A LONGITUDINAL STUDY OF THE EFFECTS OF SERVICES OF A TRIO PROGRAM UPON UNDERGRADUATE STUDENTS' RETENTION

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A Proposal

Presented for the

Educational Specialist Degree

Austin Peay State University

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John C. Johnson Summer 2005

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DEDICATION

This field study is dedicated to my mom, Frances Johnson, who has always encouraged and supported my educational career, family, friends and co-workers who have always supported my desire to obtain education so I may better serve the community.

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ABSTRACT

The purpose of this study was to determine which, if any, characteristics of participants increase their likelihood of completing their education goals. The researcher used archived data over a five year period to determine which variables had an affect on retention of participants in an Educational Opportunity Center program. Thirteen independent variables were used in a backward logistic regression model to determine if they had any levels of significance on retention. The population used in the study consisted of 725 participants that attended the host institution. The data was checked for outliers, collinearity, and missing data. Cross-tabulation and collinearity statistics were used to determine variables and subjects to be added or removed from the study. The level of significance was set at p < .05. The model of backwards logistic regression revealed five variables with significance to the study. They were: 1) race, 2) full-time and part-time schooling, 3) first semester GPA, 4) employment, and 5) semester term. Further research should use an interview with participants to determine the variables that led them to drop out of school or stay in school and an in-depth study to determine why the variables were significant to retention of EOC adult students. A duplication of this study with other EOC's similar in size and population to this program would also be valuable

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CHAPTER 1

INTRODUCATION

Importance of the Problem

Why does retention matter? There is a three-fold response to this question. Constituencies that have a stake in higher education are the consumer/student, the institution, and the federal government (Dodd 2004). In addition, the state government should be considered as a constituent along with the previous mentioned constituencies.

The consumer/student must make two major choices in degree completion. The first decision is where to pursue a degree and the second is the decision to remain in school to complete the degree. Degree completion leads to career opportunities, a better standard of living, social standing and the injection of disposable income into the economy for growth.

Higher education institutions are paid for delivery of instruction through student tuition and/or state appropriations. In light of the current difficult economic conditions, colleges and universities that continue to experience low retention rates will experience funding loss. Therefore, it is important that institutions discover the characteristics that lead to retention for traditional and nontraditional adult students. Higher education institutions traditionally have three missions: instruction, research, and service. The instruction mission statement for an institution is affected by retention. Questionable instructional framework, paradigms, or methods that are not effective for learners manifest in low institutional retention rates.

For the federal government, retention of nontraditional students at universities and colleges has become a concern. Over the past 25 years the U.S. Department of

Education has invested money into institutions of higher education to enable adults to pursue educational programs. Therefore, it is not an unrealistic request by the Department of Education to inquire why low retention rates are occurring at colleges and universities. In short, the government is looking at accountability of taxpayers' money, citizen educational opportunities, national and global competition and economic markets.

Statement of the Problem

Educational Opportunity Centers (EOC) work with nontraditional adults who wish to return to school. For the consumer/student a degree in higher education provides a means of support for self and family, increased life opportunities for careers and finances, and improved well being. Continuing enrollment affects the funding of a higher education institution and instructions provides a quality curriculum for students as a part of the institution's mission. Funding for institutions and EOC programs comes from the U.S. Department of Education. For these reason, the retention of nontraditional adults is a concern. The purpose of this study was to determine which, if any, characteristics of participants increase their likelihood of completing their education goals.

Relationship to this Problem Area

The EOC is a federally funded program, assisting adults in pursuing post-secondary education for degree attainment. The purpose of this study is to determine which characteristics of EOC participants determine their ability to have success in staying in school once they enroll. A study of the characteristics and level of retention of individuals who enrolled in the host institution through the EOC program should provide insights into how retention can be increased in the program.

Research Question

This study addresses the following question:

 In what way do demographic factors of race, gender, age, marital status, and dependents affect the retention of the Educational Opportunity Center adult students?
How do educational factors of high school diploma or GED, developmental classes, transfer, full-time and part-time school, first semester GPA, and semester term affect the retention of adult students in the Educational opportunity Center program?
To what degree do financial factors such as employment, and Pell Grant award, affect the retention of the Educational Opportunity Center adult students?

Hypotheses

1. The demographic factors of race, gender, age, marital status, and dependents have no affect on the retention of Educational Opportunity Center adult students in higher education.

2. The educational factors of high school diploma or GED, developmental classes, transfer, full-time and part-time school, first semester GPA, and semester term have no affect on the retention of adult students in the Educational opportunity Center program.

3. The financial factors of employment and Pell Grant award have no affect on the retention of the Educational Opportunity Center adult students.

Definitions of Terms

The following terms were integrated throughout the study:

 Educational Opportunity Center (EOC): a federally funded TRIO program, which provides adults with information about higher education. These centers assist individuals in the admission process, financial aid process, and career counseling.
TRIO programs: student assistance programs funded through the United States Department of Education. These programs assist students in overcoming social, class and cultural barriers in post-secondary education settings. The EOC is classified as one of the seven TRIO programs throughout the country

3. Post-secondary education: educational training beyond the high school diploma or GED certificate.

4. Low-income participant/student: an individual whose family's taxable income did not exceed 150% of the poverty level amount in the calendar year preceding the year in which the individual initially participated in the project. The poverty level amount is determined by using criteria of poverty established by the Bureau of the Census of the U.S. Department of Commerce.

5. First-generation participant: an individual neither of whose parents received a baccalaureate degree or an individual who regularly resided with and received support from only one parent and whose supporting parent did not receive a baccalaureate degree.

6. Participant: an individual who is determined to be eligible to participate in the EOC project under the U.S. Department of Education guidelines and receives project services.

7. Host institution: a higher education institution, which houses a TRIO program.

8. One-year retention: defined as a student who begins their college career during a fall semester and then returns the following fall to the institution where they began their college career.

9. Semester term: The semester the participant was initially enrolled in when they begin their schooling, (fall or spring semester).

10. Persistence: A students' continued progress toward degree attainment and eventual achievement of a degree from a higher education institution. These undergraduate degrees include certificate, associate, and baccalaureate degrees.

11. Retention: A student's return from one year to the next year of school attendance or fall-to-fall.

12. Satisfaction: The positive feelings one has for a college or institution.

13. Commitment: the tendency to feel psychologically "attached" to the college and the intent to continue to attend that college until graduation.

14. Institution Selectivity Scale: Highly Selective: ACT > 24.0 or SAT > 1100,

Selective: ACT 22.5 - 24.0 or SAT 1045 - 1100, Moderately Selective: ACT 21.0 -

22.4 or SAT 990-1044, and Less Selective: ACT < 21.0 or SAT < 990.

15. Post-secondary Stopout: The individual stopped attending the institution due to internal or external pressures. They do plan to attend another or the same post-secondary institution once their crisis is over.

