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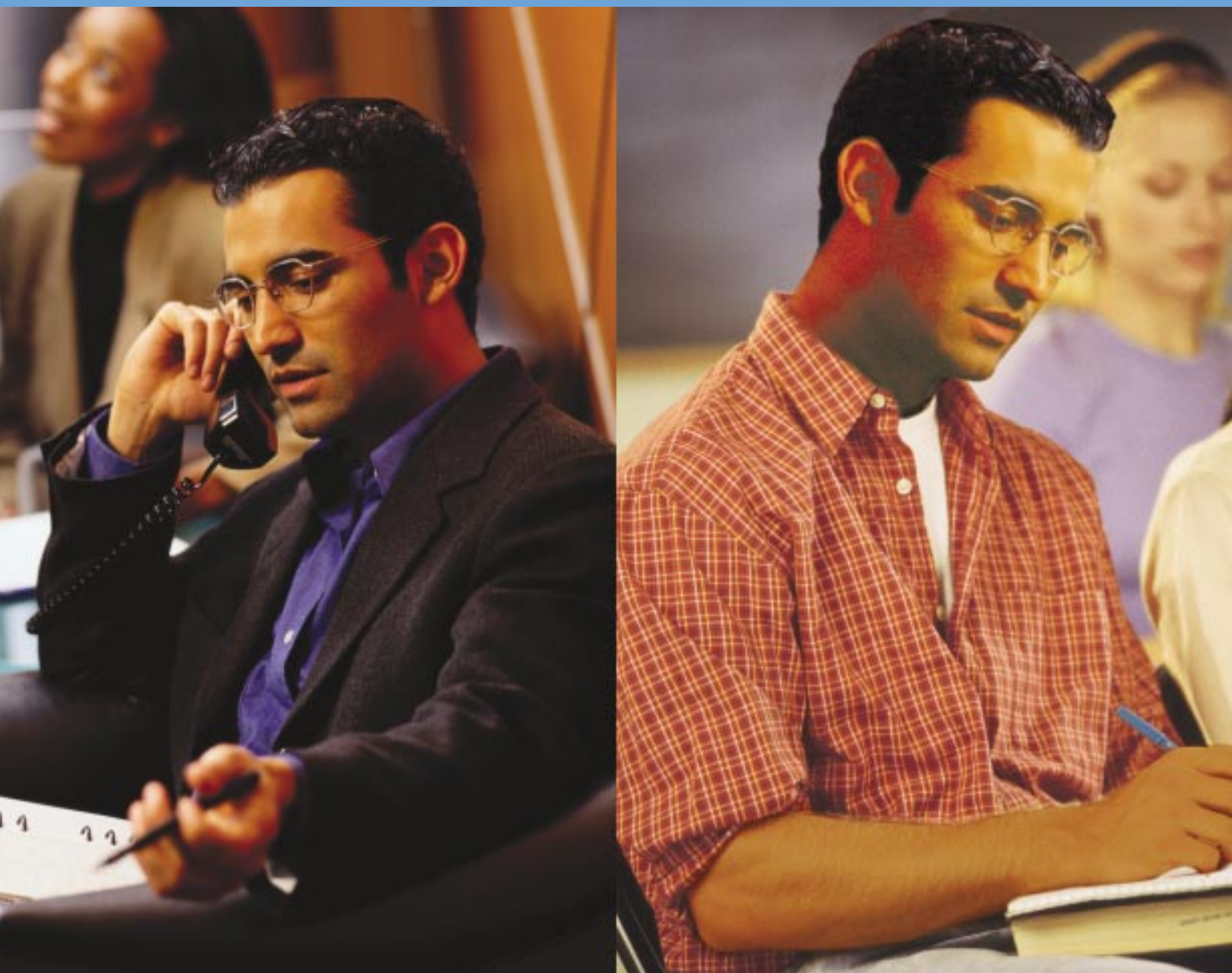
Work First, Study Second

Adult Undergraduates Who Combine Employment and Postsecondary Enrollment

Postsecondary Education Descriptive Analysis Reports



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August 2003

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Executive Summary

Introduction

About 43 percent of undergraduates who were enrolled in postsecondary education during the 1999–2000 academic year were age 24 or older. Most of these older undergraduates (82 percent) worked while enrolled in postsecondary education (Horn, Peter, and Rooney 2002). In total, these working adults made up roughly one-third of the undergraduate population. This study examines the characteristics and educational experiences of working adult undergraduates, focusing on those who considered employment their primary activity. The analysis compares two groups of working adults according to the emphasis or importance they placed on work and postsecondary enrollment when they were asked: "While you were enrolled and working would you say you were primarily: 1) a student working to meet expenses or 2) an employee who decided to enroll in school?" Throughout this report, students who identified themselves as employees who decided to enroll in school are referred to as "employees who study," while those who identified themselves as students working to meet expenses are referred to as "students who work."

