

EFFECTS OF EMPLOYMENT ON PERSISTENCE OF LOW-INCOME, FIRST-GENERATION COLLEGE STUDENTS

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The purpose of the study was to examine the effects of employment on first-to-second-year persistence of low-income, first-generation college students. Using the data from the Beginning Postsecondary Students Longitudinal Study (BPS:04/06), the analysis indicated that the role orientation to academics versus to work was the strongest predictor of persistence in the study. Consistent with Warren's (2002) primary orientation model, this finding suggested that working students who perceived college as their priority and the primary role were more likely to persist, no matter how much time and energy they devoted to working, or how many or what kind of jobs they held. The study highlights the importance of keeping working students motivated, satisfied, and engaged in college to make sure that they do not turn to work as a more worthwhile and relevant undertaking than their academic pursuits.

Low-income, first-generation college students are a growing population in higher education (e.g., Engle & Tinto, 2008; McCarron & Inkelas, 2006; Tinto, 2004; Warburton, Bugarin, & Nunez, 2001). They represent a large share of our entering college students. However, despite their increasing access to higher education, institutions are struggling to retain these students and help them persist through graduation. The Pell Institute's recent report prepared by Engle and Tinto (2008) revealed some troubling statistics. The report indicated that among the Beginning Postsecondary Students Longitudinal Study 1996/2001 (BPS:96/01)

student cohort, only 11% of low-income, first-generation students had earned bachelor's degrees within 6 years, compared to 55% of their peers.

Even more concerning, the data show that for many of these low-income, first-generation students, college experience often ends soon after it begins (Engle & Tinto, 2008). Engle and Tinto (2008) reported that low-income, first-generation students were almost four times more likely to leave college right after their first year than their more advantaged peers. The report further pointed out that among the low-income, first-generation

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students who dropped out without earning their degrees, almost two thirds (60%) left college after their first year.

There is an obvious urgency, in the first year of college, to determine the issues that are making it so challenging for low-income, first-generation students to persist. Without a doubt, students' experiences in their first year of college are generally recognized to be critical in the pursuit of their long-term educational goals, persistence, and graduation (e.g., Bozick, 2007; Lohfink & Paulsen, 2005; Tinto, 1993). Research indicates that students who complete their first year in college and return for their second year are more likely to persist through graduation (Horn & Carroll, 1998).

The importance of first-year experiences for low-income, first-generation college students cannot be underestimated. In many respects, they are already at a disadvantage when starting college, beginning their journey with less academic preparation, less financial and informational resources from parents, and lack of understanding of how to successfully navigate college life (e.g., Bui, 2002; Choy, 2001; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996; Warburton et al., 2001). Other common characteristics of this population, such as being older, coming from a minority background, delaying entry into college, attending part-time, living off-campus, et cetera, also present potential risk factors and contribute to their higher attrition rates from postsecondary institutions (e.g., Engle & Tinto, 2008).

Working while enrolled in college is also recognized as a potential risk factor for attrition from postsecondary institutions (e.g., Astin, 1993; Bean & Metzner, 1985; Bozick, 2007; Cuccaro-Alamin, 1997; Horn & Malizio, 1998; Tinto, 1993). There has been a sizable body of research on the effects of employment on persistence (e.g., Anderson, 1981; Bozick, 2007; Cuccaro-Alamin, 1997; Dundes & Marx, 2006; Horn & Berkold, 1998; Horn & Malizio, 1998; Kulm & Cramer, 2006; Lohfink & Paulsen, 2005), but often with inconclusive and even contradictory findings (Riggert, Boyle, Petrosko, Ash, & Rude-Parkins, 2006).

Despite some of these inconsistencies, findings from many of these studies indicate that the more hours students devote to working, especially off-campus, the less likely they are to persist and graduate in a timely manner (e.g., Astin, 1993; Cuccaro-Alamin, 1997; Nora, Cabrera, Hagedorn, & Pascarella, 1996).

