Reaching the non-traditional stopout population: a segmentation approach

Kim Schatzel, Thomas Callahan, Crystal J. Scott* and Timothy Davis

College of Business, The University of Michigan-Dearborn, Dearborn, USA

(Received 25 August 2010; Accepted 19 February 2011)

An estimated 21% of 25–34-year-olds in the United States, about eight million individuals, have attended college and quit before completing a degree. These non-traditional students may or may not return to college. Those who return to college are referred to as stopouts, whereas those who do not return are referred to as stayouts. In the face of declining pools of traditional students, colleges and universities have attempted to induce these students to return to higher education. Regrettably, little is known about the intentions and attitudes of these young adults after they have left higher education. This paper uses segmentation and targeting to identify those students who intend to return to college and those who do not. Using demographic and psychographic variables, five unique segments are identified. The study recommends strategies for reaching those segments which are most likely to return to higher education.

Keywords: adult learner; stopouts; segmentation; nontraditional learner

Introduction

As two-year and four-year institutions of higher learning face shrinking numbers of their largest pool of potential students, demographic projections indicate that the number of high school graduates will not equal its 2008 peak until after 2018 (College Board, 2008). At the same time, in the United States, about eight million individuals between the ages of 25 and 34 have attended college but left before completing degree requirements (US Census Bureau, 2007). Some of these students will never return to college, whereas others will reenroll. Those who withdraw for a semester or more and then reenroll in college are referred to as stopouts (Carnegie Commission on Higher Education, 1973). O’Toole, Stratton, and Wetzel (2003), estimate that during the first year of college, stopouts represent about 40% of all students who withdraw. Overall, Stratton, O’Toole, and Wetzel (2008) report that more than 30% of all college students stopout from college for at least a semester. For institutions of higher learning, stopouts represent a large and unique pool of potential students:

*Corresponding author. E-mail: cjscott@umd.umich.edu
those who have attended college in the past and now have the intention to return to higher education.

The characteristics of stopouts have been studied with data from national databases, such as those created by the National Center for Education Statistics (NCES) (Horn, 1998; Horn & Berger, 2004; O’Toole et al., 2003). For example, Stratton, O’Toole, and Wetzel (2007) and Stratton et al. (2008) have employed the NCES’s Beginning Postsecondary Students (BPS) database to study stopouts from a national sample of institutions of higher education. The demographic information in these databases allows researchers to identify factors such as age, academic performance, gender, and ethnicity that explain stopouts’ behaviors. A second line of research analyses data from a single or small number of educational institutions (e.g. Ahson, Gentemann, & Phelps, 1998; Bynum & Thompson, 1983; Daubman, Williams, Johnson, & Crump, 1985; Grossett, 1993; Herzog, 2005; Hoyt & Wynn, 2004; Johnson, 2006; Okun, Benin, & Brandt-Williams, 1996; Pascarella, Duby, Miller, & Rasher, 1981; Stokes & Zusman, 1992; Woosley, 2003, 2004; Woosley, Slabaugh, Sadler, & Mason, 2005). These studies often rely on exit surveys from which measures such as attitudes toward education and intentions to return can be collected.

Specifically in the area of market segmentation, researchers (e.g., Blasco & Saura, 2006; Shank, Winchell, & Myers, 2001; Broekemier, 2002) have sought to define this potential student pool, but have not specifically researched the intentions of nontraditional students who have stopped out of education. Researchers have agreed that more empirical research regarding the motivations of adult learners to attend colleges/universities is needed (Broekemier, 2002; Fujita-Starck, 1996; Morstain & Smart, 1974). Given the size and importance of this population as a potential enrollment input, the identification of demographic and psychographic characteristics of these nontraditional stopouts, would result in more efficient and cost-effective recruitment programs directed toward them.