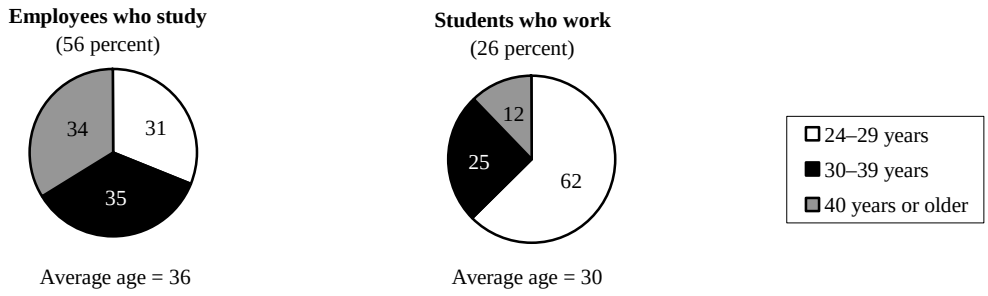
Data

The profile of working adults is based on the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), a representative sample of all students enrolled in postsecondary education in the 1999–2000 academic year. The analysis of postsecondary completion is based on the 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01), a longitudinal cohort of all students who began postsecondary education in 1995–96 and who were last surveyed in 2001, about 6 years after their initial enrollment. The NPSAS sample is limited to undergraduates age 24 or older. The age of 24 was used to identify adult undergraduates because this is the age that students are recognized as financially independent of their parents for financial aid purposes. The NPSAS analysis focuses entirely on working undergraduates, but the totals presented in the tables include the 18 percent of nonworking adult undergraduates. The BPS sample is limited to students age 24 or older who worked while enrolled in 1995–96 (i.e., they were working while enrolled in their first term), regardless of their working status in subsequent years. The BPS survey sample has proportionally fewer older students than the NPSAS survey because to be eligible for BPS, students must be enrolling in postsecondary education for the first time. Therefore, returning students are not included.

A Profile of Working Adult Undergraduates

In 1999–2000, about two-thirds of working adult undergraduates (those age 24 or older) considered employment their main activity—employees who study—while the remaining one-third characterized themselves primarily as students who worked to pay their education expenses—students who work. Employees who study were older on average than students who work (36 vs. 30 years old). As shown in figure A, roughly two-thirds of employees who study

Figure A. Percentage distribution by age and the average age for undergraduates age 24 or older, by student/employee role: 1999–2000



NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

were age 30 or older, compared with just over one-third of students who work. Employees who study were also more likely to be married (52 percent vs. 31 percent), and to have children and other dependents (57 percent vs. 43 percent) (figure B).

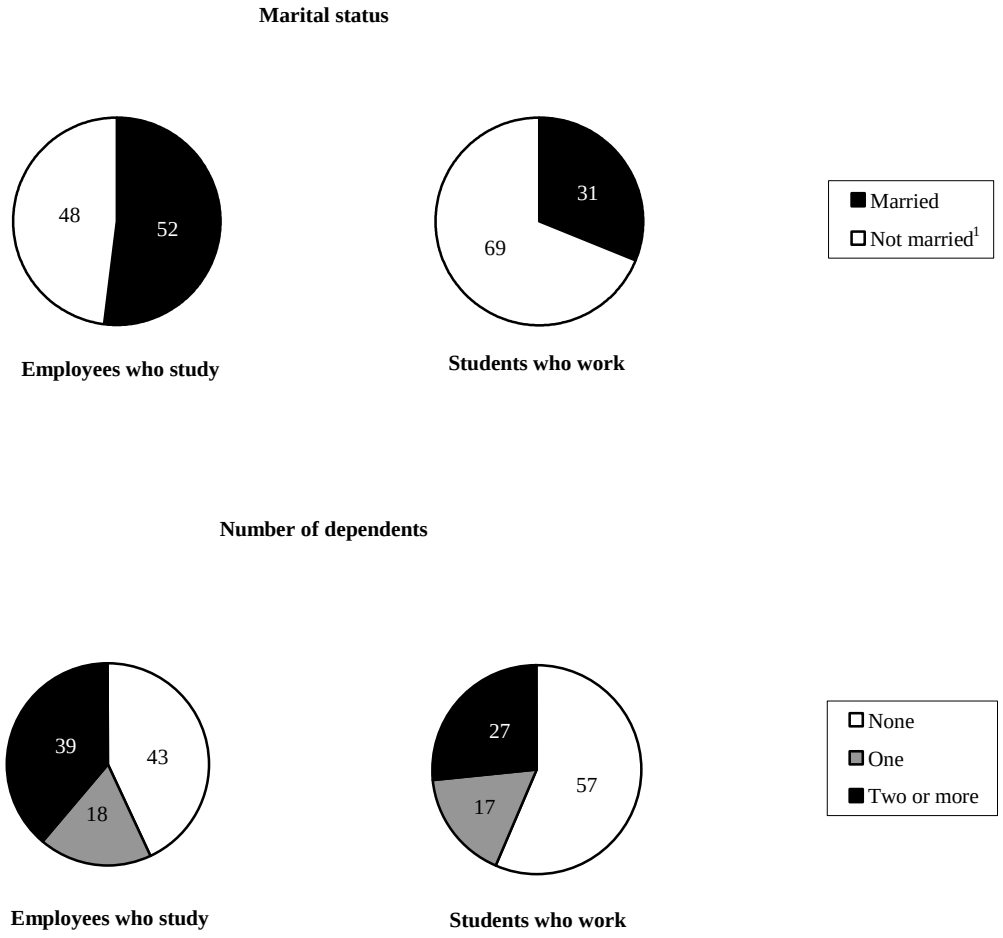
A fundamental difference between employees who study and students who work is how they combined work and attendance. As might be expected, employees who study devoted more time to work and less to attending classes, while students who work did the opposite (figure C). At least three-quarters of employees who study worked full time (87 percent) or attended part time (76 percent), and roughly two-thirds (68 percent) did both. In contrast, at least 6-in-10 students who work attended school full time (68 percent) or worked part time (60 percent), while roughly half (46 percent) did both. Thus, employees who study most often worked full time and attended part time, while students who work most often attended full time and worked part time.

In summary, among undergraduates age 24 or older, those who characterized their primary activity as employment were older, worked more, attended school less, and were more likely to have family responsibilities than their peers whose primary activity was being a student.

