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Linking adult learner satisfaction with retention: The role of background characteristics, academic characteristics, and satisfaction upon retention

Karen Tjossem Anderson
Iowa State University

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Linking adult learner satisfaction with retention: The role of background characteristics, academic characteristics, and satisfaction upon retention

by

Karen Tjossem Anderson

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Education (Educational Leadership)

Program of Study Committee:

Daniel C. Robinson, Major Professor
Robyn M. Cooper
Larry H. Ebbers
Frankie Santos Laanan
Mack C. Shelley

Iowa State University

Ames, Iowa

2011

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DEDICATION

I dedicate
this dissertation to
my understanding and supportive husband
Andy
who believed that I could do this,
my sons
Joshua and Peter
who didn't laugh when I said I was going back to school,
and
my mom
who said, "Just get it done!"

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ABSTRACT

Adult students are an important and viable clientele for colleges and universities today. They provide additional tuition revenue, bring the richness and variety of their knowledge and life experience to the classroom, and present additional challenges and opportunities for institutions that choose to serve this group.

Adult learners have different characteristics than traditional students, which result in different enrollment patterns. Adult learner retention is often influenced by factors outside the institution, such as family and work commitments as well as financial considerations. Adult learners view education as a product to be consumed, and their satisfaction with the product influences their retention.

In this study, the researcher identified factors that influence adult learner retention, examined the relationship between adult learner satisfaction and retention, and developed a model that describes the relationships between the various factors, satisfaction, and retention. The study was conducted at a small, private, Midwestern, liberal arts baccalaureate institution. An adult learner satisfaction and retention model was proposed using the conceptual model of Schertzer and Schertzer (2004) as the framework for the research design. Student satisfaction information was obtained from the Noel-Levitz Adult Satisfaction Priorities SurveyTM (ASPS), which had been previously administered at the college. Enrollment data for the semester following ASPS participation were used to determine retention. Descriptive statistics were used to compare the study participants with the adult learner population at the college. They were also used to compare participants who were retained with those who did not retain. Factor analysis was conducted to reduce the 50

satisfaction items into fewer, related variables. Sequential binary logistic regression was performed to determine the predictive model for retention.

The results revealed background and academic characteristics of having children, an educational goal of earning a bachelor's degree, and a higher grade point average as enhancing retention. Satisfaction with academic advising positively influenced retention whereas satisfaction with the care and convenience factor did not increase the odds students being retained. An adult learner satisfaction and retention model was developed which depicts background and academic characteristics impacting student-faculty values and student-institutional values factors leading to institutional and academic fit, satisfaction, and retention.

CHAPTER 1. INTRODUCTION

Background

Adult students are an important and viable clientele for colleges and universities today. U.S. demographics indicate that the number of 18-year-olds, the traditional age to begin college, will start to decline by 2011. The other end of the age spectrum reveals more adults continuing to work after the traditional retirement age of 62 or 65 who need additional training, or are pursuing new career opportunities. Due to changing technologies and knowledge, employees must update or learn new job skills throughout their working careers. President Barak Obama specified a goal for the nation to have the world's highest proportion of college graduates by 2020, which can only be achieved by encouraging adults to earn a college degree.

The addition of adult students on campus also benefits colleges and universities. Adult learners provide additional tuition and fee revenues and bring the richness and variety of their knowledge and life experience to the classroom. Adult learners often have differing needs and services when compared to traditional students (Knowles, Holton, & Swanson, 2005). All of these trends create opportunities for colleges and universities to serve adult learners. Nevertheless, serving adults often creates programming, recruitment, student services, retention, and persistence challenges for these institutions.

Adult learner retention has long been a challenge for colleges and universities who provide programming for non-traditional students. Retention numbers are difficult to calculate since students may not be attending on a fulltime or regular basis. Adults juggle multiple responsibilities that place many demands on their time such as family, work,

schooling and other obligations (Wonacott, 2001). It is not unusual for an adult to “stop-out” or quit attending for a period of time with the intention of returning to college. Often these stop-outs are for life reasons such as the birth of a baby, caring for an elderly parent, traveling for work, financial hardship, or other reasons. Academic issues may also influence adult retention rates, such as lack of needed courses on the schedule, financial aid confusion, poor academic preparation, or simply a lack of understanding by the student regarding the responsibilities and commitments of being a student. Students who are not satisfied with their college experience are less likely to be retained. As adult learners become a larger percentage of the college population institutions need to focus on adult retention, persistence, and satisfaction issues.

Statement of the Problem

Numerous articles and books have been written advising providers of adult degree programs about the various academic and student services that should be provided to facilitate adult learner satisfaction and success (Caffarella, 1994; Palmer, Bonnet, & Garland, 2008; Sanders & Willits, 2007; Willits, 2002). The assumption is that if an institution implements these strategies, adult learners will be more satisfied, more likely to persist, and retention will improve. However, if retention improves, was it due to the implementation of these support services? Are institutions implementing services that are important to adult learners, and are the adults learners more satisfied? Does their satisfaction lead to improved retention? Unfortunately, adult learner retention is influenced by many factors beyond academic and student services; factors that a college or university may not have control over, such as the student’s home and work life. Therefore, institutions that choose to serve adult

students need to determine what factors influence adult learner satisfaction and their persistence.

Purpose of the Study

The purpose of this study was to: (a) identify factors that influence adult learner retention at the undergraduate level; (b) examine the relationship between adult learner satisfaction and retention; and (c) develop a model that describes the interrelationships between the various factors, student satisfaction, and retention.

Theoretical Framework

This quantitative study utilized the student satisfaction and retention conceptual model by Schertzer and Schertzer (2004) that addresses the relationship of student-institution values congruence and student-faculty values congruence to determine institutional and academic fit. If the fit is good, there should be satisfaction and institutional commitment leading to student retention. Likewise, if the fit is not good, there is dissatisfaction and lack of institutional commitment with a student more likely to transfer or withdraw. In addition to student satisfaction, this study examined various demographic and academic background characteristics that impact student retention.

Student-institution congruency is analogous to person-environment fit theory. According to Pervin (1968), for each individual there are environments that match the characteristics of the individual's personality; with this match or best fit expressing itself in satisfaction. Conversely, a lack of fit with the environment results in dissatisfaction.

Student-faculty congruency considers interaction with the faculty, both in and outside the classroom. Many students seek colleges where they can develop relationships with the

faculty. The bond between the student and the institution facilitates and promotes by positive interactions with the faculty (Pascarella & Terenzini, 2005). In addition, effective academic advising results in positive student perceptions of the institution (Peterson, Wagner, & Lamb, 2001). Elliott (2002) found that faculty accessibility increases satisfaction and positive feelings about the institution.

In the current study an adult learner retention model was developed to identify background and academic characteristics that influence retention. These characteristics include educational goals, grade point average, and presence of children in the household. The model addresses student satisfaction with the student-faculty constructs of academic quality and academic advising, and the student-institutional constructs of care and convenience, resources, and financial aid. It was posited that students who were more satisfied in these areas were more likely to be retained.

The study was conducted at a small, private, baccalaureate, liberal arts college located in the Midwest. The institution is referred to as Midwest College (MC).

Satisfaction data were obtained from the Noel-Levitz Adult Student Priorities Survey™ (ASPS) completed by 168 students in the fall of 2008 and spring of 2005. These students were classified as adult learners by MC. Since MC did not offer online classes during this time period, all participants took classroom-based classes. Student demographic information and retention data were obtained from the Midwest College student information system. The demographic variables of students who completed the ASPS were compared with the MC adult learner population overall to determine the representativeness of the participants.

Variables utilized to determine their impact on adult learner retention included adult learner characteristics, such as age, gender, employment status, marital status, and grade point average. Satisfaction variables, as determined by a factor analysis of the survey instrument, included: care and convenience, academic quality, academic advising, resources, and financial aid.

Midwest College defined adult learners as students who are enrolled part-time during the day or who are enrolled, full- or part-time in the evening or weekend programs. Within this group of students the research specifically addressed students who were 25 years and older vs. those under 25 years of age. Most of the students at MC enrolled in college with the intent of earning a baccalaureate degree.

Research Questions

Five research questions guided this study:

1. How do the demographic and academic characteristics such as age, gender, ethnicity, marital status, enrollment status, and class level for students who participated in the study differ from the institutional adult learner characteristics?
2. How do the background and academic characteristics such as age, gender, ethnicity, marital status, employment, enrollment status, grade point average, class schedule, class level, and major differ for students who were retained compared to students who were not retained?
3. Are there differences in the satisfaction scores for the student-faculty construct of academic quality and academic advising for students who were retained compared to students who were not retained?

4. Are there differences in the satisfaction scores for student-institution construct of care and convenience, resources, and financial aid for students who were retained compared to students who were not retained?
5. What background characteristics, academic characteristics, and satisfaction factors predict retention?

Significance of the Study

This study is significant because it seeks to link adult learner satisfaction with retention. “Colleges and universities with higher satisfaction levels also enjoy higher retention and graduation rates, lower loan default rates, and increased alumni giving” (Miller, 2003, as cited in Bryant, 2006, p. 26). Identifying potential predictors of adult learner retention will assist higher education institutions to better serve this group of students, aid in strategic planning, and make appropriate use of limited resources.

Given the importance of adult learners to current and future enrollment trends in higher education, it is important that administrators and educators learn about this population if they wish to successfully compete for them (Marlow, 1989). Since non-traditional students have higher attrition rates than their traditional counterparts (Bean & Metzner, 1985), understanding the factors that impact persistence and retention will enable institutions to better serve this population of students. Many retention and attrition models are based upon studies of traditional students and are more useful for describing retention or attrition process of traditional age residential students (Pascarella & Terenzii, 2005; Tinto, 1975, 1993). These models are less useful for describing the retention process for adult students. Bean and Metzner (1985) observed that research on non-traditional students fails to differentiate the

adult learner from the rest of the non-traditional population. The student satisfaction and retention conceptual model developed by Schertzer and Schertzer (2004) was used in the current study to generate a model of satisfaction and retention along with a quantitative research design.

This study contributes to the understanding of adult learner satisfaction and retention, provides administrators and policy makers a basis for improving retention among adult learners, and offers information that can be used to help adult students understand retention and take appropriate measures to improve their persistence. Information about adult satisfaction may have implications beyond retention, such as programming opportunities, scheduling and delivery options, academic advising, teaching issues, student services, and so forth. This information can be used to help adult students persist by providing specific services or programs to overcome barriers, assisting students with finding resources, changing how the institution serves the students, or accepting that sometimes there is little or nothing that can be done to help.

Definition of Terms

The following terms were defined for use in the study:

Adult learner: (a) non-traditional students meeting one or more of the following student characteristics: delaying enrollment into postsecondary education, attending part-time, being financially independent from their parents, working full-time while enrolled in college, having dependents other than a spouse, being a single parent, or lacking a standard high school diploma (Council of Adult and Experiential Learning, 2000); (b) a broad definition of the adult learner in postsecondary education is someone 25 years of age or older involved in

postsecondary learning activities (Voorhees & Lingenfelter, 2003, as cited in Lumina, 2008);

(c) in the current study, a student enrolled at Midwest College part-time during the day or part- or full-time during the evening or weekend.

Attrition: A student's departure from school; may be voluntary or involuntary.

Drop out: A student's decision to leave the school in which he or she is currently enrolled.

Non-traditional student: See adult learner.

Persistence: A student's decision to continue with his or her educational program to completion or graduation.

Retention: (a) student enrolls subsequent term; (b) student completes his or her degree or program of study (Hagedorn, 2005a).

Stop out: A student's temporary departure from higher education (Berger & Lyon, 2005).

Traditional student: Students generally between the age of 18 and 24, attending college on a full-time basis

Summary

This study examined the relationship between adult students' background and academic characteristics, their satisfaction, and their retention. Adult satisfaction was measured based on five factors: care and convenience, academic quality, academic advising, resources, and financial aid. Students' satisfaction was compared to their retention which was defined as graduation or enrollment the following academic semester.

Chapter 2 provides an overview of the literature regarding adult learner characteristics, persistence, retention and graduation, satisfaction, and retention and attrition models.

Chapter 3 describes the methodology and methods used in designing and conducting the study. It includes the methodological approach, philosophical assumptions, methodology, data sources, the sample, data collection procedures, variables, and data analysis procedures. The limitations and delimitations of the study are also addressed.

Chapter 4 describes the results based on the data analysis. Descriptive statistics were used to compare the participants with the adult learner population at the institution. Descriptive and comparative statistics compared participants who were retained with those that were not retained. Factor analysis was performed to determine the satisfaction factors followed by logistic regression to predict the influence of the factors on retention.

Chapter 5 summarizes the research and states the conclusions. Recommendations for practice and future research are also provided.

CHAPTER 2. LITERATURE REVIEW

In 2007 there were more than 7 million adults in degree-granting institutions, or approximately 34.4% of enrolled students. By 2018 those 25 and older are projected to total 8.4 million, or 40.8% of enrolled students (Hussar & Bailey, 2009). When adults in continuing education, vocational training and certificate programs are included, the percentage of adults increases to more than 60% of the student population. Thus, adults comprise the majority of students in higher education today.

There is no one definition of an adult learner or adult student. The National Center for Education Statistics (NCES) defined non-traditional students as meeting one or more of the following student characteristics: delaying enrollment into postsecondary education, attending part-time, being financially independent from their parents, working full-time while enrolled in college, having dependents other than a spouse, being a single parent, or lacking a standard high school diploma (Council of Adult and Experiential Learning, 2000). Voorhees and Lingenfelter (2003, as cited in Lumina, 2008) provided a broad definition of the adult learner in postsecondary education as someone who is 25 years of age or older involved in postsecondary learning activities. This definition is often used by institutions that serve the adult market.

Adult Learner Characteristics

According to Eduventures (2008) the typical adult learner is 38.8 years old, employed with an average annual household income of \$76,800 and married; one third of adult students have dependent children under 18 living at home. Among adult learners, 83% work, 58% of

those are employed full-time, 80% attend class part-time, and 56% attend community colleges (Paulson & Boeke, 2006).

The primary motivations for adults to enroll in college and university programs are personal enrichment, improving performance or pay in their current job or field, or to gain knowledge or skills to change careers (Eduventures, 2008). Horn, Cataldi, and Sikora (2005) found that the 18 to 22 year old adult came to college to gain training to enter the workforce and those who delayed enrollment until they were 23 years or older were entering college for personal satisfaction or to improve their job skills. Fewer older adults return to college to earn a degree or certificate compared to younger adults. Reasons older adults return to college include keeping up with technology, changing or advancing their careers, and maintaining physical and mental alertness (Hagedorn, 2005b).

Adult learners, particularly if they are employed, have different needs than traditional age students. Adults need different kinds of information regarding their educational options, institutional flexibility in curricular and support services, advising that is supportive of the adult learners' life and career goals, and recognition of experience and learning that has occurred in the work place (CAEL, 2000). As adult learners continue to become a larger percentage of the college population, successful institutions will need to focus on meeting adult learner needs.