Assumptions

The following items were assumed for this research:

1. The data technician or secretary entered the data used in the study correctly.

2. The intake forms requested the same information from participants for the five-year period.

3. Each participant completed his or her own intake form for the program.

4. The participant completed the entire intake form correctly.

Limitations

This study contained the following limitations:

1. Logistic regression is sensitive to the ratio of cases to variables in the analysis.

2. Logistic regression relies on a goodness-of-fit test as a means of assessing the fit of the model to the data.

3. The sample was limited to participants who entered the host institution over the last five years of data collection.

4. Logistic regression is sensitive to high correlations among predictor variables.

5. Logistic regression models are very sensitive to outliers.

6. The study is limited to participants enrolled at a four-year institution and generalization cannot carry over to other types of post-secondary institutions.

7. This is a non-experimental design and is appropriate to use because an experimental design, wherein adult students were denied access to higher education institutions due to their low-income and nontraditional student status, was not educationally or ethically appropriate.

Delimitations

This study contained the following delimitations:

1. The data for the research covers a five-year period from 1997 through 2001 of the EOC program.

2. The results of the study apply to EOC participants who are low-income and first generation adults.

Variables

The research variables used in this study were derived from the review of literature, APSU's Institutional Research office, and the EOC participant intake application. Six variables (education, race, gender, age, marital status, and employment were taken from EOC participant intake forms and literature reviews, while seven (Pell Grant award, developmental classes, transfer, full-time and part-time schooling, first semester GPA, dependents, and semester term) were added from the Institutional Research database based on significance in the literature.

CHAPTER II

REVIEW OF LITERATURE

Adults and Retention in Higher Education

Retention for adults has become a major topic in higher education today. Most institutions are concerned that traditional and nontraditional students are not remaining in school or completing degree programs and graduating from colleges or universities. This situation will have a major impact on the survival of higher educational institutions, future opportunities for educating individuals, and the economy.

Adult retention in higher education is often discussed in the educational as well as political arenas. Palmer (1998) addresses the accountability situation for educational institutions and the federal government's position concerning retention. He states that through policy and funding, the federal government is providing support for adults to pursue post-secondary education. In return, the institution must provide tangible results for the amount of money spent and show the benefit of the policies developed to assist adults in returning to school.

The federal government has invested funds in institutions through federal programs following World War II (G I Bill) to ensure that adults in the nation know about education programs and the application process for admission. Due to this funding endeavor, the government is expecting some form of accountability from the institutions and programs that receive federal dollars. The accountability standard that the government is using is called retention. In addition, several studies state that one single model has not shown itself more effective in improving adult retention in institutions of higher education (Martin 2000, Palmer 1998, and Wlodkowski, Mauldin, & Campbell 2002).

When one considers retention as a measurement standard or a measure of accountability, problems can arise. One such problem is the lack of a universal definition of retention. Depending on the type of retention research, the definition for retention can range from a student attending class the entire semester to completing a degree or graduating from school. Using retention as a measure of accountability is complicated by the tracking the adult students who transfer or stopout. Currently, if a student leaves an institution it is nearly impossible to follow their post-secondary educational progress. This is due to privacy legislation or simply the students' desire not to provide the information to interested parties regarding their progress. Finally, due to the limited amount of research in this field, more studies need to take place to completely address this question, particularly regarding how retention models may be different for adult learners versus younger students.

Reason for Adult Learners to Return to School

Adults return to school for better career opportunities, skill upgrades, better pay, changing of jobs, or careers and personal educational growth (MacKinnon-Slaney 1992, Palmer 1998, Spahn 2001, and Wlodkowski, Mauldin, & Campbell 2002). Cook and King (2004) add that adults are pursuing education in order to upgrade, maintain, or remain competitive in the ever-changing job market. Hazzard (1993) adds that adults are returning to school for professional retraining as well as the previously mentioned reasons. Peterson, delMas and Robert (1996) mention that an adult's career focus leads them back to post-secondary and higher education. Additionally, Mackinnon-Slaney (1992) noted that families, significant others, companies, and agencies provide strong influence on adults pursing higher education. They suggest that these support systems are used by adults to confirm their confidence in education; thus, returning to school becomes a means of improving their lives.

Description of the Adult Learners returning to Post-Secondary School

What do the adult learners returning to school look like? In Tinto's (2004) research females made up 55 percent of the population sample, 30 percent of the students were 20 years of age or older, 29 percent were minorities, 42 percent were first-generation college students and 26 percent had dependent family incomes less than \$25,000.

Cook and King (2004) studied a low-income population; their sample included nontraditional students with annual income less that \$25,000. These adults faced several challenges in completing their education. They were more likely to work part-time and attend a community college, are less likely to seek a bachelor's degree, were single parents, needed access to daycare, and had children under the age of 12 (Cook and King, 2004).

Sandler (2001) considered the nontraditional student to be 24 years or older and Peterson, delMas, and Robert (1996) state that they tend to have rich backgrounds and experiences which serve as frames of reference for their learning, and that their motivation is based on a career decision to return to school. Hazzard (1993) states nontraditional students are married, have children, are over the age of 24, financially independent of parents, directly responsible for the well being of others, and are perceivers of formal education as an activity of increased importance in their life.

Reasons for Adult Learners to Leave School

When considering the adult learner it is important to understand why they leave or stopout of school. Wlodkowski, Mauldin, and Campbell (2002) list the following reasons for adult students leaving college: (1) conflict between job and studies, (2) home responsibilities too great, (3) studies too time consuming, (4) need for a temporary break from studies, (5) child/children related problems, (6) insufficient financial aid, and (7) insufficient income.

However, Murtaugh, Burns, and Schuster (1999) add that age and geographic origin influence a student's decision to remain in school. Their research reveals that "students of traditional age" remained in school due to course and program degree availability where adults had limited courses and degree programs which fit into their work schedule and personal life. Students from the community or residents of the state showed a higher retention rate compared to nonresidents and international students in the study.

Tinto (1987) and Bean (1985) suggest that students leave an institution because there is no connection or match between their educational and career needs and the institution (courses, environment and degree programs). Tinto (1987) cites that a student will leave an institution if they don't feel they belong, whereas Bean (1985) states a student will leave an institution if there is no organizational fit for them. In addition, Kerka (1995) sites lack of childcare, social integration, job demands, negative past experiences with education and lack of confidence in their ability to return to study as reasons for leaving. Tweedell (2000) sites convenience factors or lack of convenience factors such as evening classes, locations, and faster degree completion as reasons for withdrawing from school.

Cook and King (2004) mention course choice, self-esteem, and advising as reasons for withdrawals. Their research suggests that low-income adults who work experience challenges finding courses that are offered at convenient times. Regarding the issue of self-esteem, the prospective non-traditional student worries about being too old to learn and how their younger peers will receive them. Finally, if effective counseling is not provided, they will have limited knowledge of career opportunities available to them and courses they may need to take to pursue a chosen career field. The process is overwhelming due to their long period outside the educational system.