Enrollment, Degree Program, and Field of Study

Even though work and attendance patterns clearly distinguished employees who study from students who work, there were some exceptions. For example, roughly one-fifth of each group combined full-time work and full-time attendance (19 percent of employees who study and 22 percent of students who work). In previous studies, attendance status was strongly linked with postsecondary completion: part-time students were much less likely to complete a postsecondary credential than full-time students (see, for example, Berkner, Cuccaro-Alamin, and McCormick 1996). Therefore, when examining

Figure B. Percentage distribution of undergraduates age 24 or older according to marital status and number of dependents other than spouse, by student/employee role: 1999–2000

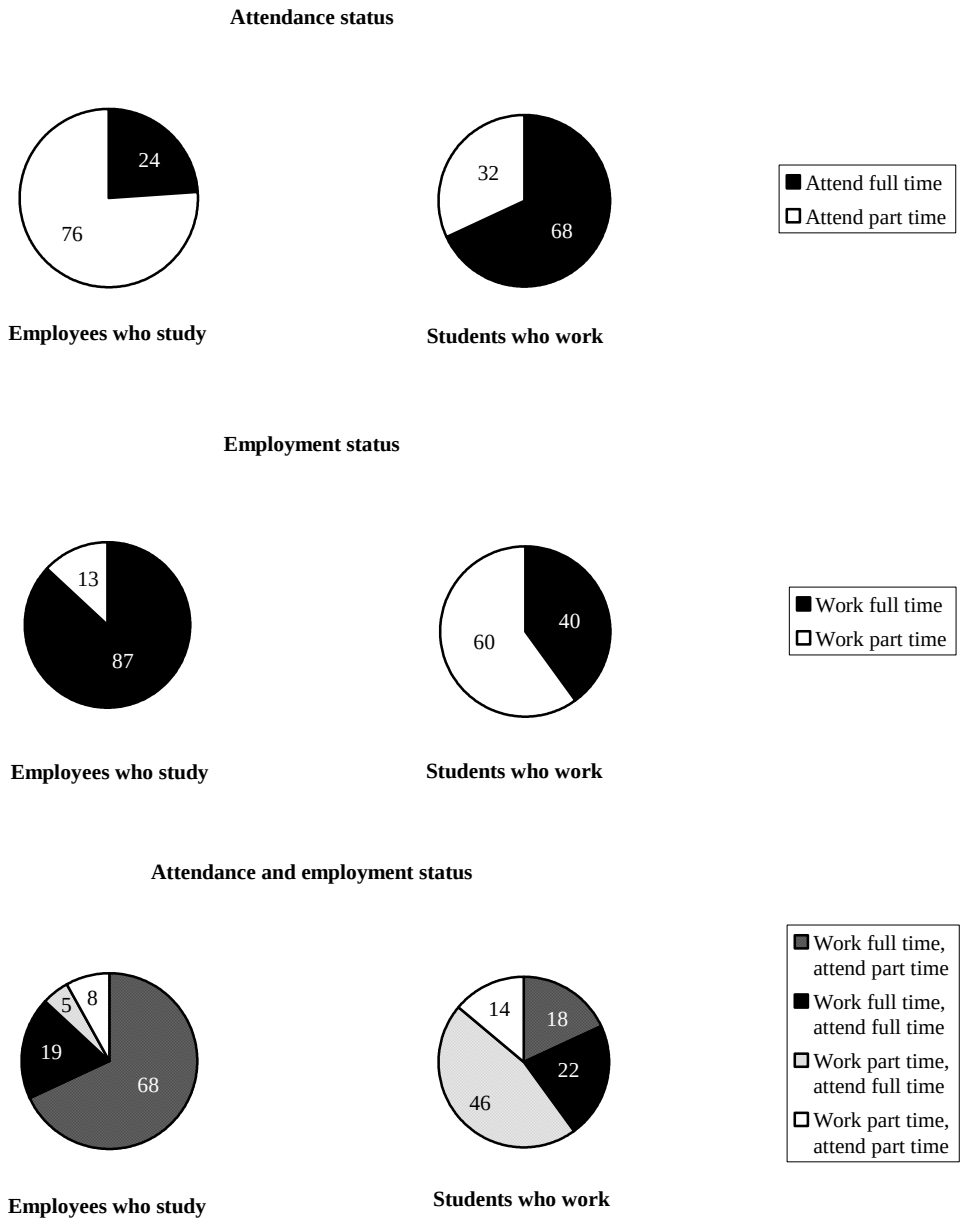


[1]Includes single, separated, divorced, or widowed.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Figure C. Percentage distribution of working undergraduates age 24 or older according to separate and combined work and attendance intensity, by student/employee role: 1999–2000



NOTE: Detail may not sum to totals because of rounding. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

the educational characteristics of each group of students in the current analysis, full-time and part-time students were examined separately in order to compare the two groups while controlling for attendance status.

Consistent with differences in the time they spent in the classroom, employees who study and students who work differed in where they enrolled and what they studied. Employees who study attended community colleges more often than students who work (61 percent vs. 39 percent) and public 4-year colleges and universities less often (17 percent vs. 34 percent) (table A). Even among students who attended exclusively part time, these differences prevailed. Among full-time students, employees who study were more likely than students who work to be enrolled in private for-profit institutions (14 percent vs. 10 percent).

Corresponding to their predominance in community colleges, employees who study were more likely than students who work to be in programs leading to an associate's degree (45 percent vs. 37 percent) and were less likely to be in bachelor's degree programs (23 percent vs. 45 percent). In addition, among full-time students, employees who study were more likely than students who work to be enrolled in certificate programs. The same was not observed for part-time students. Employees who study were also more likely than students who work to be taking courses not leading to any degree (10 percent vs. 2 percent).