Persistence

Persistence, as it relates to students, is traditionally defined as continued involvement in coursework toward graduation or program completion (Wlodkowski, Mauldin, & Gahn, 2001; Berger & Lyon, 2005). Since adult learners may stop out for a period of time with the intention of returning, this definition is too limiting for adults. Comings, Parrellan, and

Soricone (2000) defined persistence for adults as “adults staying in programs for as long as they can, engaging in self-directed study when they must drop out of their programs, and returning to a program as soon as the demands of their lives allow” (Defining Persistence section, para. 1). This definition acknowledges that the adult learner may take time off from their studies but they are still intending to return. This allows for the phenomenon that is commonly observed with adults called stopping out, where the student stops attending for a period of time but intends to return to college to continue his or her program of study (Berger & Lyon, 2005). A qualitative study by Belzer (1998) looked at how adults who stopped attending a program perceived this action. The findings revealed that adults did not consider themselves dropouts, and they did not feel that they had quit the program because they planned to return in the future when their circumstances changed. Participants did not express a sense of personal failure for leaving the program; it was simply not possible for them to continue at that time due to job, health, financial, legal, or other personal problems.

Retention

Persistence is from the perspective of the student while retention is from the perspective of the institution. A student persists and the institution retains the student. The traditional definition of retention, staying in school until the student completes a degree (Berger & Lyon, 2005, Hagedorn, 2005a) is not appropriate for adults because they stop out (Hadfield, 2003). Adults interrupt their college education for life reasons such as having a baby, job changes, caring for children or elderly parents, or a myriad of reasons. Since the adult learner stops in and out of college, most institutions have not determined what constitutes “retention” for the adult learner. “During any term, we can expect up to 40

percent of our active students will not enroll for a course.... This doesn't mean they've dropped out, they'll be back" (Hadfield, p. 19). Hadfield added that students are not retained only when they transfer to another institution or when they die.

Because adult learners stop in and out of college, retention rates for adult students are more challenging to determine. The National Center for Education Statistics (NCES) calculates retention rates for the Integrated Postsecondary Education Data System (IPEDS) based on the first-time degree-seeking students from the previous fall who enroll again in the current fall (NCES, n.d.). This retention calculation excludes transfer students and most adult learners since they are not first-time degree seeking students. Calculation of adult learner retention is also complicated by the variety of schedules now offered for adult learners. Adults may take class in accelerated terms, weekend classes, semester long classes, self-study courses, or any combination of these and other schedule formats.

In addition, it is not uncommon for adult learners to take classes at more than one institution. This practice, called swirling, has become more prevalent and creates challenges when trying to calculate retention. "Swirling" (i.e., going back and forth between institutions), and "double dipping" (i.e., attending two or more institutions at the same time), are becoming increasingly common with adult learners, as educational and scheduling options have expanded to better serve the adult market (McCormick, 2003). A trend the current researcher has observed is adult learners registering at their home institution for classes that fit around their work schedule and personal commitments and then taking, at the same time, an additional course online or on-ground at another institution. This enables the learner to persist in a timelier manner. Students may also look for the less expensive options for general education or elective courses. They may take less expensive courses at the

community college one term and required courses at their home institution another term. These students would not be considered “retained” at their home institution when they are attending the community college or other schools, but they have not dropped out since they intend to transfer the credit back to their home institution.

Graduation rates are an inadequate measure of retention or success for adult learners since many adults begin college with that goal but leave before graduation. These adults consider themselves successful because they gained the skills and knowledge to advance in their career (Paulson & Boeke, 2006) or as stated previously they are enrolled for personal enrichment, not necessarily a degree. Hagedorn (2005a) described the variability of student enrollment illustrating that “...the simple dichotomous student outcome measures often employed in quantitative analysis do not capture the complexity in student progress” (p. 90). Hagedorn compared the need for multiple descriptors for outcome measures to the Eskimos that have multiple words to describe what the English language calls snow. Retention, persistence, and graduation rates often do not describe adult learner enrollment patterns.

Numerous books and articles have been published providing suggestions about what can be done to help adult learners be successful. Brown (2004) suggested that to retain adults an institution must focus on retention and offer quality programs, provide excellent support services, set realistic completion expectations, and build a sense of community and loyalty among the students. Support or discussion groups can improve the adult learners experience so they do not feel isolated and can share their frustrations and joys as well as gain or share information (Rice, 2003). Excellent customer service, which is crucial to adult learners, can include evening and weekend office hours and advising services, childcare centers, institutional support for adult organizations, admission and registration policies, and

procedures that are simple and fit adult times, family friendly co-curricular activities, parking, and no standing in long lines (Hadfield, 2003). Brown (2004) recommended early and continuous attention and follow-up, the recruiter and advisor being the same individual, newsletters, and alumni mentor for new adult students. Early and continuous assistance follow-up and attention by instructors and staff are important since adults may not request assistance (Wonacott, 2001). Before an institution invests resources and implements initiatives, it needs to learn what is important to its adult learners and determine the learners' level of satisfaction. Then resources should be invested where they will make the most impact, for the students and the institution.

“Institutions with more satisfied students have higher graduation rates, lower loan default rates and higher alumni giving” (Noel-Levitz, 2009, p. 1). This is true for adults as well as traditional age students. In addition, if adult learners persist in a timelier manner, the institution realizes greater revenue from tuition. Adult students are more likely to be positively engaged with their academic work, asking questions, coming to class prepared, interacting with instructors and administrators (Community College Survey of Student Engagement, 2005) which may lead to a better academic experience for all students. It benefits an institution that serves adults to address adult learner retention and persistence.

Much of the persistence and retention research has focused on traditional age students (Pascarella & Terenzini, 2005). Research shows that academic advising, social connectedness, involvement and engagement, faculty and staff approachability, business procedures, meaningful learning experiences, and student support services contribute to student persistence (Astin & Osequera, 2005; Bean, 2005; Pascarella & Terenzini, 2005; Roberts & Styron, 2010; Tinto, 1993). According to Tinto (2002) there are five conditions

that are supportive of persistence for all students, traditional and adult learners: expectations where students are expected to succeed, providing advice and information, academic, social and personal support, involvement with the institution, and an environment that fosters learning. What adults need in each of these areas may be different than the traditional student but these areas must still be addressed.

Retention and Attrition Models

Early studies of retention focused on the traditional age student at residential colleges and universities. Spady (1970, as cited in Metz, 2004) proposed a conceptual model of student departure based on Durkheim's work of permanent departure (suicide) from society. In Spady's model, specific student characteristics and goals affect grade performance, intellectual development, and friendship support. These characteristics and goals influence the degree to which a student becomes socially integrated into the college resulting in a direct positive relationship between the student's level of social integration and satisfaction with the institution. The more satisfied the student is, the more committed the student is to the institution, which impacts the decision to stay or dropout.

Tinto's (1975) theoretical model of college withdrawal has been extensively referenced in the retention and attrition literature. The model theorizes that dropout is a longitudinal process, a series of interactions between the student and the academic and social systems of college. Students enter college with family and individual characteristics in addition to their pre-college schooling. The academic system of grade performance and intellectual development influence academic integration. The social system of peer-group interactions and faculty interactions influence social integration. The student's integration or

lack of integration, into the college environment affects the student's outcome of retention or dropout.

Pascarella (1980) built upon research conducted by Spady and Tinto, and created a longitudinal and recursive retention model wherein student background characteristics and institutional factors influence the level of informal contact with faculty, other college experiences, and educational outcomes which, in turn, influences the persistence or withdrawal decision.

Bean and Metzner (1985) developed a student attrition model for nontraditional adult students (see Figure 2.1) wherein environmental variables such as finances, hours of employment, outside encouragement, family responsibilities and opportunity to transfer have a greater impact on adult learner departure decisions than academic variables. "One defining characteristic of the nontraditional student was the lack of social integration into the institution; therefore, a different theory must be used to link the variables in this model" (p. 489). The model looks at the impact of background and defining variables, academic variables, environmental variables, and social integration variables on academic and psychological outcomes, which in turn influence a student's intent to leave and dropout status. This model differs from Tinto's (1975) Student Integration Theory in that it incorporates environmental variables that have direct influence on students' persistence.

Recognizing the influence of environmental factors, Tinto (1993) revised his attrition model adding intentions and external commitments. Formal and informal interactions were recognized in academic and social systems. This model recognized that external commitments, which may have a stronger influence on commuter students, have an impact

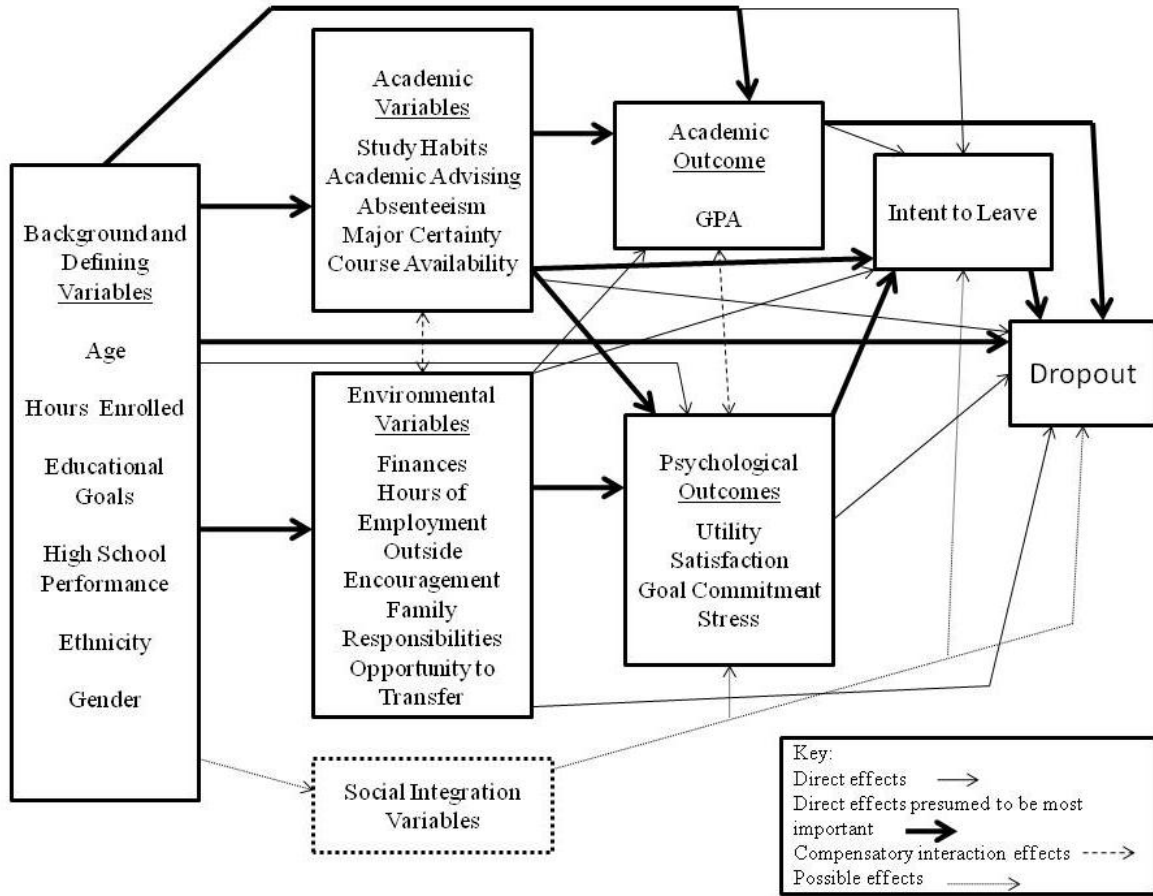


Figure 2.1. Conceptual model of nontraditional student attrition (Bean & Metzner, 1985)

on student persistence or departure. As with Tinto’s (1975) earlier model, positive social and academic integration serve to strengthen one’s commitment to goals and the institution. The external communities of family, peer groups, co-workers, may have a positive or negative influence on persistence. The external events may influence departure by impacting a student’s academic or social integration or the external events may impact commitment by pulling a student away. Likewise, the external commitments may encourage integration, goals, and commitment.

Today's students are more consumer-orientated, viewing education as a product to be purchased and consumed. They search for the institution that is the right fit and expect satisfaction from the institution they select. Schertzer and Schertzer (2004) developed a model of student satisfaction and retention (see Figure 2.2), postulating that student values congruence with the institution and faculty lead to academic or institutional fit. A student who "fits" at the institution is more likely to be satisfied and committed to the institution and hence more likely to be retained. Bean (2005) defined institutional fit as a sense of fitting in with others and institutional commitment as the commitment to a specific institution rather than college in general. "A student is likely to fit in if that student shares values with other students" (p. 219). Institutional commitment is loyalty to the college or university. Attitudes about being a student and attitudes about attachment to the institution are important for retention. This model does not take into consideration student background characteristics but does address the aspects of academic fit, satisfaction, and institutional commitment on retention.

Satisfaction

Consumer satisfaction is a post-choice evaluation made by the customer concerning a specific purchase or choice for fulfillment of a need or want (Day, 1984). Giese and Cote (2000) summarized the satisfaction literature by stating that satisfaction is an emotional or cognitive response to a particular focus such as expectations, product or consumption experience, and the response occurs at a particular time after consumption or accumulated experience. Students' satisfaction with their college encounter is based on the expectations, interactions, and experiences with the institution. Students may expect and experience a

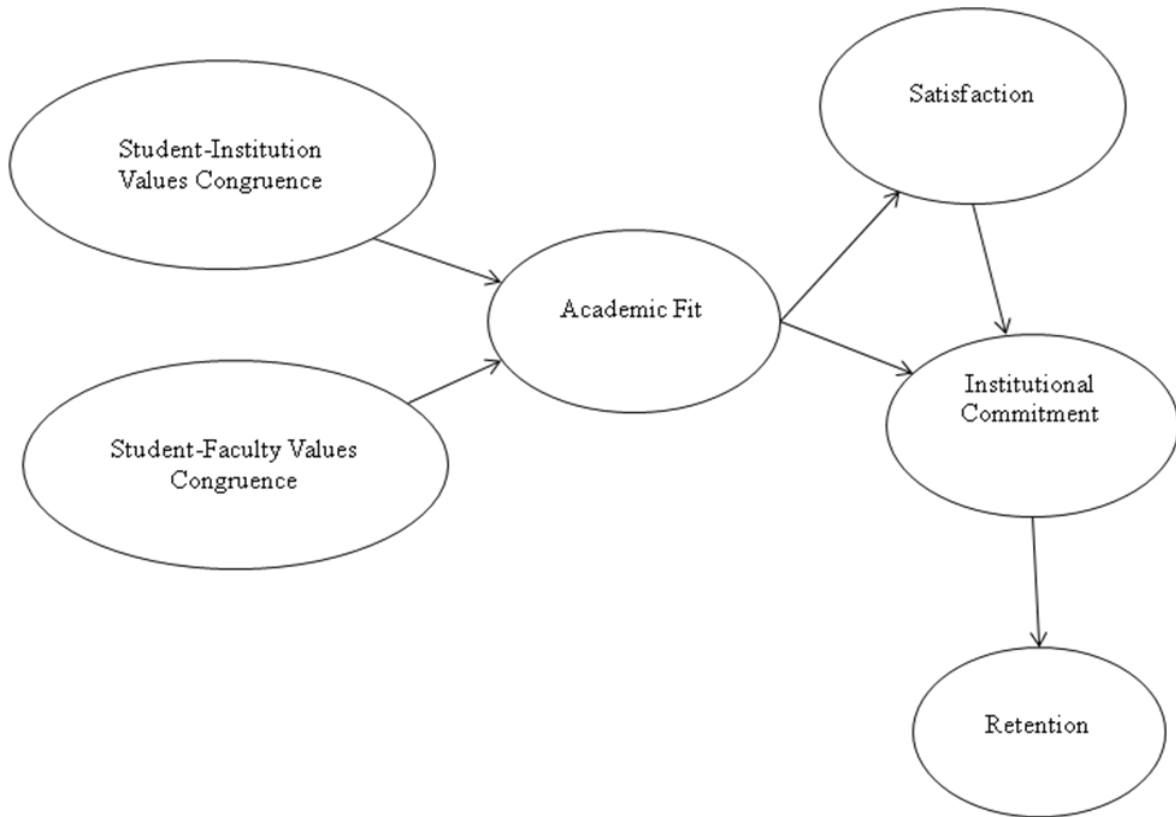


Figure 2.2. Student Satisfaction and Retention Model (Schertzer & Schertzer, 2004)

challenging and stimulating classroom environment resulting in satisfaction with the faculty but are frustrated by the lack of student support services outside of the classroom. The resulting dissatisfaction influences the students' satisfaction evaluation of their college experience.

