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If Life Happened but a Degree Didn't: Examining Factors That Impact Adult Student Persistence

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Abstract. Roughly half of all undergraduate students in the United States fail to persist to degree completion (American College Testing [ACT], 2010; Tinto, 1993; U.S. Department of Education, National Center for Education Statistics, 2013). Adult students often have higher levels of attrition than traditional-age students (Justice & Dornan, 2001; Noel-Levitz, 2011). This study uses theoretical underpinnings from Bean and Metzner (1985) and Braxton, Hirschy, and McClendon (2004) to develop and apply a conceptual model of adult student persistence. We explore the effects of (1) student entry characteristics, (2) external (i.e., extra-institutional) environments, and (3) campus environments on adult students' persistence. The context is a research-intensive, public, urban institution in the United States. We find that educational aspirations, institutional responsiveness, and familial encouragement play significant and positive roles in helping adult students remain enrolled and graduate.

Keywords. persistence; adult students; nontraditional students; family encouragement; educational attainment

Introduction

Among the most pressing concerns for colleges and universities across the United States is student retention (Tinto, 2012). Indicative of this concern is a spate of national college completion initiatives (e.g., American Graduation Initiative, Complete College America) focusing attention on the need to help more students complete a postsecondary credential. Adult students (25 years and older) are a particularly important group because they now comprise more than 50% of all part-time higher education enrollments, and more than 33% of total higher education enrollment in the United States (U.S. Department of Educa-tion, 2013). Furthermore, these adult learners persist at lower rates than that of traditional-age students (Justice & Dornan, 2001; Noel-Levitz, 2011; Soares, 2013). Limited information about the effects of adult-focused programs has led to calls for research on the subject (Wlodkowski, Mauldin, & Gahn, 2001). Examination of both successful and withdrawn students is a useful way to develop effective retention strategies. Students who graduate have experienced a variety of threats to their eventual success in the classroom. Analyzing the confluence of factors that promote and detract from the ability of adult learners to persist at a four-year institution addresses a gap in the current literature.

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While most research on the topic has focused on traditional students, labor statistics show that adult degree programs, which have low retention rates, are an essential part of the stability and growth of the nation's economy. Consider that there are more than 162.3 million people in the United States workforce (http://www.bls.gov/). Thirty-eight million of those people are adult working-age individuals (ages 25 and older) that have some college but no degree (Council for Adult and Experiential Learning [CAEL], 2008). The U.S. labor market now requires postsecondary education for most entry-level positions and mid-level occupations and by 2018, 63% of jobs will need some form of postsecondary training (Carnevale, Smith, & Strohl, 2010). The U.S. economy will have jobs for 22 million workers with college degrees, but a shortage of about 3 million college graduates (Carnevale et al., 2010). These statistics show the growing need for more of the nation's workforce to earn postsecondary credentials. To that end, colleges and universities must work to better understand those factors affecting adult students' degree completion.

Beyond economic concerns, there are important social and psychological reasons to improve the educational attainment of adults. For example, adults who attained a college degree reported healthier lifestyles and increased levels of civic engagement (Baum & Ma, 2007; Perna, 2005). Moreover, exposure to new ideas, philosophies, and epistemologies through degree attainment promote a more holistic sense of self as well as increased social and interpersonal growth through exposure to diverse ideas and contexts (Gurin, Dey, Hurtado, & Gurin, 2002). Higher education can also help students develop critical thinking skills, affect cognitive processing, and improve social reasoning abilities. Finally, adults who attained college degrees reported higher levels of perceived social support and an increased sense of belonging (Wohn, Ellison, Khan, Fewins-Bliss, & Gray, 2013). In sum, attainment of a degree can have wide implications for an adult student's social and psychological development.

Much of the college student retention literature focuses on traditional-age students (Wlodkowski, Maudlin, & Campbell, 2002). Yet, adult learners often have family responsibilities or work commitments, distinct from traditional-age students. Furthermore, these responsibilities may change over time as the needs, expectations, and life circumstances of students evolve (Tinto, 2006). This study explores what institutional factors affect persistence among students participating in an adult student support program. We ask, "To what extent is adult degree completion affected by (1) student entry/background variables, (2) internal campus environment variables, and (3) external influence variables among students participating in an adult degree completion program?"