Along with differences in their rates of participation in degree programs, the two groups of working adults also differed in their fields of study. Employees who study majored in computer science, business, vocational, and technical fields more often, and majored in social/behavioral

Table A. Percentage distribution of institution attended for undergraduates age 24 or older, by student/employee role and attendance intensity: 1999–2000

	Public 4-year	Private not-for-profit 4-year	Public 2-year	Private for-profit	More than one institution and other
			Total		
Total	22.5	10.3	53.9	6.5	6.9
Students who work	34.5	10.6	39.4	7.6	8.0
Employees who study	16.8	11.3	61.2	4.8	6.0
			Full-time[1]		
All full-time students	27.7	12.8	36.8	12.6	10.0
Students who work	37.6	12.0	31.9	9.9	8.6
Employees who study	16.4	17.7	39.4	14.5	12.0
			Part-time		
All part-time students	18.6	8.5	66.4	2.0	4.5
Students who work	27.8	7.6	55.1	2.8	6.7
Employees who study	16.9	9.3	68.1	1.7	4.0

[1]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

sciences, life sciences, and health fields less often than students who work.

In summary, among working adult undergraduates, employees who study were more likely than students who work to attend community colleges and to be working toward associate's degrees (among both full-time and part-time students) and vocational certificates (among full-time students only). They were also more likely than students who work to major in occupational fields of study such as computer science and were less likely to major in behavioral sciences.

Reasons Employees Who Study Enrolled

Given their focus on work, employees who study were asked several questions about their reasons for enrolling in postsecondary education. It is likely that students who emphasize the importance of their employment over enrollment would be interested in enhancing their position in the labor market. This was found to be the case for 85 percent of adult employees who study, who reported that gaining skills to advance in their current job or future career was an important consideration in their postsecondary education. However, 89 percent also reported that personal enrichment was an important factor. While personal enrichment and obtaining additional job skills were important reasons for enrolling for most employees who study, so was completing a degree or credential: 80 percent reported enrolling for this latter reason. In addition, roughly one-third (36 percent) of employees who study had enrolled to obtain additional education required by their job.

Financial Aid

Because employees who study are more likely than students who work to attend postsecondary education on a part-time basis, their tuition expenses are lower.[1] In addition, employees who study are more likely than students who work to be employed full time. Lower tuition combined with full-time employment means that employees who study have less need for financial aid than students who work. Employees who study, therefore, were less likely than students who work to apply for and receive financial aid in 1999–2000. Nevertheless, roughly half (48 percent) of employees who study received some type of financial aid, averaging about $3,000 per recipient. About 40 percent of employees who study received grants, averaging about $1,500, and 12 percent received loans, averaging about $5,600. In addition, about one-quarter (23 percent) of employees who study received aid from their employers, averaging about $1,200. Employer aid was the only type of financial aid that employees who study received more often than students who work (23 percent vs. 5 percent). The difference between the percentages of employees who study and students who work who received different types of aid held among both full-time and part-time students with one exception: among part-time students, no difference in the percentage receiving grant aid could be detected.

Among employees who study, those who were enrolled in bachelor's degree programs were the most likely to receive employer aid (33 percent received an average of $2,200 in employer aid). In addition, 24 percent of employees who study who were not enrolled in any degree program also

[1]For example, undergraduates attending a community college full time for a full year paid on average about $1,600 in tuition, compared with about $700 for those attending part time for a full year (Berkner et al. 2002).

received employer aid (averaging about $400). Presumably employers encouraged such students to take certain courses rather than earn a formal credential.

Persistence and Degree Completion

In previous studies examining factors related to students' risk of not completing their postsecondary education, working full time and attending classes part time were both independently associated with lower rates of persistence and degree attainment (Berkner, Cuccaro-Alamin, and McCormick 1996; Horn 1996). Given these findings, 68 percent of working adults who identified themselves as employees who study in 1999–2000 carried a substantial risk of not completing their postsecondary program: they were both employed full time and attended part time (figure C). In contrast, 18 percent of students who work combined full-time work with part-time attendance. Based on these differences, it might be expected that the two groups of working adult undergraduates would have different outcomes when examining their completion rates. Indeed, among those who first began their postsecondary education in 1995–96, differences in outcomes were evident.

Six years after students had begun their postsecondary education, 62 percent of employees who study had not completed a degree or certificate and were no longer enrolled, compared with 39 percent of students who work. Even among those who intended to obtain a degree or certificate, 55 percent of employees who study had not completed a degree or certificate and were no longer enrolled, compared with 38 percent of students who work (figure D).

Among employees who study with reported degree or certificate intentions, the total percentage who attained any credential was 37 percent, most often a vocational certificate (28 percent). Among students who work, 44 percent had attained a postsecondary credential, and they, too, were most likely to have obtained a certificate (22 percent). However, 10 percent of students who work had completed a bachelor's degree, compared with 2 percent of employees who study.[2]