Hazzard (1993) mentioned orientation, attitudes toward nontraditional students, admissions, registration, support services, finances, parking, and time pressures as reasons for dropping out of school. In addition, Wonacott (2000) mentions several of the previous reasons and adds health problems and legal issues as possible causes of leaving school. He adds that lack of career counseling and academics has a great impact on retention of nontraditional adults. Likewise, the research of Peterson, delMas, and Robert (1996) supports the importance that career decisions have in creating a positive effect on adult retention at an institution. Mackinnon-Slaney (1992) adds career and educational goals as factors contributing to adult students leaving school. The career and educational goals must be absolutely clear, because they are central to the persistence of adult learners. The adult learner must commit to their goals, and they must have a strong belief that education can provide the pathway to those goals. This author also stated that if the learner does not fit the institution, he/she will leave because there is no feeling of being a part of the institution. Adding to this situation is the lack of direction concerning a career field choice or educational goal by the students. The article also notes that schools must consider providing more financial aid support, services geared to adults, and career counseling. Likewise, positive learning experiences, understanding how the academic system works, support for social needs, support of faculty, and interaction with peers is equally important.

The literature has addressed numerous hurdles that nontraditional adults must overcome to stay in school. There were several which continued to surface in the readings. They were: lack of degree programs offered that led to a career, availability of courses, advising, financial aid, low incomes, time management, lack of childcare, and part-time and full-time employment. In addition, coming from a low income and first generation background carries the added weight of not being prepared for post-secondary admission standards and the inability to do college level course work. When one considers the previously mentioned barriers, first-generation and low-income background, coupled with pressures from family life, it is understandable why nontraditional adults are more likely to leave school than traditional aged college students.

Existing Models for Retention

Previous research has utilized both existing retention models that were modified for nontraditional adults and the development of instruments that generated data to create new retention models. A model created by Sandler addresses the problem of persistence. The model, entitled "Career Decision-Making Self-Efficacy, Perceived Stress, and an Integrated Model of Student Persistence" provides an explanation of the integration, finances, behavior, and career development of nontraditional students (Sandler, 1999). This model contains five endogenous variables: (1) academic integration, (2) social integration, (3) goal commitment, (4) institutional commitment and (5) academic performance. It has three theoretical subsystems of path linkages: (1) academic and social feelings adult students experience in being a part of the learning in college, (2) relationships engendered between the subset mentioned and the commitments of personal goal and the institution, and (3) a larger structural matrix of social cognitive learning and persistence that the model encompasses. Finally, there are eleven variables that pertained to student background: (1) gender, (2) household income, (3) race/ethnic affiliation, (4) relatives/dependents, (5) financial aid, (6) academic degree aspirations, (7) parents' educational level, (8) student type, (9) degree program, (10) curriculum hours, and (11) hours employed.

Sandler's (1999) findings suggest higher education institutions must develop an educational process that carefully calibrates careers and curriculum, and a balanced adherence by faculty and administrators to create an environment for seamless learning that is truly responsive to nontraditional students. Sandler (2001) presents a model called the Elaborated Structural Model of Adult Student Persistence. This model examined the behavioral and attitudinal impacts on nontraditional adult's unmet needs, financial satisfaction, financial aid, financial difficulty, and academic performance while showing a loosely conceptual relationship to his earlier integrated model of student persistence (1999). In this model a survey was administered to 937 adult students, age 24 years or older studying on a part-time or full-time basis in a two year and four year degree bearing program for adults. The sample for the data analysis was comprised of 469 adult students. The instrument contained 25 variables to ascertain their relationship to persistence. The findings showed that perceived stress and cumulative grade point average had the greatest influence on adult persistence in school.

Shank and McCracken (1993) provided a Dropout Prediction Model of adult students in a vocational setting. This model used 21 independent variables adapted from the Conceptual Model of Nontraditional Student Attrition and Persistence in post-secondary Vocational Education Programs developed by (D. R. Johnson, 1991). A survey was designed to measure the independent variables within four constructs: social/psychological integration, background characteristics, academic/institutional integration, and environmental mediating factors. The results showed eight variables that were most significant in predicting dropout and completion in adult vocational training programs. These variables were: finances/employment, instructor abilities, course/schedule, outside agency support, physical disability, academic ability/habits, family responsibilities, and interpersonal relationships.

Peterson, delMas, and Robert (1996) used Tinto's (1987) theoretical model as the foundation for hypothesizing the two measures of CDMSE that might relate to students' commitment and integration in predicting student persistence. The two instruments used were the CDMSE and Fox, which is a revision of the Pascarell and Terenzini Institutional Integration Scale (IIS). The study consisted of 418 under prepared nontraditional enrolled adult students in a large midwestern urban university. The model was created to describe the impact or role the variables in the study had on student persistence. The variables in the study were: academic integration, intention to persist, social integration, cumulative

grade-point average, goal commitment, and degree utility. The research revealed that nontraditional students who believe college would give them opportunities for employment and better careers are more likely to persist in postsecondary education and higher education institutions.

Mackinnon-Slaney (1991) used "The Adult Persistence in Learning" (APIL) model which synthesizes theory and research on adults as learners and offers a useful model for interventions related to persistence. The APIL model is comprised of ten factors that are configured and recycled, emerging and receding as worries and concerns. In the model there are five factors which relate to personal issues: (1) self-awareness, (2) willingness to delay gratification, (3) clarification of career and life goals, (4) mastery of life transitions, and (5) sense of interpersonal competence. Three factors relate to environmental issues of the particular institution of higher education that have an impact on the individual student: (1) information retrieval from the college, (2) awareness of opportunities and (3) impediments in the environment, and environmental compatibility. Finally, two factors relate to learning issues: (1) educational competence and (2) intellectual/political scope of learning.

Murtaugh, Burns, and Schuster (1999) used a proportional hazards regression model to predict a student's probability of leaving school based on demographic and academic variables. The ten variables were: (1) Age, (2) Sex, (3) Ethnicity/race, (4) Residency, (5) College of first enrollment, (6) High school GPA, (7) SAT score, (8) First quarter GPA, (9) Participation in an Educational Opportunity Program, and (10) Enrollment in Freshman Orientation. A statistical methodology known as survival or failure-time analysis was used on the variables to identify their effect on a student's retention probability of staying in school. Their results revealed attrition increased with age and decreased with an increased first-quarter GPA that non-residence had a higher attrition rate than did resident and international students, and the Freshman Orientation Course appeared to reduce a student's risk for dropping out.

Schutz and Malo (2003) considered two prominent models for predicting student departure in existing literature. One model was Vicent Tinto's model of student integration, which was first proposed in 1974, and the other Bean's model of student departure, which was proposed in 1985 (Bean, 1985; Tinto, 1987).

Tinto's model of student integration centers on how the higher education institution's interaction with the student affects their departure from the institution. It has four components: (1) academic, (2) integration, (3) social integration, (4) student institutional commitment and student goal commitment (Cabrera, Castneda, Nora, & Hengstler, 1992). Tinto reflected on the "mismatch or lack of fit between the needs, interests, and preferences of the individual and those of the institution" (Tinto, 1987, p. 54). Tinto suggests that if a match or fit does not occur between the individual and the institution, the student will dropout.