In a time of rising tuition costs, many of today's students, especially from low-income families, increasingly turn to employment as a means of paying for college. As student employment becomes "an educational fact of life" (Riggert et al., 2006, p. 64), we need to better understand how it affects low-income, first-generation students' first-to-second-year persistence, given the critical importance of their first year in college.

REVIEW OF RELEVANT LITERATURE AND THEORETICAL GROUNDING

Low-income, first-generation college students' persistence has been the focus of the growing body of literature in higher education (e.g., Engle & Tinto, 2008; Horn & Carroll, 1998; Ishitani, 2003, 2006; Lohfink & Paulsen, 2005; McCarron & Inkelas, 2006; Nunez, Cuccaro-Alamin, & Carroll, 1998; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Tinto, 2004; Warburton et al., 2001). These studies have all indicated that compared to their more advantaged peers, low-income, first-generation college students are more likely to leave college at the end of the first year, less likely to persist through college years, and less likely to earn a degree in a timely manner.

For example, in his recent studies, Ishitani (2003, 2006) examined longitudinal effects of being a first-generation student on attrition and timely degree completion. Using an event history model, proposed by DesJardins, Ahlburg, and McCall (1999), Ishitani (2003, 2006) revealed that first-generation students were exposed to higher risks of departure through college years, especially at the end of the first

year, and they were also less likely to complete their degrees in a timely manner. Ishitani's (2003) study found that first-generation students' risk of attrition in their first-year of college was 71% higher than that of students with two college-educated parents.

Another recent study by Lohfink and Paulsen (2005) compared persistence behaviors between first- and continuing-generation students through the critical theory perspective. Using the BPS:96/01 database, the researchers examined the effects of five groups of factors on students' first-to-second-year persistence: background characteristics, pre-college achievement, initial commitment to an institution, institutional variables, and in-college experiences. The authors indicated that first-generation students in their study inhabited "intersecting sites of oppression based on race, class, and gender" (p. 418). For example, they found that being Hispanic, lower-income, and female were negatively related to persistence for first-generation students, but not for continuing-generation students.

There has been a growing interest in low-income, first-generation student persistence. However, it should be noted that student employment has not been a central focus of these studies. Lohfink and Paulsen's study (2005) included *number of hours worked* variable to predict first-to-second-year persistence of first-generation students, but only as one element within the broader construct of *in-college experiences*. Another study by Bozick (2007) examined the effects of employment and living arrangements on first-to-second-year persistence and found that students who worked more than 20 hours a week were more likely to leave school during the first year. However, Bozick's (2007) study included all traditional-aged (less than 24 years), first-year students from the BPS: 96/01 and did not specifically look at the role of paid work for low-income, first-generation college students. The current study builds on this existing literature and employs more comprehensive measures of employment to examine its effects on persistence of this high-risk student population.

Theoretical Grounding

No theoretical models exist that "exclusively (or even primarily) focus on the student employment-higher education relationship" (Riggert et al., 2006, p. 70). As Riggert et al. (2006) points out, commonly used models of student retention (Astin, 1993; Bean & Metzner, 1985; Tinto, 1993) make some references to student employment, but do not include employment as a central focus in their theoretical conceptualizations. This premise makes it difficult to frame the relationship between employment and student retention/persistence in a theoretical context. In these existing student retention models, employment is viewed as either "a single face in a large constellation of fluid, interacting student characteristics" (Riggert et al., 2006, p. 71), as for example, in Astin's (1993) and Bean and Metzner's (1985) models, or is regarded as a "threat to student commitment and ultimately retention" (Riggert et al., 2006, p. 72), as for example, in Tinto's (1993) model.

