to their tastes. Others may see withdrawal or transfer as a positive step toward goal completion. Institutions should focus their resources on preventing student withdrawal that is the result of the qualified student's inability to meet the institution's academic demands or the student's failure to be successfully integrated into the campus social environment.³

The type of withdrawal which should be of concern to those responsible for higher education involves withdrawal by individuals whose personal experiences at an institution are seen by that person as a failure to complete what he or she came to the institution to do. This type of withdrawal represents a failure of the institution. We may refer to this type of withdrawal as negative withdrawal or dropping-out. Dropout may be defined as:

The failure to complete a given course of action or attain a desired goal for which [the individual] first entered a particular institution of higher learning. [It] is dependent not only on individual intentions but also on the social and intellectual process by which individuals come to realize desired goals within particular higher educational settings.⁴

Types of Retention

³ E.T. Pascarella. "A Program for Research and Policy Development on Student Persistence at the Institutional Level." In E.T. Pascarella (Ed.), *New Directions for Institutional Research: Studying Student Attrition*. (San Francisco: Jossey-Bass, 1982). p. 105.

⁴ V. Tinto. "Defining Dropout: A Matter of Perspective." In E.T. Pascarella (Ed.), *New Directions for Institutional Research: Studying Student Dropout*. (San Francisco: Jossey-Bass, 1982).

There are three different types of student retention which one can study. The first is retention to graduation. Within this category are three subsets of retention behavior: graduating in the time designated for the degree; graduating from the institution of initial enrollment; and graduating from the curriculum or program of initial enrollment. The second type of retention one can study is course or term completion. Here the focus is usually on one or two-year retention. The final type is goal attainment. This refers to retention when the student's goal is other than graduation. It is important to distinguish between these types of retention because different causal factors are associated with each type.

The first definition of retention, that is retention to graduation, is the most widely studied. The three subsets described above; graduating in time, graduating at the institution of initial enrollment, and graduating in the program initially enrolled, can and often are combined in various ways when retention rates are reported. The particular combination used can result in very disparate measurements. It follows from the above description that there are six measurements which should be taken into consideration. They are:

1. Graduating in the time designated.
2. Graduating after the time designated.
3. Graduating at the institution of original entry.
4. Graduating from an institution other than the one initially enrolled.
5. Graduating in the curricular program initially enrolled.
6. Graduating in a curricular program other than initially enrolled.

Following are some examples of how the combinations of definitions can affect retention rates. The percentage of all students who graduate from a bachelor's program at the college of initial entry within the designated four or five years has approximated 40% over all types of institutions for the last half century in the U.S.⁵ As reported by Pantages and Creedon, the typical retention rates reported across baccalaureate institutions increases from 40%, when definitions 1 and 3 are combined to 50% when definitions 1, 2 and 3 are combined.⁶ The measured retention rate increases to 70% for definitions 1,2,3 and 4. For this last combined definition (1,2,3 and 4), El-

⁵ Robert G. Cope and William Hannah. *Revolving College Doors: The Costs and Consequences of Dropping Out, Stopping Out and Transferring*. (New York: John Wiley and Sons, 1975).

⁶ Timothy J. Pantages and Carol F. Creedon. "Studies of College Attrition 1950-1975." *Review of Educational Research* 18 (1978): 49-101.

Khawas and Bisconti reported a graduation rate of 77% after 10 years for their national study.⁷ A national longitudinal study into the influence of employment on persistence found that 62% of the 1980 cohort who enrolled in independent colleges and universities persisted continuously and full time during the subsequent four years. The corresponding percentage for students in four year public colleges and universities was 51%.⁸ More recently, the NCAA found that approximately half of all undergraduates enrolled in Division I institutions graduated in four years.⁹

Retention rates also vary greatly across types of institutions. In a national retention study, Beal and Noel found that the average graduation rates for five years after entrance to baccalaureate varied from 53% at four year public institutions to 63% at four year independent secular institution.¹⁰ Within each type of institution retention percentages can also vary greatly. For example, in his review of 35 retention studies, Summerskill found institutional retention rates varying from 18% to 88%.¹¹ The following table shows estimated retention rates derived from the work of Robert Cope.¹² Cope estimated that among new freshmen who entered large state universities, between 30% and 45% graduated within four years from the institution where they initially enrolled (see Table 1-1).

⁷ Elaine H. El-Khawas and Ann S. Bisconti. *Five and Ten Years After College Entry*. ACE Research Report, vol. 9, no. 1. (Washington, D.C.: American Council of Education, 1974). ED 098 847.

⁸ National Center for Education Statistics. *College Students Who Work: 1980-1984. Analysis Findings from High School and Beyond*. (Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, June 1988).

⁹The NCAA reports graduation rates for all students enrolled at NCAA Division I institutions. The data on graduation is gathered from each of the campuses and used to compile the NCAA's annual report on graduation. For example, the six year graduation rate for all students who entered NCAA Division I institutions in 1985-86 was 53%. See NCAA 1991-92 Graduation Report. National Collegiate Athletic Association. More recently, the six year graduation rate for freshmen entering NCAA Division I institutions in 1987-88 was 56%. See "Are Athletes Graduating," *The Chronicle of Higher Education*, July 6, 1994. p A38.

¹⁰ Phillip E. Beal and Lee Noel. *What Works in Student Retention*. (Iowa City, Iowa and Boulder, Colorado: American College Testing Program and National Center for Higher Education Management Systems, 1980). ED 180 348.

¹¹ John Summerskill. "Dropouts From College." In Nevitt Standard (Ed.), *The American College*. (New York: John Wiley and Sons, 1962).

¹² Robert G. Cope. "Why Students Stay, Why They Leave." In Lee Noel (Ed.), *New Directions for Student Services: Reducing the Dropout Rate*. (San Francisco: Jossey-Bass, Inc., 1978). p. 4.

Table 1-1

Estimated Graduation Rates According to Institutional Selectivity

<u>Type of Institution</u>	<u>Graduating in Four Years from Initial Institution</u>
Most Selective Private	80%-90%
Large State Universities	30%-45%
Regional State Universities	15%-25%

Rates are estimated from follow-up surveys conducted by Astin (1972 and 1975), Bayer et al. (1973), and Newman (1971).

Voluntary and Involuntary Withdrawal

An often overlooked aspect of discussions on persistence is that of voluntary versus involuntary withdrawal from college, yet it is extremely important to distinguish between the two. Involuntary withdrawal most often takes the form of dismissal on academic grounds. It usually results from the individual's inability or unwillingness to meet the minimum standards of academic performance required to maintain enrollment. On more rare occasions, it is due to a violation of institutional rules or regulations. Involuntary withdrawal is typically associated with insufficient intellectual competence or a lack of the skills required to meet the demands of college work. It is important to note that not all students fail because of an inability to meet the demands of academic work. Some are simply unwilling, lacking either the motivation or interest to apply their skills to meet even minimum standards of academic performance.

It has been estimated that as much as 85% of all attrition is due to voluntary withdrawal from college¹³. Voluntary withdrawal occurs despite the maintenance of satisfactory levels of academic performance. Such withdrawals often involve the brightest and more creative students on campus, individuals whose grade point averages often exceed those of the average persister. Difficulty in meeting academic demands has little to do with such decisions to withdraw. Instead, voluntary withdrawals are primarily the result of the individual's intentions and commitments and the nature of the personal experiences in the academic and social communities of the college.

¹³Cope, Op. Cit.

The Timing of Withdrawal

Withdrawal from college may take place at many different times during the academic career of students. It is important to examine the timing of withdrawal for different causal factors are associated with different times. There are three critical periods during which research into attrition focuses. The first takes place during the application process. Students get their first real tangible impressions of an institution's social and academic character at this time. These impressions are instrumental in the formation of the expectations students bring with them regarding the nature of campus life. The formation of unrealistic or mistaken expectations about the social or academic climate of the institution can lead to disappointment and initiate a series of actions which eventually lead to withdrawal.

The second critical time period in attrition research focuses on the transition between high school and college. The first semester, especially the first four to six weeks are often the most difficult for students. They must negotiate the transition from the relatively secure environment of home to the strange and sometimes impersonal world of campus life. Students face difficult challenges at this time. They must now fend for themselves, both in the classroom and in the dorm.

The third critical period for attrition research focuses on withdrawal at the end of the first year. Withdrawal is most frequent at this time. Most end of first year withdrawal is voluntary. Students leave the institution because they are not satisfied. They either dropout of higher education altogether or they transfer to another institution they believe to be more compatible with their goals and aspirations.

A study by Iffert and Barger and a study by Hall found that the first withdrawal decision for freshmen usually occurs during vacation or other times when the college or university is not in session.¹⁴ Iffert found that more students dropped out of institutions with quarter systems than at institutions with semester systems. He felt this was possibly because of the increase in the number of stopping places or the more time-constraining pressure in a quarter system. Sexton concluded that students tend to drop out more often at the beginning or end of the term than in the middle. Both Sexton and Barger & Hall found that "early-term" withdrawals gave different reasons for

¹⁴ Robert F. Iffert. *Retention and Withdrawal of College Students*. Office of Education Bulletin 1958, no. 1. (Washington, D.C.: Government Printing Office, 1957). Ben Barger and Everette Hall. "Personality Patterns and Achievement in College." *Educational and Psychological Measurement* 24 (1964): 339-346.

withdrawing than did "late-term" withdrawals.¹⁵ Students who drop out after completing terms or individual courses frequently do so for positive reasons. Moreover, these students are more likely to return to college at some later time. However, students who drop out during a term often have a more basic disenchantment with post secondary education. For these students particularly, the "course or term completion" measure of retention probably is more pertinent than the "program completion" measure.

Conclusion

Two important points must be kept in mind when using persistence rates to evaluate institutional effectiveness. First, although widely utilized, persistence rates are merely surrogate measures of the desired outcomes of undergraduate education. Because the outcomes of undergraduate education are difficult to measure, we often rely too heavily on persistence rates to evaluate institutional effectiveness. Second, withdrawal is not necessarily negative. From the perspective of the student, withdrawal is often viewed as a positive development. As a result, persistence rates contain very little information that is of use for evaluating institutional effectiveness. Nevertheless, in the absence of reliable measures of the desired outcomes of undergraduate education, persistence rates will continue to serve as an expedient way to evaluate institutional effectiveness. Therefore, it is vitally important to fully understand not only their definition, but their limitations as well.

II. A Framework for Understanding Retention and Persistence

Several theories have been advanced to describe and explain undergraduate persistence. The two most widely used and comprehensive are Tinto's Student Integration Model and Bean's Model of Student Attrition. In this section we will briefly describe and discuss these two widely accepted models of student attrition. Particular attention will be given to the assumptions underlying the two approaches and the strengths and weakness that are associated with each. Following this general discussion we will undertake a more in-depth description and discussion of Tinto's Integration Model. Our purpose in this section is to introduce the reader to the primary concepts in persistence research including the role that student goals, attributes, and abilities have on persistence as well as begin to articulate the vital role the integration of the student into the campus social and academic community has on overall persistence.

¹⁵ Virginia Sexton. "Factors Contributing to Attrition in College Populations: Twenty-Five Years of Research." *Journal of General Psychology* 72 (1965): 301-326. Barger and Hall. op. cit.

Comparing the Integration Model with the Attrition Model

Tinto's Integration Model is based upon Durkheim's Theory of Suicide¹⁶. According to Tinto, persistence is a function of the match between an individual's motivation and academic ability and the institution's academic and social characteristics. Tinto argues that college integration, or the extent to which students involve themselves in the academic and social domains of college life, is the most important mediating variable between students' backgrounds and persistence. The match between an individual's characteristics and those of the institution shape two underlying individual commitments: a commitment to completing college (goal commitment) and a commitment to the institution (institutional commitment). According to Tinto, the stronger the goal of college completion and the greater the individual's institutional commitment, the greater the probability of persistence.

Bean's model is based upon process models of organizational turnover and models of attitude-behavior interactions¹⁷. Bean's Student Attrition Model describes attrition as being analogous to turnover in work organizations. It stresses the importance of behavioral intentions as predictors of persistence behavior. Behavioral intentions, according to Bean, are shaped by a process in which beliefs shape attitudes and, in turn, shape behavioral intentions. Beliefs are affected by the student's interactions with the different components of an institution.