Schutz and Malo state that Bean's model of student departure focuses on the causes of students leaving an academic institution. It compares the academic organization with a work organization and centers on the turnover of people within an organization (Cabrera, Castneda, Nora, & Hengstler, 1992). In addition, the model measures "organizational, personal, and environmental variables" and follows the logic that "beliefs shape attitudes and, attitudes in turn shape behavioral intents" (Cabrera, Castneda, Nora, and Hengstler, 1992, p. 145).

Schutz and Malo used a logistical regression model to determine one-year retention for the Tennessee Board of Regents (TBR) schools. This organization consists of six universities and thirteen community colleges. They used a tracking database from the universities and community colleges in the TBR system. The model was comprised of three databases: first-time freshmen, the retention, and the Student Information System (SIS) 14th day enrollment. The retention and first-time freshman databases were merged to create the predictive variables, and the SIS enrollment database was used to determine the one-year retention status of each individual student.

The first-time freshmen database was comprised of the following data: high school graduation, high school credentials (academic transcript, vocational transcript, or GED, high school GPA, college preparation course work), admission by alternative standards, along with recommended and actual remedial enrollment. The retention database data were: gender, race, age, current fall and spring enrollment status, first fall enrollment status, remedial and college level enrollment for the year, along with total college GPA. The SIS enrollment database was used to determine the dichotomous retention variable (returned the following fall or did not return the following fall). The authors conclude that early intervention strategies be developed and implemented for students at risk of departure. Also, institutions should take a closer look at the role of financial aid and its affect upon student retention. Finally, they found that supplemental research methods would provide data that gives more credence to their system. The supplemental research methods they suggest are interviews, enrollment and alumni satisfaction surveys and focus groups.

Another model used by Cini and Fritz (1996) utilized Rusbult's Investment Model that predicts college commitment in traditional-age and adult students based on theoretical notions of social exchange and interdependence. A questionnaire was developed to assess rewards, costs, alternatives, investments and commitment to college. The instrument was administered to 216 traditionally-aged students and 204 adult students enrolled in a Saturday College program designed for older adults wishing to complete their baccalaureate degree attending Saturday classes. The model looks at six categories to determine how they effect commitment for traditionally-aged students and adults. The categories are demographic variables, motivational issues, expectations, psychological correlates, identity issues and social integration. In addition, the model differentiates commitment from satisfaction and looks at the quality of alternatives and the extent of investments for the individual. The questionnaire used a comprehensive list of questions designed to measure all elements of the Investment Model as it relates to commitment to one's college. The student answered the questions based on a seven-point Likert scale. There were fifteen items concerning rewards and costs of attending a college, ten investment and three global items, six items addressing alternatives to attending college, and commitment measured globally with four items. The study revealed investments of time and money, rewards and investments represented by potential losses upon leaving were significant predicators of commitment for traditional-age students. For adult students' acceptable alternatives, rewards, and investments represented by potential losses upon leaving were significant predictors of commitment. Costs did not affect commitment for either group in the study. See table 1 in appendix A for a comparison of the models.

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Findings

Thus far the discussions have centered on the importance of adult student retention and its implication concerning postsecondary institutions, nontraditional adults returning and leaving school, the characteristics of nontraditional adults, and the types of instruments and models currently in use to collect retention data. This section will focus on what research says works for retention of nontraditional adult students.

The findings are:

1. Social integration in the chosen institution by the nontraditional student leads to retention (Cini, Fritz and Harden, 1996; Schutz and Malo, 2003; Peterson and delMas, 1996; and Tinto, 2004).

2. Rewards provide significant commitment for retention of adult students (Cini, Fritz and Harden, 1996). Possible examples of rewards are, but not limited to, the following: bookstore hours of operation, on-campus activities, career placement activities and any rewards or recognition accorded to their institution, including national rankings, accreditation status and faculty accomplishments.

3. Early intervention strategies by institutions for students at risk of departing as well as entering the system through orientation programs (Schutz and Malo, 2003; Murtaugh, Burns and Schuster, 1999; MacKinnon-Slaney, 1994; and Shank and McCracken, 1993).

4. Non-need based financial and scholarship programs and other institutional aid leads to retention of nontraditional students (Schutz and Malo, 2003; Murtaugh, Burns and Schuster, 1999; and Sandler, 2000).

5. A well developed marketing plan based on surveys and qualitative testing of nontraditional students attending the institution (Mutaugh, Burns and Schuster, 1999).

6. Institutions, which provide relevant courses at the times, and locations that are most convenient for older students (Murtaugh, Burns and Schuster, 1999; Kerka, 1995; and Cini, Fritz and Harden, 1996).

7. Career counseling opportunities that identify careers which can be pursued through education which will likely result in employment through completion of a course program or degree (Peterson and delMas, 1996; and Sandler, 2001).

8. Orientation programs or sessions are essential in providing retention of nontraditional students, especially pre-enrollment orientations. An orientation can provide a wide range of opportunities in providing information, which allows adult students to make informed decisions, and establishes obtainable goals to enhance their retention at an institution (Hazzard, 1993; Kerka, 1995; Wonacott, 2000; and Murtaugh, Burns and Schuster, 1999).

9. Increased need based financial aid (Pell Grants) (Sandler, 2001; Tinto, 2004; Wlodkowski, Mauldin and Campbell, 2002).

10. Effective advising of nontraditional adult students (Wlodkowski, Mauldin and Campbell, 2002; Tinto, 2004; Wonacott, 2000; and Hazzard, 1993).

Conclusion

All the studies recommended that there must be more research on this topic. Currently, retention is on most EOC's agenda, and discussions are taking place on every level of government and in the educational arena. It is essential that more research be conducted,

because what has previously been done is just the beginning of exploring this complex matter. Current research has provided reasons why students leave school and that should be used as a guide for now in developing models to predict retention for adults. Further insightful findings should be utilized as they surface to correct the adult retention problem plaguing institutions throughout the nation.

In addition, more studies should be conducted to determine the changing nature and characteristics of the nontraditional student. This information would allow institutions of higher education to know what policies, supports, and procedures to better meet the needs of and enhance a nontraditional adult student's success in their educational pursuit.

Finally, the studies suggest that an accurate model must be developed which would predict adult students' retention rate for accountability to the federal government by institutions so that funding will be continued. More importantly, the ultimate model should provide insight into what methods and procedures are most effective for retention of returning adult students. It should be cost effective for the institution and must be user friendly for the individual completing the instrument.

This longitudinal study conducted for the EOC will provide useful information to improve the retention capability of the program's participants in its target area. The results of this study will provide crucial data about EOC adult participants who have experienced retention through the program as well as recommendations to develop effective strategies to enhance retention for nontraditional adults in the EOC program and the host institution.

CHAPTER III METHODOLOGY

Sample and Selection

The population used in the study comes from an Educational Opportunity <u>Center</u> (EOC) housed in a post-secondary educational institution in the Southeastern region of the country. The individuals in the program reside in a three county area that comprises the target area for the EOC program. These individuals live within a 50-mile radius of the program's central office.