Review of the Literature

Adult Degree Completion Initiatives

According to the North Central Association of Colleges and Schools' Higher Learning Commission Task Force on Adult Degree-Completion Programs (Taylor, 2000), an adult degree completion program is designed to meet the needs of the working adult who, having acquired 60 or more college credit hours during previous enrollments, is returning to school after an extended period of absence to obtain a baccalaureate degree. Institutions use tools such as alternative class schedules, truncating the traditional semester time block, and awarding credit for prior learning experiences to help students complete a program of study in two years or less (Taylor, 2000). Adult degree completion programs share common characteristics including distance (online) options, evening course options, weekend course options, test-out options (e.g., College-Level Examination Program [CLEP] and DSST), and college credit for prior learning in the workplace.

Adult degree completion programs are growing within higher education (Taylor, 2000). Universities such as the University of Phoenix and Western Governors University report significant enrollments (420,000 and 25,000, respectively) of adult students. More than 190 brick-and-mortar institutions have developed flexible programs aimed at enrolling adult students (Wlodkowski et al., 2001).

Factors Affecting Adult Persistence

Many things affect adult students' progress to graduation. They come to higher education with a variety of academic backgrounds. For example, some return to college after a gap of several years, requiring no remediation. Others may require developmental education, individualized programs of study, social support, and more. Factors that align with this study include entry characteristics, internal campus/academic environment, and external environment variables.

Entry characteristics relevant to adult learners include socioeconomic status, race/ethnicity, age, gender, marital status (including number of children), total previous college credit earned, and goal commitment (Braxton, Hirschy, & McClendon, 2004). Other entry characteristics such as high school class rank, standardized test scores, college prep curriculum, and high school friends are included in studies of traditional students, but are less relevant to adult students' persistence. In the following review,

we highlight studies that have focused on adult students whenever possible.

Findings on the relationship between socioeconomic status and educational attainment are remarkably consistent: Persistence is positively correlated with higher levels of socioeconomic status (SES). A host of studies have found a strong positive relationship with income and retention (Cabrera, Stampen, & Hansen, 1990; Cofer & Somers, 2000; Lichtenstein, 2002; Perna, 1998; Spady, 1971; Stinebrickner & Stinebrickner, 2003; Titus, 2006). Parental education has also been found to exert a strong positive effect over persistence (Anaya & Cole, 2001; Arbona & Nora, 2007). Very few studies have found no relationship between socioeconomic status and persistence (Adelman, 1999; Bean, 1980). The relationship between parental education and nontraditional students, as Bean and Metzner (1985) pointed out, is, however, less clear. Many of the studies just listed focused on traditional students.

African-Americans and Latinos are less likely to persist than their White peers (DesJardins, McCall, Ahlburg, & Moye, 2002; Nora & Cabrera, 1996; Perna, 1998), though the likelihood may change over time, especially for African-Americans (DesJardins, Ahlburg, & McCall, 1999) and may vary depending on the way in which persistence is defined or the type of institution being considered. For example, studies (Somers, 1995; St. John, Paulsen, & Starkey, 1996) that look at within-year persistence at commuter or urban institutions have found in some cases that students of color were more likely to persist from fall to spring than Whites.

Though many recent studies include gender as an explanatory variable in predicting persistence, our understanding about the direct and indirect effects of gender comes from earlier research. Contemporary studies have found conflicting results with respect to the likelihood of men and women persisting. A number of studies found no difference in likelihood of persistence between men and women (Adelman, 2006; Anaya & Cole, 2001; Arbona & Nora, 2007), while others have found that men are less likely to persist than women (Perna, 1998; St. John, Andrieu, Oescher, & Starkey, 1994).

