

## **UNDERSTANDING ADULT LEARNER PROGRAM COMPLETION**

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### **Executive Summary**

This study explores factors affecting degree completion for adult learners at a large public four-year research university. The paper uses descriptive and multivariate statistical techniques to study the factors affecting six-year degree completion for 1,269 adult students who began at Penn State University in fall 1999.

Adult learners are defined as students who are 24 years or older and/or military veterans. This is a heterogeneous group in terms of age, degree type, transfer credits, and veteran status. Other research has shown that adult learners tend to cite financial difficulties in paying tuition as a barrier to completing their degrees, so in this paper we focus especially upon issues of affordability and financial aid.

A potentially practical, addressable finding of the study is the fact that adult learners at Penn State tend to apply for both admission to the university and for financial aid later than traditional students. This is important, because it can significantly affect the amount of state grants that students receive; full-time adult students meeting deadlines typically received about twice the state aid as those who did not meet deadlines.

The study's multivariate analysis also shows substantive differences between part-time and full-time adult learners in the path to a degree. Our results indicate that income and aid received positively affect the probability of degree completion for part-time adult learners, but are not associated with increased probability of graduating for full-time adult learner students. In addition, adult students who had previously earned credits, those with higher grades during their first semester, and those who were admitted in regular (versus provisional) status also had higher probabilities of graduating.

The paper briefly compares the correlates of degree completion for adult learners and traditional-age students. Our ability to directly compare the two populations is constrained by data availability issues (in general, we have more complete information for traditional-age students) and by other substantive differences (such as the fact that adult learners are much more likely to be seeking associate degrees). Nonetheless, the differences are striking enough to reinforce an important point: namely, that extrapolating findings from access and degree-completion studies of traditional-age students to adult learner populations ignores real and significant differences between these two groups.

## Introduction

This research builds on a previous study of factors related to degree completion for traditional-age students at Penn State (Dooris and Guidos, 2006). It examines some of the demographic, academic, and financial aid factors related to completion for adult students at a public four-year research university. With the shrinking pipeline of traditional-age college students, many colleges and universities are considering other markets, and adult learners represent a growing market area for many institutions. Adult enrollments in higher education nationally are projected to grow by almost 2 million students between 2000 and 2014 (U.S. Department of Education, 2005).

Adult learners have historically tended to garner more attention at community colleges than from other types of higher education institutions, but a 2005 survey sponsored by the American Council on Education found that 60 percent of all colleges and universities in the United States voice a commitment to adult students in their mission statements or strategic plans (Cook and King, 2005). Private not-for-profit four-year and public two-year schools were most likely to include adult learners in their mission, but almost half (47 percent) of public four-year schools include service to adult learners as part of their mission statement or strategic plan. Penn State's most recent strategic plan calls for actions to "address the unique needs of nontraditional students" and to aggressively recruit students from both "traditional and adult student populations" (Penn State, 2007).

Much research exists on traditional-age student persistence and completion, and some on adult learner persistence and completion at community colleges, but research on factors related to program completion for adult degree-seeking learners at four-year colleges and universities is more limited. A recent review of selected higher education journals found that only about one percent of the articles dealt with adult students (Donaldson and Townsend, 2007). Researchers partly attributed this lack of focus on adult students to the heterogeneity of the adult group and the greater convenience of studying traditional students. This creates a serious disconnect between research and informed practice. The life circumstances of adult learners differ greatly from those of traditional-age students, in terms of family responsibilities, work commitments, community interests and other factors, so extrapolating findings from research on traditional-age students is not necessarily a way to help adult learners to succeed.

In the little research that has been done on degree-seeking adult learners at four-year schools, some correlates of retention have been identified. Work conflicts and home and family responsibilities (which typically don't affect traditional-age students to the same extent) and financial difficulties in paying tuition are some reasons commonly given by adult students for dropping out of school (Wlodkowski, Mauldin, and Campbell, 2002). In one study of persistence of degree-seeking adult students, factors found to be related to academic persistence for adult learners were perceived stress, social integration, cumulative GPA, intent to persist, gender, hours employed, unmet financial need, and commuting time (Sandler, 2001). Other reviews of adult students found

increased persistence related to a higher number of transfer credits, higher GPAs, being non-minority, and having greater financial aid (Wiggam, 2004; Wlodkowski, Mauldin, and Gahn, 2001). Finally, most researchers have found that retention of undergraduate degree-seeking adult students is below that of traditional-age students (Wiggam, 2004).