The study was comprised of enrolled participants in the host institution through the EOC program from 1997 through the 2001 school year. The sample size is based on five years of stored data found in the EOC database comprised of eligible participants who completed intake forms to enter the EOC program. The population used in the study consisted of 725 participants.

The selection identifiers that determined the EOC population are:

- 1. A citizen or national of the United States
- 2. Low income or first generation or a combination of both characteristics
- 3. Aged, 19 years or older
- 4. Residents of Montgomery and Stewart County in Tennessee or Christian County, Kentucky
- 5. Seeking an educational degree on the post-secondary level
- 6. Have a high school diploma or GED

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Safeguards

The field study was approved by the Institutional Review Board to ensure that the methods and procedures have been satisfied to safeguard the participants in the study. During the process, the data was kept in a locked and secured location. The data was saved on a zip disk for utilization on the computer. The diskette was in a locked and secured place at all times. For privacy, the individual's names were not included in the data. The researcher did not have access to the names of the individuals at any time during the field study. At the end of the study, following approval by the Institutional Review Board, the data will be destroyed.

Research Instruments

In conducting research the results are only as valid as the procedures and instruments used to gather the data for analysis. On this particular research topic it is very important that an instrument is developed to predict or provide reliable data to assist institutions and programs with increasing retention and education degree completion. Considering the research available for review, a bonafide instrument that can take into account all aspects of retention and/or persistence has not been developed at this time. Examples of instruments found in the literature reviews were Likert scales, phone interviews, face-toface interviews, surveys, check list, and hybrid instruments developed from the combination of other surveys or instruments to determine retention rates and modified traditional student retention or persistence models for non-traditional students. In the literature review Spahn (2001) and Wlodkowski, Mauldin, & Campbell (2002), they

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designed survey instruments to gather data for research on the topic of retention. The surveys used by the researchers were designed to collect demographic and background characteristics, financial need, employment status, academic and personal circumstances, student services and school environment. Spahn included questions from Faces of the Future from ACT, and the American Association of Community Colleges, and the 1999 National Household Educational Survey from the U.S. Department of Education, National Center for Education Statistics.

In addition, Wlodkowski, Mauldin and Campbell used a phone interview that focused on students' experiences prior to withdrawing from college. A doctoral intern at the center conducted the interview. The interview sessions were limited to ten minutes focusing on academic advising questions and questions from the survey previously sent out to the students. This survey method was reportedly used due to time and cost restraints. Sandler (2000) integrated two survey instruments to examine his sample population. The two surveys he utilized to develop his survey were the Career Decision-Making Self-Efficacy - Short Form (CDMSE-SF) and the "Student Experiences Survey" (Cabrera, 1988). The combined instruments created a single survey questionnaire called the "Adult Student Experiences Survey" (ASES), which was administered to collect attitudinal data and self-reported background characteristics. The study focused on assisting adult students in achieving their goals and the critical development task of career decision-making and planning for success in their educational pursuit.

Design and Procedure

This is a causal/comparative model with correlation to analyze demographic and nominal data on EOC participants for persistence from fall to fall. The data used in the study was generated from a query using data collected over a five year period on EOC program participants. The instrument or model utilized for this study was logistic regression. Logistic regression places all of the variables into the model and then eliminates those that do not show any significance. Outliers, collinearity, and missing data are issues that affect the validity of using logistic regression. The model was checked for collinearity between variables, outliers, and missing data. In addition, some of the variables were recoded. In this study, variables were recoded for three purposes. They were:

1. To order the categories correctly for software to code the comparison category. The examples of these variables are first semester GPA and employment.

To remove variable categories that had too few cases. Examples of these variables are scholarship, financial aid, post-secondary stopouts, and English developmental classes.
Recoded to make the variable more understandable. An example is the dependent variable removed marriage partners from the family size variable. Finally, this design was appropriate to use because an experimental design, wherein adult students were denied access to higher education institutions due to their low-income and nontraditional status, was not educationally or ethically appropriate.

The process started with filing the application for the field study with the Institutional Research Committee. Next, permission was sought from the office of Grants and

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Research Director and the director of TRIO programs. After permission was granted from the previous mentioned committees, individuals and departments, the data was collected.

The data was collected from the electronic database and hard files in the Educational Opportunity Center program (EOC). This information is from five years of activity in the program (1997-98 through 2001-02). The information was collected by the secretary and director of the center and deposited on a zip diskette. Participant's names were removed to provide anonymity for the participant's in the study. The participant's data placed on the diskette consisted of: education (high school diploma or GED), race, gender, age, marital status, employment, Pell Grant award, developmental classes, transfer, full-time and part-time schooling, first semester GPA, dependents, and report cycle by semester.

The data was compiled by query to produce the sample population for the field study of the participants who were attending the host institution from the five years of data. The resulting sample size reflected participants identified as attending the host institution. The logistic regression model was used to analyze the data to determine which if any of the participant variables have an effect on their retention. The data variables were coded for application in the computer program. The coded data was then entered into the program and processed. For this study, the level of significance was set at p<.05.

CHAPTER IV DATA AND RESULTS

The Population

The students used in the study were derived from the population of individuals who enrolled in a post-secondary institution during a five-year period. See Table 2 in appendix B. It shows the breakdown of the variables used in the study and includes descriptive percentages by variable.

The study used backward logistic regression to determine a model for predicting enrollment retention. The process included cross-tabulation and collinearity statistics to determine variables and subjects to be added or removed from the study. The resulting information from the study was applied to the hypothesis concerning retention of adults who enrolled in school through the EOC program. Backward Logistic regression revealed that race, GPA, employment, full-time and part-time schooling, and entrance by semester were significant variables in retention of adults from one semester to the next.

Backward logistic regression begins with a number of variables and removes variables that do not improve the model. In this case the model began with the 13 variables in table 2 and identified the five variables in table 3 as significant predictors of retention (p<0.05). The model is significant (p<0.001) and predicts 76.8 percent of the cases. See table 2 in appendix B and table 3 in the appendix C.

It is important to point out that the categories of full-time and part-time schooling, first semester GPA and employment, showed the strongest impact on the adults who were retained from semester to semester with odds ratios greater than 2.5 times more likely. In

addition, under the first semester GPA, 2, 3, and 4 proved to be significant (p<0.001) and in the employment, (1) demonstrated statistical significance (p<0.001).

Variables put into the Model

The research questions were designed to determine what effects the variables in the study had on retention of adult students. After the initial steps with the data were conducted, 13 variables were used in the study. They were 1) education, 2) race, 3) gender, 4) age, 5) marital status, 6) employment, 7) Pell Grant, 8) developmental classes, 9) transfer, 10) full-time and part-time schooling, 11) semester GPA, 12) dependents, and 13) semester term.

Significance variables identified in the Model

The model of backwards-logistic regression revealed five variables with significance to the study. They were 1) race, 2) full-time and part-time schooling, 3) first semester GPA, 4), and 5) semester term. The resulting data from the study supports results found in the review of literature.