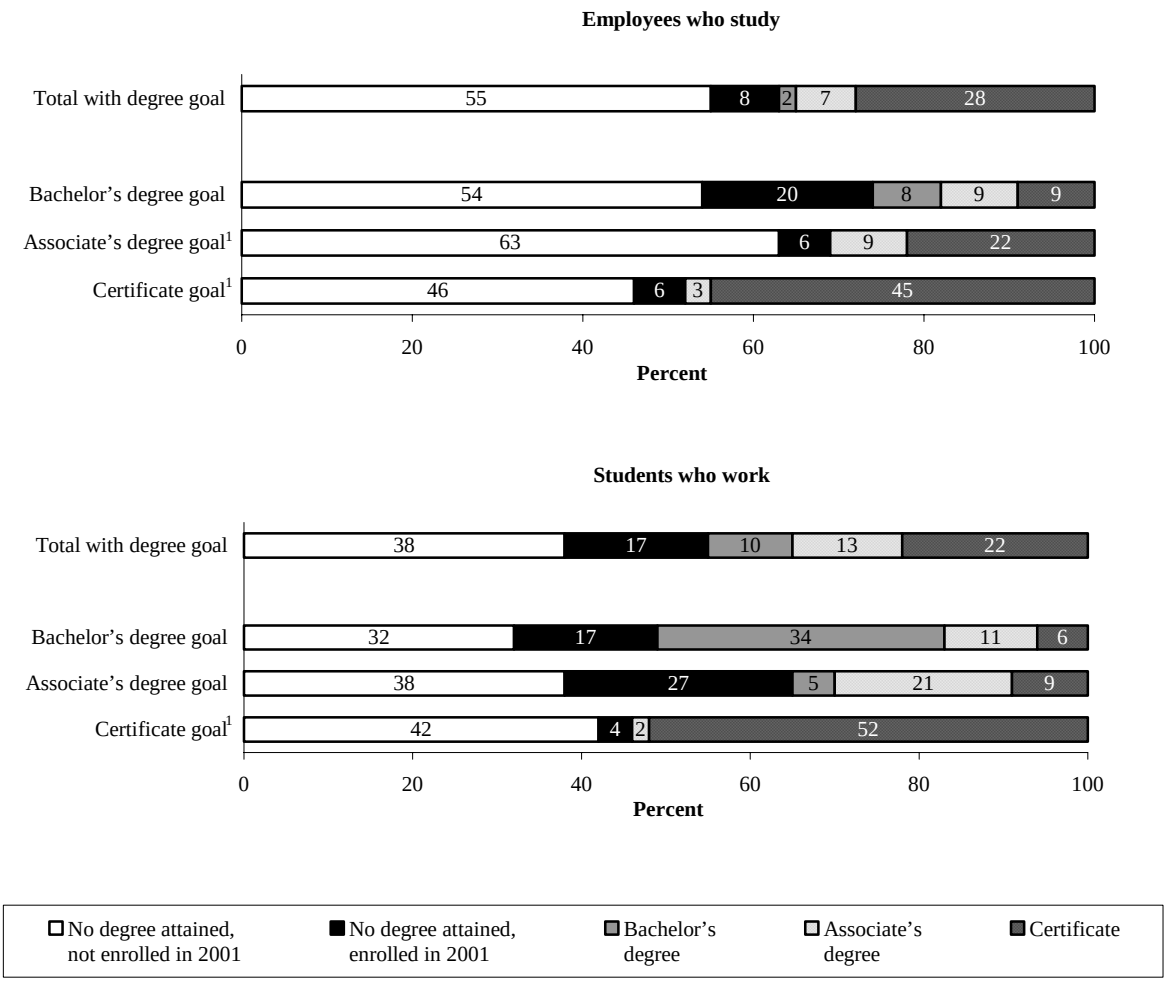
Employees who study were at particular risk of leaving postsecondary education in their first year. Among students with a degree goal, 32 percent of employees who study left in their first year with no credential, compared with 7 percent of students who work. These students had not returned after 6 years. After the first year, however, no difference could be detected between employees who study and students who work in their rates of attrition.

Conclusions

In 1999–2000, roughly two-thirds of working undergraduates age 24 or older reported that work was their primary activity. Among these employees who study, nearly 70 percent combined full-time work with part-time attendance. These working adults make up a large percentage of the undergraduate population and most of them pursue postsecondary education to obtain skills necessary to advance in their careers. Nearly one-half of employees who study received some sort of financial aid, including one-quarter who received aid from their employers. However, full-time work and part-time attendance combined with family responsibilities appeared to be barriers to completing a credential. Despite the fact that most

[2]It also appeared as though students who work were more likely to have earned an associate's degree, but due to small sample sizes, there was not enough statistical evidence to conclude such a difference.

Figure D. Percentage distribution of 6-year persistence and of highest degree attained in June 2001 for 1995–96 beginning postsecondary students age 24 or older with a degree goal, by degree goal and student/employee role when they first enrolled



[1]The percentage who attained a bachelor's degree rounded to zero and is, therefore, not shown on bar.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995/96 Beginning Postsecondary Students Longitudinal Study (BPS:96/01).

employees who study thought it was important to earn a formal credential, 62 percent had not done so within 6 years. Moreover, among those who left, most did so in their first year. In contrast, their counterparts whose focus was on postsecondary enrollment—students who work—experienced more positive educational outcomes. These students, who were more likely to attend full time, work part time, and have fewer family responsibilities, were more likely to earn postsecondary credentials, especially bachelor's degrees.

Foreword

This study examines the characteristics and educational experiences of working adult undergraduates. The analysis is based on the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), a representative sample of all students enrolled in postsecondary education in the 1999–2000 academic year. The analysis of postsecondary completion is based on the 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01), a longitudinal cohort of all students who began postsecondary education in 1995–96 and who were last surveyed in 2001, about 6 years after their initial enrollment.