Though relatively few studies have incorporated age as a background characteristic of students (Cofer & Somers, 2000; DesJardins et al., 1999; Singell & Stater, 2006; Somers, 1995; St. John, Paulsen, & Carter, 2005; St. John et al., 1996), much of the empirical scholarship has focused on age by virtue of the exclusion of nontraditional students, which is generally defined as those older than 24 (Bean & Metzner, 1985). Because of this focus on traditional-age students as well as differences in defining persistence, relatively little is known about the ways in which age affects

persistence. At traditional, four-year institutions age was found to be positively related to the likelihood of stopping out (DesJardins et al., 1999) and negatively related to graduation (Singell & Stater, 2006). However, age may be positively related to within-year persistence (Cofer & Somers, 2000; Somers, 1995; St. John et al., 1996) or persistence year-to-year at an urban, commuter institution (Somers, 1995). St. John and colleagues (2005) found that age was positively related to year-to-year persistence for African-Americans, but not Whites. Overall, the relationship between age and persistence may differ based on the institutional context. At nontraditional institutions, age and persistence appear to be positively related where as at traditional institutions a negative relationship seems to exist.

Tinto (1993) and Bean and Metzner (1985) posit that external pulls may impede integration by preventing students' transitions into the academic and social spheres of the institution. Overall, family support and encouragement is thought to have a positive effect on remaining enrolled (Hernandez, 2000; Nora & Cabrera, 1996; Santiago, 2007; Torres, 2006) though familial expectations may exert pressure on students with respect to college choice (Santiago, 2007) and concerns about disappointing the family (Hernandez, 2000). Anaya and Cole (2001) found that living with family or relatives had no effect on persistence, perhaps complicating the notion that living on campus is important for social integration.

Internal environment variables include, but are not limited to, financial aid, grade point average, part-time enrollment status, counseling, evening and weekend scheduling, instructor/advisor support, and prior learning assessment. This study does not include several internal campus factors because they pertain more to traditional-age students, such as housing policies, membership in student organizations, dining services, and student government involvement. Adult education researchers have also investigated the problematic relationship between the adult student and the university environment, noting lack of sufficient policies, procedures, and services to adequately support the success of adult undergraduates (Kasworm, Sandmann, & Sissel, 2000). Therefore, this study sought to explore a better understanding of adult students' perceptions of their relationship to the internal campus environment and its impact on their progression to degree attainment.

Some of the major environmental factors include finances, family support, employer support (tuition, flex-time, work hours), and significant life events. Environmental factors, including family problems, lack of child care, and job demands, are often cited as factors for withdrawal

or stop-out behaviors of adult students. The balancing act of managing family, work, community, and academic responsibilities can pose great challenges for adult students.

Adults have a variety of work, life, and academic roles. In addition, negative experiences from the past may impact adults' confidence. Kasworm (2001) stated that "being an adult student is fraught with time and resource issues related to actively pursuing homework assignments and final projects, getting to and from courses and the library, typing papers, collaborating with study groups, and engaging in other activities to support academic success" (p. 33). Many adult learners need more time to dedicate to their academic life than they have available. In these circumstances the academic responsibilities shift to the bottom of the priority list, and the guilt and frustration related to this balancing act often lead to departure decisions. The competing demands of life make it very challenging for adult learners to strike a balance that helps them reach their academic goal of completing a baccalaureate degree. These learners experience a wide variety of life circumstances, such as work, family, financial pressures, and community responsibilities, that weigh heavily on their intentions to return and persist in degree programs (Kasworm, 2003; Kazis, Vargas, &

Hoffman, 2007). The ability to juggle multiple roles and responsibilities can lead to stress, producing higher rates of attrition than seen in traditional-age learners.

Method

The adult learners in this study were classified as returning students (i.e., those who had previously earned college credit). The analysis of factors affecting degree completion among participants in an adult degree completion program was guided by prior empirical work (described earlier) as well as conceptual work more pertinent to the population of interest. Specifically, this empirical study is based on the Theory of Adult Learner Persistence in Degree Completion Programs (Bergman, 2012; see Figure 1). This theory draws on Braxton, Hirschy, and McClendon's (2004) Theory of Student Departure in Commuter College and Universities along with Bean and Metzner's (1985) Conceptual Model of Undergraduate Nontraditional Student Attrition model.