Race

In the host institution the student population by race over the five year period was: African American – 18.1%, Hispanic – 4.6%, and Caucasian – 63%. In the study for the EOC the population by race over the same time period was: African American -24.1%, Hispanic – 13%, and Caucasian – 53.2%. The results for race: 1. Blacks are 1.7 times more likely to return the next academic semester than Caucasians 2. Hispanics are 1.8 times more likely to return the next academic semester than Caucasians

3. Individuals who fall under other are 1.2 times less likely to return the next academic semester than Caucasians

Results of the analyzed data for race suggest that in the EOC program African Americans and Hispanics are two times more likely to return or experience retention than White students. The reason for this may be linked to their understanding that education provides a level playing field concerning competition for jobs. Also, as more educational funds and information is readily available, agencies and organizations are targeting the Black and Hispanic communities to ensure this information reaches them.

The hypothesis stating the demographic factors of race, gender, age, marital status, and dependents have no affect on the retention of Educational Opportunity Center adult students in higher education is rejected. The rejection is based on the race variable showing significance on the retention of EOC adult students in higher education.

Full-time and Part-time schooling

In this study 54.2% were full-time students and 45.8% were part-time students. The results of the study concerning full-time and part-time schooling was that in comparing full-time to part-time status, a full-time student was three times more likely to return the next semester than a part-time student.

Cook and King (2004) stated that adult students are less likely to be enrolled full-time due to full-time jobs and a family. They found that one in five low-income adult students and almost half of other adults, attended school on a less-than-half time basis. Hazzard

(1993) concluded in his study that non-traditional students are part-time students who are serious about learning. Contrary to what the literature reviews revealed, the results of this study discovered that full-time enrolled adult students were three times more likely to experience retention than part-time enrolled adult students. This occurrence may be due to the students experiencing progress towards the completion of their chosen degree program or a combination of progress and good GPA.

The hypothesis on education factors of high school diploma or GED, developmental classes, transfer, full-time and part-time school, first semester GPA, and semester term have no affect on the retention of adult students in the Educational Opportunity Center program is rejected. This variable showed significance on affecting the retention of adults in the EOC program.

First Semester GPA

Of the participants in the study 46.9% were between a 3.0 and 4.0 GPA, 29.4% were between 2.0 and 2.9999 GPA, 9.2% fell between 1.0 and 1.9999 GPA, and 8.4% fell between 0.0 and 0.9999 GPA, and 6.1% were null or 0 GPA.

The results for Grade Point Averages showed:

1. If one has a 3.0 - 4.0 GPA, they are two times more likely to return the next academic semester than someone having a 2.0 - 2.9 GPA.

2. If one has a 3.0 - 4.0 GPA, they are five times more likely to return the next academic semester than someone receiving a 1.0 - 1.9 GPA.

3. If one has a 3.0 - 4.0 GPA, they are 14 times more likely to return the next academic semester than someone having a 0.0 - 0.9 GPA.

4. If one has a 3.0 - 4.0 GPA, they are 20 times more likely to return the next academic semester than someone who withdraws from school.

Sandler (2001) states a favorable cumulative GPA has a direct effect on intent to persist and an indirect effect on persistence. Schutz and Malo's (2003) findings demonstrate GPA was a strong predictor of one-year retention for students attending school. In the reviews, Murtaugh, Burns, and Schuster (1999) found in the results of their multiple-variable model that Black students are less likely to withdraw from school if their GPA was favorable. Also, a student with a first-quarter GPA of 3.5 is 49% less likely to withdraw from school than a student with a GPA of 2.5. The results of the study revealed that the closer one's GPA is to a 3.0 the better their opportunity for retention. This works because the person is experiencing success, and all studies indicate that success builds or furthers one's desire to be successful.

The hypothesis on education factors of high school diploma or GED, developmental classes, transfer, full-time and part-time school, first semester GPA, and semester term have no affect on the retention of adult students in the Educational Opportunity Center program is rejected. First semester GPA showed significance on the retention of adult students in the EOC program.

Employment

The percentage distribution for employed students in the study was 40.4% were fulltime and 22.6% were part-time and 37% unemployed. The results for employment in the study were:

1. A person with a part-time job is 2.8 times more likely than a person who is employed full-time to stay in school from one semester to another.

2. A person with a part-time job is 1.1 times more likely to stay in school from one semester to another than an unemployed individual.

Sandler (2001) found that students with lower hours of employment exhibited a stronger capacity for staying in school. In addition, Cook and King (2004), state that 86% of low-income adult students work in order to afford school. As mentioned previously, this study suggests a part-time employed student is three times more likely to stay in school than a full-time employed student. When an adult is working full-time there is less time for: studying, less likely that their work schedule will allow specific classes to be taken, no flexibility in scheduling courses leading to completing degrees, and balancing family and social obligations with a school schedule.

The hypothesis that financial factors of employment and Pell Grant award have no affect on the retention of the Educational Opportunity Center adult students is rejected. This variable revealed significance on the retention of EOC adult students.

Semester Term

The percentage of participants who started in the fall semester was 72% and in the spring semester was 28%. The results from analyzing the data showed people who start in the fall are 1.7 times more likely to return the next spring than a person who starts in the spring who is likely to return the next fall.

Schutz and Malo's (2001) results demonstrated fall enrollment was a significant variable in their study. One reason a student could be more successful enrolling in the fall

lies in tradition. Fall is the traditional time to start school in the American culture and individuals tend to think about returning to school during that time of year. Another reason may be that the institution provides more social, cultural, and academic attention to individuals who choose to enter the institution during this time period. Usually, orientation classes and tours take place, advisement sessions are prior to school starting in the fall, departments within the university have open houses for students, student forums, student elections, campus organizations have open houses, and staff and faculty are encouraged by the administration to exhibit welcoming behavior towards students during the fall semester more so than the spring or summer semester. Finally, students who enroll in the fall usually take advantage of the summer in preparing for entrance into college for the fall.

The hypothesis on education factors of high school diploma or GED, developmental classes, transfer, full-time and part-time school, first semester GPA, and semester term have no affect on the retention of adult students in the Educational Opportunity Center program is rejected. The semester term enrolled showed significance on the retention of adult students in the EOC program.

Limitations

In this study, limitations can be found in that the model did not predict adult students who enter in the summer semesters, and the model predicts who enters at the host institution but not other two-year junior or community colleges, public and private fouryear universities, research universities, or regional universities. Therefore, if this study was replicated by another EOC program they may not reach the same predicted results.

The clear strength of this study was the availability of an enormous amount of data on the EOC adult population within the four-year host institution.

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CHAPTER V

SUMMARY AND RECOMMENDATIONS

Summary

The statistical technique of backward logistic regression predicting retention was used in analyzing the data. Five variables significantly affected retention: 1) race, 2) full-time and part-time schooling, 3) first semester GPA, 4) employment, and 5) semester term.

The results indicate that Blacks are 1.7 times more likely to return the next academic semester than Caucasians. While Hispanics are 1.8 times more likely to return the next academic semester than Caucasians, and individuals who fall under other are 1.2 times less likely to return the next academic semester than Caucasians. Concerning full-time and part-time schooling, a full-time student was three times more likely to return the next semester than a part-time student.