Because many adult students cite cost as a factor in their attrition, adult learner knowledge and use of financial aid is a special concern of many adult learner advocates. Some feel adult students believe they are ineligible for financial aid, and one national study found one-third of adult learners were not aware that financial aid might be available to them (Pusser, et al., 2007). Nontraditional students do not always follow the time tables that traditional-age students do, applying late in the year for admission and consequently sometimes missing financial aid deadlines. These differences along with other life factors make the college experience different for adult learners. Better understanding how adult learners use financial aid and how they progress through degree completion can aid institutions in formulating practices to facilitate adult learner degree completion. Contributing to that understanding is the goal of this research.

### **Methodology**

The dataset includes 1,269 adult students, defined as students who were 24 or older and/or military veterans, and who were first-time degree-seeking undergraduate students in the fall 1999 semester. Students in the cohort may have earned previous credits at Penn State while in non-degree status or at other universities; the fall 1999 semester was the first time they were in degree-seeking status at Penn State. The cohort included both associate and baccalaureate degree students.

Demographic indicators include age, gender, ethnicity, and veteran status. Academic indicators reflect student abilities as measured by first semester GPA, advanced standing at the time of starting a degree program, type of degree sought, and provisional status. Provisional academic status at Penn State is assigned to those students who lack adequate high school grade-point average or SAT scores that are required for regular admission. (Provisional students must attain and maintain certain minimum grade requirements to continue enrollment.) Financial indicators include 1998 family income, as reported on the Free Application for Federal Student Aid (FAFSA) for the 1999-00 academic year, the amount of federal, state, institutional, and private financial aid received, and the amount of loans received.

The study tracks this cohort through six years to determine completion rates by the start of the fall 2005 semester. Data are obtained from internal university databases, including admissions information tables, financial aid tables and graduation tables. Not all students completed the FAFSA form, from which income is available, so income amounts are available for only 852 of the students in this population.

Because degree completion is a dichotomous variable – a student either completed a degree program within six years or did not – this study uses a multivariate

analysis, logistic regression, to explore the effect of demographic, academic, and financial aid factors on student degree completion. Full-time and part-time students differ vastly in their composition, with full-time students more likely to be male, minority, younger, veterans, seeking baccalaureate degrees, and applying for and receiving financial aid, so separate analyses were run for part-time and full-time students.

In addition to the analysis of degree completion, the ways in which adult learners use financial aid were of interest. Average award amounts received by adult students who submitted FAFSA forms before and after the suggested and state deadlines for awarding aid during academic year 1999-00 were calculated and compared.

## **Results**

Full-time and part-time adult students differed in many aspects (Table 1). Part-time students tended to be older, female, non-minority, and enter Penn State with transfer credits, while a higher proportion of full-time students were veterans and baccalaureate degree-seeking.

### **Adult Learner Use of Financial Aid**

**Financial Aid during the First Year.** Financial aid for adult learners is impacted by the timing of their enrollment, which does not always coincide with deadlines for financial aid applications. Adult learners tend to apply for admission and enroll for classes later than traditional-age students. Only 25 percent of part-time students in the cohort and 36 percent of full-time students had applied for admission to Penn State by February 15, 1999. In comparison, 91 percent of the more traditional-age full-time degree-seeking students had applied for admission to Penn State for the fall 1999 semester by this date.

This later entrance into the admission process may affect the submission of the FAFSA form. Penn State has two deadlines to students for submitting financial aid applications. In 1999, the first was a suggested deadline of February 15 for submission of the FAFSA form and a second deadline of May 1 in order to meet Pennsylvania financial aid award deadline. (Almost all financial aid applicants were Pennsylvania residents.)