Both models share much in common¹⁸. The Integration Model and the Attrition Model both view persistence as a result of a complex set of interactions. The two models agree that precollege characteristics affect how successful students will be in adjusting to college or university life. In addition, both models hold that the match between student and institution is crucial to determining persistence or attrition. The two models also differ in many respects. Bean's Student Attrition

¹⁶ Tinto, V. *Leaving College: Rethinking The Causes and Cures of Student Attrition*. (Chicago: University of Chicago Press, 1987). Tinto, V. "Dropout from Higher Education: A Theoretical Synthesis of Recent Research," *Review of Educational Research* 45 (1975): 89-125. Tinto, V. "Limits of Theory and Practice in Student Attrition," *Journal of Higher Education* 53 (1982): 687-700.

¹⁷ Bean, J.P. "Dropouts and Turnover: The Synthesis and Test of a Causal Model of Student Attrition," *Research in Higher Education* 12 (1980): 155-187. Bean, J.P. "Student Attrition, Intentions, and Confidence: Interaction Effects in a Path Model," *Research in Higher Education* 17 (1982): 291-319. Bean, J.P. "Conceptual Models of Student Attrition: How Theory Can Help the Institutional Researcher," In *Studying Student Attrition*. (ed.) E.T. Pascarella (San Francisco: Jossey-Bass, 1982). Bean, J.P. "The Application of a Model of Turnover in Work Organizations to the Student Attrition Process," *Review of Higher Education* 6 (1983): 129-148. Bean, J.P. "Interaction Effects Based on Class Level in an Exploratory Model of College Student Dropout Syndrome," *American Educational Research Journal* 22 (1985): 35-64.

¹⁸ For a comparison of the two see Hossler, D. *Enrollment Management*. (New York: College Entrance Examination Board, 1984).

Model, unlike Tinto's Integration Model, emphasizes factors external to the institution. For example, Bean's model considers such things as parental approval, finances, and the opportunity to transfer as factors that affect persistence. The two models also differ in the way they view academic performance. Tinto's Integration Model treats academic performance as an indicator of academic integration. In contrast, the Attrition Model regards academic performance as an outcome. According to Bean, academic performance is the result of the individual's social and psychological integration and development.

Given the similarity between the two models, it is not surprising that both have been found to be effective. Researchers using the two models have arrived at findings that stress the importance of different variables. As could be expected, researchers using the Integration Model have found that academic integration, social integration, institutional commitment and goal commitment exert the greatest effects on persistence. Conversely, researchers using the Attrition model have found the individual's intent to persist, institutional fit, attitudes, and external factors to have the strongest effect on persistence. A study comparing the performance of the two models found that both are effective and both compliment each other¹⁹. The Integration Model, was found to be more robust. That is, more of it's hypotheses were confirmed. The Attrition Model accounted for more variance indicating that significant effects from external factors. The authors of this undertaking concluded that studies into persistence and attrition should make use of elements from both.

A Closer Look at the Integration Model

The most widely used theoretical model of dropout was first introduced by Tinto in 1975. Tinto believed that the decision to withdraw or persist is the result of the interaction between the individual's antecedent attributes and his experiences following enrollment. He proposed that students bring with them a set of attributes which predispose them to either persist or withdraw. Once enrolled, these attributes interact with both the academic and social systems of the college. If the student's academic and intellectual experiences in college are positive, that is, if their grade performance and intellectual development are satisfactory, academic integration takes place. Students find they can realize their goals and as a consequence, increase their commitment to those goals. The greater the degree of congruency between the academic goals of the individual and the academic mission of the institution, the more likely academic integration will take place. Social integration takes place if the student's interactions with peer groups and faculty are positive.

¹⁹ Cabrera, A.F., Casteneda, M. B., Nora, A., and Hengstler, D. "The Convergence Between Two Theories of College Persistence," *Journal of Higher Education* 63 (1992): 143-164.

Positive social and academic integration increases the individual's commitment to the institution, to higher education, and to the individual's academic or occupational goals. These commitments, in turn, determine if the individual will persist or withdraw. Tinto concluded 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 normative and structural integration) continually modify his goal and institutional commitments in ways which lead to persistence and/or varying forms of dropout...it is the individual's integration into the academic and social systems of the college that most directly relates to his continuance in that college...the higher the degree of integration of the individual into the college system, the greater will be his commitment to the specific institution and to the goal of college completion...In the final analysis, it is the interplay between the individual's commitment to the goal of college completion and his commitment to the institution that determines whether or not the individual decides to dropout from college and the forms of dropout behavior the individual adopts.²⁰

Tinto's model suggests that the cost-benefit evaluations of the individual will be reflected in the individual's changing commitments to the goal of college completion and to the university in which the individual is registered. This is so because these commitments, which reflect the person's integration into the academic and social domains of the university, are themselves the result of the individual's perceptions of the benefits (e.g. academic attainments, personal satisfaction, friendships) and the costs (e.g. financial, time, dissatisfactions, academic failure) of attending college.

Attributes: Goals and Commitments

There are three antecedent attributes which help to determine the individual's propensity to persist. These are family background, individual attributes, and pre-college schooling. It has been demonstrated that students whose parents are more highly educated are themselves more likely to remain in college than are students whose parents have low levels of educational achievement. It has also been found that students who have clearly established goals and whose goals are more concrete in nature are more likely to persist than students who lack such clearly defined goals and aspirations. Finally, students with more developed academic skills are more likely to persist in college than are students with lower levels of academic skills. In his national study into the predictors of dropout from higher education, Astin found that the most "dropout-prone" freshmen

²⁰ V. Tinto. "Dropout From Higher Education: A Theoretical Synthesis of Recent Research." *Review of Educational Research* 45 (1975): 89-125. p. 94-96.

are those with poor academic records in high school, low aspirations, poor study habits, relatively uneducated parents, and small town backgrounds.²¹

The educational achievement of parents and the pre-college schooling of students are examples of attributes found to be good predictors of college persistence. However, of the many attributes associated with voluntary withdrawal from college, the two most important prove to be intentions or goals and commitments or motivations. Intentions and goals are typically formed prior to college entry. They reflect the educational and occupational goals that lead students to invest in a particular form of higher education. Commitments or motivations indicate the degree to which individuals are willing to commit themselves to achieving their goals as opposed to alternative investments of time and energy.

One special form of commitment particularly relevant to retention analysis is that of institutional commitment. Completing a degree program at a particular college requires a commitment on the part of the student to obtaining a degree at that institution as opposed to another institution. Some students enter college with a firmly established institutional commitment, others do not. Those who do enter college with a strong institutional commitment may do so because attendance there is necessary to achieve their occupational goals. For many however, institutional commitment either develops or does not develop. The development of institutional commitment is largely the result of the student's' experiences at an institution following entry. For students with little institutional commitment, withdrawal is not due to a lack of goal commitment as much as it is due to the absence of institutional commitment. These departures are more reflective of experiences following entry than of events or predisposition's prior to entry.

Three hypotheses follow from Tinto's model.

Hypothesis 1: Either low goal commitment or low institutional commitment can lead to attrition.

Hypothesis 2: Given prior commitment to the goal of college completion, the lower the individual's commitment to the institution, the more likely the student is to drop out from that institution.

²¹ Alexander Astin. *Preventing Students from Dropping Out*. (San Francisco: Jossey-Bass, 1975).

Hypothesis 3: Given levels of institutional commitment, the lower the individual's commitment to the goal of college completion, the more likely the student is to drop out of college.

Social and Academic Integration

Colleges are composed of academic and social communities. Each has its own characteristic patterns of interaction and norms of behavior. Achieving membership in college involves participating in its academic and social communities. Withdrawal from college is due to the failure to become integrated into either sphere. Experiences which promote the student's social and intellectual integration into the college community are likely to strengthen commitment and therefore reinforce persistence. The absence of integrative interactions will lead students to disassociate themselves from the social and academic communities which comprise college life and eventually withdraw. Failure to become integrated and establish competent membership in either the social or academic life of the campus arises from two interrelated, yet distinct phenomenon: personal incongruency or individual isolation.

Personal congruency involves the match or fit between the needs, interests, and skills of the individual and those of the communities which make-up the institution. This applies to the formal climate of the class room as well as the day-to-day interactions among students, faculty, and staff. Incongruency may arise when students perceive the academic or intellectual demands of the institution as being either too difficult or too easy. Thus the observance that voluntary withdrawal is often related to the lack of adequate academic support and that it is sometimes directly related to high individual ability and academic boredom growing out of poor teaching. Withdrawal may also occur when students, having found the academic or intellectual climate of the institution not to their preferences, choose not to seek out intellectual membership. Such withdrawals often involve some of the more intellectually demanding students whose commitment to the intrinsic rewards of college attendance are high.

A similar incongruency may apply to the social community of a university, however, social incongruency is more likely to be the result of differences in social values and preferences than of excessive or insufficient social demands imposed by the community.²² The more varied and numerous the social communities on campus, the more likely is it that different students will find a social niche within the institution. The more socially homogeneous the campus, the more likely is

²²Astin, Op.Cit.

it that mismatches will occur. The intellectual climate of the university, can in a similar way, give rise to matches and mismatches. Thus, the findings among studies of successful retention programs for disadvantaged and other minority students that program success is very much a function of there being a "critical mass" of similar students on campus.

A sense of isolation may arise when there is insufficient day-to-day personal interaction between students and other people on campus. In such cases, students are unable to establish the personal bonds that promote community membership. Students who might otherwise establish membership are unable to do so because the institution has not provided the appropriate and necessary support for individual integration into the intellectual and social surroundings. Frequent contact with faculty outside the classroom appears to be one of the most important forms of interaction influencing student persistence. Membership in one of the social communities made up of peers is another important element in student persistence. Tinto noted that:

For maturing youth in particular, the social rewards of such membership may be an especially important part of their college careers. The absence of social integration and the social membership it engenders may, in turn, be a significant element in individual decisions to withdraw.

Of the two forms of integration, academic integration has proven to be more important than social integration. This is especially true among the more academically able members of the student body. Though frequent and rewarding contacts with other students may offset a lack of contact with the faculty and at least partially integrate students into the university, such contacts do not promote the same degree of intellectual development as do interactions with faculty.

The Role of Academic and Social Skills

Individual drive, motivation, and skill are important aspects in the process of goal attainment within higher education. Some individuals are just not sufficiently committed to completing their education or not willing to put forth the effort to attain that goal. Their withdrawal is more the result of not caring than of not being able to meet the demands of university level work.²³ Many individuals who gain entry into the university, even highly selective universities, do not possess the range of intellectual and social skills which are necessary to succeed. The lack of basic writing and mathematics skills hinders many students. However, most studies into attrition indicate that social

²³ See J.R. Hackman and W.S. Dysinger. "Commitment to College as a Factor in Student Attrition." *Sociology of Education* 43 (1970): 311-324.

skills are equally important to persistence. Social skills enable the individual to locate, interact with, and make use of the resources made available on university campuses. Tinto notes that:

The absence of social skills, especially among the disadvantaged segments of the student body, appears particularly important to the failure to maintain adequate levels of academic performance in college. Individuals who withdraw from college often show levels of academic performance that exceed those of the students who persist. Rather than arising primarily from inadequate skills, such withdrawals appear to arise from incomplete personal integration into the intellectual and social mainstreams of institutional life. Voluntary withdrawal is marked both by the holding of values incongruent with those that characterize the social and intellectual climate of the institution and by low levels of personal interaction with faculty members and other students, especially outside the formal classrooms and offices of the university. By the same token, the intellectual and social stimulation that precedes from such interactions appears to be an essential component of the process by which individuals are able to meet their educational goals.²⁴

Historically, persistence and graduation have been viewed as predominantly related to academic dimensions.²⁵ Mounting evidence however suggests that non cognitive variables are as important or more important to the academic success of students than are the traditional academic dimensions.²⁶ Some researchers have even developed the hypothesis that the non cognitive dimensions are more important than the traditional academic measures to the academic success of minority students.²⁷ One study found that non cognitive variables were more predictive of grade point average for Whites and Blacks than SAT scores and also highly predictive of Black student persistence.²⁸

²⁴ V. Tinto. op. cit. p.7.

²⁵ See T.J. Pantages and C.F. Credon. "Studies of College Attrition: 1950-1975." *Review of Educational Research* 48 (1978): 49-101.