In addition, many researchers who have studied the effects of employment on student persistence/retention or academic performance in college have used a zero-sum theoretical approach (e.g., Bozick, 2007; Cuccaro-Alamin, 1997; Horn & Malizio, 1998; Kulm & Cramer, 2006; Lohfink & Paulsen, 2005; Lundberg, 2004; Nonis & Hudson, 2006; Warren, 2002). They have implicitly or explicitly suggested that the more time and energy students devote to employment, the less time and energy they have available for academically-oriented activities (Warren, 2002). This is a one-sided approach to this issue that fails to acknowledge that there is more to employment than just number of hours spent working.

There are alternative ways to approach the relationship between employment and academics that might help us understand the broader effects of employment on low-income, first-generation college student persistence. For example, Warren's (2002) primary orientation model suggests that students' social and psychological orientation toward work versus aca-

ademic pursuits is a better indicator of students' academic success than the actual time and resource allocation. This perspective suggests that whether the student perceives his/her role to be primarily a student or an employee might be a better predictor of persistence than the actual hours the student devotes to working.

In addition, Derous and Ryan (2008) highlight the importance of perceived relevance of work for academic outcomes. Based on Hartung's (2002) and Greenhaus and Powell's (2006) theories, they suggest that "skills and experiences generated in one role (e.g., working) are more likely to promote high performance in another role (e.g., studying) when these skills and experiences are perceived relevant for that role" (Deros & Ryan, 2008, p. 121). From this perspective, if the job is relevant or beneficial to the students' academic interests or career goals, it can have a positive effect on students' academic pursuits, regardless of how much they work.

Furthermore, students engage in employment for different reasons that might also affect their motivation and "functional significance" of that role (Deros & Ryan, 2008, p. 121). For example, if the student works not just for financial reasons, but to gain relevant experience and skills, the effects of employment on academic outcomes might be less negative. All these alternative theoretical perspectives suggest moving beyond a simple zero-sum approach when examining the relationship between employment and academic outcomes. Consistent with these alternative theoretical approaches, the current study takes a broader look at student employment, including role orientation, job relevance, context and motives for working, to assess its effects on first-to-second-year persistence of low-income, first-generation college students.

PURPOSE AND RESEARCH QUESTIONS

The purpose of this study was to investigate the effects of employment on first-to-second-year persistence of low-income, first-genera-

tion college students at 4-year postsecondary institutions. The following research questions guided the investigation:

1. What are the predictors of first-to-second-year persistence of low-income, first-generation college students enrolled at 4-year postsecondary institutions?
2. How does employment (i.e., employment intensity, role orientation, job relevance, context, and motives for working) affect first-to-second-year persistence of low-income, first-generation college students, while controlling for selected background and in-college characteristics?

METHODS

Data Source and Sample

The study used the Beginning Postsecondary Students Longitudinal Study (BPS:04/06) data set. The data set provides a nationally representative sample of students, including transfers, persisters, stopouts/dropouts, and vocational completers (Cominole et al., 2007). Students classified as first-time beginners (FTBs) were first interviewed during the base-year of the 2003-04 National Postsecondary Student Aid Survey (NPSAS:04) and then interviewed again in the first follow-up study in 2006 (BPS:04/06). Approximately, 18,640 individuals of the 23,090 base-year sample members were determined to be eligible for inclusion in the BPS:04/06 follow-up study (Cominole et al., 2007). The overall unweighted response rate for eligible sample members was 80%, with a weighted response rate of 77%.

For the purposes of this study, the sample of low-income, first-generation students who were first enrolled at 4-year institutions in the fall of 2003 was selected ($N = 1,140$). Low-income, first-generation students were defined as those who came from families with an income of \$25,000 or lower where neither parent had a bachelor's degree or higher (National Center of Education Statistics [NCES], 2008).

The study used appropriate sampling weights to make the sample representative of the population. First, to correct for oversampling, raw weights provided by NCES were transformed into relative weights by dividing the raw weight by its mean. Second, to correct for the effect of clustering, the relative weight was further adjusted by the design effect (Thomas & Heck, 2001).