To our knowledge, no studies have been specifically designed to identify the demographic and psychographic factors that differentiate reenrollment intentions among nontraditional former college students using a representative demographic population. For example, studies using national databases have not included a measure of intention to reenroll. Studies that have included this or a similar variable have utilised data from a single institution. Therefore, the purpose of this study is to overcome this gap in the study of adult learners and stopouts. To accomplish this purpose, we chose a segmentation methodology to identify characteristics of stopouts from a large metropolitan area to aid colleges and universities to target and better serve this population. The specific research goals of this study are to: (1) describe the nontraditional stopout and stayout populations based on their intentions to return; (2) identify distinct segments of the stopout and stayout populations relying on demographic and psychographic variables from previous models of nontraditional
students’ attrition and reenrollment intentions; and (3) recommend strategies that colleges and universities might use to reach nontraditional stopouts.

Theoretical background
Researchers have relied on theoretical models of student retention and withdrawal behaviors for guidance when studying stopouts from higher education because these models explain two important stopout decisions: (1) decisions to leave college; and (2) decisions to return to college. Providing guidance for this line of research, Tinto’s (1975, 1993) models of student retention and withdrawal explain students’ behaviors as resulting from commitments to both higher education and a particular institution. These commitments influence their academic performances and social integrations. These integrations determine the fit between a student and an institution and motivate decisions to stay or leave. An expanded model of student retention proposed by Bean and Eaton (2000) states that cognitions, behaviors, and attitudes lead to decisions to stay or leave. The Bean and Eaton (2000) model recognises the importance of concepts such as approach-avoidance, locus of control, and self-efficacy and maintains that these strongly influence students’ intentions to withdraw. Studies have extended the psychological and sociological findings of research based on these models to the study of the stopout population (e.g. Grossett, 1993; Johnson, 2006; Okun et al., 1996; Stokes & Zusman, 1992; Woosley, 2003, 2004; Woosley et al., 2005). The development of research variables for this study flows from both the general theoretical models of withdrawal and the research findings from the study of stopouts’ intentions and behaviors.

Demographics
Demographic variables have been used to explain participation in adult education in several previous studies (Aslanian Group, 2006; O’Donnell & Tobbell, 2007). In fact, the national demographic profile of the undergraduate adult learner has remained fairly consistent over the last 20 years with the only difference being that these students are getting older (Aslanian Group, 2006). Several studies have determined that age plays a role in adult learners’ intention to return to higher education (e.g. Benshoff, 1991; Richter-Antion, 1986; Spanard, 1990; Terrell, 1990). Older students face barriers related to limited social support systems, lack of peer group classmates, and other life obligations (Klein, 1990). From a motivational perspective, Broekheimer (2002) researched motivations to pursue education among adult students aged 25 to 34. He found that baccalaureate students were more likely to cite the pursuit of general knowledge and job advancement with their current employers, whereas community-college students gave reasons such as new
career, health/injury issues, and family considerations. After withdrawal from higher education, Horn (1998) reports that older stopouts are less likely to reenroll after leaving. Hoyt and Winn (2004), Desjardins, Ahlburg, and McCall (2006), and Grosset (1993) have found that stopouts are likely to be older than continuing students.

Minority status has been shown to explain withdrawal behaviors even when Caucasians represent the minority (Bynum & Thompson, 1983). Lower minority participation has been linked to feelings of isolation and dissimilarity within majority dominated institutions (Thomas, 2001). Pascarella et al. (1981) and Johnson (2006) have shown that African-Americans are more likely to stopout of and less likely to reenroll in college than are majority group members. Woosley et al. (2005) studied both intentions and actual reenrollment behaviors at one institution. Their results indicate that minorities do not differ from nonminorities in actual reenrollment, despite the fact that they are less likely to state the intention to reenroll.

In general, research has shown that female adult learners have a particularly difficult time returning to school because of factors including finances, work schedules, and child care (Blais, Duquete, & Painchaud, 1989; Lockhardt, 2003; Johnson, Schwartz, & Bower, 2000). In support of this premise, Johnson (2006) has shown that men are more likely to reenroll after stopping out than are women. In contrast, Woosley et al. (2005) indicate that women are less likely to state the intention to reenroll, but have found no differences between the actual reenrollment behaviors of men and women.