<b>Table 1 – Characteristics of Fall 1999 Adult Learner Cohort</b>							
	TOTAL		Full-time/Part-time Status				
	N	%	Full-time		Part-time		
			N	%	N	%	
<b>TOTAL</b>	1269	100%	789	100%	480	100%	
<b>AGE GROUP</b>							
Under 24	191	15%	184	23%	7	1%	
24 - 29	514	41%	350	44%	164	34%	
30-39	353	28%	174	22%	179	37%	
40-49	178	14%	72	9%	106	22%	
50 and older	33	3%	9	1%	24	5%	
<b>GENDER</b>							
Female	650	51%	345	44%	305	64%	
Male	619	49%	444	56%	175	36%	
<b>MINORITY</b>							
Unknown	68	5%	48	6%	20	4%	
Minority	124	10%	97	12%	27	6%	
Non-Minority	1077	85%	644	82%	433	90%	
<b>VETERAN</b>							
Non-veteran	903	71%	475	60%	428	89%	
Veteran	366	29%	314	40%	52	11%	
<b>DEGREE TYPE</b>							
Associate	522	41%	280	35%	242	50%	
Baccalaureate	747	59%	509	65%	238	50%	
<b>PROVISIONAL STATUS</b>							
Regular	994	78%	616	78%	378	79%	
Provisional	275	22%	173	22%	102	21%	
<b>STANDING</b>							
Advanced Standing	571	45%	311	39%	260	54%	
First Year	698	55%	478	61%	220	46%	

Most adult students did not meet the suggested February deadline. Only 8 percent of the part-time students and 21 percent of the full-time students who submitted FAFSA applications did so before February 15, 1999. (This compares to 17 percent of the traditional-age full-time students who had submitted by the February deadline.) Full-time adult students who met the suggested deadline received more state aid and used fewer loans in their first year at Penn State. Full-time adult students who submitted their FAFSA by February 15 received an average of \$400 more than those who did not and also used about \$400 less in loans, on average. While whether full-time students met the application deadline did relate to the amount of state aid they received, we did not find similar substantive differences on this dimension for total federal, institutional, or private aid, or for part-time students.

Almost half (47 percent) of the part-time students and 72 percent of the full-time students applying for aid submitted their FAFSA by May 1, 1999. (These percentages include the students who submitted before the February deadline and are much lower than the 93 percent of the students in the traditional cohort who applied for aid before May 1.) We reviewed the amount of federal, state, institutional and private aid to determine whether meeting the deadline made a difference in the amount of aid received. The only significant difference was found in the amount of 1999-00 state aid received. Both part-time and full-time applicants who submitted their FAFSA forms before May 1, 1999 received awards almost twice the amount received by applicants submitting their forms after the deadline. Full-time students who submitted their application before May 1 received on average, about \$1,100 more than those submitting after the deadline. For part-time students, the average awards were about \$500 more for those submitting before the deadline. No significant difference existed in the amount of total federal aid, total institutional aid, or loan amounts between those students who met the FAFSA submission deadline and those who did not.

**Financial Aid Received over Six Years.** Financial aid was used more by full-time adult students than part-time students during the six years covered by this study. About 80 percent of full-time students applied for and received some form of financial aid at some point during the six years. This compares to only 59 percent of part-time students. Full-time students received about double the amount of grants and scholarships that part-time students did, but had about equal loan debt loads as part-time students at the end of the six years. These differences are most likely due to state and federal financial aid policies, which have lower maximum amounts of grant aid for students enrolled part-time, but equal maximums amounts on loans for part-time and full-time students.

### **Completion Rates**

As noted, within six years of starting in a degree status, 54 percent of full-time and 51 percent of part-time adult learners entering in fall 2006 completed associate or baccalaureate degrees. As an approximate point of comparison, we know from an earlier study (Dooris and Guidos, 2006) that 66 percent of traditional-age students who entered in that fall 1999 semester completed baccalaureate degrees within six years (please note that this 2006 study looked only at baccalaureate degree completion).

Overall, adult students who were admitted to the University on a provisional basis (meaning that they did not satisfy the standards for admission to a degree program) had the lowest graduation rates among returning adults. Adult students with previous credits had higher graduation rates than other adult learners. Females and males graduated at about the same rate, as did minority and non-minority students, while veterans were slightly less likely to graduate. Adult learners who began as full-time students seeking baccalaureate degrees had the highest completion rates of all adult learners. Almost two-thirds (63 percent) of these adult students completed degrees within six years.

The heterogeneity of adult learners compelled us to use a multivariate analysis to examine degree completion and to use separate analyses for full-time and part-time students (please see Tables 2 and 3.) The logistic regression model included eleven variables: age in years, gender (male or female), minority status (minority or non-minority), type of degree (associate or baccalaureate), provisional status (provisional or regular), standing (first-time or advanced), fall 1999 grade point average (0.00-4.00), 1998 family income in ten thousands as reported on the FAFSA, the amount of total financial aid received in 1999-00 in thousands, and the total amount of loans received in 1999-00 in thousands.