²⁶ There are a number of studies which point to this. See A. Astin. *Financial Aid and Student Persistence*. (Los Angeles: Higher Education Research Institute, 1975). C.J. Gelso and D. Powell. "Academic Adjustment and Persistence and Students with Marginal Academic Potential." *Journal of Counseling Psychology* 14 (1967): 478-481. S. Messick. "Potential Uses of Noncognitive Measurement in Education." *Journal of Educational Psychology* 71 (1979): 281-292. R.B. Nelson, T.B. Scott, and W.A. Bryan. "Precollege Characteristics and Early College Experiences as Predictors of Freshman Year Performance." *Journal of College Student Personnel* 25 (1984): 50-54. E.T. Pascarella and D.W. Chapman. "A Multi-Institutional Path Analytic Validation of Tinto's Model of College Withdrawal." *American Educational Research Journal* 20 (1983): 87-102. E.T. Pascarella, P.B. Duby, and B.K. Iverson. "A Test and Reconceptualization of a Theoretical Model of College Withdrawal in a Commuter Institution Setting." *Sociology of Education* 56 (1983): 88-100.

²⁷ See W.E. Sedlacek and G.C. Brooks. *Racism in American Education: A Model for Change*. (Chicago: Nelson-Hall, 1976).

²⁸ T. Tracy and W.E. Sedlacek. "Noncognitive Variables in Predicting Academic Success by Race." *Measurement and Evaluation in Guidance* 16 (1984): 171-178. The authors advanced eight noncognitive dimensions as important to academic success: A positive self-concept as related to expectations for the coming year; realistic self-appraisal, especially regarding academic abilities; an understanding of racism (both personal and institutional) and an ability to deal with it; an ability to work toward long-term goals rather than toward more important short-term ones; availability of people supportive of academic goals; successful leadership experience in either organized or informal groups;

Student Motivation

Individual motivation is an important factor contributing to undergraduate persistence. Students who are highly motivated to finish college seem to do so in spite of limitations in their ability or adverse circumstances. It has been noted that:

Student motivational factors may be considered the sine qua non of persistence, and therefore the most important target for persistence research. However, they may be considered so obviously related to persistence as to make research on the relationship trivial. With the exception of those who do not have the requisite ability, students continue in college because they choose to do so and drop out because they choose to do so, for reasons that may or may not be accurately assessed. For a student with the requisite ability, even involuntary withdrawal due to low grades is really voluntary: a result of the student's choice not to do the work that is necessary to obtain sufficiently high grades.²⁹

The Influence of Faculty Contact

Studies into the influence of faculty-student contact have turned up interesting effects. Most of the research has focused on the informal faculty-student interaction which takes place outside of the classroom. Students engaging in "high" frequency of informal interaction with faculty have been found to differ from those students who seldom engage in such interactions across a wide range of characteristics. Students who report a high degree of interaction with faculty not only had more intellectual, artistic, and cultural interests in common with faculty to begin with, but also reported having changed more during college than those students who reported low levels of interaction.³⁰

Informal faculty-student interaction beyond the classroom has been found to be an important factor in the integration of the academic and nonacademic experiences of college, especially during the freshman year. Informal contact with faculty amplify the positive effects faculty have on students. The consequences of informal faculty contact appear to be multidimensional. Informal contact is associated with both cognitive and affective outcomes. The influence faculty have is felt by

demonstrated community service indicated by involvement in local community or church activities during the years before college; academic familiarity, defined as the extent to which a student's extracurricular activities and interests relate to formal academic subjects.

²⁹ Ramist, L. *College Student Attrition and Retention*. (New York: College Board, 1981).

³⁰ See Wilson, et al. *College Professors and Their Impact on Students*. (New York: John Wiley and Sons, 1975).

students across a wide range of academic aptitudes, educational goals, orientations toward college, and personality needs.³¹

The relationship between students and faculty are acknowledged to positively impact the academic success of students. There is much evidence which suggests that the frequency and quality of interactions with faculty in a wide variety of setting positively influences academic outcomes. Informal interactions between faculty and students have a significant influence on academic performance. Such contacts seem to have an incremental influence on student motivation for academic achievement over and above the typical predictors. Gekoski and Schwartz found that informal faculty-student contact was positively related to persistence.³²

Faculty-student contacts also influence the more intrinsic rewards of intellectual and personal development.³³ Faculty interaction has been found to influence the student's development of educational aspirations and career goals.³⁴ Faculty-student contact has also been linked to the student's intellectual and personal development.³⁵ Finally, students who have experienced contact with faculty are more likely to be satisfied with college.³⁶

Faculty-student contact outside of the formal classroom setting has differential impact on students depending on the nature of the contact. Three types of contact have been found to be especially strong indicators of affective and cognitive development, especially persistence behavior. They are contact which imparts basic information about the student's academic program; contact to discuss matters related to student's future careers; and contact to discuss intellectual or course-related

³¹ Pascarella, T.T., and Terenzini, P.T. "Informal Interactions with Faculty and Freshman Ratings of Academic and Non-Academic Experiences of College." *Journal of Educational Research* 70 (1976): 35-41.

³² See Gekoski, N., and Schwartz, S. "Student Mortality and Related Factors." *Journal of Educational Research* 54 (1961): 192-194.

³³ See Pascarella, E.T., Terenzini, P.T., and Hibel, J. "Student-Faculty Interactional Settings and Their Relationship to Predicted Academic Performance." *Journal of Higher Education* 49 (1978): 450-463.

³⁴ G. Gurin and D. Katz. *Motivation and Aspiration in the Negro College* Office of Education, U.S. Department of Health, Education, and Welfare Project Number 5-0787. (Ann Arbor: University of Michigan Survey Research Center, Institute for Social Research, 1966). W. Phelan. "Undergraduate Orientations Toward Scientific and Scholarly Careers." *American Educational Research Journal* 16 (1979): 411-422.

³⁵ A. Chickering and J. McCormick. "Personality Development and the College Experience." *Research in Higher Education* 1 (1973): 43-70. J. Endo and R. Harpel. "The Effect of Student-Faculty Interaction on Students' Educational Outcomes." *Research in Higher Education* 16 (1982): 115-138.

³⁶ E.T. Pascarella and P.T. Terenzini. "Informal Interaction with Faculty and Freshman Ratings of Academic and Nonacademic Experience in College." *Journal of Educational Research* 70 (1976): 35-41. R. Wilson, J. Gaff, E. Dienst, L. Wood, and J. Bavry. *College Professors and Their Impact on Students*. (New York: John Wiley and Sons, 1975).

matters. Faculty contact to discuss personal problems, a campus issue or problem, or informal socialization were found to have little impact on persistence behavior.³⁷

The personal orientations and characteristics of faculty to whom freshmen are exposed early in their academic careers may be important determinants of students' subsequent willingness to seek contact with faculty beyond the classroom. Those faculty who are frequently sought out by students beyond the classroom tend to provide clear cues as to their social-psychological accessibility for such interactions through their in-class styles and attitudes.³⁸

Studies have found that a lack of faculty-student interaction can be detrimental to persistence and academic performance. This is particularly true for students who expect a greater degree of faculty interaction than they are receiving. Pascarella and Terenzini note that:

Students who by virtue of their personality make-up or for other reasons, are drawn to faculty members and enjoy such contact may be frustrated or disenchanted with an institution if that contact is denied or obstructed—whether by the personal inclinations of faculty members or because of a faculty reward system which fails to recognize the potential educational value of faculty contact with students beyond the classroom.³⁹

Faculty interaction with students has been proven to be an important component in student development and satisfaction with the institution. Increased opportunities for faculty-student interaction have generally resulted in greater levels of student satisfaction and improved social and academic development. The findings from the research into the impact of faculty-student interaction lend strong support to the general contention that:

Nonclassroom settings are particularly rich in their potential for faculty influence on student attitudes, values and perhaps, even behaviors during college. For certain students the relationships established in such settings may well have a fundamental impact on the eventual outcomes of their educational experiences by influencing, and perhaps even changing, the personal value they place on academic performance. If such informal settings provide a fertile context for faculty influence, academic decision makers concerned with enhancing institutional impact

³⁷ Pascarella, E.T. and Terenzini, P.T. "Patterns of Student-Faculty Informal Interaction Beyond the Classroom and Voluntary Freshman Attrition." *Journal of Higher Education* 48 (1977): 540-552.

³⁸ Wilson, et al. (1975) op. cit.

³⁹ See Pascarella, E.T., and Terenzini, P.T. "Informal Interaction With Faculty and Freshman Ratings of Academic and Non-Academic Experiences of College." *Journal of Educational Research* 70 (1976): 35-41. p. 40.

might profitably focus on the implementation of programs and the structuring of physical facilities that increase the likelihood of such interactions taking place.⁴⁰

Conclusion

Persistence has been shown to strongly affected by both the student's goals, attributes, and abilities as well as the interaction between the student and the social and academic communities on campus. The key to understanding persistence or withdrawal is to be found in the degree to which the students is integrated into the various communities that make up a campus. Studies utilizing Tinto's Integration Model have produced generally good, but oftentimes, mixed results⁴¹. This is most apparent when empirical analysis is undertaken on the relative importance of social integration, academic integration and goal commitments. The most significant shortcoming of Tinto's theory is to be found in the rather weak role external factors, such as financial and economic considerations, play in contributing to attrition⁴². Nevertheless, it remains a very powerful tool when combined with external factors such as parental support and finances.

III. A Review of the Variables Examined in Retention Research

The literature on retention and attrition is quite exhaustive and with this has come a very thorough understanding of the effects various factors have on persistence and withdrawal as well as a fairly thorough understanding of the type of interventions that are most successful in preventing withdrawal. In this section we will describe the role numerous variables have been found to have on undergraduate persistence. We will examine eight categories of variables ranging from simple demographic variables to more complex personality variables. We will describe the manner in which these variables have been found to affect persistence and withdrawal as well as discuss the findings from studies into the prevention of withdrawal. There is a small but growing body of

⁴⁰ See Pascarella, Terenzini, and Hibel. op. cit. p. 461.

⁴¹ Munro, B. "Dropouts from Higher Education: Path Analysis of a National Sample," *American Educational Research Journal* 20 (1981): 133-141. Nora, A. and Rendon, L.I. "Determinants of Predisposition to Transfer Among Community College Students: A Structural Model," *Research In Higher Education* 13 (1990): 235-255. Pascarella, E.T. and Chapman, D. "A Multi-Dimensional Path Analytical Valadation of Tinto's Model of College Withdrawal," *American Educational Research Journal* 20 (1983): 87-102. Stage, F.K. "University Attrition: Lisrel with Logistic Regression for the Persistence Criterion," *Research in Higher Education* 29 (1988): 343-357. Stage, F.K. "Reciprocal Effects Between the Academic and Social Integration of College," *Research in Higher Education* 30 (1989): 517-530.

⁴² See Cabrera, A.F., Stampen, J.O., and Hansen, W.L. "Exploring the Effects of Ability to Pay on Persistence in College," *Review of Higher Education* 13 (1990): 303-336. Nora, A. "Determinants of Retention Among Chicano College Students: A Structural Model," *Research in Higher Education* 26 (1987): 31-59.

research into persistence and withdrawal which suggests that interventions focusing primarily upon faculty advising, the development of support peer groups, academic advising systems, and orientation programs can positively influence student retention.⁴³

Internal and External Factors

The model presented by Tinto describes forces which influence the student's decision to attend college and those which mitigate against persistence and achievement following enrollment. From the perspective of individuals involved in academic, career, and personal counseling there are forces specific to their experiences which play an important role in college persistence.⁴⁴ These forces may be differentiated into those which are external to the campus environment, that is, forces which are related to the individual or his/her pre-college experiences, and those forces which are internal, that is, forces which are related to the social and academic environments of the campus. Let us begin this review by outlining the external forces which influence a student's decision to attend college.

External Forces and the Decision to Attend College

1. Parents who value a college education and stress its importance.
2. Peers from similar socioeconomic groups who have aspirations toward college and who value a college education.
3. Cultural values that emphasize learning, intellectual achievement, and higher education.
4. Information on college opportunities that explain how to gain admission and discuss financial aid, programs of study, and opportunities for intellectual and personal development at college in general as well as at specific colleges.