**Barriers to enrollment**

The most frequently described barriers to enrollment include time constraints, costs, family responsibilities, inconvenient class schedules, transportation, and employment problems (Gustafson & Sorgaman, 1983; Osborne, Cope, & Johnstone, 1994; Levine & Cureton, 1998; Harris & Brooks, 1998). Many of these problems are interrelated and it is often impossible to separate the effects factors such as family responsibilities, time constraints, and costs (Chao, DeRocco, & Flynn, 2007). These factors have also been found to be related to stopout intentions and behaviors. For example, Light (1995) has found that workers who experience unemployment are more likely to reenroll in higher education. Johnson (2006) has found that stopouts who have lower income are less likely to reenroll that are higher income stopouts. St. John, Cabrera, Nora, and Asker (2000) have established that concerns about costs have a negative influence on college persistence behaviors, including reenrollment. Likewise, students who have significant family responsibilities are more likely to permanently withdraw from college rather than temporarily stopout (Ahson et al., 1998; Horn, 1998; Hoyt & Winn, 2004; Stratton et al., 2008).
Educational experiences and values

Previous academic success and past educational attainment have been shown to be positively related to participation in adult education (Kleiner, Carver, Hagedorn, & Chapman, 2005; Creighton & Hudson, 2002). For stopouts, research finding by Johnson (2006), Berkovitz and O’Quin (2006, 2007), and DesJardins et al. (2006) indicate a positive relationship between previous academic performance and the likelihood of reenrollment.

An understanding of the importance of education and its effect on life goals are strong predictors of attraction behaviors (Tinto, 1993). Specifically for stopouts, Ahson et al. (1998), Berkovitz and O’Quin (2006, 2007), Hammer (2003), and Woosley et al. (2005) have all found that levels of previous educational attainment contribute to an intention to reenroll. Similarly, stopouts who value education and recognise its importance in society are more likely to state the intention to reenroll (Woosley et al., 2005).

Segmentation studies in higher education

Segmentation has been used to aid decision making in corporate settings, but has rarely been applied in higher education. An early approach was taken by Goodnow (1982) who applied benefits segmentation, based on student motivations, to a population of enrolled community college students. She determined five distinct segments exist with different motivational orientations ranging from a social/improvement motivation to one centered on learning/career. Her findings were used to identify target markets and design program offerings in response to the needs and interests of members in selected benefit segments. Although a causal result is not implied in Goodnow’s research, she reports that enrollment increased about 20% a year following the study. Recently Ghosh, Javalgi, and Whipple (2007) took a service provider view of higher education when segmenting undergraduate business students from a large, urban, public university. The authors used student registration data to uncover five distinct segments and suggest appropriate service strategies for each one. As an example, one such segment was a domestic non-traditional segment in which the students were older, mainly female, and about 40% were married. Services recommended for this group included orientation and advising services, counseling, tutoring, and financial aid advice. Blasco and Saura (2006) also considered higher education organizations as a service provider and segmented students based on their expectations and perceptions of service quality.

A study by Shank et al. (2001) segmented the nontraditional market of students over 25 years of age and looked specifically at the adult female learner. The authors uncovered three distinct market segments for the non-traditional female learner. The biggest discriminator of these three segments was ‘services sought’. One segment required academic support such as advising, a second
segment needed a variety of support services from financial assistance to academic advising, and the third segment consisted of young women in need of financial assistance and childcare.

Although we know a bit more about the adult learner in terms of their enrollments, we know little about the adult learner who withdraws from education. Prior research has found that stopouts return to school and graduate at rates similar to students who have never withdrawn (Stokes & Zusman, 1992; Woosley et al., 2005). Previous research has treated the stopout population as a homogenous group. Segmentation allows us to identify the underlying heterogeneity in these subpopulations of stopouts and stayouts.

**Methodology and results**

**Respondents**

Respondents were identified from current voter registration data representing an metropolitan statistical area with a population of over four million. They were selected to participate in telephone interviews if they had previous college credits but no degree, were not currently enrolled in college, and were between the ages of 25–34. Many recent studies suggest that students aged 25–34 define the adult learner age demographic (Broekemier, 2002; Saunders & Bauer 1998; Harris & Brooks, 1998; Poppenga & Prisbell, 1996). Of 33,468 contacts, 9269 agreed to participate. This indicated a response rate of 28%. Individuals who agreed to participate and met all of the above criteria numbered 646. Of these, 599 answered all the survey items.