Sample

Data were collected from 437 adult students enrolled in a Bachelor of Science degree program in Workforce

Figure 1. Theory of Adult Learner Persistence in Degree Completion Programs (Bergman, 2012, based on Braxton, Hirschy, & McClendon, 2004).
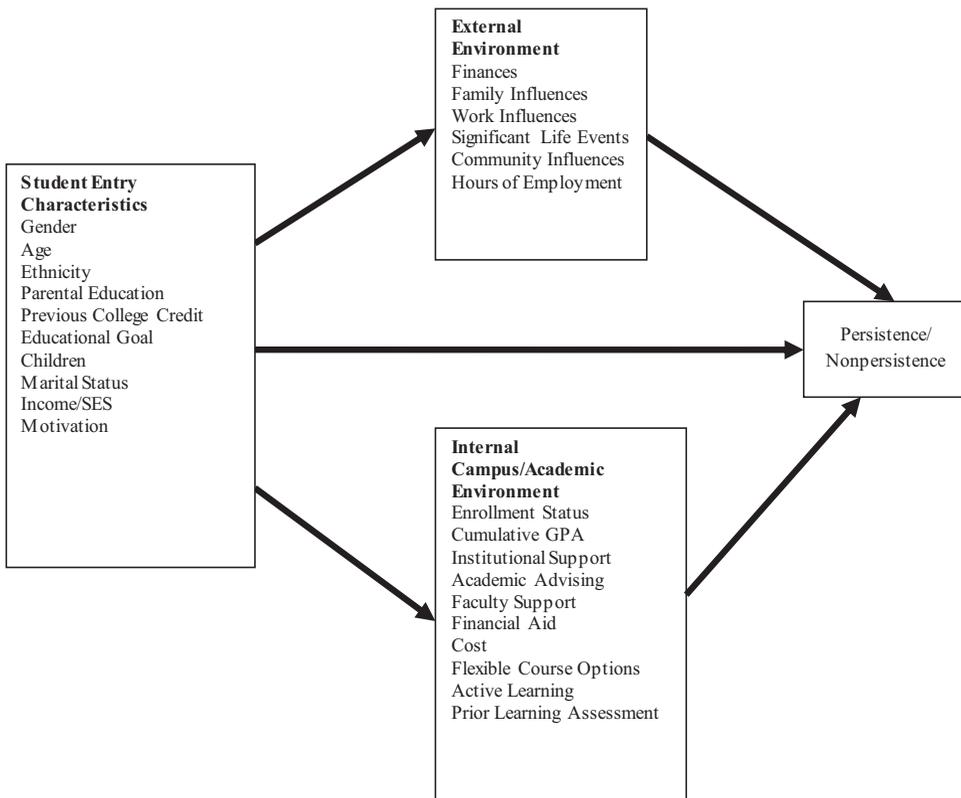
Leadership or Occupational Training and Development from 2004 through the summer 2011. The population ($N = 1,240$) consisted of individuals currently or formerly enrolled in these two bachelor's degree programs between the ages of 25 to 67. E-mail surveys were sent to current and former students. A total of 157 e-mails were undeliverable, making the total sample 1,083). Of the total 1,083 e-mailed surveys, 437 current and former students participated, representing a 40% response rate.

The respondent demographics were compared with institutional and national data. In regards to national representation, students in our sample with a mean age of 39 were slightly older on average than that of other programs (averaged 34 years of age) throughout the United States (Wlodkowski et al., 2001). Beyond the slightly higher age, no other significant differences existed between this sample and the overall adult student enrollment in the United States (U.S. Department of Education, 2013).

Among respondents, a little more than half (54%) identified as female, compared to 46% who identified as male (see Table 1). White students constituted the majority (79%), which is slightly more than the undergraduate population sampled (77% in 2011). Roughly 20% identified as African-American or Black. The remainder of students identified as Latino/a or other race/ethnicity. Seventy percent of students were between 36 and 55 years of age. Most of those responding aspired to earn a bachelor's (32.7%) or master's (48.9%) degree; felt their courses conflicted with work to some extent or greater (53.5%); took 4 to 6 credits per term (50%); and reported a GPA between 3.6 and 4.0 (49.4%).

Table 1. Sample Characteristics.