⁴³ See especially Beal, Phillip E. and Noel, Lee. *What Works in Student Retention*. (Iowa City, Iowa and Boulder, Colorado: American College Testing Program and National Center for Higher Education Management System, 1980). Blank, R., DeBuhr, L., and Martin, D. "Breaking the Attrition Cycle: The Effects of Supplemental Instruction on Undergraduate Performance and Attrition." *Journal of Higher Education* 54 (1983): 80-90. Dukes, F., and Gaither, G. "A Campus Cluster Program: Effects on Persistence and Academic Performance." *College and University* 59 (1984): 150-166. Lenning et al. *Retention and Attrition: Evidence for Action and Research*. (Boulder: National Center for Higher Education Management Systems, 1980). and Pascarella et al. "Orientation to College as Anticipatory Socialization: Indirect Effects of Freshman Year Persistence and Withdrawal Decisions." Paper Presented at the Annual Meeting of the American Educational Research Association. Chicago, April 1985.

⁴⁴ These ideas have been taken verbatim from Edward Anderson. "Forces Influencing Student Persistence and Achievement." In Noel, L., Levitz, R., and Saluri, D. (Eds.), *Increasing Student Retention*. (San Francisco: Jossey-Bass, Inc., 1986).

5. Teachers and counselors who have expressed confidence in a student's potential to succeed in college.
6. Information on the benefits of college that examine the ways a college education will help a student clarify and reach personal goals.
7. Exposure to college educated people who have benefited from college and who provide role models.

Internal Forces and the Decision to Attend College

1. Academic skills that make college admission and achievement possible.
2. Motivation to succeed and persist in academic undertakings. Interest in gaining a college education for personal and intellectual development.
3. Career aspirations for which a college education is necessary.
4. Enjoyment of learning that allows a student to derive satisfaction from satisfying personal intellectual curiosity.
5. Self-confidence enough to accept the challenge of learning at the college level and adjusting to the college experience.
6. Values that recognize the importance of a college education. Identification with college educated people who have functioned as positive role models.

External Factors Mitigating Against Persistence and Achievement

1. Lack of money to meet educational, living, and personal expenses.
2. Housing problems that make it impossible for students to find convenient and affordable housing or force them into living arrangements that interfere with learning.
3. Roommate problems that interfere with learning or consume time and energy needed for academic performance.
4. Transportation problems that consume time and energy and create additional financial burdens on students who can not afford to live on or near campus.
5. Excessive work demands and conflicts that consume time and energy needed for achievement, particularly those who work off-campus or for those who must work long hours to meet financial obligations.
6. Excessive social demands, including personal relationships, involvement in organizations, or other social demands that might be distracting and detrimental to academic achievement.

7. Rejection by family or friends because they do not value a college education or because they are threatened by the decision to go to college.
8. Discrimination by which particular ethnic groups perceive that they are discriminated against and in which certain majors cater to one gender more than the other.
9. Family obligations that may consume time and energy necessary for academic achievement or parents who may have difficulty letting go and thus hinder performance and persistence.

Internal Factors Mitigating Against Persistence and Achievement

1. Procrastination and other self-management problems. These self-defeating patterns consume a student's most precious commodities: time and energy.
2. Loneliness. Going to college usually results in a separation from friends and family and forces students to meet people and adjust to a new social and physical setting. Feeling lonely is a source of discouragement and causes some college students to question their original decision to go to college.
3. Inability to assert needs and seek help for problems. While learning to cope with the independence college allows and with an environment that values self-sufficiency and self-reliance, many college students fail to make their needs and problems known. If these needs and problems were addressed students could increase their achievement and persistence.
4. Self-Doubt. Student, particularly during their first year, frequently doubt their ability to succeed in college; they view others as smarter, more able, or better prepared than they are. They may think "What's the use!" and not put forth their best effort.
5. Fear of failure. This fear often goes hand-in-hand with self-doubt. There are however, usually other factors involved: student's fear that failure will cost them someone's love or esteem.
6. Fear of success. Oddly enough, some students fear success in college. They perceive that success in college could result in additional responsibilities or expectations for which they feel inadequate. Students may also fear that success in college means acculturation into a system that is antithetical to their own values and beliefs, acculturation which could result in a separation from or conflict with valued friends, family members, or potential mates.

7. Fear of rejection. Students may feel that both success and failure can lead to rejection. Some family members and friends may reject a student just for going to college; this may make persistence very unlikely.
8. Value conflicts. Attending college produces internal value conflicts for some students because college keeps them from working to help support their families. Some students perceive college primarily as a way to get a good job and do not see the value of a liberal arts education. Others resist the acculturation college demands.
9. Career indecision. Some students who are undecided about their college major and career goals may conclude that they should not be in school because there is no direction in their lives.
10. Boredom. Some students find the instruction they receive uninspiring or unchallenging. Also, college itself may be less exciting than expected because the student is unable to find a way to become involved.

A Closer Look at the Factors

In order to bring some clarity to the research findings, the factors found to affect persistence, retention, and ultimately graduation, can be grouped in eight general categories.⁴⁵ Each will be discussed below together with the findings from various studies. The eight general categories are:

1. Demographic
2. Academic
3. Initial Aspirations and Motivation
4. Personality and Values
5. Institutional
6. Interaction
7. Campus Size
8. Finances and Employment

⁴⁵ An excellent organization of these variables, upon which this paper draws heavily is contained in O.T. Lenning. "Variable-Selection and Measurement Concerns." In E.T. Pascarella (Ed.), *New Directions for Institutional Research: Studying Student Attrition*. (San Francisco: Jossey-Bass, 1982).

Demographic Variables

The demographic factors found to affect persistence can be grouped into eight sub-categories. These sub-categories and the affect they have on persistence are as follows:

- a. Age: Age plays very little role in retention or progress. Older students are slowed in their studies by tendencies to be more rusty on academic skills; less able to adapt quickly to changing conditions; slower in their work and thinking. These are compensated for by their tendencies to be more highly motivated; more mature; more traditional in their values.
- b. Gender: The findings related to gender are as follows. First, more men dropout during the freshman year and "stopout" more in terms of eventual dropout and transfer. Second, women are more likely to dropout when the male-female ratio is large. Third, men are more likely to dropout at large nonselective universities. Finally, men most often give academic reasons for dropping out while women give nonacademic reasons.
- c. Socioeconomic Status: Students from the lowest socioeconomic levels drop out more often than do more advantaged students. This is less the result of their parents' income and occupation than of their educational level. The educational level of parents is often related to how much they value the college education for their children as well as to the type of environment they provided for students while they were growing up. A number of studies have found family income unrelated to persistence.⁴⁶ Others have reported higher income as positively related to persistence.⁴⁷ It is likely that some students who drop out are getting less money from home than other students with comparable family incomes when the parents have less education. Research suggests that less educated parents are

⁴⁶ See Astin, Alexander. *College Dropouts: A National Profile*. ACE Research Reports, 7. (Washington, D.C.: American Council on Education, 1972). Eckland, A. "Social Class and College Graduation: Some Misconceptions Corrected." *American Journal of Sociology* 70 (1964): 60-72. Gonyea, G.B. *Follow-Up of Above-Average Students Who Leave the University of Texas*. Research Report No. 16. (Austin: University of Texas Counseling and Testing Center, 1964). Pearlman, S. "An Investigation of the Problem of Academic Underachievement Among Intellectually Superior College Students." In N. Sanford (Ed.), *The American College*. (New York: Wiley, 1962).

⁴⁷ See Iffert, R.E. *Retention and Withdrawal of College Students*. U.S. Department of Health, Education, and Welfare Bulletin, No. 1. (Washington, D.C.: U.S. Government Printing Office, 1957). Astin, Alexander. *Dropouts, Stopouts, and Persisters: A National Profile*. (Los Angeles: Laboratory for Research on Higher Education, University of California, 1975.)

less willing to spend money on children in college.⁴⁸ As Jencks and Reiseman concluded: "While dropping out is probably not related to parental income, it is related in some cases to parental parsimony, which is more common the case of women than men."⁴⁹

- d. Ethnic Background: Hispanic students tend to drop out more often irrespective of controls used. Asian American and Jewish students less often. African American and American Indians drop out more often, but such differences disappear when socioeconomic level, ability test scores, and motivation are controlled for.
- e. Marital Status: Marrying tends to increase men's chances and decrease women's chances of persisting until graduation.
- f. Hometown Location and Size: Students from rural areas have been found to dropout more often; but size and nature of the college may make a difference in whether this finding is valid. There also has been some data suggesting that out-of-state students from noncontiguous states drop out more often. Summerskill's review of the literature and the report by Gurin, Newcomb, and Cope indicate that withdrawals more frequently occur among students coming from rural areas or small towns and from smaller high schools.⁵⁰
- g. Residence Variables: The literature presents conflicting findings regarding residence variables (with the exception of the studies on students living on campus which shows higher persistence positively related to campus living arrangements). This confusion probably results from the remoteness of the variable from the realities of the withdrawal process. Thus studies relating retention to college size, home residence, distance to college and so on permit no easy generalizations. The studies typically employ different definitions of drop out, use divergent variables, are carried out in diverse institutions and utilize dissimilar samples and research techniques.

⁴⁸ See Lansing et al. 1960, Campbell and Eckerman 1964.

⁴⁹ Jencks and Reiseman. p. 120.

⁵⁰ See Summerskill, J. "Dropouts From College." In N. Sanford (Ed.), *The American College: A Psychological and Social Interpretation of Higher Learning*. (New York: Wiley, 1962). Gurin, G., Newcomb, T.M., and Cope, R.B. *Characteristics of Entering Freshmen Related to Attrition in the Literary College of a Large State University*. Office of Education, U.S. Department of Health, Education, and Welfare Project No. 1938. (Ann Arbor, Michigan: Survey Research Center, Institute for Social Research, University of Michigan, 1968.)

- h. Distance to College: Iffert stated that "location of a student's home in relation to college had no bearing on his chances of graduation."⁵¹ In contrast, Aiken, Mehra, and Wood found greater distance from college related to higher withdrawal rates.⁵² Student's often gave as their reasons for transferring to another college a desire to be closer to home. Spady noted that students transferred back to public universities in their home communities because the person-environment fit was better and because they wanted to achieve better grades for the same amount of work.⁵³

Academic Variables

Studies into the relationship between persistence and academic factors have identified variables that fall into seven sub-categories. The seven sub-categories and the affect they have on persistence are described below.

- a. Aptitude Test Scores: Lower college-admission test scores and reading test scores are related to higher attrition and imply that students have to work much harder to succeed in college. Reading ability also is related to other communication abilities important for college achievement (for example, the ability to write and speak effectively).
- b. High School Achievement: High school grade point average and rank in high school have been found to have a higher relationship to student attrition than any other single predictor. Even so, they account for only a small percentage of the variance, often less than 10%.
- c. Study Habits and Attitudes: Students with poor study habits and attitudes tend to drop out more often.

⁵¹ See Iffert op. cit., p. 74.

⁵² See Aiken, L.R. Jr. "The Prediction of Academic Success and Early Attrition by Means of Multiple Choice Biographical Inventory." *American Educational Research Journal* 2 (1964): 127-135. Mehra, N. *Retention and Withdrawal of University Students*. (Edmonton, Canada: Office of Institutional Research, University of Alberta, 1973.) and Wood, P.J. "Correlates of Attrition and Academic Success." In K.M. Wilson (Ed.), *Research Related to College Admissions*. (Atlanta: Southern Regional Education Board, 1963).

⁵³ See Spady, W.G. "Dropouts From Higher Education: Toward an Empirical Model." *Interchange* 2 (1971): 38-62.

- d. High School Attended: Student ratings of the academic quality of the high school attended have been found to be directly related to student attrition.
- e. Subjects/Number of Courses Taken in High School: Those who took a college preparatory program-and, within such a program, those who took more courses in English, mathematics, foreign languages, and physical sciences-tend to persist more. The number of courses in social and biological sciences has not been found to have such a relationship.
- g. College Program: Students majoring in certain programs tend to drop out more often while those in other programs tend to persist more often. These findings, however, vary by institution.
- h. College Grades: Most of those who drop out of college have satisfactory grades, but dropouts do tend to have somewhat lower grades than persisters. Therefore, those who exhibit any sign of academic difficulty (For example, low grades, self-report of study problems) during the first term deserve special observation and attention.