The mean age for the entire sample was just under 30 years old. Females comprised about 52% of the sample. More than 80% of the sample described their race/ethnicity as Caucasian, whereas almost 13% of the sample described their race/ethnicity as African-American. The remainder of the sample included individuals who described their race/ethnicity as Hispanic, Native American, Asian, or multiracial. Individuals who were employed full or part-time represented 73% of the respondents. The percentages of minorities in this sample were roughly equivalent to those reported in census data for this metropolitan area (US Census Bureau, 2006).

**Instrument**

The survey contained both demographic and psychographic items that previous research had established were related to intentions to return to college. Two versions of the survey were administered, one designed for adults who stated an intention to return to college and the other designed for those who did not intend to return. Verb tenses constituted the only differences between these surveys.
Procedure

A commercial survey company administered the interviews by telephone. Potential respondents were asked their ages, previous college experiences, and current college enrollment. Each of these three items served as filters for the selection of respondents. As an example, respondents not in the appropriate age groups were thanked for their time and not interviewed. If the respondents were in the appropriate age group, they were asked whether they had attended college without completing a degree. If the respondents had previously attended college without completing a degree, the interview continued. Next, respondents were asked if they were presently enrolled in college. If respondents provided a negative response to this question, the interview continued. Table 1 presents the background variables and latent constructs for the analysis.

Data analysis

Confirmatory factor analysis assessed the measurement model for the four latent variables associated with the Likert scale items. The four latent variables measured two perceived barriers to reenrollment: finances and time, as well as perceptions of the importance of education, and previous college success. The CFI (Comparative Fit Index) was 93.9 and the RMSEA (Root Mean Square Error of Approximation) was .056. Both of these indices indicate a reasonable, but not strong fit of the model to the data (Browne & Cudeck, 1993; Hu & Bentler, 1999). Average variance extracted among the variables ranged from .58 to .78, which is above the acceptable .50 minimum value, suggesting adequate convergent validity (Bagozzi, Yi, & Phillips, 1991). The scale composite reliabilities for these latent constructs range from .70 to .80, which is equal to or greater than the .70 recommended minimum value (Bagozzi et al., 1991). Nested models of the correlations among pairs of variables were compared to test discriminant validity. A chi-square difference test determined whether the constrained and unconstrained pairs of constructs significantly differed (Anderson & Gerbing, 1988). For all pairs, the unconstrained model, less one degree of freedom, indicated a chi-square of at least 3.84 lower than that of the constrained model, indicating discriminant validities for all pairs (Anderson & Gerbing, 1988).

To explore the issue of sample heterogeneity, we employed cluster analysis to identify homogeneous groups of stopouts with similar needs and wants from an institution of higher learning. Here, we submitted the intentions to reenroll and latent psychographic variables to the cluster procedure. Intentions to reenroll were measured with two questions that asked about interest in and likelihood of reenrollment. Respondents used a 5-point Likert scale to indicate their interest in reenrolling (1-Not interested at all, 2-Not Interested, 3-Somewhat Interested, 4-Interested, 5-Very Interested). Respondents also used a 5-point Likert scale to gauge their likelihood of returning (1-Very unlikely, 2-Unlikely, 3-Somewhat likely, 4-Likely, 5-Very Likely). We also employed the latent
variables measuring financial problems, importance of education, time issues, and previous academic success.

Using the hierarchical based Ward’s Method (Ward, 1963), we identified a five-cluster solution based on inspection of the overall diagnostics. The cubic clustering criterion was 4.319 with a Pseudo F-Statistic = 154.67 and an overall R-Squared of .484. Additionally, inspection of the dendrogram identified a five cluster solution as well. This method of hierarchical clustering was recommended by Punj and Stewart (1983) given that it minimizes an explicit loss function, the error sums-of-squares, and typically results in compact and well-separated clusters.