Oliver (1993) tested a model to represent the influences on satisfaction response (see Figure 2.3). This model theorized that expectations and attribute performance each influence satisfaction. In addition, if attribute performance and expectations do not match, then disconfirmation may occur which impacts satisfaction.

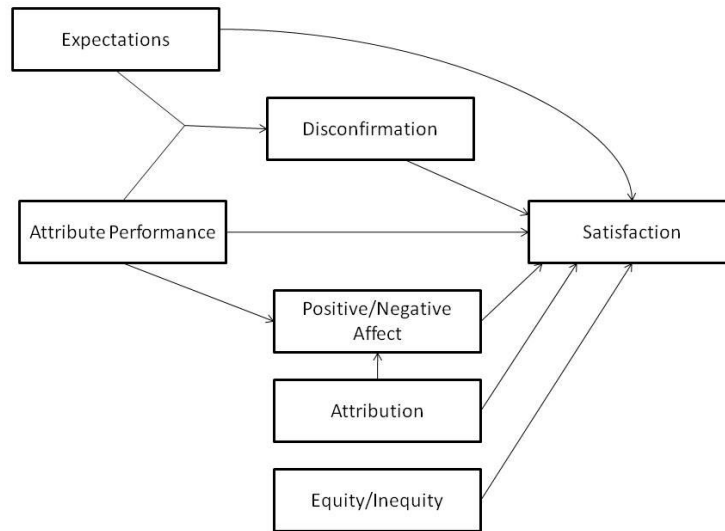


Figure 2.3. Consumer satisfaction/dissatisfaction model (Oliver, 1993)

There is a strong link between customer satisfaction and repurchase intentions (Patterson, Johnson, & Spreng, 1996). If the customer is not satisfied, he is less likely to repurchase the product. Repurchase intentions are based on the evaluation of many underlying service dimensions (Boulton, Kannan, & Bramlett, 2000). In higher education retention is a repurchase decision.

Ideally, satisfied students will be retained at a higher rate than dissatisfied students but this may not always be true with adult learners. As with retention, much of the satisfaction research has focused on traditional age, full-time students. Satisfaction research has focused on a variety of student and institutional factors. Interactions between the student and university personnel influence the likelihood of a student recommending the institution to friends (Browne, Kaldenberg, Brown, & Brown, 1998). Elliott (2002) identified student centeredness, the extent to which students feel welcome and valued, and instructional

effectiveness as predictors of student satisfaction for traditional age students. Billups (2008) conducted a 14-year longitudinal satisfaction study of full-time students, and found that student persistence was greatest for those who indicated high satisfaction levels in the areas of quality of instruction, close relationships with faculty, especially advising, and student integration with the campus community. According to Billups, "...institutional efforts to strengthen student satisfaction played some part in increasing persistence and graduation rates" (p. 14). "Those interested in affecting retention rates need to be profoundly aware that they are not just in the business of delivering services, but in delivering services in such a way that students develop a positive attitude toward school and toward their continued enrollment in school" (Bean, 2005, p.220). Therefore, administrators need to understand student satisfaction and perceptions of their interactions within the institution.

Colleges can use satisfaction surveys to measure student perceptions of their campus experience to identify which areas the institution is performing well and to ascertain areas for improvement or new initiatives. Since research has indicated that dissatisfied students are more likely to dropout (Bryant, 2006), institutions can use satisfaction surveys to determine satisfaction levels and areas needing improvement as part of their efforts to improve retention.

Satisfaction is often measured using an aggregate, single item measure, or a multi-attribute, multiple items, level of measurement (Szymanski & Henard, 2001). This single item satisfaction measure is often a yes/no question or with one question asking the respondent to assess his or her degree of overall satisfaction from very dissatisfied to very satisfied. The aggregate, single-item measure assesses the customer's overall satisfaction with the product or service.

The multi-attribute assesses the customer's satisfaction for each dimension or attribute and then sums the satisfaction assessments into an overall score. This approach, according to Elliott and Shin (2001), utilizes each student's personal expectations and preferences with regards to attributes, his or her perception of actual performance of the attribute, measures the performance gap between expectation and actual, weights the performance gap, and then determines the overall satisfaction for each respondent based on responses to the individual attributes or items. The performance gap is weighted to recognize the different respondent perceptions of relative importance for each attribute that influences satisfaction. This gap determines the difference between expectations or importance and satisfaction.

Using the attribute approach instead of the aggregate overall measure to satisfaction assessment may result in different overall satisfaction results if the two approaches are not highly correlated (Mittal, Ross, & Baldasare, 1998). Roszkowki and Spreat (2010) investigated the utility of importance scores in the determination of quality ratings and found that importance scores and weighting had minimal impact on quality ratings. "We suspect that because weighting for importance seems to make sense intuitively, people will be reluctant to accept the notion that soliciting importance ratings does not improve one's ability to predict" (p. 231).

The Noel-Levitz Adult Student Priorities Survey™ (ASPS) is a satisfaction assessment that looks at the level of importance or expectation and the level of satisfaction that adults have regarding their college experience. The 50 items on the ASPS form eight comprehensive scales – academic advising effectiveness, academic services, admissions and financial aid, campus climate, instructional effectiveness, registration effectiveness, safety

and security, and service excellence. The ASPS surveyed 85,075 students, with included approximately 45,000 undergraduates, from 215 institutions. The results from data collected from fall 2006 to spring 2009 showed the following challenges (high importance and low satisfaction) identified by undergraduate adult learners (in order):

1. Tuition paid is a worthwhile investment.
2. I am able to register for classes I need with few conflicts.
3. There are sufficient options within my program of study.
4. Adequate financial aid is available for most adult students.
5. I seldom get the “run-around” when seeking information
6. I am aware of whom to contact for questions about programs and services.
7. My advisor helps me apply my academic major to specific career goals. (Noel-Levitz, 2009, pp. 8-9)

Colleges and universities can use the information from the ASPS to determine their strengths and weaknesses when it comes to serving adult learners. Institutional strengths are items that have high importance to the student and have high student satisfaction. Challenges for an institution are items that are high in importance but have low student satisfaction. Institutions should focus efforts on improving satisfaction for items that are important to students. It would be a waste of resources to focus on items that are not important to students.

Schreiner (2009) used results from the Noel-Levitz Student Satisfaction Inventory™ (SSI) and student enrollment data to examine the predictive relationship of satisfaction with retention the fall term following administration of the SSI. This survey is similar to the ASPS but is designed to measure satisfaction for traditional age students. Demographic characteristics included gender, ethnicity, choice of institution, living situation, and employment status. Institutional characteristics included Carnegie classification, selectivity, gender and racial balance, size, and tuition cost. Schreiner found “For each of the class

levels, satisfaction indicators almost doubled our ability to predict retention beyond what demographic characteristics and institutional features could predict” (p. 3).

Retention and Persistence Variables

Villella and Hu (1991) used Bean’s and Metzner’s (1985) model of nontraditional college student retention to identify 15 factors that impact retention for nontraditional students. These factors, in order of their percent of variance explained on retention are: academic stresses (11.5%), coursework satisfaction (6.4%), student role satisfaction (5.7%), utility (3.7%), personal development (3.6%), career (3.2%), time constraints (3.0%), personal responsibility (2.8%), academic outcome (2.6%), goal commitment (2.5%), institutional support (2.4%), external encouragement (2.3%), faculty/advisor contact (2.2%), advisor satisfaction (2.1%), and transfer (2.0%). Findings of the study revealed that “...for nontraditional students, the reality of time constraints and academic rigor when compared with the expectations of college can lead to student stress and dissatisfaction. This displeasure has the distinct potential of causing students to leave college” (p. 338).

Age and gender

Age, as related to persistence, appears to be inconsistent in the literature. Feldman (1993) found that among first time community college freshman, students 25 and older were more likely to persist than their 20 to 24 year old counterparts. Leppel (2002) studied differences between male and female student persistence and found that older students, age 28 or older, had lower persistence rates than younger students due to more family responsibilities. Leppel’s findings revealed that the impact of age was greater for men, resulting in a lower persistence rate as they got older.

Balancing work, family, time, and money

Reasons adults withdraw may be similar to traditional students but some are more common with adults. Personal reasons, or “life happens” reasons such as work, family, caring responsibilities for children or health issues, often results in adults stopping out (McGivney, 2004). Men are more likely to give course related, finance, or work reasons for leaving and women withdraw due to family commitments or issues with childcare (McGivney, 1996). Encouragement and support from family and friends has a positive impact on persistence (Cabera, Nora, & Castaneda, 1993).

Lack of time and money (Aslanian, 2001, as cited in Paulson & Boeke, 2006) are also issues for adult learners. In exit interviews, students repeatedly mentioned competing priorities and not having enough time for the demands of school due to conflicts with family and work responsibilities (Wlodkowski, Mauldin, & Campbell, 2002). Wlodkowski, Mauldin, and Gahn (2001) found that adults at a private institution receiving financial aid were 2.9 times more likely to persist and those at a public university were four times more likely to persist when compared with non-financial aid recipients. For part-time students who work full-time jobs, time constraints, balancing jobs with school, and other commitments maybe more of a challenge than finding money for tuition (Bean, 2005).

Hanniford and Sagaria (1994) found that life’s circumstances may influence the initial decision to return to school more than influencing persistence. Findings of their research were that employment negatively influences persistence, marriage has a limited effect on withdrawal, but having a child while enrolled actually results in increased persistence. Leppel (2002) found that having children had a negative impact on persistence for men but a positive impact for women. Hagedorn (1999) found that family issues were a

significant obstacle for female graduate students, and being married increased the probability of leaving by 83%.

Grade point average and academic support

Adult learners with a higher grade point average are less likely to drop out (Hagedorn, 1999; Wlodkowski et al., 2001). Those who transfer more credits are more likely to enroll for the next term in accelerated programs (Wlodkoski et al., 2002).

Other supports for adult learner persistence include having a specific goal, student experience with success and overcoming failure, ability for the learner to measure progress toward reaching the goal, and positive factors such as the desire for a higher income (Commings, Parrella, & Soricone, 2002). Increased interaction with students and faculty positively influenced persistence for female graduate students (Hagedorn, 1999). In their study of non-traditional students, Bers and Smith (1987) found that supportive instructors who made special efforts to allay fears of academic failure were important to women but men were more concerned about the availability of courses and learning desired skills. “Having a supportive yet challenging instructor was the key to positive perception, and could offset nearly any inconvenience or stress” (p. 43). Greater faculty accessibility leads to increases in satisfaction and positive feelings about the institution (Elliot, 2002).

Academic advising

Academic advising is an important part of institutional retention efforts (Tuttle, 2000). “Academic advising, well-developed and appropriately accessed, is perhaps the only structured campus endeavor that can guarantee students sustained interaction with a caring and concerned adult...” (Hunter & White, 2004, p. 21). Peterson, Wagner, and Lamb (2001)

surveyed non-returning students and found that advising has a direct causal influence on the ratings of the institution. Other than faculty, the academic advisor may be the only employee at the institution the adult learner interacts with on a regular basis. Adult learners believe that improved advising would be a positive influence for remaining in college (Wlodkowski et al., 2002).

Course schedule

Wlodkowski et al. (2002) found that women are more likely to graduate when classes are taken in an accelerated format but more likely to drop out when classes were taken in the traditional semester schedule. Students enrolled in a traditional semester schedule program stated that the inflexible schedule of courses adversely impacted their ability to persist.

Social involvement/integration

Social integration is an important persistence factor in many retention models (Astin, 2005; Bean & Metzner, 1985; Tinto, 1975, 1993). Tinto (1975) utilized peer-group and faculty interactions to measure social integration. This has been found to be of less impact for adult learners but still plays a role in retention (Bean & Metzner, 1985). When looking at classes rather than integration with the institution, Ashar and Skenes (1993) found that social integration had a positive impact on nontraditional student retention. They observed that small groups of students within the classes motivated students to persist. Social integration for adults may be better defined as how one integrates their pursuit of education into one's overall life (Kerka, 1995). Adult learners who are socially involved are more likely to persist (Wlodkowski et al., 2001).

Summary

Adult learners have different characteristics than traditional students which results in different enrollment patterns. Adult learner retention is often influenced by factors outside the institution such as family and work commitments as well as financial considerations. Adult learners view education as a product to be consumed and as their satisfaction with the product influences their retention. It is beneficial for colleges to determine what factors are important to the adult learners and determine their level of satisfaction. This will enhance strategic planning and utilization of institutional resources. The review of the literature revealed that there is limited research linking satisfaction to retention and even less research on adult learner satisfaction and retention. Some variables that impact adult learner persistence include age, gender, marital status, children, work, time, money, grade point average, academic support, advising, course schedule, and social integration.

CHAPTER 3. METHODOLOGY

This chapter addresses the research design for this study. A description of the methodological approach, data sources, instrumentation, sample, data collection and data analysis procedures are described. Institutional research approval was obtained from both Iowa State University and Midwest College (MC). Permission to use Midwest College data for this research was granted by Midwest College and Noel-Levitz, Inc.