Results on first semester GPA shows if a student has a 3.0 - 4.0 GPA, they are two times more likely to return the next academic semester than someone getting a 2.0 - 2.9GPA. Whereas, a person with a 3.0 - 4.0 GPA is five times more likely to return the next academic semester than receiving a 1.0 - 1.9 GPA, but a person with a 3.0 - 4.0 GPA, is 14 times more likely to return the next academic semester than having a 0.0 - 0.9 GPA, and a person with a 3.0 - 4.0 GPA, is 20 times more likely to return the next academic semester than someone who withdraws from school.

In addition, employment results reveals that a person with a part-time job is 2.8 times more likely than a person who is employed full-time to stay in school from one semester to another and a person with a part-time job is 1.1 times more likely to stay in school

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from one semester to another than an unemployed individual. Finally, the semester term indicates that people who start in the fall are 1.7 times more likely to return the next spring than a person who starts in the spring who is likely to return the next fall.

Recommendations

Based on the results from the study, the following recommendations are to be made. Intrusive advising should be utilized in counseling with nontraditional students. Although this may sound extreme the method does have a positive effect on retention of students. Also, administration should consider using counseling and advising sessions, mandatory tutoring sessions, and mentoring by groups or peers to encourage adult students to strive for a 3.0 GPA or higher during their first semester in school. To continue, the institution should consider providing more financial aid and scholarships so adult students do not have to work full-time during their school tenure.

In addition, design advising and counseling sessions to encourage adult students returning to school to begin during the fall semester rather than the spring semester. The advising or counseling sessions should advise adult students to attend school full-time when possible over attending part-time, provide timely and continuous follow-up and attention from instructors and counselors especially during the first month of the semester.

Furthermore, consider using cohorts, workshops, support groups and seminars as means of follow-up contacts for adult students and provide a summer transition program for students entering in the spring that have enrolled or plan to attend the next fall semester.

Finally, conduct more research on these on retention of adults enrolled through Educational Opportunity Center at the host institution.

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LIST OF REFERENCES

- Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. Review of Educational Research, 55 (4), 485-540.
- Cabrera, A.T.; N., A. et al. (1992). The convergence between two theories of college persistence. The Journal of Higher Education, 63 (2), 143-164.
- Cini, Marie A.: Fritz, Janie M. Harden (1996). Predicting Commitment in Adult and Traditional-Age Students: Applying Rusbult's Investment Model to the Study of Retention. Report (ED 401 451). The Center for the Study of Higher Education, Continuing and Distance Education, and the Pennsylvania State University, June, 1996.
- Cook, B., & King, J. E. (2004). Low-Income Adults in Profile: Improving Lives Through Higher Education. American Council on Education, Washington D.C. Copyright February 2004 by the ACE
- Hazzard, T. (1993). Programs, Issues, and Concerns Regarding Nontraditional Students with a Focus on a Model Orientation Session. (Information Analyses 070). University Continuing Education paper, Florida State University, Tallahassee.
- Kerka, S. (1995). Adult Learner Retention Revisited. ERIC Digest No. 166. (Information Analyses – ERIC Clearinghouse Products (071)
- MacKinnon-Slaney, F. (1994). The Adult Persistence in Learning Model: A Road Map to Counseling Services for Adult Learners. Journal of Counseling & Development, 72, 269-275
- Murtaugh, P. A., Burns, L. D., & Schuster, J. (1999). Predicting The Retention of University Students. Research in Higher Education, Vol. 40 No. 3. 1999
- Palmer, J. (1998). Fostering Student Retention and Success at the Community College. Policy Paper (ED 439 768). This policy paper is produced as part of ECS' Critical Roles for Community Colleges project, funded by the Metropolitan Life Foundation.
- Peterson, S. L., & delMas, R. C. (1996). Effects of Career-Decision-Making Self-Efficacy on the Retention of Underprepared Adults: A Path Analytic Study of Student Persistence. Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY April 8-12, 1996).

- Sandler, M. E. (2000, April). A Focal Examination of Integration, Commitment, and Academic Performance: Three Subsystems from the Integrated Marine, and Academic Performance: Three Subsystems from the Integration, Commitment, and Academic Performance: Three Subsystems from the Integrated Model of Student Academic refronting and a solution of the integrated Model of Studer Persistence with Sociostructural Background Variable Effects. Paper presented before the 2000 Annual Conference of the American Educational Research
- Sandler, M. E. (2001). Perceived Stress and an Elaborated Structural Model of Adult Student Persistence: An Examination of Financial Aid, Financial Ad, Financial Adult Student v Andreas Adult Student v Andreas Aid, Financial Satisfaction, Intent To Persist and Persistence. A paper presented before The American Educational Research Association 2001 Annual Meeting,
- Schutz, G. & Malo, G. (2003, Fall Conference). Predictors of One-Year Retention in the Tennessee Degree Attainment Tracking Database. Paper presented to the Tennessee Association for Institutional Research Fall Conference 2003, Nashville, TN.
- Shank, J. A. & McCracken, J. D. (1993). Dropout and Completion in Adult Vocational Job Training Programs: A prediction Model for the Adult Vocational Student. Paper presented at the Annual Meeting of the American Vocational Association (Nashville, TN, December 1993).
- Spahn, K. (2001, June). Assessing an Untapped Supply of Information Technology Workers: Adult Women and Underrepresented Minorities. Paper presented at the National Educational Computing Conference, "Building on the Future", Chicago, IL.
- Tinto, V. (1987). Leaving College: Rethinking the causes and cares of student attrition Chicago: University of Chicago Press
- Tinto, V. (2004). Student Retention and Graduation: Facing The Truth Living with the Consequences. The Pell Institute, Occasional paper, No. 1.
- Tweedell, C. B. (2000). A theory of Adult Learning and Implications for Practice. Paper presented at the Annual Meeting of the Midwest Educational Research Association (Chicago, IL, October 20000)
- Wlodkowski, R. J., Mauldin, J., Campbell, S. (2002). Early Exit: understanding Adult Attrition in Accelerated and Traditional Postsecondary Programs. Synopsis: Higher Education Research highlights (Ed 467 088). Lumina Foundation for Education, Indianapolis, IN.
- Wonacott, M. E. (2000). Adult Students: Recruitment and Retention. Practice Application Brief No. 18. (ERIC Document Reproduction Services No. ED457407 ED457405