The five-cluster solution reveals two segments that have no intention of reenrolling, two segments that do intend to reenroll, and one segment that is interested in but not likely to return to school. Each group is substantial in size with the smallest group representing 13% of the sample and the largest group representing 27%. The two segments with intentions of reenrolling make up 40% of respondents. The five distinct segments revealed here are driven by different demographics, family issues, and financial circumstances. An ANOVA (Analysis of Varience) was conducted on the various

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Background variable measures and latent constructs (composite reliabilities).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>College Credits:</strong></td>
<td>You said you have previously earned college credits, would you say you completed &lt;4 ranges of years of college completed given&gt;</td>
</tr>
<tr>
<td>Gender:</td>
<td>Your gender is?</td>
</tr>
<tr>
<td>Ethnicity:</td>
<td>You would best identify your race as?</td>
</tr>
<tr>
<td>Income:</td>
<td>Which of the following best describes your annual household income? &lt;five ranges of income given&gt;?</td>
</tr>
<tr>
<td>Laid Off:</td>
<td>Have you been laid off in the past two years?</td>
</tr>
<tr>
<td>Marital Status:</td>
<td>Your marital status is?</td>
</tr>
<tr>
<td>Financial Supporter:</td>
<td>You are the primary financial support for your family? &lt;5 levels of agreement&gt;</td>
</tr>
<tr>
<td>Primary Caregiver:</td>
<td>You are the primary caregiver for your family? &lt;5 levels of agreement&gt;</td>
</tr>
<tr>
<td>Children:</td>
<td>How many children under the age of 10?</td>
</tr>
<tr>
<td>Finances: (.70)</td>
<td>You left college for financial reasons</td>
</tr>
<tr>
<td></td>
<td>Family finances prevent you from returning to college</td>
</tr>
<tr>
<td></td>
<td>You do not believe you could receive the financial aid you would need to return to college</td>
</tr>
<tr>
<td>Time (.73)</td>
<td>You could not fit college classes around your work schedule</td>
</tr>
<tr>
<td></td>
<td>You do not have the time to return to college</td>
</tr>
<tr>
<td>Important (.80)</td>
<td>A college education is important for a person’s success</td>
</tr>
<tr>
<td></td>
<td>To make a good living you need a college education</td>
</tr>
<tr>
<td>Success (.74)</td>
<td>You performed as well academically as you expected</td>
</tr>
<tr>
<td></td>
<td>You were academically successful at the last college you attended</td>
</tr>
<tr>
<td></td>
<td>You left college because you did not have the study skills necessary for college</td>
</tr>
</tbody>
</table>
attributes and variables to determine how the five segments differed in their intentions. The segments, along with their means and percentages on the various attributes are given in Table 2. We label these resulting five segment as: (1) Family Ties; (2) Married and Comfortable; (3) Financially Strapped Singles; (4) Progressors; and (5) Time Bound.

The first segment, ‘Family Ties’, are stayouts and represent one of the smaller clusters, approximately one-fifth of the total sample. This group is 51% female, slightly older than the other groups with an average age of 30.4 years old and 57% are married. This group was most likely to indicate that they left college for financial reasons and that family responsibility was a deterrent to returning. Family responsibilities and having children are characteristics that distinguish stayouts from stopouts. Almost half of this group expressed an interest in returning to school, although they believe that it is unlikely.

The second stayout segment is labeled, ‘Married and Comfortable.’ This group represents 20% of the sample, with an average age of 30 years old. A little over half (54%) are women, and 70% are married. This segment has the highest income with over two-thirds stating a household income of at least $50,000 and over 40% indicating that a college education would not benefit
their careers. Financial reasons were not a factor in their decisions to leave school.

The third segment, ‘Financially Strapped Singles’, are stopouts and express the greatest intention to reenroll. This is the youngest group with an average age of 28.7 years old. Less than half are women (44%), 60% are single and only about a quarter of these segment members have children. They have the lowest income of all the segments, with over a third making under $25,000. This group contains significantly more African-American members than the other four groups. Time and family responsibilities do not prevent them from returning to school. However, they have completed fewer years of college than the other segments.