Characteristic	Persister		Total Sample
	No	Yes	
	Column %		Column %
Gender			
Male	49.3	45.0	45.7
Female	50.7	55.0	54.3
Race/ethnicity			
African-American, Black	19.1	21.2	20.9
White	80.9	78.8	79.1
Age			
25–35	18.6	23.0	22.3
36–45	32.9	34.9	34.6
46–55	40.0	34.7	35.5
56–65	8.6	6.5	6.9
66 or older	0.0	0.9	0.7

Characteristic	Persister		Total Sample
	No	Yes	
	Column %		Column %
Educational goals			
Certificate*	5.7	0.6	1.4
Associate's	11.4	8.0	8.6
Bachelor's*	48.6	29.5	32.7
Master's*	28.6	53.0	48.9
Doctorate	5.7	8.9	8.4
Money to complete			
Not at all*			
To a small extent	26.5	6.3	9.8
To some extent	17.6	11.7	12.8
To a great extent*	20.6	22.3	22.0
To a very great	10.3	25.0	22.5
extent	25.0	34.6	33.0
Conflict: Work/class			
Not at all			
To a small extent	16.4	27.8	25.9
To some extent	14.9	21.8	20.6
To a great extent*	40.3	34.0	35.1
To a very great	17.9	9.0	10.4
extent	10.4	7.5	8.0
Credits per semester			
1–3*	38.2	12.1	16.4
4–6	41.2	51.8	50.0
7–9	4.4	12.4	11.0
10–12	14.7	15.3	15.2
More than 12*	1.5	8.5	7.4
Overall GPA			
2.09 or less*	8.7	1.8	2.9
2.10–2.59	7.2	5.6	5.9
2.60–3.09	23.2	20.7	21.1
3.10–3.59	18.8	21.0	20.6
3.60–4.00	42.0	50.9	49.4
Received financial aid			
No*	60.3	39.0	42.6
Yes*	39.7	61.0	57.4
	Mean		
Parental education	6.63	6.89	6.85
Responsiveness of instructor/advisor*	3.67	4.24	4.14
Encouragement*	3.14	3.88	3.76
Prior learning assessment importance*	3.56	4.06	3.98
Responsiveness of institution*	3.67	4.26	4.17

*$p = 0.05$.

Approximately 91% of all respondents had cumulative GPA over 2.6, which indicates that, in general, students are not stopping out or dropping out due to poor grades. Student respondents also indicated a high level of favorability toward academic advising and faculty support. Just fewer than 87% of students indicated that that their advisor was knowledgeable about the plan toward individual student degree completion to a great extent or higher. Similarly, 88.9% of the sample believed that their instructor was knowledgeable to a great extent or higher about the course content in each class within the program.

Generally speaking, external environment descriptive statistics were similar to that of much of the literature on adult students. Nearly 80% of students in this sample were working 31 or more hours per week and 20.1% worked 30 hours or less during their enrollment in the program. A total of 56.7% of respondents indicated that they experienced one or more significant life events during their enrollment. Still, 55.5% of respondents indicated that they believed they had the appropriate finances to complete their degree to a great extent or higher. A total of 22.6% specified to a small extent or not at all that they did have the financial resources to complete their degrees. Therefore, external influences appear to be a substantial aspect of adults' lives as they pursue bachelor's degree programs.

Survey Instrument

The Adult Learner Persistence Study (ALPS), an exploratory instrument, was utilized to collect data on pertinent variables hypothesized to affect degree completion. ALPS was developed by using the framework and language from varied surveys including Bean and Metzner's (1985) Conceptual Model of Nontraditional Student Attrition. Reliability analyses using Cronbach's alpha coefficient were used to justify scales that were formed by averaging survey items. The survey instrument used a variety of methods of scoring student responses. Multiple questions were answered, using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Dichotomous Yes or No responses, as well as multiple response (a, b, c, or d) answers were used for other questions. All questions were analyzed and examined for direct and indirect effects on the dependent variable. Table 2 provides a definition of how each of the three central constructs (i.e., student entry characteristics, external environment, and internal campus/academic environment) was operationalized in this work. A full copy of the instrument along with the codebook is available on request.

Empirical Models

The outcome of interest in this study was persistence. Adult learners that graduated or maintained continuous enrollment in the program in this cross-sectional sample were considered persisters. We hypothesized that persistence was a function of entry characteristics (c_1) (i.e., gender, age, ethnicity, parental education, educational goals); external environment variables (c_2) (i.e., finances, encouragement, and conflicts between work and class); and campus environmental factors (c_3) (i.e., cumulative GPA, credits through prior learning assessment, institutional responsiveness, financial aid, and advisor/instructor responsiveness) (see the following equation). Logistic regression was an appropriate technique to use given the dichotomous outcome of interest (Field, 2005). SPSS 20 was used for all modeling.

$$Y_{Persistence} = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + e_i$$

Variables were entered into the logistic model in blocks, allowing us to ascertain the effect of each construct on the outcome of interest, beginning with student entry characteristics followed by external environment and finally campus environment variables. A variety of model fit indices were examined to assess the contribution of each block of variables on the outcome.