Both models fit the data well, with the model for part-time students being somewhat better able to explain degree completion. The model chi-squares for each model were significant and each was able to correctly classify about 80 percent of the observed cases as indicated by the levels of concordance. The Nagelkerke R<sup>2</sup> was slightly higher for the part-time student model, indicating that the independent variables were able to explain about 35 percent of the variation in the dependent variable.

Table 2 - Logistic Regression Results for Fall 1999 <b>Part-time</b> Adult Learners (N=230)			
Variable	Coefficient	Wald $\chi^2$	Odds Ratio
Age	0.000857	0.0016	1.001
Gender (female = 0)	-0.3093	0.6877	0.734
Minority Status (minority = 0)	-0.3617	0.2807	0.697
Veteran Status (veteran = 0)	0.4737	0.7584	1.606
Degree Type (associate = 0)	-0.8025*	4.8684	0.448
Provisional Status (provisional = 0)	0.2857	0.4670	1.331
Standing (first-time = 0)	1.1482**	8.9442	3.152
Fall 1999 GPA (0.00 – 4.00)	0.4549*	5.8569	1.576
1998 Income (in \$10,000s)	0.000023**	6.5904	1.263
1999-00 Total Financial Aid in Gifts (in \$1,000s)	0.000198	3.5588	1.219
1999-00 Total Financial Aid in Loans (in \$1,000s)	0.000188***	12.9187	1.207
Model $\chi^2 = 71.1935$ *** d.f. = 11			* p<.05 ** p<.01 *** p<.001
Nagelkerke R <sup>2</sup> = 0.3550			
Concordant (predicted to observed) = 80.4%			

Table 3 - Logistic Regression Results for Fall 1999 <b>Full-time</b> Adult Learners (N=583)			
Variable	Coefficient	Wald $\chi^2$	Odds Ratio
Age	-0.0179	1.1752	0.982
Gender (female = 0)	0.2004	0.8634	1.222
Minority Status (minority = 0)	-0.0516	0.0230	0.950
Veteran Status (veteran = 0)	0.4270	2.7445	1.533
Degree Type (associate = 0)	0.00239	9.8182	1.002
Provisional Status (provisional = 0)	0.9073***	10.0958	2.478
Standing (first-time = 0)	0.9837***	16.4666	2.674
Fall 1999 GPA (0.00 – 4.00)	0.9939***	64.2162	2.702
1998 Income (in \$10,000s)	0.0000025	1.5717	1.026
1999-00 Total Financial Aid in Gifts (in \$1,000s)	0.000045	2.1122	1.046
1999-00 Total Financial Aid in Loans (in \$1,000s)	0.000023	0.4634	1.023
Model $\chi^2 = 160.7229$ ***			* p<.05
d.f. = 11			** p<.01
Nagelkerke R <sup>2</sup> = 0.3213			*** p<.001
Concordant (predicted to observed) = 77.9%			

Our interpretation of the logistic regression results in Table 2 and Table 3 rests primarily on the odds ratio, partly because it can be explained fairly readily to non-institutional research audiences. The odds ratio represents the change in the odds of degree completion resulting from a one-unit change in the independent variable. Ratios which are greater than one indicate a positive relationship; as the value of the independent variable increases, the odds of degree completion also increase. For example, the odds ratio of 1.576 for GPA for part-time students suggests that for every one-unit increase in GPA, the odds of degree completion increase by 57.6 percent. For the specific case of categorical variables of two dimensions used in this analysis, the odds ratio represents the difference in the odds ratio between the two groups when the groups are coded as 0 and 1. For example, for part-time students, the odds ratio of 3.152 for standing indicates that the odds of graduating for students with advanced standing (coded as 1) are 215 percent higher than the odds for first-time students (coded as 0).

For part-time adult students, higher grades earned in the first fall semester, being in an advanced standing with credits already earned, and seeking an associate degree were all related to higher odds of completing degrees. The effect of advanced standing and seeking a baccalaureate degree were similar; the odds of part-time baccalaureate degree-seeking adult students completing degrees within six years were about 55 percent lower than those seeking associate degrees, while the odds of those with prior earned credits were 215 percent higher than for students with no prior credits. In addition, higher income and greater loan amounts were associated with higher odds of degree completion. Every \$1,000 increase in family income raised the odds of completing a degree by 26 percent and every \$1,000 increase in loans increased the odds by 21 percent.