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Introduction

Between 1970 and 1980 the proportion of students age 25 or older enrolled in degree-granting postsecondary institutions increased from 28 percent to 37 percent (U.S. Department of Education 2002). In the 1999–2000 academic year, 7.1 million undergraduates age 24 or older accounted for about 43 percent of all undergraduates enrolled in postsecondary institutions. Among these older undergraduates, 40 percent were in their mid- to late 20s, 32 percent were in their 30s, and 28 percent were 40 or older.[1]

Several factors have influenced the participation of older individuals in postsecondary education. First, changing skill requirements associated with emerging computer and information technologies have increased the need for additional training (Creighton and Hudson 2002). Second, the potential increase in the returns to a college degree has provided incentives for older individuals to enroll in or return to postsecondary education (Leigh and Gill 1997). Third, postsecondary education has become increasingly accessible to older individuals as a result of the increased effort of postsecondary institutions to meet the needs of older students (Phillippe and Patton 1999).

In an earlier report, Choy and Premo (1995) examined the extent to which older undergraduates (age 24 or older) differed from their younger counterparts. The study found that older undergraduates were more likely than their younger counterparts to be married, to have dependents other than a spouse, and to have a parent with low educational attainment. This study also reported that older undergraduates were more likely than their younger counterparts to attend college part time, work full time, and enroll in public 2-year institutions, but were less likely to enroll in a formal degree or certificate program.

When examining the persistence and attainment rates of older undergraduates, Choy and Premo (1995) and Horn (1996) found that older undergraduates were not meeting their degree goals at the same rates as their traditional age counterparts. Examining 3-year persistence and attainment rates for students who began their postsecondary education in 1989–90, Choy and Premo (1995) found that older undergraduates, particularly those seeking an associate's or bachelor's degree, were more likely than younger undergraduates to leave postsecondary education without attaining a degree and without returning. Using the same data, Horn (1996)

[1] 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), Data Analysis System.

analyzed the experiences of "nontraditional students" who were identified by a variety of indicators related to age. The author noted significant differences in the attainment rates of traditional and nontraditional students, even after controlling for students' degree goals. For example, among students with an associate's degree goal, 53 percent of traditional beginning postsecondary students had attained an associate's degree 5 years after enrolling, compared with 27 percent of nontraditional students. Similarly, among those with a bachelor's degree goal, 54 percent of traditional students had attained a bachelor's degree, compared with 31 percent of nontraditional students.

Previous studies have also reported that most older students combine employment and postsecondary schooling. It is important, therefore, to define the older student population in a way that accounts for both employment and enrollment behaviors. This analysis compares two groups of working adult undergraduates enrolled in 1999–2000 according to the emphasis or importance they placed on work and postsecondary enrollment when they were asked: "While you were enrolled and working would you say you were primarily: 1) a student working to meet expenses or 2) an employee who decided to enroll in school?" Throughout this study, students who identified themselves as employees who decided to enroll in school are referred to as "employees who study," while those who identified themselves as students working to meet expenses are referred to as "students who work."

Using data from the 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98), Hudson and Hurst (2002) examined how employees who study differed from students who work in their rates of persistence and attainment as of spring 1998 among all beginning undergraduates. They argued that because employees who study were more likely than students who work to have greater work responsibilities and to have student background characteristics associated with lower persistence and attainment, the former group was more likely to have left postsecondary education without a degree and less likely to be still enrolled in spring 1998. When these authors considered students' degree goals, the differences in persistence rates were observed for those intending to complete an associate's or bachelor's degree, but not for those seeking a certificate.

Although Hudson and Hurst (2002) examined the differences in 3-year rates of persistence among all beginning students in 1995–96, this report focuses on adult beginning students, analyzing the differences in 6-year rates of persistence between employees who study and students who work. Because many older undergraduates attend classes part time, it may take them longer to finish a degree program. Therefore, it is important to have a longer time frame in which to analyze rates of degree attainment. This study also provides a detailed account of older students' use of financial aid.

The analysis addresses the following questions regarding undergraduates age 24 or older (referred to in this report as "working adult undergraduates"):

- How do the demographic characteristics of students who identify themselves as employees who study differ from those who identify themselves as students who work?
- How do the employment and attendance patterns of these two groups of students differ? How do employees who study and students who work differ in where they enroll and what they study?
- How do employees who study differ from students who work in their reliance on financial aid?
- How successful are the two groups in completing their postsecondary programs of study?