The research questions that guided this study were:

1. How do the demographic and academic characteristics such as age, gender, ethnicity, marital status, enrollment status, and class level for students who participated in the study differ from the institutional adult learner characteristics?
2. How do the background and academic characteristics such as age, gender, ethnicity, marital status, employment, enrollment status, grade point average, class schedule, class level, and major differ for students who were retained compared to students who were not retained?
3. Are there differences in the satisfaction scores for the student-faculty construct of academic quality and academic advising for students who were retained compared to students who were not retained?
4. Are there difference in the satisfaction scores for student-institution construct of care and convenience, resources, and financial aid for students who were retained compared to students who were not retained?
5. What background characteristics, academic characteristics, and satisfaction factors predict retention?

Methodological Approach

This quantitative study utilized an objectivist epistemology with a postpositivist theoretical perspective. Objectivism claims that meaning is discovered, based on observed events, rather than being constructed or imposed (Crotty, 1998). Postpositivism recognizes that one cannot be positive about the absolute truths or knowledge when studying humans. Postpositivist research, also referred to as scientific method, examines which causes probably determine effect or outcomes. According to Creswell (2009), the accepted approach for postpositivist research is that an individual begins with a theory, collects data that supports or refutes the theory, and then makes revisions before additional testing. A dataset was created from a previously administered survey, linked with student enrollment data, and statistically analyzed.

Theoretical Model

This study used previous theoretical models and research to propose and test a conceptual model that explores the relationship of adult learner background and academic characteristics, satisfaction, and retention. Figure 3.1 depicts the conceptual model of adult learner satisfaction and retention developed in this study. The student-institution values data were obtained from the academic advising and academic quality factors of the ASPS. Student-institution values data were obtained from the care and convenience, resources, and financial aid factors from the ASPS. The model hypothesizes that the student background and academic characteristics influence the student-faculty values factors and student-institution values factors. Adult learners whose student-institution values and student-faculty values are more in agreement combine to determine the institutional and academic fit

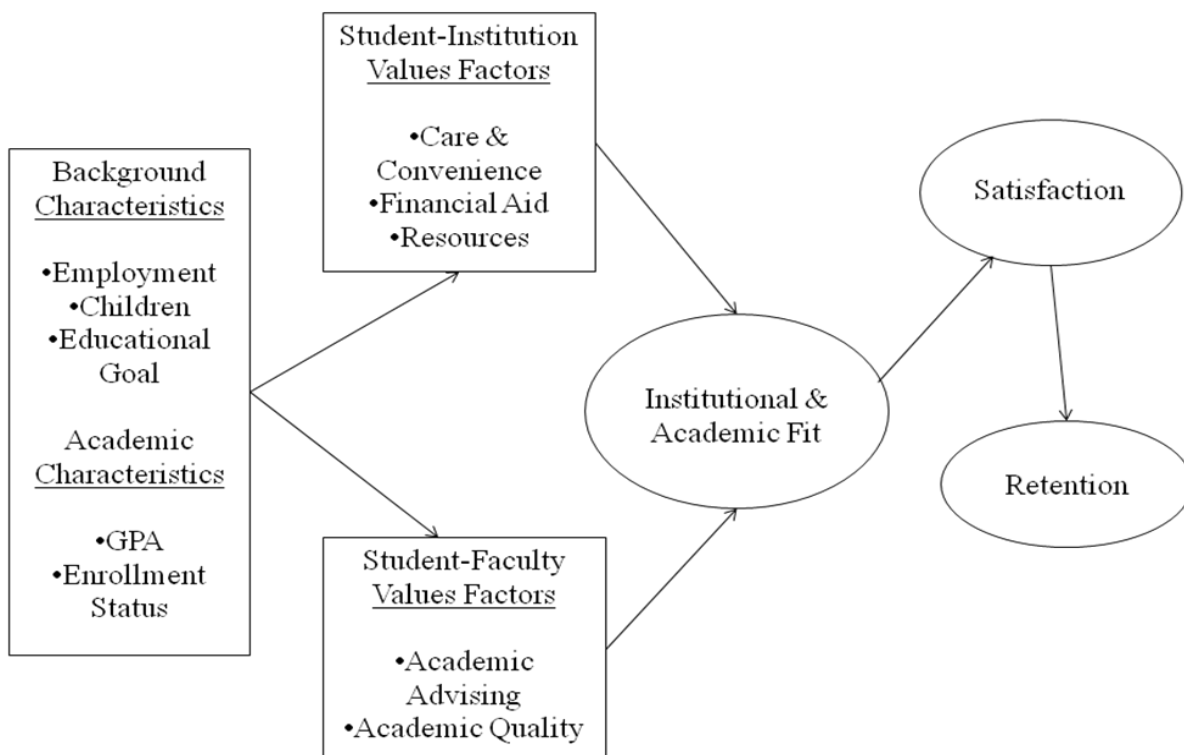


Figure 3.1. Adult learner satisfaction and retention model

for the students. This was reflected in the study by using the satisfaction scores, which were calculated for each of the factors. Those students who have a good institutional and academic fit are more likely to be satisfied. Satisfied students are more likely to be committed to the institution and hence retained (Schertzer & Schertzer, 2004).

Data Sources

Data were obtained from two sources. Results from the ASPs were used to determine the satisfaction levels for the constructs. The Midwest College student information system (SIS) provided data on student enrollment, grade point averages, and demographic characteristics.

Midwest College collects demographic information including birth date, gender, and ethnicity in the application process. Grade point average and enrollment status updates regularly. The SIS was used to determine the students' enrollment or graduation status the semester following administration of the ASPS. This was used to ascertain if the students were retained or graduated for determination of academic success.

The ASPS captures demographic information but it is self-reported and collected utilizing ranges. The Midwest College SIS was used to verify the self-reported information when available and participants' responses were modified as appropriate. An example of this was grade point average. Thirty-five respondents indicated grade point averages that were different than their actual grade point average. Students' enrollment status was determined utilizing the actual number of credits they were enrolled in rather than the self-reported response.

Data Access and Security

ASPS passcodes, which were assigned to each student prior to the administration of the survey, were used by MC staff to correlate the individual ASPS responses with the student information in the SIS. Midwest College provided the ASPS data, student demographic, and academic information in a format with identifying information removed so the researcher could not identify specific participants. All individual information remained confidential and results were presented in a manner that does not allow the identification of individuals.

Population, Sample, and Participants

The target population for this research study was adult students enrolled at Midwest College in the spring of 2005 or the fall of 2008. MC defined adult students as those who were enrolled part-time during the day or enrolled full- or part-time in the evening or weekend. Only students who were actively enrolled at the time of survey administration were asked to participate. This eliminated students who had withdrawn from the college or graduated prior to administration of the survey. According to Midwest College's Institutional Research office there were 451 adult students actively enrolled in spring of 2005 and 489 adult students in fall of 2008. The population and sample size was the same since all actively enrolled adult students were invited to complete the survey. At the time of the survey, MC did not offer online classes so all participants were enrolled in on-ground classes.

The adult students were invited to complete the survey via personalized email invitations. The email provided the link to the survey and the individual passcode that enabled the student to access the survey. To encourage participation, students who completed the survey had their names entered in a drawing to win prizes. Four reminder emails were sent over a period of six weeks to encourage participation.

Data Collection

Instrumentation

Satisfaction assessment was gathered prior to this study using the Noel-Levitz Adult Student Priorities Survey™ (ASPS). Appendix A provides a list of ASPS specific item statements. The survey instrument consisted of 98 items that cover a variety of college experiences as well as demographic information. Seventy items asked students to indicate

the level of importance they assign for each item and their level of satisfaction with the institution for meeting their expectations for each item. Items are phrased as positive expectations such as “Adults students are made to feel welcome at this institution.” Fifty items were provided by Noel-Levitz and Midwest College added 20 additional statements to assess items of specific interest to the college administration. These campus defined items address alternative campus locations, campus services, programming, convenience, and marketing activities. Only the 50 Noel-Levitz items were used for this study.

Students indicated the level of importance for each item on a seven point response scale: 1=not important at all; 2=not very important; 3=somewhat unimportant; 4=neutral; 5=somewhat important; 6=important; and 7=very important. They could also indicate that the item does not apply. Students then indicated their level of satisfaction with the institution in meeting that item on a seven point response scale: 1=not satisfied at all; 2=dissatisfied; 3=somewhat dissatisfied; 4=neutral; 5=somewhat satisfied; 6=satisfied; and 7=very satisfied. Students could also indicate does not apply for each item.

In addition, students were asked to indicate how important nine factors were in their decision to enroll in the institution. Students indicate the level of importance for each factor on a seven point response scale: 1=not important at all; 2=not very important; 3=somewhat unimportant; 4=neutral; 5=somewhat important; 6=important; and 7=very important. They could also indicate that the item does not apply.

Three summary expectation and satisfaction questions were asked allowing students to indicate how well their experience has met their expectations so far, how satisfied they are, and would they enroll in the institution again. Student responses were collected based on a seven-point scale. The ASPS also collects 17 demographic characteristics.

According to Noel-Levitz (2008) the reliability for the ASPS is strong. The Cronbach's coefficient alpha for the set of importance scores was .93 and .90 for the set of satisfaction scores. The test-retest reliability estimate of mean importance scores was .82 and .81 for the mean satisfaction scores. The validity of the ASPS was assessed both quantitatively and qualitatively (Noel-Levitz, 2008).

Variables

The dependant variable is student enrollment status the semester following ASPS participation: 0=dropped out, 1=enrolled or graduated. A student was considered retained if he or she graduated or was enrolled the semester following participation. The spring 2009 semester enrollment status was used for the fall 2008 ASPS participants. The summer/fall 2005 semester enrollment status was used for the spring 2005 participants. The independent variables (see Table 3.1) were comprised of background characteristics, academic characteristics, and satisfaction scores for the student-faculty and student-institutional factors. Categorical variables with more than two categories were recoded into a series of dichotomous variables with 0 specified as the baseline variable and 1 as the group to compare against the baseline (Field, 2009). These dummy variables are listed in Table 3.1.

Data Analysis

Response rate

Table 3.2 shows the response rate for the 2005 and 2008 ASPS administration. All active MC students were e-mailed invitations to participate in the survey. Only 63 surveys were completed for the spring 2005 administration, whereas 115 were submitted in fall 2008.

Table 3.1. Independent variables

Variable	Research Question	Coding/Scale	Recoding for Analysis (dummy variables)
Background characteristics			
Gender	1,2	1 = female, 2= male	0 = male, 1= female
Age	1,2	1= 24 and under 2= 25 to 34 3= 35 to 44 4= 45 and over	0= 24 and under 1= 25 and older
Ethnicity	1,2	1= African American 2= American Indian/Alaskan Native 3= Asian/Pacific Islander 4= Caucasian/White 5= Hispanic 6= Other 7= Prefer not to respond	0= Non-white 1= White
Marital Status & Children	1,2,5	1= Single 2= Single with children 3=Married 4= Married with children 5= Prefer not to respond	0= Single, Prefer not respond 1= Married 0= No children 1= Children
Employment	1,2,5	1= FT off campus 2= PT off campus 3=FT on campus 4= PT on campus 5= Not employed	0= PT or not employed 1= FT employment
Education Goal	1,2,5	1= Associate degree 2=Vocational/tech program 3= Transfer to another institution 4= Bachelor's degree 5= Masters degree 6= Doctorate/ Professional degree 7= Certification 8= Self-improvement 9= Job-related training 10= Other	0= not bachelor's degree 1= Bachelor's degree
Academic Characteristics			
Enrollment Status	1,2	1= Full-time 2= Part-time	0= Full-time 1= Part-time
Class Schedule	1,2	1= Day 2= Evening 3= Weekend	0= Non-accelerated 1= Accelerated
Grade Point Average	1,2,5	1= no credits earned 2=1.99 or below 3=2.00 to 2.49 4=2.50 to 2.99 5=3.00 to 3.49 6=3.50 or above	

Table 3.1. (Continued).

Variable	Research Question	Coding/Scale	Recoding for Analysis (dummy variables)
Class Level	1,2	1= First year 2= Second year 3= Third year 4= Fourth year 5= Special student 6= Graduate/ Professional 7= Other	0= Not 1 st year 1= 1 st year 0= Not 2 nd year 1= 2 nd year 0= Not 3 rd year 1= Third year 0= Not 4 th year 1= Fourth year
Major	1,2	0= None 1= Business 2= Social Sciences 3= Humanities 4= Nursing 5= Sciences	0= Not business 1= Business 0= Not social sciences 1= Social sciences 0= Not humanities 1= Humanities 0= Not nursing 1= Nursing
Student-Faculty Values Factors			
Academic Advising	3,4,5	0= Not available/ not used	
Academic Quality	3,4,5	1= Not satisfied at all 2= Dissatisfied 3= Somewhat dissatisfied	
Student-Institutional Values Factors			
Care & Convenience	3,4,5	4= Neutral	
Resources	3,4,5	5= Somewhat satisfied	
Financial Aid	3,4,5	6= Satisfied 7= Very satisfied	

Table 3.2. ASPS population, sample size, participation and response rate

Variable	Spring 2005	Response Rate	Fall 2008	Response Rate
Population (N)	451		489	
Sample size (n)	451		489	
Participants (R)	63	14.0%	115	23.5%

The response rates for spring 2005 and fall 2008 were 14.0% and 23.5%, respectively. As shown in Table 3.2, nearly twice as many students (63) responded in fall 2008 vs. spring 2005 (115). Two students completed the ASPS survey both times; therefore, only the 2008 data for these two students were used for this study.

Descriptive statistics

Stata, version 10.1, was used for the statistical analysis for this study. Descriptive statistics were used to address research questions one through three, examining student and participants' background and academic characteristics. Demographic characteristics from the ASPS respondents were compared to the MC population for spring 2005 and fall 2008 to determine if they are representative of all MC students at the time of the survey. In addition, descriptive statistics were used to compare the background and academic characteristics of the study participants who were retained with those who were not retained. Person's chi-square test was used to determine if there was a relationship between the categorical variables (Field, 2009).

Factor analysis

Although Noel-Levitz has determined eight comprehensive scales for the ASPS as described in Chapter 2, an exploratory factor analysis was performed based on the 50 satisfaction items of the MC study participants. Factor analysis was used to group the survey items into a smaller set of underlying factors (Coughlin, 2005). Prior to factor analysis the factorability of the data set was evaluated using the Kaiser-Meyer-Olkin Measure (KMO) and Bartlett's test of sphericity. Principal axis factor analysis was used since it only analyzes common factor variability and removes the unexplained variability (Coughlin, 2005; Mertler & Vannatta, 2005; Tabachnick & Fidell, 2001). Varimax rotation was selected because it is an orthogonal rotation, which assumes no relationship between the factors but maximizes the amount of variance that is uniquely accounted for by each factor and minimizes the number of items that have high loadings on each factor which simplifies interpretation (Coughlin,

2005). The identified factors of academic quality, academic advising, care and convenience, resources, and financial aid were then assigned to the student-faculty values factors or the student-institutional values factors as identified in the model.

Prior to additional analysis the factors were reviewed for normality using skewness and kurtosis tests for normality and the Shapiro-Wilk W test (Field, 2009). Since the data were nonparametric, the Mann-Whitney test was used to determine if there was a statistical difference in satisfaction scores for the identified factors for those who were retained compared to those who were not retained.