Initial Aspirations and Motivation

Studies into the affects an individual's aspirations and motivations have on persistence have examined four sub-categories of factors. The four sub-categories and the affect they have on persistence are described below.

- a. Degree Aspiration: Students aspiring to doctoral or professional degrees are more likely to persist than those with lower degree aspirations.
- b. Termination/Completion Plans: Intention upon entrance to drop out (For example, student's 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. Of course, these may be simply self-fulfilling prophecies, but if the expectation to succeed is unrealistic (or if the commitment to graduation is a compulsion symbolic of psychological stress) frustration, dissatisfaction, and disappointment leading to escapism can be the result.

- c. Commitment to College: Positively related to persistence, commitment to the college is absolutely necessary if persistence is to take place when there is not a good fit between the college and the student.
- d. Familial Aspirations for College: Strong parental aspirations or expectations for the student to attend and complete college relate positively to student retention, but Pantages and Creedon argue that this will hold true primarily when there is a quality relationship between parents and child or when conforming to parents' wished is an inner pressure and ingrained lifestyle for the student. Dropping-out is one way students can assert their independence from their parents.

Personality and Value Variables

Studies into persistence have focused a great deal on the influence of the individual's personality and the values the individual holds. The factors covered in these studies fall into ten sub-categories.

- a. Maturity and Responsibility: Those who are more mature, responsible, and clear in their goals and aspirations (when these goals need a college degree) will tend to persist. The exception may be in liberal arts, where there may be no attempt to show practical relationships between learning and vocational or other life after college.
- b. Independence and Autonomy: When students show extreme orientation to independence and autonomy, a conformist college and classroom atmosphere will tend to result in withdrawal. Where the environment is more independence-oriented and student orientation to autonomy is not so extreme, the tendency is to persist.
- c. Goals and Values: Student commitment to personal values and goals, including academic or occupational goals, was found to be an important determinant in college retention.⁵⁴

⁵⁴ Muskat, K. "Educational Expectations and College Attrition," *NASPA Journal* 17 (1979): 17-22

- d. Intellectual Orientation: Where the college environment is intellectual, the intellectual student will tend to persist; where the emphasis seems to be only on grades, some students may leave in disgust.
- f. Creativity: If the college environment does not support creativity, extremely creative people will tend to withdraw, unless other factors compensate or intervene.
- g. Self Concept: A positive self concept will tend to lead students to persist, unless the concept of self and the college environment are in conflict. A positive self concept, together with successful leadership experience and the availability of a support person have been found to be positively related to retention.⁵⁵
- h. Anxiety: Anxiety about success can lead to persistence, unless the anxiety becomes too great, at which point it becomes destructive and tends to lead to withdrawal.
- i. Assertiveness: Assertiveness tends to be related to persistence except where it is ridiculed because others at the college see the assertive person as rude: a similar interaction pertains to creativity.
- j. Value Orientation: How the student's value orientation and philosophy of life compare to the institutional value orientation will influence any relationship to student attrition.
- k. Expressed Need for Counseling: Those students at nonselective colleges who express a need for personal counseling tend to drop out more often than other students.

⁵⁵ White, T.J. and Sedlacek, W.E. "Noncognitive Predictors: Grades and Retention of Specially-Admitted Students," *Journal of College Admissions* 111 (1986): 20-23.

Institutional Variables

As one might expect, there have been a number of studies which have focused on the influence of institutional factors and their affect on persistence. The studies in this area have focused on eight sub-categories of factors.

- a. Prestige: Graduation rates tend to be higher at prestigious institutions. The social status effect of an institution may cause students who value the perceived status of the institution to reinforce this status by persisting to the degree.⁵⁶ Thus, students with equal individual characteristics in high and low-status institutions are more likely to be retained by high-status institutions.
- b. Size of the Institution: We can expect to see less student involvement at large institutions, a factor that could adversely affect student retention; a number of studies have found such a relationship. Other studies have found equal or better retention at large institutions, which suggests that variables other than size are the underlying causal factors.
- c. Control: Privately controlled colleges tend to have higher student retention than public colleges.
- d. Type of Institution: Four-year colleges tend to have higher retention rates than two-year colleges. Single-sex colleges generally have higher retention rates than coeducational-but for males, student and other institutional variables seem to account for the difference.
- e. Affiliation: Religious affiliation tends to mean higher student retention and Catholic colleges tend to have higher retention rates than Protestant colleges.
- g. Selectivity: The more highly selective colleges tend to have higher retention rates. This may be explained by the fact that they attract higher-ability students to begin

⁵⁶ See Kamens, D. "Effects of College on Student Drop-Out: Final Report." (Boston: Center for Applied Social Research, Northeastern University, 1972). Meyer, J. "High School Effects on College Intentions." *American Journal of Sociology* 76 (1979): 59-70. and Nelson, J. "High School Context and College Plans: The Impact of Social Structure on Aspirations." *Journal of College Student Personnel* 25 (1984): 50-54.

with. Moreover, since they also tend to have higher prestige and costs, the financial and ego demand related to dropping out may be significant.

- h. Housing: Residential Colleges tend to have higher retention rates than commuter campuses, and on-campus life in sororities and fraternities tends to promote student retention more than dormitory life. Iffert and Astin found that students residing on campus have significantly better persistence records than students who live with parents, relatives, or even private residences.⁵⁷ The quality of students' interpersonal relationships with their roommates were found to relate positively to grade-point averages and retention rates.⁵⁸
- i. Student Services: The availability, quality and use of student services such as counseling, advising, orientation, and learning centers tends to promote retention.
- j. Institutional Mission: Institutions that communicate a specific and clearly defined mission generally have higher retention rates.

Interaction Variables

Among the more interesting and valuable studies into persistence are those which deal with the interaction of variables. These studies generally have focused on sixteen sub-categories of interactions.

- a. Student Satisfaction: Satisfaction contributes to student persistence; dissatisfaction contributes to attrition only to the extent that attrition is not moderated by willingness to endure dissatisfaction.
- b. Social Integration/Peer Group Relations: The frequency and quality of interaction with the peer group, as well as the kind and compatibility of student peer group lifestyles and values, all affect student retention and persistence. Peer support in a collegiate social system has been shown to be associated with persistence in

⁵⁷ Iffert, R.E. *Retention and Withdrawal of College Students*. op. cit. and Astin, Alexander. *Dropouts, Stopouts, and Persisters: A National Profile*. op. cit.

⁵⁸ Waldo, M. "Academic Achievement and Retention as Related to Students' Personal and Social Adjustment in University Residence Halls." *Journal of College and University Student Housing* 16 (1): 19-23.

college.⁵⁹ College dropouts and stopouts perceive themselves as having less social interaction than do persisters. This appeared to be truer for women than men in studies reviewed by Cope and Hannah.⁶⁰ Baker and Siryk found that social alienation also was an important factor in retention rates.⁶¹

- c. Family-College Relationships: The amount of commitment that the parents (and often the student) have to the college is related to student persistence. Children whose parents actively support and encourage them to attend college are more likely to persist.
- d. Out of Class Interactions with Faculty: The frequency and especially the quality of faculty-student out-of-class interactions often can contribute substantially to student persistence. Social interaction with the faculty is related to retention, especially when the interaction focuses upon discussions of intellectual or course related matters.⁶² There is some evidence to suggest this interaction is more important for men when it takes place outside of class.⁶³ However, women were found to be retained more effectively than men when they perceived their intrinsic intellectual development needs were being met, while men were thought to be more concerned with getting satisfaction from the extrinsic rewards (grades) of the academic system and therefore more likely to persist⁶⁴
- e. Faculty Concern for Students and Learning: The genuineness and strength of faculty members' interest in and concern for students and for helping them learn relates positively to student persistence. Numerous studies have found that

⁵⁹ See Jones, J. "Some Personal-Social Factors Contributing to Academic Failure at Texas Southern University." In *Personality Factors on College Campus*. (Austin: Hogg Foundation for Mental Health, 1962). Flacks R. "Adaptations of Deviants in a College Community." Unpublished doctoral dissertation, University of Minnesota, 1966. Spady, W.G. "Dropouts from Higher Education: Toward an Empirical Model." op. cit. Rootman, 1972. and Haagan, C. Hess. *Venturing Beyond the Campus: Students Who Leave College*. (Middletown, Conn.: Wesleyan University Press, 1977).

⁶⁰ Cope, R.G., and Hannah, G. *Revolving College Doors: The Causes and Consequences of Dropping Out, Stopping Out, and Transferring*. (New York: Wiley and Sons, 1975).

⁶¹ Baker, R.W., and Siryk, B., "Alienation and Freshman Transition to College." *Journal of College Student Personnel* 21 (5): 437-442.

⁶² Spady, W.G. "Dropouts From Higher Education: An Interdisciplinary Review and Synthesis." *Interchange* 1 (1970): 64-85. Pascarella, E.T., and Terenzini, P.T. "Patterns of Student Faculty Informal Interaction Beyond the Classroom and Voluntary Freshman Attrition." *Journal of Higher Education* 49 (1977): 540-552.

⁶³ See Tinto, V. "Dropout From Higher Education: A Theoretical Synthesis of Recent Research." *Review of Educational Research* 45 (1975): 89-125. p. 110.

⁶⁴ See Spady, W.G. "Dropouts From Higher Education: Toward an Empirical Model." op. cit.

student involvement and faculty-student interaction have proved to be positively associated with retention.⁶⁵

- f. Institutionally Generated Student Development: The amount of academic and intellectual development and other kinds of student growth and development tend to be positively associated with student persistence. Stodt described a set of factors illustrating the need for universities to assist students with achieving developmental tasks such as identifying personal values, making career choices, and dealing with issues of independence and responsibility.⁶⁶
- g. Commitment to College and Graduation: Commitment to college and to graduation is positively related to student persistence.
- h. Extracurricular Involvement: Except when it is overdone, student involvement in extracurricular activities of various kinds, including campus employment, tends to support student persistence.
- i. Responsiveness to Student Complaints and Needs: How well institutional personnel respond to student complaints and to their stated needs is a determinant of student persistence.
- j. Student Expectations and Realities: The degree of congruence or discrepancy between what the student expects from college and the reality of the college environment may be a major factor in persistence/withdrawal behavior.
- k. Academic Program Involvement and Success: Quality involvement in honors programs or in foreign study programs, tutoring or peer counseling, instructional assisting, academic program review, or other involvement in the academic life of the college all contribute to student persistence.

⁶⁵ See Astin, A.W. *Four Critical Years: Effects of College on Beliefs, Attitudes and Knowledge*. (San Francisco: Jossey-Bass, 1975). Astin, A.W. *Achieving Educational Excellence: A Critical Assessment of Priorities and Practices in Higher Education*. (San Francisco: Jossey-Bass, 1985). Astin, W.W. "Retaining and Satisfying Students." *Educational Record* 68 (1): 36-42. Also see Webb, E.M. "Retention and Excellence Through Student Involvement: A Leadership Role for Student Affairs," *NASPA Journal* 24 (4): 6-11.

⁶⁶ Stodt, M.M. "Educational Excellence as a Prescription for Retention," In *Increasing Retention: Academic and Student Affairs Administrators in Partnership*. New Directions for Higher Education, No. 60, pp. 27-37. (San Francisco: Jossey-Bass, 1989).

- l. Learning-Method and Teaching-Method Congruence: Research has demonstrated that learning styles vary from person to person; certain teaching styles and methods work best for students with particular learning styles. For example, conforming students learn better when there is structured teaching, and independence-oriented students learn better in an open, nonstructured classroom situation. Matches or mismatches in learning and teaching styles may influence persistence.
- m. Compatibility Between Student and Institutional Values: When students attitudes, values, and lifestyles are congruent with those expressed by the college, student development and persistence are facilitated.
- n. Student Body Characteristics: When the student is similar to a significant group of other students at the college on factors such as home town size, religion, and race, student persistence is enhanced.
- o. Student Participation in Student Services: Student need for and participation in student services such as effective orientation, advising, counseling, and learning assistance positively affect persistence. Stanley and Witten examined the effect of a 3-credit college course focused on orientation, campus support programs, and peer support. They found that graduation rates for students in the course exceeded those for comparison groups by as much as 6%⁶⁷. Their findings suggest that the expanded faculty and student interaction and the exposure to campus support services resulted in an improved sense of community. Another study by McIntire, Pumroy, et al., found that a behaviorally-oriented class focusing on nonacademic factors such as identifying career choices, improving interpersonal skills, and improving time-management and study skills, had a positive effect on retention.⁶⁸
- p. Student Ability and College Demands: The extent to which the student can meet the demands of the college and derive satisfaction from doing so is the degree to which the student may be expected to persist at college.