Variables and Measures

Persistence

First-to-second-year persistence served as an outcome variable in the study. Based on the enrollment history provided in the data set, students who were continuously enrolled from fall 2003 to spring 2004 and remained enrolled in fall 2004 were considered as persisters. Similar to Bozick's (2007) study, a measure of individual persistence, not institutional persistence was used. According to this approach, students who transferred to another institution but remained enrolled were also coded as persisters. Thus, first-to-second-year persistence was a measure of student persistence within all higher education institutions, and not necessarily at a specific institution. The variable was coded as 1 = *persisted*, 0 = *did not persist*.

Employment-Related Variables

The study took a broader look at student employment by utilizing more comprehensive measures of employment than mere time allocation to work. Consistent with the proposed theoretical perspectives (Derous & Ryan, 2008; Riggert et al., 2006; Warren, 2002), the following BPS:04/06 employment-related variables were included as predictors of first-to-second-year persistence in the analysis: employment intensity (i.e., number of hours worked and number of jobs), role orientation (i.e., primary role: student vs. employee), job relevance (i.e., job related to major or coursework), job context (i.e., employed on or off-campus), and motives for working (i.e., to earn

spending money; to gain job experience; to pay for tuition, fees, and living expenses). Consistent with the theoretical grounding proposed in the previous section, there was an expectation that students who perceived their role as primarily a student, viewed their jobs as relevant to their academic interests, and saw employment not only a means of paying for college but also meaningful and beneficial to their future career or academic needs, would more likely to persist, regardless of how much time they devoted to working.

Background and In-College Characteristics

Research on student persistence consistently shows that student's background characteristics have an impact on persistence. As indicated above, being a minority, a female, older, delaying entry into college, and being less prepared academically were all associated with higher likelihood of attrition from college (e.g., Blecher, 2006; Engle & Tinto, 2008; Horn & Berkold, 1998; Horn & Carroll, 1998; Ishitani, 2003, 2006; Lohfink & Paulsen, 2005; McCarron & Inkelas, 2006; Nunez, Cuccaro-Alamin, & Carroll, 1998; Pascarella et al., 2004; Tinto, 2004; Warburton et al., 2001). Therefore, the study included the following background characteristics as control variables in the analysis: gender, race, and nontraditional risk index. The variable of race included four categories: White (reference group), Asian, Hispanic, and African American. Nontraditional risk index represented an index of risk based on the sum of seven characteristics that may negatively affect persistence, including delayed enrollment, no high school diploma, part-time enrollment, financially independent, have dependents, single parent status, and working full-time while enrolled (NCES, 2008).

In addition to students' background characteristics, factors while in college greatly influence the decision to persist or depart from the institution. For example, research indicates that academic and social integration, especially

involvement in academic activities, has a positive effect on persistence (Astin, 1993; Lundberg, 2004; Pascarella & Terenzini, 1991; Tinto, 1993), especially on the first-to-second-year persistence of first-generation college students (Lohfink & Paulsen, 2005). Research also suggests that living on campus provides more opportunities for students to be engaged in academic activities and interact with faculty and students that subsequently results into higher likelihood of persistence in college (e.g., Astin, 1996; Bean & Metzner, 1985; Blecher, 1996; Pascarella & Terenzini, 1991). It has also been suggested that financial aid availability has an effect on the student's decision to remain in college (e.g., Pascarella & Terenzini, 2005; Paulsen & St. John, 2002). It is also widely acknowledged that students who do well academically and enter college determined to earn their degrees are more motivated to persist (e.g., Astin, 1993; McCarron & Inkelas, 2006; Nora et al., 1996; Pascarella et al., 2004; Tinto, 1993). Consistent with this previous research, the following variables were also included in the analysis: first-year GPA, academic integration index, social integration index, living on campus, and financial aid availability. Academic integration variable was derived based on the average of students' responses indicating how often they participated in study groups, had social contact with faculty, met with an academic advisor, or talked with faculty about academic matters outside of class (NCES, 2008). Social integration index was calculated averaging the responses indicating how often students had attended fine arts activities, participated in intramural or varsity sports, or participated in school clubs (NCES, 2008). The GPA was standardized to a 4.00 point scale. Financial aid availability was included as a dichotomous variable based on whether or not the students received any type of financial aid.