Logistic regression

Binary logistic regression was selected for this study because it tests a model to predict group membership in a categorical dependant variable with two outcomes. In this study, adult learner retention status is a categorical variable. The predictor variables can be continuous or categorical. Logistic regression does not require a normal distribution of the predictor variables and they do not have to be linearly related (Mertler, & Vannatta, 2005). According to Field (2009) selecting which predictors to include in the model and how they are entered into the model has a major impact. Field recommended that predictors be based on past research and the theoretical importance of the variables. For this study predictors were selected based on the literature review and the factor analysis of the ASPS satisfaction items. Predictors were entered into the model using block entry, having grouped them by their characteristics. The blocks used in this study were background characteristics, academic characteristics, and the student-faculty and student-institution factors.

Limitations

The study was conducted based with the following limitations. The ASPS survey was administered electronically and all communications encouraging the adult learners to complete this survey were via e-mail. Unfortunately, not all adult learners at Midwest College read their e-mail and hence those who did not were not likely to participate. In addition, the study only considered satisfaction data from students who were willing to complete the survey online. This may have been self-selecting for particular students such as those who were more motivated students or students who were more likely to be dissatisfied since they were told it were a satisfaction survey. Students who did not have ready access to the internet may have been less likely to participate. Therefore, the results may not be representative of all the adult learners at Midwest College.

Delimitations

This study investigated the retention and satisfaction of adult students at Midwest College, a private liberal arts college. Midwest College is affiliated with a religious denomination and may attract a particular type of student even though students do not need to be affiliated with any particular religious organization to attend Midwest College. Therefore, the results may not be generalized to other institutions or student groups.

Retention was viewed from an institutional perspective, and considered only the enrollment status the subsequent term after administration of the survey. This narrow definition of retention does not reflect a more common practice of adult learners stopping in and out of college and may not be indicative of the participant's retention since a student may have stopped out just for that term or may have chosen to attend a different institution.

Summary

The purpose of this research was to examine the relationship between adult learner satisfaction and retention at Midwest College. The student satisfaction information was obtained from the Noel-Levitz ASPS, which was administered in fall 2005 and spring 2008. Students' demographic and enrollment characteristics were obtained from Midwest College's student information system. An adult learner satisfaction and retention model was proposed with Schertzer and Schertzer's (2004) conceptual model providing the framework for the research design. Enrollment data for the semester following ASPS participation determined retention. Descriptive statistics were used to compare the study participants with the adult learner population at MC. Descriptive statistics were also used to compare participants who were retained with those who did not retain. Factor analysis was conducted to reduce the 50 satisfaction items into fewer, related variables. The Mann-Whitney test was used to determine if there was a statistical difference in satisfaction scores for the identified factors for those who were retained compared to those who were not retained. Binary logistic regression was performed to determine the predictive model for retention.

CHAPTER 4. RESULTS

Introduction

The purpose of this study was to determine the extent to which adult learners' satisfaction predicted their retention. This chapter presents the descriptive statistics, factor analysis, Mann-Whitney test results, and the results of a binary logistic regression analysis of retention data for 168 adult learners at a small, private, Midwestern, liberal arts college named Midwest College (MC) for this study. The research utilized the satisfaction with various campus experiences as predictors while controlling for student demographic characteristics.

Descriptive Analysis

All adult learners, defined by Midwest College as part-time day students or evening or weekend students only, were invited to complete the Noel-Levitz Adult Satisfaction Priorities SurveyTM (ASPS). A profile of the institutional adult learners vs. the students who participated in the survey was compiled to determine the similarities and differences of the participants from the adult learner student body. Since the survey was conducted two different semesters, the institutional adult learner profile was determined by totaling the student characteristics for the spring 2005 and fall 2008 semesters to allow comparisons with the characteristics of the ASPS participants. Table 4.1 presents the frequencies, percentages and differences between these two groups.

Table 4.1. Demographic characteristics of MC adult learners vs. ASPS participants

Characteristic	Student Group (%)		Difference*
	All Adult Learners (N=977)	ASPS Participants (n=168)	
Gender			
Female	68.8	72.0	-3.2
Male	31.2	28.0	3.2
Age			
<= 24	32.8	15.5	17.4
>24	67.2	84.5	-17.4
Ethnicity			
African American	3.7	3.0	0.8
Asian	2.5	0.6	1.9
White	62.2	93.5	-31.3
Hispanic	1.2	0.6	0.7
Other	1.7	1.2	0.5
Prefer not to answer	28.9	1.2	27.7
Marital Status			
Single/divorced/separated	48.8	45.2	3.6
Married	31.3	53.6	-22.3
Not stated	20.1	1.2	18.9
Enrollment Status			
Full-time (12 hours or more)	18.9	25.0	-6.1
Part-time (<12 hours)	80.7	75.0	5.7
Class Level			
1st year	6.2	4.8	1.4
2nd year	4.7	9.5	-4.8
3rd year	12.4	24.4	-12.0
4th year	69.4	46.4	23.0
Other	7.5	14.9	-7.4

*Difference was calculated by subtracting the percentage of ASPS participants from the adult learners; a positive percentage indicates a higher percentage for the adult learners.

Adult learners and participants

The 168 ASPS respondents used for this study represented 17.2% of the adult learner students at MC. The majority of the students were female, 72.0% for participants and 68.8% for the adult learner student body. A higher percentage of students age 25 and older participated in the survey (84.5% vs. 67.2%) for the adult student population. This may have been a participation self-selection bias since many of the younger students are part-time day students who do not view themselves as part of the adult learner program and, hence, chose not to participate. White students (93.5%) were more likely to participate in the survey than other ethnicities. This was also a higher percentage than the adult learner population (62.2%) which identified themselves as white. Married students (53.6%) were the largest group of survey respondents vs. the adult learners (31.3%). Most of the survey respondents were enrolled part-time (75.0%), which was a lower percentage than the adult learners as a whole part-time (80.7%). The majority of survey participants were upper classman (70.8%) were juniors or seniors, which is slightly lower than the adult learners as a group, which were upperclassman (81.8%).

Table 4.2 illustrates the retention and success rates of the MC adult learner population and the survey participants the semesters following the administration of the ASPS survey. The retention calculation was determined by dividing the number of students who were retained by the number who were eligible to enroll. This calculation excludes the students who graduated at the end of the semester. The success rate was calculated by dividing the number of students who graduated plus the number of students who were retained by the total number of students. The success rate calculation included students who graduated at the end of the semester the ASPS was administered. Since they graduated, they would not

Table 4.2. Retention and success rates of MC adult learners vs. ASPS participants

Group	Total	Graduated	Retained	Not Enrolled	Retention Rate ^a	Success Rate ^b
MC Adult learners	N=961	82	622	258	70.7%	73.2%
ASPS	n=168	23	128	17	88.3%	89.9%

^aRetention rate does not include the students who graduated at the end of the semester.

^bSuccess rate includes the students who graduated as well as those who were retained.

normally be included in the retention calculation. This study included the students who graduated and hence the determination of the success rate. The survey participants had higher retention rate (88.3%) and success rate (89.9%) than the overall adult learner population retention rate (70.7%) and success rate (73.2%).

Background and academic characteristics of the participants

A profile of the 168 ASPS student participants, those who were retained vs. those who were not retained, was compiled to determine differences between the two groups. Table 4.3 reveals the background characteristics of the study sample by frequencies and percentages, and Table 4.4 displays the academic characteristics of the study sample by frequencies and percentages. The variables that may have the greatest impact on satisfaction and retention were selected based on the literature review presented in Chapter 2.

The majority of the students who participated were female with a slightly higher percentage retained (72.2%) compared to those not retained (70.6%). Younger students, those 24 and younger, were more likely to be retained (15.9%) compared to those not retained (11.8%). Older students, those 35 and older, were retained at a lower rate with 48.3% retained compared to 52.9% of those 35 and older not retained.

Table 4.3. Background characteristics of the ASPS participants, retained vs. not retained

Characteristic	Retained (n=151)		Not Retained (n=17)		Difference* %
	Count	%	Count	%	
Gender					
female	109	72.2	12	70.6	1.6
male	42	27.8	5	29.4	-1.6
Age					
24 and under	24	15.9	2	11.8	4.1
25 to 34	54	35.8	6	35.3	0.5
35 to 44	31	20.5	4	23.5	-3.0
45 and over	42	27.8	5	29.4	-1.6
Ethnicity					
African-American	5	3.3	0	0.0	3.3
Asian/Pacific Islander	0	0.0	1	5.9	-5.9
Caucasian/White	142	94.0	15	88.2	5.8
Hispanic	0	0.0	1	5.9	-5.9
Other	2	1.3	0	0.0	1.3
Prefer not to respond	2	1.3	0	0.0	1.3
Employment					
Full-time	113	74.8	14	82.4	-7.5
Part-time	23	15.2	1	5.9	9.3
Not employed	15	9.9	2	11.8	-1.8
Marital Status					
Single	50	33.1	8	47.1	-13.9
Single with children	18	11.9	0	0.0	11.9
Married	25	16.6	4	23.5	-7.0
Married with children	58	38.4	3	17.6	20.8
Prefer not to respond	0	0.0	2	11.8	-11.8
Ed Goal					
Associate degree	3	2.0%	2	11.8%	-9.8%
Transfer to another institution	2	1.3%	1	5.9%	-4.6%
Bachelor's degree	129	85.4%	10	58.8%	26.6%
Master's degree	10	6.6%	3	17.6%	-11.0%
Doctorate / Professional	4	2.6%	0	0.0%	2.6%
Certification	2	1.3%	1	5.9%	-4.6%
Self-improvement / pleasure	1	0.7%	0	0.0%	0.7%

*Difference calculated by subtracting the percentage of those who were not retained from the percentage who were retained. A positive difference indicates a higher percentage of retained students.

Table 4.4. Academic characteristics of the ASPS participants, retained vs. not retained

Characteristic	Retained (n=151)		Not Retained (n=17)		Difference* %
	Count	%	Count	%	
Class Schedule					
Day	31	20.5	4	23.5	-3.0
Evening	17	11.3	4	23.5	-12.3
Weekend	2	1.3	1	5.9	-4.6
Accelerated	101	66.9	8	47.1	19.8
Enrollment Status					
Fulltime, +12 hours	41	27.2	1	5.9	21.3
Part-time, <12 hours	110	72.8	16	94.1	-21.3
Class Level					
First year	7	4.6	1	5.9	-1.2
Second year	15	9.9	1	5.9	4.1
Third year	37	24.5	4	23.5	1.0
Fourth year	71	47.0	7	41.2	5.8
Other	21	13.9	4	23.5	-9.6
GPA					
No credits earned	1	0.7	0	0.0	0.7
1.99 or below	1	0.7	1	5.9	-5.2
2.0 to 2.49	6	4.0	3	17.6	-13.7
2.5 to 2.99	26	17.2	2	11.8	5.5
3.0 to 3.49	35	23.2	7	41.2	-18.0
3.5 or above	82	54.3	4	23.5	30.8
Major					
Business	60	39.7	8	47.1	-7.3
Social Sciences	31	20.5	3	17.6	2.9
Humanities	25	16.6	4	23.5	-7.0
Nursing	32	21.2	2	11.8	9.4
None	3	2.0	0	0.0	2.0

*Difference calculated by subtracting the percentage of those who were not retained from the percentage who were retained. A positive difference indicates a higher percentage of retained students.

Ethnicity of the students retained was predominately white (94.0%) compared to those not retained (88.2%). However, ethnicity was not used as a variable in this study due to the low number (11) of participants of non-white or not stated ethnicity.

Fewer students who were retained indicated they were employed full-time (74.8%) than those not retained (82.4%). Differences in students' marital status and children were also evident among the retained versus not retained participants. The total percentage of

single students was similar for both retained and not retained participants, with 45.0% and 47.1%, respectively, indicating they were single. However, these single students were not the same because 11.9% of the retained students indicated they were single with children while none of the not retained single students had children. The majority of the retained students were married (55.0%) with a lower percentage married in the not retained group (41.1%). Further analysis of the retained students revealed that 38.4% stated they were married with children, while only 17.6% of the students who were not retained were married with children. When considering only children, 50.3% of the retained participants had children compared to only 17.6% of those not retained who had children.

Differences in retention were also found when considering the students' educational goal. Retained students with an educational goal of earning a bachelor's degree were more likely to be retained (85.4%). Only 58.8% of the not retained students had an educational goal of earning a bachelors degree.

MC allows students to take course in a variety of different class schedule options. An accelerated course option is most common for the adult learners and resulted in a higher percentage of those who were retained (66.9%) compared to those not retained (47.1%). The semester long day or evening course schedules resulted in 31.8% of participants retained compared to 47.0% not retained.

Part-time students, those registered for fewer than 12 credits for the semester, were more likely to be retained (72.8%) compared to those not retained (94.1%). Little difference was seen between those retained and not retained when looking at student class level except for the fourth year students and other students. Fourth years students were more likely to be retained (47.0%) compared to those not retained (41.2%). Other students which include

those who are non-degree seeking, graduate students taking undergraduate classes, or students who have not been admitted to MC or less likely to be retained with only 13.9% retained compared with 23.5% not retained.

Of the students who were retained 54.3% had a grade point average of 3.5 or above, while only 23.5% of those not retained had a GPA of 3.5 or above. At the other end of the spectrum, only 5.4% of the retained students had a GPA below 2.5 while 23.5% of the not retained students had a GPA below 2.5.

A student's major was assigned according to the MC's academic divisions. The retained students' majors were reflective of the overall participant major breakdown with business at 39.7% having the most students. The percentages of business students, 47.1%, were higher for those not retained. Humanities majors were 16.6% for retained students and 23.5% for not retained students.

Statistical Significance of Relationships among Variables

To develop a better understanding of the importance of each of the variables of the MC students a chi-squared test of independence was conducted to evaluate whether there was a relationship between retention and the specified variables. The results are shown in Table 4.5. Retention and ethnicity were significantly related, Pearson $\chi^2 (5, n=168) = 18.83, p < .01$. Retention and having children were significantly related, Pearson $\chi^2 (1, n=168) = 6.55, p < .05$. Persistence and education goal were significantly related, Pearson $\chi^2 (6, n=168) = 12.73, p < .05$. Persistence and grade point average were significantly related, Pearson $\chi^2 (5, n=168) = 1.02, p < .05$.

The satisfaction data for this study were obtained from the Adult Satisfaction Priorities SurveyTM which was comprised of 50 items where the students indicated their level of satisfaction with the individual items. Students had the option to respond from zero to seven, with zero indicating they did not use or did not experience the item. One through seven indicated their level of satisfaction with one being not satisfied at all to seven indicating very satisfied. Table 4.6 lists the items and their descriptive statistics. The responses with zero were not included in these statistical calculations. A pattern analysis of missing data was conducted and there was no discernable pattern. Individual items had from zero to 3 responses missing. The calculation of the means of the item using the available data were imputed for the missing values (Mertler & Vannatta, 2005).