‘Progressors’, who are stopouts, represent 24% of the sample. The average age for this group is 29.5. Fifty-four percent (54%) are female, over half are married (54%), and over half have children. This group has the most college experience as half report completing at least two years of college. Over two-thirds have children and time to return to school is an issue for almost 90% of this group. Despite their time issues, this group believes that college is important to a person’s success.

The fifth and last segment, ‘Time Bounds’, are stayouts representing 21% of the sample. Less than 1% express an interest or likelihood of returning to school. Over two-thirds are married and 95% indicate time as a deterrent to returning. Similar to the Married and Comfortable segment, they do not believe finishing school would benefit their careers, possibly because they have relatively high incomes.

Conclusion

Although the focus of this paper was on the stopout population, the sample contained those who intend to stayout of higher education. Literature comparing stopouts and stayouts find that stayouts are older, more likely to have children at home, and cite family responsibilities as a major deterrent to returning to school (Hoyt & Winn, 2004). Our results confirm these findings. We recommend colleges and universities not ignore these groups of stayouts. As an example ‘Family Ties’ have stated an interest in reenrolling but state they are unlikely to reenroll due to time constraints. Colleges might target this segment with creative ways to attend classes overcoming constraints of their family responsibilities. One way might be to provide cooperative child-care programs with parents/students acting as volunteers.

Our study confirms that stopouts are not a homogeneous group of adult learners. We uncovered two distinct stopout segments in this research, representing 40% of the sample. The first stopout subpopulation represents young singles with financial concerns and the second stopout segment represents those who are closest to finishing their education but have little time in their schedule to do so. To target the Financially Strapped Singles segment, colleges might
educate individuals from this segment on the sources of financial aid or create specific programs for this younger and single group. The Financially Strapped Singles segment also contains significantly more minority students. Existing literature cites feelings of isolation, dissimilarity, and integration difficulties experienced by minority students (Johnson, 2006). Colleges considering reaching out to this segment not only need to educate potential students about financial aid but also about ways to socially integrate students such as mentoring or networking programs for minority students (Tinto, 1993; Johnson, 2006).

The non-traditional student represents an important target market for colleges and universities. Their sheer numbers alone, approximately eight million individuals between 25 and 34 years old, and the predicted growth of this market make it very important for universities to recognise the best way to serve them and the strategies they should use to reach them. From 2006 to 2017, NCES projects a rise of 10% in enrollments of people under 25 years of age, and a rise of 19% in enrollments of people 25 and over. The current study looked at the population of individuals 25–34 years old who have stopped out of college who may or may not state intentions of reenrolling. The research uncovered five distinct segments of former non-traditional students with differing levels of intentions to reenroll.

We recommend universities and colleges with evening day care programs redirect any advertising they are currently doing with traditional segments and target ‘Progressors’, which is the largest segment identified. A school offering online courses and weekend classes might benefit this segment. Additionally, very early morning classes, before typical work hours might be an option for this segment as well. Colleges looking to target the younger stopouts, Financially Strapped Singles, with fewer family responsibilities, but with financial issues might develop creative low-interest loans, scholarships, work-study, and flexible payment plans for this segment. Online counseling and advising would benefit both groups.

As with any study, this research has limitations. First of all, the data were collected from a metropolitan area in the Midwest where unemployment is higher than the rest of the country. High unemployment rates in this area may have affected our results. The study of stopouts represents a relatively small area of research. More studies should define the study of stopouts as the main research objective. A study of stopouts in other parts of the county and perhaps with a wider representation of ethnic groups might be one fruitful area to pursue. Further qualitative and quantitative work using university students, 25–34 years old and who have reenrolled could confirm or disconfirm the segments identified in our work.

Acknowledgements
The authors would like to thank the Department of Labor and the Detroit Regional Chamber for funding this study through the Workforce Innovation in Regional Economic Development
(WIRED) Program. Additionally, the authors want to recognise iLabs, The Center for Innovation Research at the University of Michigan-Dearborn, Mr. Greg Handel, Senior Director of Workforce Development-Detroit Regional Chamber, and Dr. Daniel Little, Chancellor of the University of Michigan–Dearborn, for their support of this research.

References