Limitations

As is the case for all research, this study has limitations. The results should be interpreted in light of these limitations. The first is the use of a single institution sample consisting of students from 2004 through 2011 in a single program of study in Occupational Training and Development or Workforce Leadership.

A second limitation is the use of self-report measures. Self-report measures offer benefits to the researcher such as their inexpensive use and ease of distribution; however, using these measures raises the possibility of common source method variance producing inflated correlations among the variables of interest (Crampton & Wagner, 1994). Several steps were taken to reduce the likelihood of biased findings, such as the assurance of participant anonymity (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Finally, the third limitation is the issue of self-selection or endogeneity, a persistent and growing concern in education research (DesJardins et al., 1999; Dowd & Coury, 2006; Titus, 2007). As Cellini (2008) notes, endogeneity—caused by reverse causality or self-selection bias within models—limits the ability to make causal inference.

Table 2. Definitions of Variables.

Variable	Definition/Label (Variable Type)
Entry characteristics	
Gender	Student gender (categorical: male = 0, female = 1, other = 2)
Age	Age during bachelor's degree enrollment (categorical: 25–35, 36–45, 46–55, 56–65, 66 or older)
Ethnicity	Student ethnic identity (categorical: American Indian, Asian, Pacific Islander, Black or African-American, Hispanic or Latino, White or Caucasian, other/multicultural)
Parental education	Mother and father degree attainment (categorical: grammar school or less, some high school, high school graduate, some college, college degree, some graduate school, graduate degree)
Previous college credit	Fill in the blank (nominal, interval)
Educational goals	Highest educational goal (categorical: certificate, associate's, bachelor's, master's, doctoral)
Children	Number of children (categorical: zero, one, two, three, four or more)
Marital status	Marital status during enrollment (categorical: never married = 0, married/partnered = 1, previously married = 0, separated = 1, divorced = 0, widowed = 0)
Income/SES	Annual household income (in dollars) (categorical: less than 15k, 16k–25,999, 26k–40,999, 41k–60,999, 61k–75,999, 76k–99,999, 100k or more)
Motivation	How important is completing degree (categorical: very unimportant, unimportant, neither unimportant nor important, important, very important)
Internal campus/ academic environment	
Enrollment status	Average credits per semester (categorical: 1–3, 4–6, 7–9, 10–12, 12 or more)
Cumulative GPA	Overall GPA (categorical: 2.09 or less, 2.10–2.59, 2.60–3.09, 3.10–3.59, 3.60–4.00)
Institutional support	Extent to which university provides resources for success (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Academic advising	Multiple questions: Number of advising meetings of at least 10 minutes (categorical: 0, 1, 2, 3, 4 or more) Q20a & 20b: To what extent was your advisor knowledgeable and caring (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Faculty support	Multiple questions: Number of instructor meetings of at least 10 minutes outside of class (categorical: 0, 1, 2, 3, 4 or more) Q20c & 20d: To what extent was your instructor knowledgeable and caring (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Financial aid	Did you receive scholarships or financial aid (dichotomous: yes or no)
Cost	Rank order reasons for selecting program (rank: cost, reputation, speed of completion, convenience-location, convenience-course delivery options)
Flexible course options	Multiple questions: Type of courses enrolled in (categorical: online only, in-class only, both online and in-class) Q24a–d: Flexible course options, sufficient classes, convenient enrollment, clear plan (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Active learning	Multiple questions: Q25a–d: Critical thinking, interpersonal skills, working with others, problem-solving skills (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent) Q26a–d: Worked in teams, real-world application, combined ideas, connection to outside environment (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)

Table 2. (*Continued*).