⁶⁷ Stanley, M.G. and Witten, C.H. "University 101 Freshman Seminar Course: A Longitudinal Study of Persistence, Retention, and Graduation Rates," *NASPA Journal* 27 (1990): 344-352.

⁶⁸ McIntire, R.W., Pumroy, D.K., Burgee, M.L., Alexander, S.R., Gerson, S.S., and Saddoris, A.M. "Improving Retention Through Intensive Practice in College Survival Skills," *NASPA Journal* 29 (1992): 299-306.

The Influence of Campus Size

It has been noted that students at small colleges face different problems related to attrition and graduation than do their counterparts at larger institutions. Campus size has been found to be a double-edged sword. Smaller campuses generally offer more opportunities for student-faculty interaction. This tends to increase student persistence. However, smaller campuses also restrict the academic opportunities by offering only a limited number of courses relative to larger institutions. In addition, smaller campuses limit the social opportunities for students. Restricted academic and social opportunities generally are associated with decreased persistence and graduation rates. Tinto noted that:

Small colleges may enhance the likelihood of student-faculty and student-student interaction, but restrict the range of possible student communities or subcultures in which to establish membership. Social and intellectual integration may be more difficult for individuals who have disparate social and intellectual orientations. This is less likely at large institutions, where the range of student subcultures is bound to be greater, but large schools may limit the opportunities for student-faculty interaction.⁶⁹

Nelson found that smaller colleges have lower dropout rates than the larger institutions while Kamens, in a more carefully controlled study, found that there is a tendency for larger institutions to have better retention rates.⁷⁰ A "break-even point" may exist for each college: small colleges may have more success in retaining graduates from small high schools; the reverse might be true for larger colleges.⁷¹

Financial Aid, Finances, and Employment

Until quite recently, there were only a small number of studies that focused exclusively on the impacts of financial aid on enrolled students and the results of these studies tended to present a mixed picture of the effects.⁷² Many of the studies are representative of only a small segment of the college population and few systematically examine other characteristics that could account for the findings. There are other problems as well. Generally, researchers have limited their studies to

⁶⁹ Tinto, V. "Defining Dropout: A Matter of Perspective." p. 12.

⁷⁰ See Nelson, A.G. "College Characteristics Associated With Freshman Attrition." *Personnel and Guidance Journal* 44 (1966): 1,046-1,050. Kamens, D. "Effects of College on Student Drop-Out: Final Report." op. cit.

⁷¹ Cope, R.G. "Are Students More Likely to Drop Out of Large Colleges?" *College Student Journal* 6 (1972): 92-97.

⁷² See Stampen, J.O. and Cabrera, A.F. "Exploring the Effects of Student Aid on Attrition." *Journal of Student Financial Aid* 16 (1986): 28-37.

comparisons between students receiving various forms of aid (grants, loans, and work-study) rather than comparisons between students receiving aid and those not receiving aid.⁷³ Studies which have included a comparative analysis of the persistence of aided and non-aided students offer very little interpretation of the measured differential persistence rates.⁷⁴ It is unclear whether aid recipients should have persistence rates that are higher, equal to, or lower than the persistence rates of non-aided students. These problems notwithstanding, there are some conclusions that can be drawn regarding the effects of financial aid and employment on persistence.

Although lack of finances often is a real problem that discourages persistence and is the main reason students most often give for dropping out, there is conflicting evidence as its importance relative to other factors. For example, Tinto, in his review of sociological research found that financial aid has little effect on persistence.⁷⁵ By contrast, in their review of the literature on persistence, Leslie and Brinkman found that financial aid has a positive influence on persistence.⁷⁶ In part, such wide differences in findings are typically the result of different research foci, differences in research or statistical models, or simply due to insufficient variation in aid awards. Further, it is important to distinguish the findings of studies that examine persistence from a national perspective as opposed to those that examine persistence within a given institution. In general, national studies into undergraduate persistence have found that financial aid has a positive influence on persistence, however there are measurable differences in the effects of different types of aid, the value of the aid, the timing of the award.⁷⁷ For example, Astin found a negative relationship between the receipt of loans and persistence during the first two years and a positive

⁷³See Astin, H.S. and Cross, P.H. "Student Financial Aid and Persistence in College." Research sponsored by EXXON Educational Foundation and the U.S. Office of Education, Department of Health, Education, and Welfare. Washington, D.C.: National Institute of Education. September 1979. ED 221 078. Hochstein, S.K. and Butler, R.R. "The Effects of the Composition of Financial Aids Package on Student Retention." *Journal of Student Financial Aid* 13 (1983): 21-26. Iwai, S.I. and Churchill, W.D. "College Attrition and the Financial Support Systems of Students." *Research in Higher Education* 17 (1982): 105-113. Voorhess, R.A. "Student Finances and Campus-Based Financial Aid: A Structural Model Analysis of the Persistence of High Need Freshmen." *Research in Higher Education* 22 (1985): 65-92. Voorhess, R.A. "Financial Aid and Persistence: Do the Federal Campus-Based Aid Programs Make a Difference?" *The Journal of Student Financial Aid* 15 (1985): 21-30.

⁷⁴See Jensen, E.L. "Student Financial Aid and Persistence in College." *Journal of Higher Education* 52 (1981): 280-294. Jensen, E.L. "Student Financial Aid and Degree Attainment." *Research in Higher Education* 29 (1984): 117-127. Taylor, J.L. and Raffetto, W. "Comparisons of Success Rates of Basic Educational Opportunity Grant (Pell) Recipients with the Success Rates of Non Recipients." *Community College Review* 11 (1983): 44-51. Terkla, D.G. "Does Financial Aid Enhance Undergraduate Persistence?" *Journal of Student Financial Aid* 15 (1985): 11-18.

⁷⁵Tinto, V. "Sociological View of Student Persistence." Presented as the Seventh Annual NASSGP/NCHELP Research Network, Washington, D.C. and cited in St. John, E.P. "The Impact of Student Financial Aid: A Review of Recent Research." *Journal of Student Financial Aid* (1991).

⁷⁶Leslie, L.L. and Brinkman, P.T. *The Economic Value of Higher Education*. (San Francisco: Jossey-Bass, 1988).

⁷⁷See Astin, A.W. *Preventing Students from Dropping Out*. (San Francisco: Jossey-Bass, 1975). Terkla, D.C. "Does Financial Aid Enhance Undergraduate Persistence?" *Journal of Student Financial Aid* 15 (1985): 301-315. St. John, E.P. "The Influence of Student Aid on Persistence." *Journal of Student Financial Aid*. 19 (1989): 52-68.

correlation between loans and four year persistence.⁷⁸ Astin went on to conclude that most other forms of student aid had a positive influence on persistence.

Financial problems are commonly given by those withdrawing as a primary reason for leaving. Such problems may or may not be an underlying reason. Many studies have concluded that some students give this reason mainly because it is socially acceptable.⁷⁹ Even when there is adequate financial support, either through the provision of work and financial aid or the family's ability to pay, finances are thought to be a socially acceptable reason for withdrawal, one that will protect the ego from having to divulge another, more immediate reason. Conversely, students with even very limited financial resources who have a strong commitment to persist are likely to do so.

It should be noted that financial aid does seem to be achieving one of its primary objectives: enabling greater numbers of low-income students to enter college and persist at levels almost equal to that of middle- and upper-income students.⁸⁰ Further, financial aid does seem to promote the persistence of underrepresented students, although these students continue to persist at rates that are lower than their non-underrepresented counterparts.⁸¹ The dollar amount of financial aid has been found to have a significant and positive effect on persistence. In addition, financial aid appears to have a stronger effect on persistence at independent institutions than at public institutions. No doubt the higher cost of tuition at the independent institutions contributed to this finding.

The role employment plays in persistence and attrition is not as clear and straight forward as it might seem. In 1988 the National Center for Educational Statistics published the findings from its High School and Beyond (HS&B) study into the effects of employment on the success of college students.⁸² One of the measures of success in college which was examined in the study was

⁷⁸Astin, 1975.

⁷⁹ George D. Demos. op. cit. John F. Demitroff. op. cit.

⁸⁰Leslie, L.L. and Brinkman, P.T. "The Effects of Student Financial Aid." *The Economic Value of Higher Education* (1988). pp. 172-180. Selby, J.E. "Relationships Existing Among Race, Student Financial Aid, and Persistence in College." *Journal of College Student Personnel* 14 (1973): 38-40. Herndon, S. "The Impact of Financial Aid on Student Persistence." *Journal of Student Financial Aid* 14 (1984): 1984: 3-9.

⁸¹Peng, S.S. and Fetters, W.B. "Variables in Withdrawal During their First Two Years of College: Preliminary Findings From the National Longitudinal Study of High School Class of 1972." *American Educational Research Journal* 15 (1978): 361-372. Riccobono, J.A. and Dunteman, G.H. "National Longitudinal Study of the High School Class of 1972: Preliminary Analysis of Student Financial Aid." Washington, D.C.: National Center for Educational Statistics. Department of Health, Education, and Welfare. Spring 1979. ED 170 303.

⁸² National Center for Education Statistics. *College Students Who Work: 1980-1984. Analysis Findings from High School and Beyond.* (Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, June 1988). DR-HSB-80/84. The HS&B study began in 1980 with a nationally representative sample of 11,995 high school seniors.

persistence. Employment was found to have a positive effect on overall persistence across gender, ethnicity, ability, family income, and type of institution. The study found that:

Those who worked during the academic year improved their persistence, while those who worked during the summer did not. Overall, about 85% of first and second-year students persisted in college. About 95 of third and fourth-year students persisted. Corresponding rates for unemployed students were 83%, 83%, 94% and 89%. The rates of persistence for students who earned \$200 or more each year during the four academic years were 93%, 88%, 99% and 97% respectively.

Other results from the survey found that African American students attending public four year colleges and universities persisted better if they worked during the academic year. Employment displayed a large positive effect on persistence for low ability students. Approximately 80% of the low ability students in public four year institutions who did not work persisted after one year compared to 98% of the students who did work.⁸³ Several explanations could be put forward to account for these findings. First, employment may be indicative of motivation. Those who are employed may simply be individuals who are more motivated to attend college. Another explanation for why employed students persist at higher rates than unemployed students is that the unemployed may need money to pay for their education, but because they have no job, may not be able to remain in school.⁸⁴ Astin found that part-time employment or work study under 25 hours per week can positively affect retention especially if the work is on-campus, the student starts work as a freshman, and the student is not married.⁸⁵ Part-time work related negatively to retention if the student was married. Assistance in obtaining financial support was found to be an important component in two successful retention programs.⁸⁶

Scholarships and grants have been found to be positively related to retention irrespective of ability.⁸⁷ Loans, especially large ones, relate negatively to retention.⁸⁸ A number of national

⁸³Ibid

⁸⁴ Some of the other interesting findings of the study are that females are more likely to work during the academic year than are males; students who attend private four year colleges and universities were more likely to have summer jobs than students attending public four year colleges; high ability students earn more than low ability students; students from private four year colleges earn more than students from public four year institutions; students from private colleges are more likely to hold technical/professional jobs; and, sex and ethnicity were related to the types of jobs individuals held.

⁸⁵ Alexander W. Astin *Financial Aid and Student Persistence*. op. cit. Alexander W. Astin. *Preventing Students From Dropping Out*. op. cit.

⁸⁶ West. et al. op cit. Lee. op. cit.

⁸⁷ Alexander W. Astin *Financial Aid and Student Persistence*. Higher Education Research Institute, Research Report No. 75-2. (Los Angeles: HERI, 1975). Alexander W. Astin. *Preventing Students From Dropping Out*. (San Francisco: Jossey-Bass, 1975).

studies have not confirmed the negative impact of loans.⁸⁹ Murdock, in his review of the literature on the effects of financial aid on persistence, found that when comparing different forms of financial aid, a combination of grants and loans have a greater positive effect on persistence than do loans alone.⁹⁰ It should be noted that most studies into the differential effects are limited by either an inability to control for the amount of aid or control for the student's academic ability.