Table 4.5. Significance of bivariate relationships between background and academic variables

Variable	χ^2	<i>df</i>	<i>p</i>
Female	0.02	1	.889
Age over 24	0.20	1	.655
Ethnicity	18.83	5	.002**
Full-time employment	0.47	1	.494
Single	0.03	1	.874
Have children	6.55	1	.010*
Education Goal	12.73	6	.047*
Accelerated schedule			
Enrollment status full-time	3.69	1	.055
Class level	6.07	1	.415
Major	1.70	4	.790
Grade point average	1.02	5	.015*

Level of significance * $p < .05$, ** $p < .01$,

Table 4.6. Descriptive statistics for ASPS items

Item	Item Statement	Obs.	Mean	SD
1	Adult students are made to feel welcome at this institution.	168	5.631	1.471
2	Faculty care about me as an individual.	167	5.778	1.209
3	Classes are scheduled at times that are convenient for me.	167	5.120	1.642
4	The content of the courses within my major is valuable.	168	5.446	1.405
5	Classroom locations are safe and secure for all students.	167	5.832	1.259
6	Financial aid counselors are helpful to adult students.	166	4.199	2.403
7	The staff at this institution are caring and helpful.	168	5.762	1.128
8	My academic advisor is available at times that are convenient for me.	168	5.589	1.679
9	Billing policies are reasonable for adult students.	166	4.910	1.812
10	Admissions representatives are knowledgeable.	167	5.108	1.840
11	My academic advisor is concerned about my success as an individual.	168	5.512	1.801
12	Computer labs are adequate and accessible for adult students.	168	4.506	2.452
13	The amount of student parking is adequate.	168	4.262	1.893
14	Faculty are fair and unbiased in their treatment of individual students.	168	5.726	1.187
15	Library resources and services are adequate for adults.	167	4.707	2.229
16	I am able to register for classes I need with few conflicts.	167	5.144	1.723
17	Business office hours are convenient for adult students.	168	4.244	1.980
18	Parking lots are well-lighted and secure.	167	5.257	1.602
19	My academic advisor is knowledgeable about requirements in my major.	167	5.623	1.703
20	Registration processes are reasonable and convenient for adults.	168	5.321	1.595
21	Tuition paid is a worthwhile investment.	167	5.269	1.684
22	Security staff respond quickly in emergencies.	166	2.042	2.497
23	Adequate financial aid is available for most adult students.	165	4.121	2.634
24	There is a commitment to academic excellence at this institution.	168	5.696	1.383
25	Admissions representatives respond to adult students' unique needs.	166	4.988	1.948
26	Faculty provide timely feedback about my progress.	168	5.685	1.263
27	This institution has a good reputation within the community.	167	5.766	1.366
28	My academic advisor is accessible by telephone and e-mail.	168	6.048	1.439
29	I seldom get the "run-around" when seeking information at this institution.	168	5.167	1.736
30	Academic support services adequately meet the needs of adult students.	165	4.121	2.439
31	I am able to register for classes by personal computer, fax, or telephone.	168	3.952	2.640
32	My classes provide opportunities to improve my technology skills.	167	4.934	1.739
33	Channels are readily available for adult students to express complaints.	167	3.701	2.358
34	I receive complete information on the availability of financial aid.	167	3.994	2.424
35	The quality of instruction I receive in my program is excellent.	168	5.732	1.240
36	Vending or snack bar food options are readily available.	168	4.274	2.177
37	Part-time faculty are competent as classroom instructors.	166	5.012	2.054
38	Career services are adequate and accessible for adult students.	165	3.109	2.664
39	This institution responds quickly to my requests for information.	166	5.271	1.732
40	Faculty are usually available for adult students by phone, by e-mail or in person.	167	5.677	1.636
41	Major requirements are clear and reasonable.	167	5.569	1.466
42	Nearly all faculty are knowledgeable in their field.	166	5.934	1.118
43	This institution offers a variety of payment plans for adult students.	168	3.768	2.603
44	When students enroll at this institution, they develop a plan to complete their degree.	168	5.048	1.954
45	I am able to complete most of my enrollment tasks in one location.	168	5.208	1.794
46	This institution provides timely responses to student complaints.	165	3.285	2.573
47	Bookstore hours are convenient for adult students.	167	4.150	1.944
48	I am aware of whom to contact for questions about programs and services.	167	4.880	1.872
49	There are sufficient options within my program of study.	167	5.018	1.645
50	My advisor helps me apply my academic major to specific career goals.	168	4.756	2.157

Note: Obs. = number of observations prior to imputing missing values.

Factor analysis

Although Noel-Levitz, Inc., determined the factor structure for the ASPS as described in Chapter 2, an exploratory factor analysis was performed based on the 50 satisfaction items of the MC study participants. Prior to the factor analysis, the factorability of the data set was evaluated through the Kaiser-Meyer-Olkin Measure (KMO) and Bartlett's test of sphericity. For this study, the KMO was .839, which is greater than the recommended minimum of .6 to perform factor analysis (Tabachnik & Fidell, 2001) and all KMO values for individual items was $>.62$, which is above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity $\chi^2(1225)=4236.84$, $p<.001$, was significant at $p\leq.05$, indicating that there were adequate intercorrelations between the items to use factor analysis (Tabachnik & Fidell, 2001).

The sample size for the factor analysis was 168. Guadagnoli and Velicer (1988) stated that, regardless of sample size, factor components with four or more loadings above 0.6 are reliable. In addition, components with ten or more loadings greater than 0.4, are reliable as long as the samples size is greater than 150. For this study three factors had four or more loadings greater than 0.6. In addition, one factor had more than ten loadings above 0.4.

Principal axis factor analysis was used since it only analyzes common factor variability and removes the unexplained variability (Coughlin, 2005; Mertler & Vannatta, 2005; Tabachnick & Fidell, 2001). An initial analysis was conducted to determine eigenvalues for each factor. Seven factors had eigenvalues above the Kaiser-Guttman criteria of 1.0. The scree plot showed five factors with eigenvalues in the sharp descent of the plot. Five factors were selected based on the scree plot (Coughlin, 2005; Goho & Blackman, 2009).

Varimax is an orthogonal rotation that assumes no relationship between the factors but maximizes the amount of variance that is uniquely accounted for by each factor and minimizes the number of items that have high loadings on each factor, which simplifies interpretation (Coughlin, 2005). Thurstone's Guidelines were applied after the factors were rotated. Thurstone's Guidelines suggest only using items with factor loadings at above .4, deleting double loaded items, deleting items that are unique, and deleting items that load high but are not related to the proposed factor (Tabachnik & Fidell, 2001). Items that double load may be retained when the item is related to both factors (Coughlin, 2005). Three items double loaded and were included since they were related to the proposed factors. The three items were "Faculty are fair and unbiased in their treatment of individual students," "Faculty care about me as an individual," and "Major requirements are clear and reasonable." A total of 38 items factored into five factors. Items that had factor loadings .4 or lower were not included in the analysis.

Table 4.7 reveals the identified factors, the items that comprise each factor, the factor loadings, eigenvalues, and Cronbach's alpha. Five factors were identified and account for 72.41% of the variance in the total scores. The identified factors and their percent of variance were care and convenience (21.23%), academic quality (15.28%), academic advising (14.88%), resources (13.33%), and financial aid (7.69%). The Cronbach's alpha was .73, which is in the acceptable range of .7 to 1 (Tabachnik & Fidell, 2001). Appendix B contains the factor loadings for the exploratory factor analysis with Varimax rotation for the 50 ASPS items.

These five identified factors differ somewhat from the eight comprehensive scales identified by Noel-Levitz, Inc., for the ASPS. The eight comprehensive Noel-Levitz scales

Table 4.7. Summary of factors, items, and loadings for principal axis exploratory factor analysis with varimax rotation (N=168)

Factors & Items		Factor Loading	α
Care & Convenience	Eigenvalue = 12.49		0.64
Adult students are made to feel welcome at this institution.		.62	
Classes are scheduled at times that are convenient for me.		.61	
I am able to register for classes I need with few conflicts.		.61	
Faculty care about me as an individual.		.58	
I am able to complete most of my enrollment tasks in one location.		.56	
Registration processes are reasonable and convenient for adults.		.55	
The staff at this institution are caring and helpful.		.53	
The amount of student parking is adequate.		.52	
Faculty are fair and unbiased in their treatment of individual students.		.51	
There are sufficient options within my program of study.		.49	
Classroom locations are safe and secure for all students.		.49	
Business office hours are convenient for adult students.		.47	
Billing policies are reasonable for adult students.		.46	
I seldom get the "run-around" when seeking information at this institution.		.45	
Admissions representatives are knowledgeable.		.44	
When students enroll at this institution, they develop a plan to complete their degree.		.41	
Major requirements are clear and reasonable.		.41	
Academic Quality	Eigenvalue = 3.13		0.66
The quality of instruction I receive in my program is excellent.		.80	
Nearly all faculty are knowledgeable in their field.		.76	
There is a commitment to academic excellence at this institution.		.67	
The content of the courses within my major is valuable.		.62	
Faculty are fair and unbiased in their treatment of individual students.		.52	
Faculty provide timely feedback about my progress.		.46	
This institution has a good reputation within the community.		.45	
Faculty care about me as an individual.		.41	
Academic Advising	Eigenvalue = 2.42		0.68
My academic advisor is concerned about my success as an individual.		.81	
My academic advisor is accessible by telephone and e-mail.		.76	
My academic advisor is available at times that are convenient for me.		.75	
My academic advisor is knowledgeable about requirements in my major.		.74	
My advisor helps me apply my academic major to specific career goals.		.52	
Major requirements are clear and reasonable.		.47	
Resources	Eigenvalue = 1.96		0.71
Career services are adequate and accessible for adult students.		.67	
This institution provides timely responses to student complaints.		.63	
Channels are readily available for adult students to express complaints.		.55	
Computer labs are adequate and accessible for adult students.		.48	
Security staff respond quickly in emergencies.		.47	
Academic support services adequately meet the needs of adult students.		.46	
Library resources and services are adequate for adults.		.44	
Financial Aid	Eigenvalue = 1.34		0.72
I receive complete information on the availability of financial aid.		.73	
Financial aid counselors are helpful to adult students.		.68	
Adequate financial aid is available for most adult students.		.68	

Note: Adapted from Noel-Levitz, Inc., Adult Satisfaction Priority Survey™ (ASPS).

are: academic advising effectiveness, academic services, admissions and financial aid, campus climate, instructional effectiveness, registration effectiveness, safety and security, and service excellence. A comparison of the items that loaded into each factor vs. the items that comprised each ASPS scale shows that academic advising, resources, and financial aid factors had similar item statements as the ASPS scales of academic advising effectiveness, academic services, and admissions and financial aid. The academic quality factor items were only half of the items that were included in the ASPS instructional effectiveness scale. The care and convenience factor was comprised of items that were included in the ASPS scales of registration effectiveness, safety and security, or service excellence. The factor analysis had 15 items that did not load into any factor at the $>.4$ factor loading level. Noel-Levitz, Inc., had one item that was not included in the specified scales. The factor analysis had three items that double loaded while Noel-Levitz, Inc., had eight item statements that were double loaded on the various scales.

Factor scores for each individual were calculated by summing the raw scores, which corresponded to each item that loaded on the factor. The scores were then averaged to determine the sum mean score (see Table 4.8).

Prior to analysis the factors were reviewed for normality. Histogram plots revealed that the five factors were not normally distributed. Skewness and kurtosis tests for normality and the Shapiro-Wilk W test for normal distribution of data were run. The results indicated that each factor was significantly different from following a normal distribution ($p<.05$).

Since the data did not satisfy the usual assumptions for parametric analysis and, thus, nonparametric procedures were appropriate, the Mann-Whitney test was used as the equivalent of the independent t -test (Field, 2009) to determine if there was a statistical

Table 4.8. Factor sum score mean and median

Factor	N	Mean	SD	Median	Min.	Max.
Care & Convenience	168	5.23	0.99	5.35	2.53	7
Academic Quality	168	5.72	0.93	2.88	2.12	7
Academic Advising	168	5.52	1.31	5.67	0	7
Resources	168	3.64	1.55	3.86	0	7
Financial Aid	168	4.10	2.12	4.33	0	7

difference in satisfaction scores for the student-faculty constructs of academic quality and academic advising with those who retained compared to those who didn't. Academic quality for those who were retained ($Mdn=5.88$) did not differ significantly from those who were not retained ($Mdn=5.75$), $U=1242.50$, $z=-0.22$, ns , $r=-.02$. Academic advising for those who were retained ($Mdn=5.83$) did not differ significantly from those who were not retained ($Mdn=4.83$), $U=991.50$, $z=-1.54$, ns , $r=-.12$.

The Mann-Whitney test was also used to determine if there was a statistical difference in satisfaction scores for the student-institution constructs of care and convenience, resources, and financial aid with those who were retained compared to those who were not retained. Care and convenience for those who were retained ($Mdn=5.36$) did not differ significantly from those who were not retained ($Mdn=5.33$), $U=1091.00$, $z=-1.00$, ns , $r=-.08$. Resources for those who were retained ($Mdn=3.86$) did not differ significantly from those who were not retained ($Mdn=3.86$), $U=1231.50$, $z=-0.27$, ns , $r=-.02$. Financial aid for those who were retained ($Mdn=4.33$) did not differ significantly from those who were not retained ($Mdn=4.33$), $U=1215.00$, $z=-0.36$, ns , $r=-.03$.

The factor scores were tested for multicollinearity. The results are shown in Table 4.9. The variance inflation factor (VIF) < 10 for all factors and the tolerance scores was $> .1$ indicating that collinearity was not a concern (Field, 2009).

The data were also examined for outliers in the dataset using Stata regression diagnostic statistics. As shown in Table 4.10, three cases were found to have extreme values. The data for these three cases were examined and it was determined that while these students were not retained, the extreme scores were explained by the fact that the students had children. When the outliers were dropped from the analysis, having children was determined to be a perfect predictor for retention. It was determined to leave these cases in the dataset for analysis.

Table 4.9. Collinearity statistics

Factor	VIF	Tolerance
Care & Convenience	2.46	.41
Academic Quality	2.02	.50
Academic Advising	1.49	.67
Resources	1.33	.75
Financial Aid	1.32	.76

Note: VIF = variance inflation factor.

Table 4.10. Dataset outlier statistics

Case No.	Y	\hat{Y}	Residual	z
60	0	.92	-3.45	-3.61
63	0	.96	-4.95	5.02
75	0	.99	-8.61	-8.66

Note: Y = actual score; \hat{Y} = estimated score based on regression; Residual = distance of estimated score from the actual score.

Prediction of Retention

Student background variables selected for this study were having children, employment status, and educational goal. The academic variables selected included grade point average and enrollment status. The student-faculty variables were academic quality and academic advising. The institutional-student variables were care and convenience, resources, and financial aid. These variables were identified in the literature review in Chapter 2 and comprise the adult learner retention model proposed in Chapter 3.