For full-time adult students, students earning higher grades in fall 1999, having previous credits, and being in a regular academic status had higher odds of graduating. Regular non-provisional students had 148 percent greater odds of graduating, and those with prior credits had 170 percent greater odds of graduating. Total family income and the amount of financial aid received as grants and loans did not play a role for full-time adult students. Compared to part-time adult students, GPA had a slightly lesser effect on the odds of full-time adult students graduating. Every one-point increase in GPA raised the odds of graduating by 170 percent. This is somewhat lower than the 215 percent increase found for part-time adult students.

### **Comparing Adult and Traditional-Age Students**

As noted, an earlier paper examined access and affordability issues for over 5,000 traditional-age Penn State students who entered at the same time as the adult learners studied in detail in this report.

Our ability to directly compare the correlates of degree completion for adult learners and traditional-age students is constrained by three types of complications. First are simple data availability issues; in general, we have more complete information in the university's databases for traditional-age students. Second, because Penn State's population of traditional-age students is so large, one might expect that statistically significant results would be indicated for many more variables for that population; that in fact turns out to be the case. Third are more subtle considerations, such as the fact that – as a practical matter – a study of degree completion for traditional-age Penn State students is a study of baccalaureate degree completion; the adult learner population includes both associate degree and baccalaureate degree students. In short, for a variety of reasons, the ability to run clean, parallel multivariate analyses across these populations is somewhat constrained. Still, with those caveats in mind, it is revealing to compare the findings of the current analysis of adult students with a similar study (Dooris and Guidos, 2006) carried out for traditional-age students.

The statistically significant correlates for part-time adult learners and the relationship (positive or negative) to degree completion are as follows:

- Degree type: negative for baccalaureate degrees
- Standing (that is, does the student enter with some credits already earned?): positive for students with previous credits earned
- First-semester GPA: positive
- 1998 income: positive
- 1999-00 total financial aid in loans: positive

The significant correlates for full-time adult learners and the relationship (positive or negative) to degree completion are as follows:

- Provisional status (meaning that student was not initially qualified for admission to a regular, degree granting program): negative
- Standing (that is, does student enter with some credits already earned): positive for students with previous credits earned
- First-semester GPA: positive

The significant correlates for traditional-age students and the relationship (positive or negative) to degree completion are as follows:

- First-generation (neither parent had some college): negative
- On-campus (student lives in a residence hall): positive
- First-semester GPA: positive
- Predicted GPA (based on SAT scores and high school GPA): positive
- Residency (in-state or out-of-state): positive for out-of-state
- 1998 income: positive
- Number of majors (that is, whether the student changed majors over the six year period): positive
- Student self-rating of test-taking preparation on entering freshmen survey: positive

As noted, in part these findings are analytic artifacts that reflect the vastly different sizes and structures of the respective populations. However, we believe that these findings also have a basis in real-world differences – such as the realities of work, home, and family responsibilities – between these fundamentally different groups of students. The findings illustrate the risks in extrapolating ideas about access and degree-completion from one type of student to another. In short, efforts to help full-time traditional-age baccalaureate students, part-time adult learners, and full-time adult learners should be based on the realization that these groups face different challenges on the path to degree completion.

### **Conclusions**

This paper has examined adult learner use of financial aid and factors associated with completion of degree programs. Although adult learners cite financial concerns as affecting their ability to continue their education, many adult students, especially part-time students, fail to apply for aid. And when nontraditional students don't adhere to suggested admission and application deadlines, the amount of financial aid they receive is affected. This is important information for admissions staff to realize when marketing to and accepting adult students.

Knowing some of the factors associated with degree completion can aid admissions staff by helping adult students recognize some of the barriers they may face. For instance, although about half of both full-time and part-time adult students completed degrees within six years, provisional students (those who entered without adequate

college preparation for admission to a degree program) had the lowest odds of graduating. Also, obtaining loans seems to be a strategy used successfully by many part-time adult students to finance their education, resulting in higher odds of degree completion.

Future research can build on these findings by using survey research, more detailed advising information, and student interviews to identify other variables linked to degree completion. Information on marital status for adult students, specific employer tuition reimbursement patterns, and employment factors could be incorporated into more detailed multivariate analysis to tease out the effects of these other factors.

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