A number of researchers have begun to reexamine the influence of financial aid and increases in tuition on persistence in light of the recent economic recession.⁹¹ Earlier studies into the effects of price and financial aid on college enrollment have focused on the student's decision to attend college rather than persistence once the student was enrolled.⁹² While it is difficult to adequately describe all of the nuances of the finding from the recent research efforts, there are four general findings have emerged. First, price increases tend to increase the time it takes students to complete

⁸⁸ Elinor K. Heath, et al. op. cit. Gordon A. Nelson. "College Characteristics Associated with Freshman Attrition." *Personnel and Guidance Journal* 44 (1966): 1046-1050. D.T. Pedrini and Bonnie C. Pedrini. "Assessment and Prediction of Grade Point and or Attrition Persistence for Disadvantaged and Regular College Freshmen." *College Student Journal* 10 (1976): 260-264. Leonard M. Wene. "The Role of Financial Aid in Attrition and Retention." *College Board Review* 104 (1977): 17-21.

⁸⁹ See Charles R. Fields and Morris LeMay. "Student Financial Aid: Effects on Educational Decisions and Academic Achievement." *Journal of College Student Personnel*. 14 (1973): 425-429. Bruce K. Eckland. "A Source of Error in College Attrition Studies." *Sociology of Education* 38 (1964): 60-72. James E. Selby. "Relationships Existing Among Race, Student Financial Aid, and Persistence in College." *Journal of College Student Personnel* 14 (1973): 38-40.

⁹⁰ Murdock, T.A. "Does Financial Aid Really Have an Effect on Student Retention?" *Journal of Student Financial Aid* 19 (1989): 4-16.

⁹¹ See St. John, E.P. "The Influence of Student Aid on Persistence," *Journal of Student Financial Aid* 31 (1989): 52-68. St. John, E.P. "Price Response in Persistence Decisions: An Analysis of the High School and Beyond Cohort." *Journal of Student Financial Aid* 31 (1990): 387-403. St. John, E.P., Kirshstein, R.J., and Noell, J. "The Effects of Student Financial Aid on Persistence: A Sequential Analysis of the High School and Beyond Senior Cohort," *Review of Higher Education* 14 (1991): 383-486. St. John, E.P., Oescher, J., and Andrieu, S. "The Influence of Prices on Within-Year Persistence by Traditional College-Age Students in Four-Year Colleges," *Journal of Student Financial Aid* 22 (1992): 27-82. St. John, E.P., Andrieu, S., Oescher, J., and Starkey, J.B. "The Influence of Student Aid on Within-Year Persistence by Traditional College-Age Students in Four-Year Colleges," *Research in Higher Education* 35 (1994): 455-480.

⁹² See Chisholm, M. and Cohen, B. "A Review and Introduction to Higher Education Price Response Studies." Boulder, Colorado: National Center for Higher Education Management, 1982. California Postsecondary Education Commission. *The Price of Admission: An Assessment of the Impact of Student Charges on Enrollments and Revenues in California Public Higher Education*. Sacramento: California Postsecondary Education Commission, 1980. Carlson, D., Farmer, J. and Weathersby, G. *A Framework for Analyzing Postsecondary Education Financing Policies*. Washington, D.C.: Government Printing Office, 1974. Cohn, E. and Morgan, J.M. "The Demand for Higher Education: Additional Evidence." In *1978 Proceedings of the Social Statistics Section*, American Statistical Association, pp. 669-674. Washington, D.C.: American Statistical Association, 1978b. Dresch, S. "A Critique of Planning Models for Postsecondary Education: Current Feasibility, Potential Relevance, and a Prospectus for Future Research." *Journal of Higher Education* 46 (1975): 245-286. Hyde, W., Jr. "The Effect of Tuition and Financial Aid on Access and Choice in Postsecondary Education." In *Issues in Postsecondary Education Finance*, pp. 28-36. Edited by W.D. Hyde, Jr. Denver: Education Commission of the States, 1978. Jackson, G.A. and Weathersby, G.B. "Individual Demand for Higher Education: A Review and Analysis of Recent Empirical Studies." *Journal of Higher Education* 46 (1975): 623-652. McPherson, D. "The Demand for Higher Education." In *Public Policy and Private Education*, pp. 143-196. Edited by D.W. Breneman and C.E. Field. Washington, D.C.: The Brookings Institution, 1978.

their degree.⁹³ Second, increases in tuition reduces persistence. St. John et. al. found that every \$1,000 increase in tuition reduces the probability of persistence by 2.6 percentage points.⁹⁴ Third, both the amount and type of aid are related to persistence, although the relationship is complex. In general, there is no strong association between persistence and all types of aid (grants, loans, and work), however, unmet need has been identified as having a positive and significant association on persistence.⁹⁵ It is widely accepted that the weak association between aid and persistence together with the finding that unmet need is significant indicates that the financial aid was insufficient rather than ineffective. Finally, a high-aid, high-tuition pricing strategy does not seem to adversely affect persistence or the initial decision by students to enroll in college.⁹⁶ However, it should be kept in mind that the persistence of middle income students has been found to be positively influenced by the amount of loan aid they are awarded but negatively affected by price increases. This suggests there is some limit to the high-aid, high-price model.

Conclusion

As this above discussion suggests, persistence and withdrawal are the result of a complex interaction on many and varied factors. The causes of withdrawal can sometimes be found primarily within the individual, sometimes are attributable to the campus environment, but invariably are more complex than generally acknowledged. Financial aid, especially grant and scholarship aid seems to have a positive influence on persistence, however there is some disagreement as to the magnitude of the effect of financial aid relative to other factors. In many instances, there is very little institutions can, or should do to prevent a student from withdrawing. Nevertheless, in those instances where students are academically qualified and truly desire to persist, there are a number of strategies that have been found to be effective in preventing withdrawal.

⁹³St. John, E.P., Andrieu, S., Oescher, J., and Starkey, J.B. "The Influence of Student Aid on Within-Year Persistence by Traditional College-Age Students in Four-Year Colleges," *Research in Higher Education* 35 (1994): 455-480.

⁹⁴Ibid. This finding is similar to price response coefficients found in earlier studies on the relationship between price and college enrollment. See Jackson, G.A., and Weathersby, G.B. "Individual Demand for Higher Education," *Journal of Higher Education* 46 (1975): 623-652.

⁹⁵Ibid.

⁹⁶Ibid.

IV. The Persistence of Underrepresented Students

The factors which affect the persistence and withdrawal of students from underrepresented groups are related to, yet oftentimes different from those which affect the persistence and withdrawal of non-underrepresented students. In this section we will review the findings from studies that have examined the persistence and attrition of underrepresented students. We will focus our attention on four areas: social factors, psychological factors, academic integration, and family support.⁹⁷

While the following discussion will focus on underrepresented students as a general class, it should be noted that some of the factors may be unique to specific ethnic/racial groups of students.⁹⁸ In addition, some the findings may be applicable to non-underrepresented students as well.

Establishing Membership on Campus

Before beginning our review, let us begin by discussing the importance for underrepresented students of establishing membership in the campus community. Underrepresented students often encounter unique problems in establishing social and academic membership on campuses which are largely composed of non-underrepresented students, faculty, and staff. Underrepresented students often perceive college campuses as hostile environments.⁹⁹ Researchers are in general agreement that:

Minority students face distinct problems in making contact with and establishing social and academic membership in largely majority institutions. For them, elements of social and academic integration, such as those that may arise through

⁹⁷Some of the better recent overviews of this topic are to found in Bennett, C. and Okinaka, A.M. "Factors Related to Persistence Among Asian, Black, Hispanic and White Undergraduates at a Predominantly White University: Comparison between First and Fourth Year Cohorts." *The Urban Review* 22 (1990): 33+. Lee, C. *Achieving Diversity: Issues in the Recruitment and Retention of Underrepresented Racial/Ethnic Students in Higher Education: A Review of the Literature*. Alexandria, Virginia: National Association of College Admissions Counselors, 1991.

⁹⁸Some excellent examples of ethnic/racial specific discussions include Garner, B. "Southeast Asian Culture and the Classroom Climate." *College Teaching* 37 (1989): 127-130. Nagasawa, R. and Espinosa, G.J. "Educational Achievement and the Adaptive Strategy of Asian American College Students: Facts, Theory, and Hypotheses." *Journal of College Student Development* 33 (1992): 137-142. Olivas, M.A. ed. *Latino College Students*. New York: Teachers College Press, 1986. Stikes, C.S. *Black Students in Higher Education*. Carbondale: Southern Illinois University Press, 1984. Benjamin, D.P. and Chambers, S.L. "Native American Persistence in Higher Education: Toward a Competency Model." Paper presented at the 29th annual forum of the Association of Institutional Research, Baltimore, MD. April 30-May 3, 1989.

⁹⁹Madrazo-Paterson, R. and Rodriquez, M. "Minority Students' Perceptions of a University Environment." *Journal of College Student Personnel* 19 (1978): 259-263.

personal interaction with other students and with faculty members appears to be relatively more important to their persistence than for majority students.¹⁰⁰

The social integration of underrepresented students is brought about through their personal interaction with other members of the campus community.¹⁰¹ Social integration has been found to be more important to the overall persistence of minorities than it is for majority students. Integration into the mainstream of campus life has been found to characterize persisting individuals of both underrepresented and non-underrepresented backgrounds.¹⁰² Instilling the feeling of not being marginal to campus life also characterizes successful retention intervention programs.

Social Factors

Individual feelings of social isolation, alienation, rejection, and prejudice are believed to be significant factors affecting undergraduate persistence in higher education. This is particularly true among underrepresented students at predominantly white campuses although such feelings also can affect the persistence of nonminorities. Feelings of isolation and alienation result from the inability of students to become integrated into the campus community. Programs that address these issues have been found to be particularly effective in retaining students.¹⁰³

Researchers have identified social isolation as one of the most common complaints advanced by underrepresented students at predominantly white universities.¹⁰⁴ Feelings of isolation, rejection, and anxiety are cited as major reasons why American Indians do not persist in higher education.¹⁰⁵ Stress also has been identified as a factor affecting undergraduate persistence. A study of college students reported higher levels of stress among Mexican-American students than among white

¹⁰⁰ Tinto, V. "Defining Dropout: A Matter of Perspective." p. 59.

¹⁰¹ Wright, D.J., ed. *Responding to the Needs of Today's Minority Students*. New Directions for Student Services, no. 38. San Francisco: Jossey-Bass, 1987.

¹⁰² Smith, D.G. *The Challenge of Diversity: Involvement of Alienation in the Academy?* ASHE-ERIC Higher Education Report 1989, no. 5. Washington, D.C.: School of Education and Human Development, George Washington University, 1989.

¹⁰³ Seveland, J. *A Model for Recruitment and Retention of Minority Students for the Small College*. Washington, D.C.: Consortium for the Advancement of Private Higher Education, 1992. Odell, M. and Mock, J.J. eds., *A Crucial Agenda: Making Colleges and Universities Work Better for Minority Students*. (Boulder Colorado: Western Interstate Commission for Higher Education, 1989).

¹⁰⁴ Lunneborg, C. and Lunneborg, P. "Beyond Prediction: The Challenge of Minority Achievement in Higher Education." *Journal of Multicultural Counseling and Development* 14 (1986): 77-84.

¹⁰⁵ Sanders, D. "Cultural Conflicts: An Important Factor in the Academic Failures of American Indian Students." *Journal of Multicultural Counseling and Development* 15 (1987): 81-90.

students.¹⁰⁶ Some have gone so far as to state that the predominantly white university is so enmeshed in white culture that it engenders feelings of isolation and alienation in African American students.¹⁰⁷ A number of studies have shown that when predominantly white universities take positive steps to create an environment which is perceived by underrepresented students as less alien and more compatible retention improves.¹⁰⁸

Taylor identified four social factors which affect the retention of underrepresented students at predominantly white universities.¹⁰⁹ He described these as institutional racism, monocultural curriculum, faculty expectations and attitudes, and cultural conflicts. Institutional racism refers to a pattern of collective behavior that results in negative outcomes for underrepresented students.¹¹⁰ Examples of institutional racism include fraternal organizations which require ancestral linkage for membership and fraternities which require recommendations from alumni and family friends for membership. Monocultural curriculum refers to the propensity for core curriculum course to focus on western history, art, and culture. The attitudes of some faculty toward underrepresented students and expectations regarding their abilities often work to the detriment of underrepresented students. Some faculty members automatically assume that an underrepresented student is enrolled only because of a special admissions program. Howard and Hammond found that the prevailing attitude of faculty towards African Americans continues to be that African Americans do not possess the requisite intellectual ability to succeed.¹¹¹ Cultural conflict refers to the discord between the cultural values expressed by the institution and those of the minority culture. It has been noted that Native American culture promotes dependence while higher education encourages independence.¹¹² Some studies have noted that nonassertiveness in Native Americans, Asian

¹⁰⁶ Munoz, W. Garcia-Bahne, B. *A Study of Chicano Experience in Higher Education*. (San Diego: University of California, 1978). Also see Mirande, A. *The Chicano Experience*. (Notre Dame: University of Notre Dame Press, 1985).