Logistic regression was selected for the analysis because it allows the use of a categorical dependent variable, which in this study, was retention. The student was either retained successfully (enrolled the subsequent term or graduated the term of the ASPS survey administration) or the student was not enrolled the next term. Block entry of variables was used because this allowed for grouping the predictor variables into the three groups proposed in the adult learner retention model. The model explored the impact on adult learner retention rates when student background characteristics, student academic characteristics, and the student-faculty and institutional-student factors created from the satisfaction variables were used as the predictor variables.

Background characteristics

Results of the logistic regression analysis indicated that for Block 1 (background) the independent variables of having/not having children and bachelor's degree education goal significantly predicted retention ($p < .05$) as shown in Table 4.11. For Block 1 the odds ratio shows that MC adult learners who had children were 5.02 times more likely to be retained than were those who did not have children. Adult learners who had an education goal to earn

Table 4.11. Retention predictors of Midwest College adult learners

	<i>B</i>	S.E.	<i>z</i>	<i>df</i>	<i>p</i>	Odds Ratio	%
Block 1 Background							
Work full-time	-0.452	0.690	-0.654	1	0.513	0.637	-36.3
Children	1.614	0.670	2.408 *	1	0.016	5.025	402.5
Education Goal - Bachelor degree	1.423	0.567	2.508 *	1	0.012	4.150	315.0
Constant	0.966	0.752	1.280	1	0.199		
Log likelihood	=	-48.17					
Log ratio χ^2	=	13.76					
Probability > χ^2	=	.003					
McFadden pseudo R^2	=	.125					
Cox & Snell R^2	=	.079					
Nagelkerke R^2	=	.164					
Block 2 Academic Characteristics							
Work full-time	-0.814	0.740	-1.100	1	0.271	0.443	-55.7
Children	1.642	0.704	2.331 *	1	0.020	5.167	416.7
Education Goal - Bachelor degree	1.834	0.664	2.762 **	1	0.006	6.258	525.8
Grade point average	0.713	0.265	2.693 **	1	0.007	2.040	104.0
Enrollment status - Full-time	-1.452	1.079	-1.346	1	0.178	0.234	-76.6
Constant	-1.313	1.944	-0.680	1	0.500		
Log likelihood	=	-42.42					
Log ratio χ^2	=	25.27					
Probability > χ^2	=	.000					
McFadden pseudo R^2	=	.230					
Cox & Snell R^2	=	.140					
Nagelkerke R^2	=	.290					
Block 3 Faculty & Institutional Factors							
Work full-time	-0.721	0.768	-0.939	1	0.348	0.487	-51.3
Children	1.726	0.745	2.317 *	1	0.020	5.619	461.9
Education Goal - Bachelor degree	1.616	0.711	2.272 *	1	0.023	5.032	403.2
Grade point average	0.709	0.295	2.403 *	1	0.016	2.032	103.2
Enrollment status - Full-time	-2.023	1.264	-1.600	1	0.110	0.132	-86.8
Academic Quality	0.093	0.064	1.465	1	0.143	1.098	-6.9
Academic Advising	0.076	0.037	2.034 *	1	0.042	1.079	9.8
Care & Convenience	-0.071	0.034	-2.094 *	1	0.036	0.931	7.9
Resources	0.012	0.031	0.394	1	0.693	1.012	1.2
Financial Aid	-0.012	0.063	-0.196	1	0.845	0.988	-1.2
Constant	-1.084	2.843	-0.380	1	0.703		
Log likelihood	=	-38.88					
Log ratio χ^2	=	32.35					
Probability > χ^2	=	.000					
McFadden pseudo R^2	=	.294					
Cox & Snell R^2	=	.175					
Nagelkerke R^2	=	.364					

Note: % = percent change in odds for unit increase in χ^2 ; Level of significance: * $p < .05$, ** $p < .01$

a Bachelor's degree were 4.15 times more likely to be retained than were those who did not aspire to earn a bachelor's degree. Working full-time was not statistically significant in predicting retention. The log ratio Chi-square value ($\chi^2=13.76$, $df=3$, $p<.05$) demonstrates that the first block of variables collectively are significant predictors of retention.

Academic characteristics

Block 2 added the academic characteristics of grade point average and enrollment status to the Block 1 background variables. Grade point average was a significant predictor of retention ($p<.01$). Enrollment status was not significant. The background variable of children became a stronger significant predictor ($p<.01$). The log ratio Chi-square value ($\chi^2=25.27$, $df=5$, $p<.001$) demonstrates that the variables entered in Block 2 significantly enhanced the model. Adult learners with a higher grade point average were 2.04 times more likely to be retained for each 0.5 increase in grade point average compared to those with a 0.5 lower grade point average. Those with children were 5.17 times more likely to be retained than those without children and those whose educational goal was a bachelor's degree were 6.26 times more likely to be retained compared to those who did not share that aspiration. The overall percentage of units of variation explained by the model at Block 2 increased to 29.0% (Nagelkerke R^2), a 12.6 percentage point increase from the 16.4% level of predictive validity in Block 1. The Nagelkerke R^2 , and other pseudo- R^2 metrics, are based on the percentage of chi-square units of variation, which is not the same as the least squares measures of R^2 in terms of squared vertical distances each observation is from the regression plane.

Faculty and institutional factors

Block 3 added the adult learner satisfaction predictor variables of academic quality, academic advising, care and convenience, resources, and financial aid. Only academic advising and care and convenience enhanced the model and were significant ($p < .05$). Academic quality, resources, and financial aid were not significant. Enrollment status and working full-time also were not significant. An increase of one unit in satisfaction with academic advising resulted in a 7.9% increase in the odds of retention compared to one unit lower satisfaction. Care and convenience resulted in a 6.9% decrease in the odds of retention for a one-unit increase in satisfaction. The background variables of children and bachelor's degree education goal remained statistically significant ($p < .05$). Grade point average remained statistically significant but at a lower level ($p < .05$). Adult learners with a higher grade point average were 2.03 times more likely to be retained for each 0.5 increase in grade point average compared to adult learners with 0.5 lower grade point average. Those with children were 5.62 times more likely to be retained compared to those without children. Those whose educational goal was a bachelor's degree were 5.03 times more likely to be retained than those who did not share that aspiration. The log ratio chi-square value ($\chi^2 = 32.35$, $df = 10$, $p < .001$) demonstrates that the variables entered in Block 3 enhanced the model. The predictive validity of the full model increased to 36.4% (Nagelkerke R^2), a 7.4 percentage point difference from Block 2.

Logistic regression summary

Among the background variables, adult learners with children were 5.62 times more likely to be retained than were those who did not have children. Those with an educational

goal of earning a bachelor's degree were 5.03 times more likely to be retained than were those with a different educational goal. Among the academic variables, adult learners with a higher grade point average were 2.03 times more likely to be retained for each 0.5 increase in grade point average compared to adult learners with 0.5 lower grade point average. Among the student-faculty and institutional student variables, one unit higher satisfaction with academic advising resulted in a 7.9% increase in the odds of retention compared to one unit lower satisfaction. One unit higher satisfaction with care and convenience resulted in a 6.9% decrease in the odds of retention compared to one unit lower satisfaction.

CHAPTER 5. DISCUSSION AND CONCLUSION

This chapter provides a summary of the study, data analysis and research findings, discussion of the finding, implications for practice and policy, and recommendations for future research. The purpose of this study was to identify factors that influence adult learner retention at the undergraduate level, examine the relationship between adult learner satisfaction and retention, and develop a model that describes the interrelationships between the various factors, satisfaction, and retention.

Results and the conclusions can provide a better understanding of adult learner retention for administrators, adult learners, and policy makers. As the adult learner population continues to grow in higher education, administrators need to develop an understanding of what influences adult learner retention. Students can learn what factors may influence their satisfaction and subsequent persistence; assisting them in the college selection process as well as helping them persist. With a better understanding of factors that influence adult retention, policy makers can create policy and implement practices that may facilitate retention and success for the adult learner.

Summary

This study was conducted at a small, private, liberal arts baccalaureate college in the Midwest that offers a program targeting adult students. Based on the literature search presented in Chapter 2, adult learner demographic and academic variables were identified that impact student persistence and retention. A review of the retention and attrition research and models revealed that most of the research has focused on traditional age students. An adult learner satisfaction and retention model based on the student satisfaction and retention

conceptual model by Schertzer and Schertzer (2004) was developed in this study. This study utilized the Noel-Levitz Adult Satisfaction Priorities Survey™ to measure adult learner satisfaction with five satisfaction factors that were determined from the survey. Adult learner background and academic characteristics were incorporated with the satisfaction factors to create a predictive model of adult learner retention. Descriptive statistics and logistic regression were used to analyze the data.

Findings

Research Question 1: How do the demographic and academic characteristics such as age, gender, ethnicity, marital status, enrollment status, and class level for students who participated in the study differ from the institutional adult learner characteristics?

Table 4.1 provides the demographic characteristics. The descriptive statistics comparing the survey participants with the overall adult learner population at Midwest College revealed that the study participants had similar ethnic backgrounds and were predominately female. More adult learners over 25 years of age participated in this study. This was probably due to the fact that Midwest College includes traditional age students enrolled part-time as adult learners in the institutional statistics. These part-time traditional age students may not see themselves as part of the MC adult program and hence were less likely to complete the survey. Survey participants were more likely to be married, enrolled full-time, and first- or second-year students compared to the overall adult learner population.

Retention and success rates were calculated to compare the two groups. The students who participated in this study had higher retention (88.3%) and success (89.9%) rates than the overall adult student population retention (70.7%) and success (73.2%) rates.

Research Question 2: How do the background and academic characteristics such as age, gender, ethnicity, marital status, employment, enrollment status, grade point average, class schedule, class level, and major differ for students who were retained compared to students who were not retained?

Tables 4.2 and 4.3 provide the background and academic characteristics of the study participants. The background descriptive statistics show that both groups of participants were over 70% female. When comparing those retained with those not retained, the retained students were more likely to be under 25 years of age, white, employed less than full-time, married, have children, and had an educational goal of earning a bachelor's degree.

Similarities in academic descriptive statistics show that study participants were third and fourth year students with little difference between class level for those retained and those not retained. Majors were also similar with business being the most common major but little difference in retention was observed across majors. Participants that were retained were more likely taking classes in the accelerated schedule, were enrolled for 12 or more credit hours, and had a grade point average 3.0 or greater.

The Chi-square test of independence showed the variables of ethnicity ($p < .01$), having children ($p < .05$), education goal ($p < .05$), and grade point average ($p < .05$) were significantly related to retention. Ethnicity was not considered for additional analysis in this study because of the low number of non-white participants.

Research Question 3: Are there differences in the satisfaction scores for the student-faculty construct of academic quality and academic advising for students who were retained compared to students who were not retained?

Satisfaction scores for academic quality and academic advising did not differ significantly between the retained and not retained study participants.

Research Question 4: Are there difference in the satisfaction scores for student-institution construct of care and convenience, resources, and financial aid for students who were retained compared to students who were not retained?

Satisfaction scores for care and convenience, resources, and financial aid did not differ significantly between the retained and not retained study participants.

Research question 5: What background characteristics, academic characteristics, and satisfaction factors predict retention?

Sequential binary logistic regression analysis was used to determine the independent variables that most effectively predicted retention (see Table 4.11). The background characteristics of having children and an educational goal of earning a bachelor's degree were significant predictors ($p < .05$) of retention. Grade point average was the only academic characteristic that predicted retention ($p < .05$). Only the student-faculty factor of academic advising and the student-institution factor of care and convenience were significant ($p < .05$) in predicting retention.

The variables of having children, educational goal of bachelor's degree, grade point average, and academic advising each increased the odds of retaining. The variable care and convenience had a negative coefficient, which indicates that a higher satisfaction level leads to a student being less likely to be retained.

Discussion

While the study population demographics differed somewhat from the overall adult learner population at Midwest College, the participants' were similar to the national adult learner statistics. National adult learner statistics show that the typical adult learner is 38.8 years old, married, one third have children living at home, 83% work with 58% of these

employed full-time, and 80% are enrolled for less than 12 credit hours (Eduventures, 2008; Paulson & Boeke, 2006). The study participants were similar to adult learners nationally in that the 53% were married, 40% have children, 89% work with 75% employed full-time, and 75% are enrolled for less than 12 credit hours.

The data analysis did not reveal a statistically significant difference in satisfaction scores for the student-faculty factors of academic quality and academic advising between those retained and those not retained. This indicates that students' satisfaction with their academic experience may not have as much of an impact on their retention. Likewise, there was no statistically significant difference in satisfaction scores for the student-institution factors of care and convenience, resources, and financial aid between retained students and not retained students. Students may be satisfied with their faculty and institutional experiences but still dropout for reasons that have little to do with the college. This is supported by the literature that indicates that personal reasons such as work, family, health issues, time, money, and other non-academic issues impact persistence (Bean, 2005; Hanniford & Sagaria, 1994; McGivney, 1996, 2004; Wlodkowski et al., 2002).

The sequential logistic regression identified five variables that were statistically significant in predicting retention. As previously stated, having children, grade point average, and an educational goal of earning a bachelor's degree were predictors of adult learner retention. The two other variables identified were satisfaction with academic advising and care and convenience.

Results of the logistic regression showed that adult learners with children were 5.62 times more likely to be retained than were those who did not have children. As stated in the literature review, adult learners who have children were more likely to retain (Hanniford &

Sagaria, 1994; Leppel, 2002). This study did not address, nor does the literature specify, what role children play in the persistence process for adult learners. The variable of having children may be a surrogate variable for other adult learner characteristics that positively impact persistence such as maturity, commitment to success, a desire for earning a higher salary, career advancement, or other personal goals that students develop as they become older or encounter responsibilities of parenting and adulthood. Adult learners have told the researcher of their desire to complete their degree prior to their children graduating or to be an example to their children as to the importance of obtaining a college education. The role of having children on adult learner retention is an area that needs additional exploration.

Those with an educational goal of earning a bachelor's degree were 5.03 times more likely to be retained than were those with a different educational goal. This is also supported by the literature, adult learners who had a goal commitment (Comings et al., 2002; Vallella & Hu, 1991), which for this study was an educational goal of earning a bachelor's degree, were more likely to be retained.

Adult learners with a higher grade point average were 2.03 times more likely to be retained for each 0.5 increase in grade point average compared to adult learners with 0.5 lower grade point average. Those with a higher grade point average were less likely to dropout (Hagedorn, 1999; Wlodkowski et al., 2001).

Satisfaction with academic advising had a positive impact on retention, which is also supported by the literature (Hunter & White, 2004; Peterson et al., 2001; Wlodkowski et al., 2002). One unit higher satisfaction with academic advising resulted in a 7.9% increase in the odds of retention compared to one unit lower satisfaction.

One unit higher satisfaction with care and convenience resulted in a 6.9% decrease in the odds of being retained compared to one unit lower satisfaction. Increased satisfaction with this variable did not result in increased retention. This is counter intuitive to what was expected; a student more satisfied with care and convenience should be more likely to be retained. The care and convenience factor included items regarding faculty and staff support as well as institutional practices and procedures that served the adult learner. The literature states that supportive and accessible faculty leads to increased satisfaction (Bers & Smith, 1987; Elliot, 2002).