APPENDICES

Table 1. Model	Instrument	D	T	SW T
ision-making Self-	Career Decision-	P	R	Mail
Career Decision and Stress and	Making Self-Efficacy			Survey randomly h
Efficacy, perceived of Studen	tand Student	17		collect attituding 1
in Integrated Woder 2000	Experiences Survey	X		background at data and self-representation
persistence. Sandier, 2000	Survey			response the day
Pero				analysis was
	CA dula Ca 1			measurement was conducted that include the step data
is horated Structural Model of	Adult Student			Survey and structural store
Elaboration Persistence	Experiences Survey	X		underge in vided to adult/nontre list
Adult Stud	(ASES)			andergraduate students. It was li
uer 2001				The Grand Students encould be the students encould be
Sandler, 2001				The final sample size was 460
				rejections. A two step data and
				conducted that included man
li tian Model of	Survey questionnai			structural stages.
Dropout Prediction Woder of	developed f			Survey with a \$1.00 inc.
Adult Students	developed from the			mailed to 376 student was randomly
100	Conceptual Model of			rate the data was
chank and McCracken, 1993	Nontraditional		x	using the Station analyzed. It was analyzed
Shally and the	Student Attrition and		~	Samiana (Space and package for the Social
	Persistence in post-			Services (SPSS/PC+)
	Secondary Voortigent			
	Education D			
	Education Programs	_		
Tinto's Theoretical Model	Career-Decision-			The two surveys are given to 418 most with
Tinto, 1987	Making Self-Efficacy		X	students. The data collected
Peterson delMas, and Robert	(CDMSE Path			principal components and was analyzed using
1006	Analysis) and FOX			equations model
1990	Comprohensive			equations modeling
The Adult Persistence In	Comprehensive			Adults are identified in the admission process
Learning Model (APIL)	Checklist			and directed to the counseling center. A
				comprehensive checklist administered by a
Mackinnon-Slaney, 1991			X	counselor is given to the student. The data
				collected from the sessions are complied and
				shared with the administration and staff to
				increases retention for the institution
D				increase retention for the institution.
Proportional Hazards	Survival analysis			The survival analysis was applied to data
Regression Model				collected from 8,867 students. The process
Murtaugh, Burns, and Schuster			X	identified 10 variables and their effects on a
1999				student's retention probability of staying in
				school
Logistic Pageage				Archived data from the Tennessee Board of
siste Regression Model	Backward Logistic			Depents school system tracking databases was
Salar	Regression			Regents school system determine one-year retention rates.
senutz and Malo, 2003	1473 P.		Х	analyzed to determine one year analysis was used
				Backward logistic regression analysis
				to predict the variables that were not or any
				significance.
Rushult's Inc.				A survey was given to 204 Adult students and
s investment Model	Questionnaire using			a survey in a ge students were chosen at the
Cini	seven point Likert			210 fraction they attended. The researchers
and Fritz, 1996	Scale			institution they chosen students in their
	court		Χ	approached the chosen the complete the
				classrooms and asked inter their college
				questionnaire concerning det
				experience.
Notes:				
$P = P_{efsictor}$				
R = Retention				
sation				

Appendix A the 1: Models and Instruments in Literature Review

Table 2: Variables Included In Analysis

V	ariables from the EOC data base and	Literature	
2.12	Description	Reviews	
Code	Level of Education prior t	Categoria	
ED	secondary	1. High School	Counts
	secondary	Diploma	71 20/
	Race (Race Time)	2. GED Certificat	78.90/
Race	Race (Race Type)	1. Caucasian	20.070
		2. Black	53.2%
		3. Hispanic	24.1%
	$C_{\rm exc} = 1 + c \left(C_{\rm exc} \right)$	4. Other	13%
Gen	Gender (Sex)	1. Male	9.7%
		2. Female	33.4%
Age	Age (Age)	1.18-23	66.6%
		2.24 - 29	43.9%
		3.30 - 35	25.2%
		4.36 - 41	14.5%
		5 42 +	8.8%
Mar	Marital Status (Marital status	1 Single	7.6%
11 IIII	Type)	2 Married	43.6%
Emp	Employment (Employment	1. Dort time	56.4%
Emp	Type)	1. Part-time	22.6%
Recoue	Type)	2. Full-time	40.4%
		3. Unemployed	37%
	Variables from Institutional Rese	earch data base	
Pell	Pell Grant Award	1. No	41.9%
		2. Yes	58.1%
Dev	Developmental classes taken	1. No	28.6%
Recode		2. Yes	71.4%
Tran	Transfer	1. First Time	45.2%
		Freshman	29.1%
		2. Transfer Student	25.7%
		3. Stopout Student	
EtD+	E ll ci l set time schooling	1 Full-time	54.2%
rtrt	Full-time and part-time schooling	2 Part-time	45.8%
C 1		1 3 0 through 4.0	46.9%
Sem1	Semester 1 GPA Category 1	2, 2, 0 through	
GpaCat1	Recode	2. 2.0 4. 0 2.0	29.4%
Recode		2.9999	
		3. 1.0 000	9.2%
		1.9999	
		4. 0.0 000	8.4%
		0.9999	6.1%
		5. Null	24.6%
Dep	Dependents	1. 0 dependent	24.3%
	Dependents	2. 1 dependent	

٠

	3.2 dependents	22.6%
	4.3+ dependents	28.6%
a la Term	b. Fall	72%
Report Cycle Term	d. Spring	28%
atCycle		
pro:		

erm =725

Appendix C

iables	В	S.E.	Wald			
Variables			8 084	df	Sig.	Evn(D)
Race	.540	.234	5 3 5 3	3	.044	TYD(R)
Race(1)	.633	.294	4 638	1	.021	1 717
Race(2)	.141	.320	194	1	.031	1.883
Race(J)	-1.050	.206	26.038	1	1.151	1.151
First Semester GPA			97 169	1	.000	.350
First Semester GPA (1)	690	.229	9.036	4	.000	
First Semester GPA (2)	-1.656	.320	26 732	1	.003	.502
First Semester GPA (3)	-2.658	.345	59 404	1	.000	.191
First Semester GPA (4)	-2.975	.400	55 288	1	.000	.070
Employment			23 219	1	.000	.051
Employment (1)	-1.036	.267	15 099	2	.000	
Employment (2)	- 133	267	249	1	.000	.355
$\frac{\text{Employment}(2)}{\text{Semester Term}(1)}$	- 521	197	6.082	1	.618	.875
Semester remm(r)		.177	0.962	1	.008	.594

Table 3: Variables of Significance in the Study

Variables:

- Race: 1) Caucasian
 - 2) Black
 - 3) Hispanic

FtPt-Full-time and Part-time schooling

First Semester GPA: 1) 3.0 through 4.0 2) 2.0 through 2.9999 3) 1.0 through 1.9999 4) 0.0 through 0.9999

Employment: 1) Part-time 2) Full-time

Semester Term: 1) Fall

VITA

John C. Johnson was born in Nashville, Tennessee on June 15, 1958. He was raised in Clarksville, TN and attended public schools in the Montgomery County School System. John graduated from Northwest High School in May, 1975. The following summer he attended Austin Peay State University. In May 1982, he earned a Bachelor of Arts degree with a major in business administration and minor in management. In December of 1991, he earned a Master of Arts in education from Austin Peay State University. His concentration was in curriculum and instruction with certification to teach.

Currently, John is pursing his Education Specialist Degree in administration and supervision at Austin Peay State University in Clarksville, TN. The degree with honor will be conferred in August, 2005. He is presently employed at Austin Peay State University as the director of the Clarksville/Ft. Campbell Educational Opportunity Center.