Data Analysis

The data were first examined descriptively to identify background and employment characteristics of the sample. Then, the study used

logistic regression to answer the research questions. Logistic regression is an appropriate statistical technique for the analysis in this study for several reasons. First, it allows the researcher "to predict a discrete outcome such as a group membership from a set of variables that may be continuous, discrete, dichotomous, or a mix" (Tabachnick & Fidell, 2001, p. 517). Furthermore, in logistic regression the predictors do not have to be "normally distributed, linearly related, or of equal variance within each group" (p. 517). Given that there was a dichotomous outcome variable and both categorical and continuous variables as predictors in this study, logistic regression was an appropriate statistical method to use.

RESULTS

Descriptive analysis of the data showed that majority of low-income, first-generation students were female (61.7%). The sample was ethnically diverse with 39.7% Whites, 26.7% African Americans, 21.0% Hispanic, and 6.7% Asian. The average first-year grade point average (GPA) of the sample was 2.77 and 37.3% of the students in this study lived on campus. Of the total sample, 68.0% worked while enrolled in college. Fifty-one percent of all those working low-income, first-generation students in the study worked more than 20 hours a week.

As indicated earlier, a logistic regression was conducted to address the primary purpose of the study. The model correctly classified 75.7% of the sample. Hosmer and Lemeshow Test, which is the most reliable test of model fit for logistic regression available in SPSS, resulted in a nonsignificant chi-square at the .05 level, which indicates that the model fit the data well (Tabachnick & Fidell, 2001). Chi-square value for Hosmer and Lemeshow Test was 11.291 with 8 degrees of freedom and with a significance level of .186. Table 1 provides a summary of the Wald Statistic Tests, which measure the contribution of each independent variable in predicting first-to-sec-

TABLE 1
Results for Logistic Regression for First-to-Second Year Persistence of Low-Income First-Generation College Students on Selected Demographic, In-College, and Employment-Related Variables

	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>Sig</i>	<i>Exp(B)</i>
Male	-.377	.154	6.007	1	.014	.686
African American	.089	.181	.243	1	.622	1.093
Hispanic	.191	.210	.898	1	.343	1.210
Asian*	1.011	.433	5.450	1	.020	2.749
Nontraditional risk index	-.265	.050	27.733	1	.020	.767
Availability of financial aid	.479	.277	2.994	1	.084	1.614
Living on campus*	.437	.202	4.692	1	.030	1.548
First-year grade point average***	.591	.088	44.856	1	.000	1.806
Academic integration index	.080	.044	3.292	1	.070	1.084
Social integration index	-.041	.058	.489	1	.484	.960
Role orientation: Student**	1.009	.360	7.857	1	.005	2.742
Number of hours working p/w	-.003	.085	.001	1	.971	.997
Number of jobs	.113	.156	.530	1	.466	1.120
Off-campus job	-.241	.320	.569	1	.451	.785
Job related to coursework	.319	.531	.361	1	.548	1.376
Working to pay tuition	-.467	.405	1.328	1	.249	.627
Working to earn spending money	-.599	.433	1.914	1	.167	.549
Working to gain experience	.156	.680	.053	1	.818	1.169

* $p < .05$. ** $p < .01$. *** $p < .001$.

ond year persistence of students. $Exp(B)$ is the odds ratio for each of the contributing predictors. An odds ratio greater than 1 that is statistically significant indicates a positive relationship between the predictor and the outcome variable (Tabachnick & Fidell, 2001). The greater the odds ratio is from 1, the stronger the effect of that independent variable on the dependent variable in the study.