A review of the items that loaded into this factor (Table 4.7) shows that some of these items may have more impact on the initial decision to enroll at the institution rather than the decision to remain. Items such as “Admissions representatives are knowledgeable,” “When students enroll at this institution, they develop a plan to complete their degree,” “Classroom locations are safe and secure for all students,” and “Classes are scheduled at times that are convenient for me” may have been considered prior to initial enrollment and have less of an impact on retention. Some of the other items may have been considered as part of the college choice process and have minimal impact on retention unless the students are no longer satisfied. Since adult learners view education as a purchase decision, they expect care and convenience and, as long as that is met, then it might not positively influence retention. Becoming more satisfied with these items may not result in increased odds of being retained. This would be similar to Herzberg’s hygiene factor (DeShields, Kara, & Kaynak, 2005). If the minimal satisfaction level of care and convenience is not met then it would have a negative impact on retention, similar to a hygiene factor. Based on this, once the minimal

satisfaction level is met, an increase in satisfaction would not result in an increase in retention. Further analysis and research is needed for this variable.

This study supports the adult learner satisfaction and retention model shown in Figure 3.1. The model hypothesizes that the student background and academic characteristics influence the student-faculty values factors and student-institution values factors and the resulting satisfaction. The student-faculty values factors are comprised of academic advising and academic quality. The student-institution values factors are comprised of care and convenience, resources, and financial aid. Adult learners whose student-institutional values and student-faculty values are more in agreement combine to determine the institution and academic fit for the students. This was reflected in the study by using the satisfaction scores, which were calculated for each of the factors. Those students who have a good institutional and academic fit are more likely to be satisfied with their collegiate experience and hence, more likely to be retained.

Tinto (1975) proposed a model of college withdrawal which focused on students' social integration within the institution as affecting students' decision to withdraw or persist. The adult learner satisfaction and retention model developed in this study does not address social integration for the students within the institution. For adult learners, social integration may be better defined as how one integrates pursuit of education into one's overall life (Kerka, 1995). This was supported by the results for Research Questions 3 and 4, which indicated that satisfaction with the student-faculty values factors or satisfaction with the student-institution values factors did not differ significantly between study participants who were retained and those not retained. As previously stated, students may be satisfied with

their faculty and institutional experiences but still dropout for reasons that have little to do with the college.

Implications for Practice and Policy

Colleges and universities that serve adult learners must learn about their students' background and academic characteristics as well as satisfaction with the faculty and institution. Resources need to be directed toward facilitating persistence and achievement of the students' educational goals. "Intervention strategies must address those variables that can be manipulated and which have been found to be the strongest predictors of predispositions to leave" Cabrera et al., 1993, p. 136). Institution needs to bring together the student support services to address retention rather than focusing on individual services such as financial aid, academic advising, and other services. Administrators should also consider the background and academic characteristics of their adult learners, monitor student satisfaction levels regarding institutional initiatives, and implement academic and support services that encourage retention and student success.

Institutions cannot change student background characteristics but they can implement services that support adult learners who have a variety of non-institutional influences such as family, employment, and other commitments that may impact their persistence. This could include a recognition of and encouragement of family members participating in campus events, initiatives to encourage setting and achieving an educational goal, and providing academic support to help adult learners maintain or improve their academic success or grade point average. Attendance policies may need to be modified for adult learners who need to miss class due to sick children or work obligations.

Colleges and universities measure success with degree completion and retention by reenrollment subsequent terms until graduated but for adult learners, these may not be the most appropriate measures. While this study looked at the goal of earning a bachelor's degree and its impact on retention, adult learners may have other educational goals such as taking classes to learn new skills or to advance their career, meet pre-requisites for a graduate program, or just personal enrichment. These students may have fulfilled their educational goal but they would not be considered retained by the institution once they were no longer enrolled because a degree was not earned. When measuring student success, institutions should consider a variety of educational goals as success measures for adult learners. Adult learners may stop in and out of college due to life circumstances. Just because adult learners are not enrolled a particular term does not mean that they have dropped out of college, it may only mean that they are not taking classes that particular term. Retention calculations need to consider the variety of adult learner educational goals and enrollment patterns.

Administrators need to understand the role that academic advising fulfills for adult learners and ensure that policies and practices are in place to meet the learner needs. Academic advising is an ongoing experience that may provide the support and encouragement with negotiating the requirements and policies of the academic program and institutional services. A satisfactory advising experience may negate or minimize dissatisfaction with other experiences. An example would be the advisor that runs interference with the Financial Aid office. Advisors need to be available when adult learners routinely are on campus, which is often in the evening or weekends. Advisors may need to provide assistance in areas in addition to academic advising such as providing financial aid information or facilitating the flow of student paperwork and forms around campus. Often

times the academic advisor is the only contact with college personnel outside of the classroom.

While this study found that satisfaction with the care and convenience variable did not positively impact retention, administrators need to determine how those items impact adult learners; perhaps prior to initial enrollment or as hygiene factors related to retention. Further research on this factor needs to be pursued. Colleges that implement programs that target adult learners need to determine which student-institution values factor items are evaluated by prospective students prior to enrollment and then determine which items students expect to be maintained once they enroll. Adult learners would be less likely to enroll at a particular institution if classes were not offered at a time that was convenient or if they did not feel safe and secure when visiting campus. These items would probably not impact retention unless students were no longer satisfied with the class times or safety of campus. Adult learners, as consumers with various higher education options, probably would not choose to enroll at an institution where the staff and faculty are not knowledgeable or caring. Financial aid may be another area that impacts initial enrollment. Satisfaction with these items probably needs to be maintained once the student enrolls but only dissatisfaction with the items would impact retention. This is an area that administrators often invest resources but it needs to be determined what role care and convenience plays in student enrollment.

Recommendations for Future Research

This study focused on adult learners at one small, private, liberal arts, baccalaureate Midwestern college. Research linking adult learner satisfaction and retention should be

conducted at different types of institutions such as community colleges, research universities, online programs and institutions, and additional private colleges. Additional research could develop and expand the adult learner satisfaction and retention model created for this study.

Due to the small sample size, this study only identified three background and academic factors that influenced retention but other variables may also have an impact on retention. Larger samples sizes and collection of additional background and academic data may determine additional variables that affect adult learner retention.

Additional research needs to be conducted on the care and convenience variable to determine what role satisfaction with those items fulfills in the enrollment and retention process. Which of the items that make up this variable impact retention and which might play different roles in the adult learner enrollment process? Qualitative studies could develop a better understanding of these items and how they impact retention.

This study identified one institutional variable, academic advising, that positively affected adult learner retention. Additional research should be conducted on this variable to determine which specific aspects of advising are effective in the retention process and how a college could facilitate persistence and improve retention through an effective advising process.

Conclusion

The purpose of this study was to identify factors that influence adult learner retention at the undergraduate level, examine the relationship between adult learner satisfaction and retention, and develop a model that describes the interrelationships between the various factors, satisfaction, and retention. Results of the study identified the background and

academic characteristics of having children, an educational goal of earning a bachelor's degree, and having a higher grade point average as enhancing retention. Satisfaction with academic advising positively influenced retention but satisfaction with the care and convenience factor did not increase the odds of adult learners being retained. A model of adult learner retention was developed where student background and academic characteristics influence the student-faculty values factors and student-institution values factors. Adult learners whose student-institutional values and student-faculty values are more in agreement combine to determine the institutional and academic fit and those who have a good institutional and academic fit are more likely to be satisfied with their collegiate experience and hence, more likely to be retained.

APPENDIX A. ASPS ITEM STATEMENTS

Item #	Item Statement
1	Adult students are made to feel welcome at this institution.
2	Faculty care about me as an individual.
3	Classes are scheduled at times that are convenient for me.
4	The content of the courses within my major is valuable.
5	Classroom locations are safe and secure for all students.
6	Financial aid counselors are helpful to adult students.
7	The staff at this institution are caring and helpful.
8	My academic advisor is available at times that are convenient for me.
9	Billing policies are reasonable for adult students.
10	Admissions representatives are knowledgeable.
11	My academic advisor is concerned about my success as an individual.
12	Computer labs are adequate and accessible for adult students.
13	The amount of student parking is adequate.
14	Faculty are fair and unbiased in their treatment of individual students.
15	Library resources and services are adequate for adults.
16	I am able to register for classes I need with few conflicts.
17	Business office hours are convenient for adult students.
18	Parking lots are well-lighted and secure.
19	My academic advisor is knowledgeable about requirements in my major.
20	Registration processes are reasonable and convenient for adults.
21	Tuition paid is a worthwhile investment.
22	Security staff respond quickly in emergencies.
23	Adequate financial aid is available for most adult students.
24	There is a commitment to academic excellence at this institution.
25	Admissions representatives respond to adult students' unique needs.
26	Faculty provide timely feedback about my progress.
27	This institution has a good reputation within the community.
28	My academic advisor is accessible by telephone and e-mail.
29	I seldom get the "run-around" when seeking information at this institution.
30	Academic support services adequately meet the needs of adult students.
31	I am able to register for classes by personal computer, fax, or telephone.
32	My classes provide opportunities to improve my technology skills.
33	Channels are readily available for adult students to express complaints.
34	I receive complete information on the availability of financial aid.
35	The quality of instruction I receive in my program is excellent.
36	Vending or snack bar food options are readily available.
37	Part-time faculty are competent as classroom instructors.

Item #	Item Statement
38	Career services are adequate and accessible for adult students.
39	This institution responds quickly to my requests for information.
40	Faculty are usually available for adult students by phone, by e-mail or in person.
41	Major requirements are clear and reasonable.
42	Nearly all faculty are knowledgeable in their field.
43	This institution offers a variety of payment plans for adult students.
44	When students enroll at this institution, they develop a plan to complete their degree.
45	I am able to complete most of my enrollment tasks in one location.
46	This institution provides timely responses to student complaints.
47	Bookstore hours are convenient for adult students.
48	I am aware of whom to contact for questions about programs and services.
49	There are sufficient options within my program of study.
50	My advisor helps me apply my academic major to specific career goals.

Adapted from Noel-Levitz, Inc. Adult Satisfaction Priority Survey™ (ASPS).

APPENDIX B. FACTOR LOADINGS

Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of ASPS Items (N=168)

Item	Care & Convenience	Academic Quality	Academic Advising	Resources	Financial Aid
Adult students are made to feel welcome at this institution.	.62	.14	.09	.10	.12
Classes are scheduled at times that are convenient for me.	.61	.17	.15	.10	.06
I am able to register for classes I need with few conflicts.	.61	.02	.28	.15	.08
Faculty care about me as an individual.	.58	.41	.10	-.02	.04
I am able to complete most of my enrollment tasks in one location.	.56	.16	.09	.35	-.08
Registration processes are reasonable and convenient for adults.	.55	.07	.18	.13	.06
The staff at this institution are caring and helpful.	.53	.39	.06	.14	.04
The amount of student parking is adequate.	.52	.23	-.09	-.08	-.18
There are sufficient options within my program of study.	.49	.20	.35	.22	.09
Classroom locations are safe and secure for all students.	.49	.22	.18	-.07	.10
Business office hours are convenient for adult students.	.47	.12	-.03	.37	.13
Billing policies are reasonable for adult students.	.46	.06	.13	.05	.39
I seldom get the "run-around" when seeking information at this institution.	.45	.21	.35	.25	.08
Admissions representatives are knowledgeable.	.44	.20	.34	.16	.17
When students enroll at this institution, they develop a plan to complete their degree.	.41	.04	.36	.31	.10
The quality of instruction I receive in my program is excellent.	.23	.80	.09	.06	.04
Nearly all faculty are knowledgeable in their field.	.19	.76	.17	-.06	.05
There is a commitment to academic excellence at this institution.	.20	.67	.23	.14	.10
The content of the courses within my major is valuable.	.37	.62	.18	.11	.02

Note: Factor loadings > .40 are in boldface.

Item	Care & Convenience	Academic Quality	Academic Advising	Resources	Financial Aid
Faculty are fair and unbiased in their treatment of individual students.	.51	.52	.02	-.18	.12
Faculty provide timely feedback about my progress.	.36	.46	.07	.11	.05
This institution has a good reputation within the community.	.32	.45	.17	.25	.00
My academic advisor is concerned about my success as an individual.	.16	.18	.81	.01	.15
My academic advisor is accessible by telephone and e-mail.	.06	.18	.76	.04	.05
My academic advisor is available at times that are convenient for me.	.21	.03	.75	-.04	.15
My academic advisor is knowledgeable about requirements in my major.	.19	.21	.74	-.01	.06
My advisor helps me apply my academic major to specific career goals.	.10	.11	.52	.29	.10
Major requirements are clear and reasonable.	.41	.23	.47	.21	.00
Career services are adequate and accessible for adult students.	-.01	.11	.16	.67	.06
This institution provides timely responses to student complaints.	.11	-.09	.08	.63	.06
Channels are readily available for adult students to express complaints.	.07	.12	.02	.55	.10
Computer labs are adequate and accessible for adult students.	-.03	.26	-.10	.48	.26
Security staff respond quickly in emergencies.	-.02	-.01	.03	.47	.07
Academic support services adequately meet the needs of adult students.	.20	.22	.05	.46	.22
Library resources and services are adequate for adults.	.02	.34	.07	.44	.14
I receive complete information on the availability of financial aid.	.20	.03	.15	.25	.73

Note: Factor loadings > .40 are in boldface.

Item	Care & Convenience	Academic Quality	Academic Advising	Resources	Financial Aid
Financial aid counselors are helpful to adult students.	.08	.13	.17	.22	.68
Adequate financial aid is available for most adult students.	-.01	.12	.08	.27	.68
Bookstore hours are convenient for adult students.	.38	.16	-.07	.39	.03
Admissions representatives respond to adult students' unique needs.	.36	.12	.30	.17	.19
I am aware of whom to contact for questions about programs and services.	.34	.15	.31	.37	.01
Parking lots are well-lighted and secure.	.34	.14	.18	-.08	.03
Tuition paid is a worthwhile investment.	.32	.37	.20	-.10	.22
This institution responds quickly to my requests for information.	.32	.22	.36	.34	.00
Vending or snack bar food options are readily available.	.30	-.09	.18	.28	.11
Faculty are usually available for adult students by phone, by e-mail or in person.	.27	.38	.13	.18	.03
I am able to register for classes by personal computer, fax, or telephone.	.20	-.08	.16	.21	.02
My classes provide opportunities to improve my technology skills.	.18	.24	.26	.27	.30
This institution offers a variety of payment plans for adult students.	.17	-.14	.04	.40	.18
Part-time faculty are competent as classroom instructors.	-.13	.38	.17	.18	.17
Eigenvalues	12.49	3.13	2.42	1.96	1.34
% of variance	42.36	10.62	8.22	6.65	4.56
α	0.64	0.66	0.68	0.71	0.72

Note: Factor loadings > .40 are in boldface.

Adapted from Noel-Levitz, Inc. Adult Satisfaction Priority Survey™ (ASPS).

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