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Data

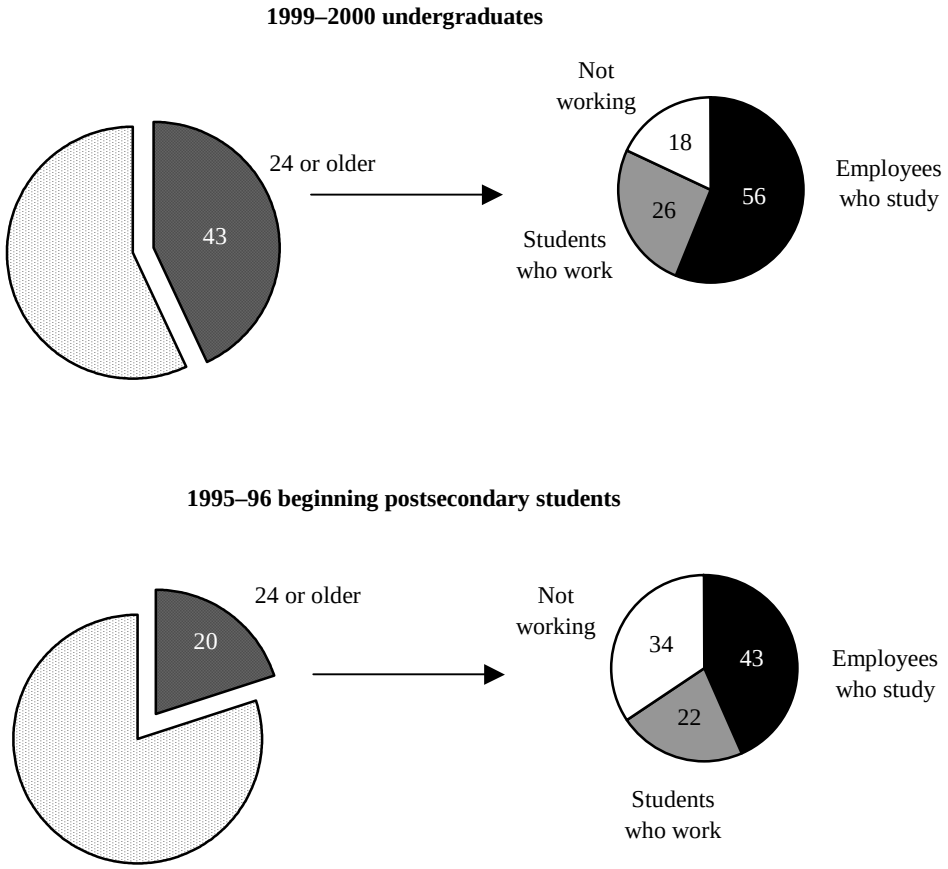
The statistical analysis presented in this report used data from the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000) and from the 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01). As a nationally representative sample of students in postsecondary education, NPSAS provides information on students' demographic characteristics and educational experiences. It also provides detailed data on how students finance their postsecondary education and on the extent to which they work while enrolled.

BPS:96/01 is a representative sample of students who first began their postsecondary education in the 1995–96 academic year. These students were reinterviewed in 1998 and 2001. Because BPS gathered information on students' postsecondary education experiences over time, the survey enables analyses of students' rates of persistence and degree attainment. BPS data were used for this purpose in the analysis conducted for this report.

The NPSAS and BPS samples were limited to undergraduates age 24 or older. For ease of presentation, students 24 or older who worked while enrolled are often referred to as "working adults" in this report. Age 24 was selected to identify adult undergraduates because this is the age that students are recognized as financially independent of their parents according to financial aid regulations. The analysis provides a comparison of two groups of working adults: 1) students who consider themselves primarily employees who are also enrolled in postsecondary education (employees who study) and 2) students who consider themselves primarily students who work to pay their education expenses (students who work). The NPSAS analysis focuses entirely on working undergraduates, however the totals presented in the tables include the 18 percent of nonworking adult undergraduates. The BPS sample is also limited to students age 24 or older. The analysis sample includes only those who worked while enrolled in 1995–96 (i.e., they were working while enrolled in their first term), regardless of their working status in subsequent years.

Among NPSAS undergraduates who were age 24 or older, 56 percent characterized themselves as employees who study, and 26 percent identified themselves as students who work; the remaining 18 percent did not work while enrolled (figure 1). Looking only at working adults, about two-thirds of these undergraduates characterized themselves as employees who study, and one-third as students who work.

Figure 1. Percentage of 1999–2000 undergraduates and 1995–96 beginning postsecondary students who were age 24 or older, and among these older undergraduates, the percentage distribution by reported student/employee role



NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000) and 1995/96 Beginning Postsecondary Students Longitudinal Study (BPS:96/01).

The sample of BPS:96/01 students—those who enrolled in postsecondary education for the first time in 1995–96—is by definition younger than the NPSAS sample because the BPS survey does not include returning students (i.e., those who started postsecondary education at an earlier time and returned later). Thus, as shown in figure 1, one-fifth of BPS students were age 24 and older, and among these older students, 43 percent were employees who study, 22 percent were students who work, and the remaining 34 percent were not working when they first enrolled. The sample size of BPS working adults limits the detail by which students can be compared.

Profile of Working Adult Undergraduates

This section examines the differences between employees who study and students who work in relation to demographic and socioeconomic characteristics. Additionally, in cases where patterns differed among the three age groups examined in this study (24–29, 30–39, and 40 or older), these findings are also noted.[2] Examining the characteristics of working adult undergraduates offers insights into the differences between the postsecondary experiences of employees who study and students who work. For example, demographic characteristics such as family responsibilities and student income will be related to students' enrollment patterns and how they pay for their education.