¹⁰⁷ See Stewart, D. Vaux, A. "Social Support Resources, Behavior, and Perceptions Among Black and White College Students." *Journal of Multicultural Community Development* 14 (1986): 65-72.

¹⁰⁸ See Centra, J.A. Rock, D. "College Environments and Student Academic Achievement." *American Educational Research Journal* 8 (1971): 623-634. Gorman, E.J. "Predicting Student Progression." *Research in Higher Education* 18 (1983): 209-236. Pervin, L.A. "A Twenty-College Study of Student and College Interaction Using TAPE." *Journal of Educational Psychology* 59 (1967): 660-662. Shulman, C.. "Recent Trends in Student Retention." *Research Currents* 16 (1976): 78-83.

¹⁰⁹ Taylor, C.A. "Black Students on Predominantly White College Campuses in the 1980's." *Journal of College Student Personnel* 27 (1986): 196-201.

¹¹⁰ For a definition of institutional racism see W.E. Sedlacek and G.C. Brooks. *Racism in American Education: A Model for Change*. (Chicago: Nelson Hall, 1976).

¹¹¹ Howard, J. Hammond, R. "The Hidden Obstacles to Black Success: Rumors of Inferiority." *New Republic* 17 (1985): 17-21.

¹¹² Sanders, D. "Cultural Conflicts: An Important Factor in the Academic Failures of American Indian Students." *Journal of Multicultural Counseling and Development* 15 (1987): 81-90.

Americans, Hispanics, and in some instances African Americans is in conflict with the assertiveness required to function effectively in college.¹¹³

Psychological Factors

Self-image and self-esteem are believed to be significant factors affecting persistence and performance among both underrepresented and non-underrepresented students. The establishment of a positive self-image is related to a number of factors and stages of individual development. An individual's idea of who he or she is significantly influences the way the individual responds to social institutions.¹¹⁴ Some authors have gone so far as to state that the extent to which a person's self-concept is confirmed or rejected by others is crucial to the person's development and to social and academic integration. If a student's interactions with an educational institution are positive and rewarding, the student's self-concept and self-esteem are nurtured and there is a greater likelihood that the student will achieve academic and social integration at and with the institution.¹¹⁵

Racial/ethnic identity is one important component of self-concept.¹¹⁶ The value an individual places on his or her racial/ethnic identity contributes to the individual's notion of self-worth and overall self-esteem. A positive self-concept and high self-esteem have been found to strongly influence the success of underrepresented students in higher education.¹¹⁷ Self-esteem begins to form early in life. Even among children in primary education low levels of self-esteem have been linked to low levels of academic achievement.¹¹⁸

In addition the obstacles underrepresented students face that hinder their integration into the campus community, they often lack support systems to help sustain and encourage them. Support systems help ease the student's transition from high school to college. They help sustain

¹¹³ Atkinson, D., Morton, G., and Sue, D.W. *Counseling American Minorities: A Cross-Cultural Perspective*. (Debuque, Iowa: Brown, 1979). Complicating the assertiveness problem are findings that assertiveness by Blacks is often perceived as aggressiveness by Whites. See Cheek, D. *Assertive Blacks/Puzzled Whites*. (Los Angeles: Impact Publishing, 1976).

¹¹⁴ Goodman, J.A. "Institutional Racism: The Crucible of Black Identity." In J.A. Banks and J.D. Grambs (Eds.), *Black Self-Concept*. (New York: McGraw-Hill Book Company, 1972).

¹¹⁵ Armstrong-West, S., and de la Teja, M.H. "Social and Psychological Factors Affecting the Retention of Minority Students." In Melvin C. Terrell and Doris J Wright (Eds.), *From Survival to Success: Promoting Minority Student Retention*. (National Association of Student Personnel Administrators, Inc., 1988). p. 36.

¹¹⁶ Wayne, M.D., White, K.P., and Coop, R.H. *The Black Self*. (New York: Prentice-Hall, Inc., 1974).

¹¹⁷ Armstrong-West, S. "The Effects of a Self-Esteem Group Versus a Study Skills Group Intervention in Improving the Grade Point Averages of Black College Students." *Dissertation Abstracts International* 45 (6-A) (1984): 1646-1647.

¹¹⁸ Davidson, H.H., and Greenberg, J.W. *Traits of School Achievers from a Deprived Background*. (New York: City College of the City University of New York, 1967).

underrepresented students through the trying times experienced by all students at one time or another during their stay on campus. Support systems also help strengthen and reinforce the student's self-concept, helping the student to better stand up to the stress and pressure associated with various forms of discrimination or bias.¹¹⁹

Academic Integration

Numerous studies have confirmed the observation that students who are highly integrated into the campus academic community are more likely to flourish on all measures of success than are students who are less fully integrated. Tinto found that students who value their educational experience and who are satisfied with the opportunities to achieve success which are provided to them are more likely to be academically integrated into the university and hence, more likely to persist.¹²⁰ In another study, Donovan found that academic integration positively affects persistence.¹²¹ These findings apply both to underrepresented as well as non-underrepresented students.

A number of factors contribute to academic integration. Primary among the factors are academic success and interaction with faculty. Studies into student-faculty relationships and their educational outcomes found that the frequency of a student's informal contacts with faculty on academic matters were positively associated with academic performance and influenced measures of intellectual development.¹²² Further refinements in these findings indicate that the quality of the interaction, not just the frequency, played a significant role in the academic growth and persistence of students.¹²³

Faculty contact with students has not always been found to produce positive educational outcomes, especially in the case of underrepresented students. African Americans, especially those in predominantly white universities, have been found to experience anxiety regarding their academic

¹¹⁹Smedley, B.D., Myers, H.F., and Harrell, S.P. "Minority-Status and the College Adjustment of Ethnic Minority Freshmen." *Journal of Higher Education* 64 (1993): 434-452. Munoz, D. "Identifying Areas of Stress for Chicano Undergraduates." In Olivas, M.A. (Ed.), *Latino College Students*. New York: Teachers College Press, 1986. pp. 131-156.

¹²⁰Tinto, V. *Leaving College: Rethinking the Causes and Cures of Student Attrition*. (Chicago: University of Chicago, 1975).

¹²¹Donovan, R. "Path Analysis of a Theoretical Model of Persistence in Higher Education Among Low Income Black Youth." *Research in Higher Education* 21 (1984): 21 (1984): 243-259.

¹²²Pascarella, E.T. and Terenzini, P.T. "Student-Faculty Informal Relationships and Freshman Year Educational Outcomes." *Journal of Educational Research* 71 (1978): 183-189.

¹²³Pascarella, E.T., Duby, P.B., and Iverson, B.K.. "Student-Faculty Relationships and Freshman Year Intellectual and Personal Growth in a Nonresidential Setting." *Journal of College Student Personnel* 24 (1983): 395-403.

and nonclassroom faculty interaction.¹²⁴ Other studies have found that when faculty-student interactions are not positive anxiety often sets in. In these instances all students, but especially underrepresented students were likely to feel alienated and not seek additional academic assistance from faculty.¹²⁵

Compounding the problems of negative faculty-student interactions are the perceptions of faculty toward underrepresented students. White faculty are often anxious or uncomfortable about teaching African American students.¹²⁶ Other studies have detected even more dysfunctional findings. A number of studies have found that some faculty members hold expectations and attitudes toward underrepresented students which are negative.¹²⁷ Such findings reinforce claims that faculty often inhibit the academic success of underrepresented students by presenting distorted, naive, and oftentimes biased perceptions about them.

The curriculum has also been identified as an important factor that contributes to the persistence of underrepresented students. A curriculum that reaches out to the academic interests and needs of underrepresented students helps to integrate them more fully into the academic community.¹²⁸ In addition, faculty members who are themselves from underrepresented groups contribute both as role models and as agents of academic and social integration.¹²⁹

A Short Note on Family Support

Family support for new students, especially underrepresented and first generation students, is an important factor affecting retention. Students from families that support them in their effort to complete a baccalaureate degree are much more likely to persist than students from families that do

¹²⁴ See J. Fleming. *Blacks in College: A Comparative Study of Students' Success in Black and White Institutions*. (San Francisco: Jossey-Bass Publishers, Inc., 1985).

¹²⁵ See L.F. Burrell. "Is There a Future for Black Students on Predominantly White Campuses?" *integrated Education* 18 (1980): 23-27.

¹²⁶ See Z.F. Gamson, M.W Peterson, and R.T. Blackburn. "States in the Response of White Colleges and Universities to Black Students." *Journal of Higher Education* 51 (1980): 255-267.

¹²⁷ See B.G. Holliday. "Differential Effects on Children's Self-Perceptions on Black Children's Academic Achievement." *The Journal of Negro Education* 54 (1985): 71-81. T.C Hunt. "The Schooling of Immigrants and Black Americans: Some Similarities and Differences." *The Journal of Negro Education* 45 (1976): 423-431. V. Washington. "Racial Differences in a Teacher's Perceptions of First and Fourth Grade Pupils on Selected Characteristics." *The Journal of Negro Education* 52 (1982): 60-72. J.H. Williams. "Relations Among Student and Teacher Perceptions of Behavior." *The Journal of Negro Education* 47 (1978): 328-336.

¹²⁸ Green, M.F., ed. *Minorities on Campus: A Handbook for Enhancing Diversity*. Washington, D.C.: American Council on Education, 1989.

¹²⁹ Schoem, D. et al. *Multicultural Teaching in the University*. Westport: Praeger, 1993. Adams, M. ed. *Promoting Diversity in College Classrooms: Innovative Responses for the Curriculum, Faculty, and Institutions*. New Directions in Teaching and Learning, no. 52. San Francisco: Jossey-Bass, 1992.

not provide such support. Financial support, while important, is less important than the support students receive from positive encouragement. Among African American students, family support for college plans was shown to have a significant impact on persistence during the first year of college.¹³⁰ For example, African Americans and Hispanics attribute more importance to family relationships than do whites.¹³¹ Mexican-Americans have been found to rely on their extended family network and to seek little support from outside sources.¹³²

Families, especially those in which the parents or older siblings have not attended college, may either not encourage students or, more likely, are unsure of the type of encouragement and support to provide. They would like to help their children, but they simply may not understand what is required and as a result, may withhold support due to their own anxiety. Orientation programs that reach out to the families of underrepresented students have been found to be effective means for improving the persistence of these students.

Conclusion

Underrepresented students face many obstacles above and beyond those faced by students in general in their quest for a baccalaureate degree. Social alienation and prejudice are among the more significant obstacles underrepresented students face. Programs designed to reduce alienation and prejudice as well as those that foster a strong positive self-image have a positive effect on the persistence of underrepresented students. The curriculum and the faculty have also been found to significantly affect the persistence of underrepresented students.

¹³⁰ Tracy, T., and Sedlacek, S.E. "The Relevance of Noncognitive Variables to Academic Success: A Longitudinal Comparison By Race." *Journal of College Student Personnel* 26 (1985): 405-410.

¹³¹ Raymond, J., Rhoads, D., and Raymond, R. "The Relative Impact of Family and Social Involvement on Chicago Mental Health." *American Journal of Community Psychology* 8 (1980): 557-569.

¹³² Keefe, S.E., Padilla, A.M., and Carlos, M.L.. "The Family as an Emotional Support System." In J.M. Casas and S.E. Keefe (Eds.), *Family and Mental Health in the Mexican-American Community*. (Los Angeles: Spanish Speaking Mental Health Research Center, 1978).

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