Variable	Definition/Label (Variable Type)
External	
Prior learning assessment	To what extent: time-saving, more likely with PLA, finish faster (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Finances	To what extent… believe you have the financial resources (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Family influences	Multiple questions: Q30b: To what extent… experience family/class conflict (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent) Q35a & 35b: To what extent… experience encouragement from spouse or other family (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Work influences	Multiple questions: Q30a: To what extent… experience work/class conflict (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent) Q33: Tuition assistance from employer (dichotomous: yes or no) follow-up Q34: To what extent… how important was employer tuition support (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Significant life events	Q31: Experience one or more significant life event (dichotomous: yes or no)
Community influences	Q30c: To what extent… experience community/class conflict (categorical: not at all, to a small extent, to some extent, to a great extent, to a very great extent)
Hours of employment	How many hours worked: (categorical: 0–20, 21–30, 31–40, 41–50, 51 or more)

Absent randomized controlled experiments, it is difficult to discern to what extent unobserved factors, such as student motivation, affect the outcomes of interest. The intent in this exploratory study, however, is not to make claims about the effect of a cause, but rather to discern the extent to which variables of interest are related while controlling to the extent possible for confounding factors.

Results

We compared students who persisted to those who did not by selected characteristics (see Table 1). We found no significant differences in persistence outcomes by gender, race/ethnicity, or age. Of students' entry characteristics, only educational goals varied significantly by persistence outcome. As was expected, persistence was positively associated with aspiring to a higher degree. Persistence rates were lower among students who felt that their work and classes conflicted to a great extent. Students who took one to three credits persisted at lower rates as well. Students who persisted tended to more strongly agree that their instructor/advisor was responsive, that they received encouragement from home, and felt the institution overall was responsive to their needs. Prior learning assessments and receipt of financial aid were also positively associated with persistence.

Results from the inferential models (see Table 3) both confirm and complicate findings from the preceding descriptive comparison. Of all student entry characteristics, only educational goals were significantly related to likelihood of persisting. As educational aspirations increased from one degree to the next highest degree, the odds of persisting increased about 90%, controlling for all else.

Considering external environmental factors in our model improved its overall explanatory power as well. Having money to complete a degree as well as receiving encouragement were both positively associated with likelihood of persisting. As students agreed more strongly that they had money to complete their degree, the odds of persisting increased by about 40%, controlling for all else. Similarly, feeling more strongly that they received encouragement from their families improved the odds of persisting by about 61%. However, as students felt more strongly that their work and classes conflicted, their odds of persisting decreased by about 78%. This suggests that minimizing real and perceived conflict between courses and work may be one of the most impactful ways to address the effects of external environmental variables on outcomes.

Finally, we found that campus environment variables played a significant role in student outcomes and attenuated the effects of educational goals as well as external

Table 3. Logistic Regression Results for Persistence Model.

Variables	Entry Characteristics Coefficient		External Environment Coefficient		Campus Environment Coefficient	
Constant	−0.14 (1.03)		−3.49 (1.34)	***	−8.25 (1.85)	****
Men compared to women	0.32 (0.3)		0.22 (0.33)		0.3 (0.35)	
African-Americans/Blacks compared to Whites	0.08 (0.37)		0.25 (0.39)		0.23 (0.42)	
Age	0.02 (0.17)		0.03 (0.19)		0.14 (0.21)	
Parental education	0.03 (0.07)		0.04 (0.07)		0.06 (0.08)	
Educational goal	0.64 (0.17)	****	0.63 (0.18)	****	0.52 (0.2)	***
Money to complete			0.34 (0.12)	***	0.26 (0.13)	**
Conflict: Work/class			−0.25 (0.13)	*	−0.13 (0.15)	
Encouragement			0.48 (0.15)	***	0.29 (0.16)	*
Credits per semester					0.27 (0.19)	
Cumulative GPA					0.19 (0.14)	
Prior learning assessment					0.18 (0.14)	
Institutional responsiveness					0.49 (0.29)	*
Financial aid					0.44 (0.35)	
Advisor/instructor responsiveness					0.26 (0.24)	
% Non-persisters correctly predicted	50.8		55.9		66.1	
% Total correctly predicted	74.6		74.9		78.7	
−2 log likelihood	307.16		278.019		254.97	
Cox & Snell R-square	0.043		0.116		0.17	
Nagelkerke R-square	0.074		0.198		0.29	

Note. Standard errors in parentheses.
**** $p < 0.001$. *** $p < 0.01$. ** $p < 0.05$. * $p < 0.10$.

environmental variables. However, institutional responsiveness was the only variable that was significantly related to persistence but only at moderate level of significance. As a student felt more strongly that the institution was responsive to his or her needs, the odds of persisting increased by about 63%. Interestingly, after controlling for campus environments, the relationship between feeling that courses and work conflicted and persisting was no longer significant. The overall effect size of encouragement and finances decreased as well.