As illustrated in Table 1, the analysis revealed several significant predictors of first-to-second-year persistence of low-income, first-generation students in this study. Specifically, being Asian, living on campus, and having a high grade point average significantly increased the likelihood of first-to-second-year persistence. For example, the odds of an Asian low-income, first-generation student persisting

through the second year were 2.749 times higher than for a White low-income, first-generation college student. Students who lived on campus were 1.548 times more likely to persist. In addition, for every .10 increase in GPA, the odds of persisting through the second year increased by a factor of 1.806, while all other factors held constant.

In terms of the effects of employment, the role orientation was the strongest predictor of first-to-second-year persistence of low-income, first-generation college students in this study. It was also the only significant predictor among all the employment-related variables in the model. Those who viewed themselves primarily in the role of a student were 2.742 times more likely to persist through the second year in college, while all other factors held constant.

DISCUSSION

The findings regarding the effects of background and in-college characteristics on first-to-second-year-persistence of low-income, first-generation college students in this study were consistent with much of the previous literature on student persistence (e.g., Allen, 1999; Astin, 1996; Bean & Metzner, 1985; Blecher, 2006; Engle & Tinto, 2008; Horn & Carroll, 1998; Ishitani, 2003, 2006; Lohfink & Paulsen, 2005; McCarron & Inkelas, 2006; Nora et al., 1996; Nunez, Cuccaro-Alamin, & Carroll, 1998; Pascarella et al., 2004; Pascarella & Terenzini, 2005; Tinto, 2004; Warburton et al., 2001).

Concerning employment effects, particularly noteworthy was the finding that students' role orientation to academics versus work was the strongest significant predictor of first-to-second year persistence among all employment-related variables in this study. This finding supports Warren's (2002) primary orientation model suggesting that students' social and psychological orientation toward work versus academic pursuits is a strong indicator of students' academic success. This finding suggests that working students who perceive college as their priority and their primary role are more likely to persist, no matter how much time and energy they devote to working, or how many or what kind of jobs they hold. This finding indicates that the negative effects of employment might disappear when students consider academics as their most significant responsibility and place school at the top of their priority list. From this perspective, we can further argue that student employment might only have negative effects when it is "accompanied by disinterest in and disengagement from school" (Warren, 2002, p. 371). Students who are motivated and drive to persist and view college as a valuable investment might do their best not to sacrifice or put aside their academic aspirations because of employment. The study highlights the importance of keeping working students motivated, satisfied, and engaged on college campuses to

make sure that they do not turn to employment as a more rewarding and relevant undertaking than their academic pursuits (Warren, 2002).

The findings of this study have important practical implications. First, it is essential to educate faculty and administrators that today's students arrive on campus with different priorities, goals, and motivation. It is important to recognize that for an increasingly nontraditional student body, school and studying might not be the first and only priority. Faculty and administrators have to view students' lives holistically and become aware of what factors motivate them or hinder their persistence in college. Second, colleges and universities have to better communicate with their students the value of college education and provide them with an educational experience that is more meaningful, relevant, and engaging. This is particularly important for students who might not view college as their primary role and may more likely become disengaged and withdraw. Finally, it is vital that colleges and universities help students balance the competing roles of being a student and an employee. The fundamental question that needs to be answered is how students could best combine their studies with employment in a way that promotes high performance in both roles (Deros & Ryan, 2008). There is not a single best answer to this question. Different strategies might work better with different student populations on different campuses (King, 1999). However, it is essential that faculty and student affairs professionals work together to find ways to help working students on their campuses balance conflicting roles of being a student and an employee by enriching their experiences in both of these roles.

It is of national concern that although access to higher education has improved for low-income, first-generation students, they still face unique challenges and barriers that limit their chances of successfully completing their degrees (e.g., Engle & Tinto, 2008). It is imperative that we improve postsecondary success and degree attainment for the growing segment of low-income, first-generation

college students. Further understanding what role employment plays in their persistence through college might give us some additional clues to help these students realize their full potential.

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