Discussion and Implications

Our findings about the effect of campus environments on persistence are intriguing. Although only institutional responsiveness was found to have a moderately significant relationship with increasing the potential for student persistence, overall we found that controlling for campus environ-

ment in models yielded the largest increase in explanatory power. In other words, campus environment accounted for more of the variation in adult student persistence than student entry characteristics or external factors. This is an important finding for practitioners.

Providing a supportive campus environment that is responsive to adult students may help adult students overcome challenges to attain a degree. Given the complex ways in which social, economic, and cultural factors interact and impact educational attainment, there are many aspects of student success that are not *actionable*. For example, a single institution can only do so much to counteract the potential discrimination an older student may face in the workplace, or the challenges of completing a degree while working full-time and raising a family. Yet, by cultivating an environment in which the unique needs of adult students are recognized and addressed, these broader factors may be mitigated. The results of this one program study cannot be generalized to all

institutions, but prior work on campus environments (e.g., Berger, 2000) consistently points to their importance in helping nontraditional and underrepresented students persist.

Although campus environments can play a significant role in helping adult students, external environmental variables, specifically educational goals, students' finances, and familial encouragement, continued to play a significant role in whether or not a student persisted. This suggests that institutional responsiveness coupled with a concerted effort to support adult students outside the confines of campus can have a real and positive effect on their odds of completing a degree. For example, although the relationship between financial counseling and persistence remains unclear, some evidence suggests that such counseling can have a positive effect on students' financial behaviors and perceptions (Scott-Clayton, 2012). A possible strategy to help ease students' financial concerns might be offering financial advising or counseling as co-curricular option for students.

Another implication of this work is that adult students need familial support to persist. This points to the importance of institutions reaching out to families and making all members of adult students' families feel invested in the institution and the process. This could potentially help increase familial encouragement and help students persist at higher rates.

Conclusion

The U.S. Census Bureau (2008) reported that 38 million working-age Americans have some college credits but no degree. By 2025, 60% of jobs in the United States will require a college degree (Lumina Foundation, 2011). In order to fulfill this increased demand, an additional 166,000 graduates will be needed (Lumina Foundation, 2011). Furthermore, there is a three million person gap between the number of undergraduate degree holders that will be produced at current levels compared to what will be needed by employers in 2018 (Carnevale et al., 2010).

Amidst this push for increased degree production, administrators and faculty in adult degree completion programs must ensure that quality practices are in place to maintain academic rigor. Institutions must offer adequate administrative support, financial aid/financial advising, and institutional resources to ensure the effectiveness of these types of programs. It is important that adults not only complete a college degree but also reach higher levels of critical thought through formal baccalaureate education. The increase in knowledge will serve as an inspiration to our future generations, solidifying the value and necessity of education and enlightenment while reaching local, state, and national goals of increased educational attainment.

This study adds to the persistence literature in three ways. First, from a theoretical perspective, this study confirms that entry characteristics, external environment, and internal campus/academic factors have a significant effect on persistence among adult learners in degree completion programs at this four-year university. Second, the study furthers the literature, both practically and theoretically, regarding an understanding of adult learners as nontraditional students. Even though the sample of students came from a single institution, the study gives insight into the nuances of adult learners, particularly those in a degree completion program. Finally, the study shows how systematic policies at the state and college level to provide relevant curriculum, sufficient funding, and knowledgeable and caring faculty and staff have a direct impact on student success.

Additional research should be conducted regarding differences in student experiences by institution type. The experiences of adult learners should continue to be studied, as it has been found that they enter the higher education landscape with different backgrounds and have different experiences while on college campuses as compared to their traditional counterparts. By continuing to study adult students and predictors of persistence, knowledge will continue to be created to help bridge the gap in educational degree attainment between adult and traditional students in the United States.

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