Age, Gender, and Race/Ethnicity

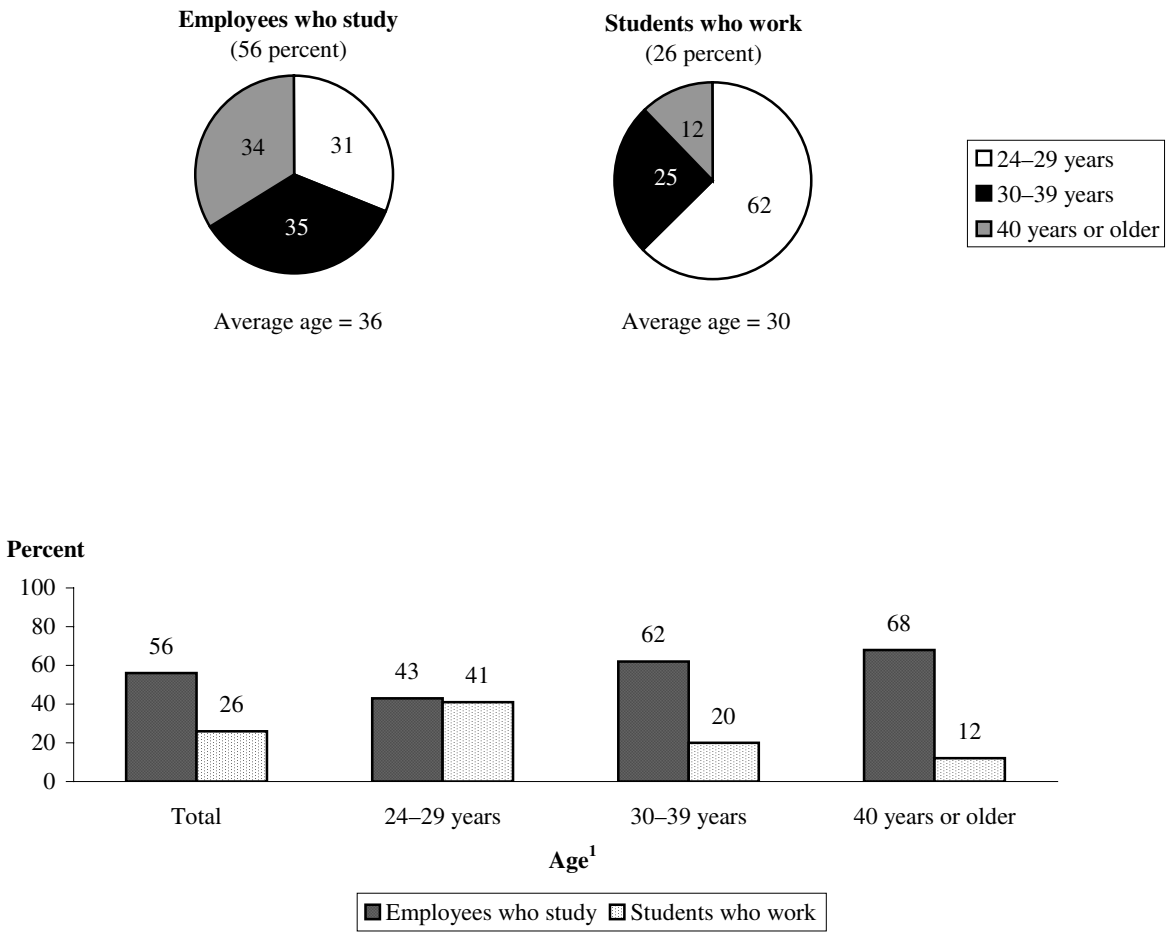
The age distributions for employees who study and students who work are illustrated in figure 2. Employees who study were older, on average, than students who work (average age 36 vs. 30). Also, with each successive age group, older undergraduates were more likely to consider themselves employees who study. For example, 43 percent of students in their 20s identified themselves as employees who study, compared with 62 percent of students in their 30s and 68 percent of those age 40 or older.

Looking at the gender distribution among all older undergraduates, more than half (58 percent) were women (table 1). The percentage of women was higher among older undergraduates than among those in their 20s: about 62 percent of students in their 30s or 40s and older were women, compared with roughly half (53 percent) of students in their 20s. Comparing students who work and employees who study within age groups, differences were evident among students in their 30s or 40s by gender: students who work were more likely than employees who study to be women.

Employees who study and students who work also differed by race/ethnicity. Among working undergraduates, employees who study were more likely than students who work to be White (70 percent vs. 60 percent) and were less likely to be either Hispanic (10 percent vs. 14

[2]Additional supplementary tables that show working adult undergraduates by gender and age are included in appendix C.

Figure 2. Percentage distribution by age and the average age for undergraduates age 24 or older, by student/employee role: 1999–2000



[1]The bars do not add to 100 percent because students who were not working while enrolled are not shown.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

percent) or Asian (3 percent vs. 5 percent). Looking at racial/ethnic differences by age, employees who study in their 40s or older were more likely than those in their 20s or 30s to be White (74 percent vs. 68 and 66 percent, respectively).

Table 1. Percentage distribution of gender and race/ethnicity for undergraduates age 24 or older, by student/employee role and age group: 1999–2000

	Gender		Race/ethnicity						
	Male	Female	White, not Hispanic	Black, not Hispanic	Hispanic	Asian	American Indian/ Alaska Native	Pacific Islander/ Hawaiian	Other[1]
					Total				
Total	41.6	58.4	65.4	13.9	11.4	4.3	1.1	0.7	3.2
Students who work	43.6	56.4	60.1	15.3	13.7	5.1	1.0	1.0	3.9
Employees who study	43.8	56.2	69.6	13.7	9.9	2.6	1.0	0.6	2.8
					24–29 years				
All students 24–29	47.1	52.9	61.2	13.5	13.9	6.2	1.2	0.6	3.4
Students who work	49.4	50.6	60.3	13.1	15.0	6.2	1.0	1.0	3.5
Employees who study	48.5	51.5	66.1	13.5	12.4	3.5	1.2	0.3	3.0
					30–39 years				
All students 30–39	39.0	61.1	64.7	15.3	10.9	3.6	0.8	1.1	3.7
Students who work	34.8	65.2	59.1	18.6	12.5	2.9	0.9	1.4	4.5
Employees who study	44.6	55.4	68.2	14.5	9.6	2.6	0.8	0.8	3.4
					40 years or older				
All students 40 or older	37.1	62.9	71.9	13.0	8.4	2.5	1.1	0.5	2.6
Students who work	32.4	67.7	60.7	19.6	9.9	4.1	0.9	0.1	4.8
Employees who study	38.7	61.3	74.0	13.0	7.8	1.7	1.0	0.6	1.9

[1]Includes those who reported race other than those shown in columns and those who reported more than one race.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Parents' Educational Attainment

Previous studies examining factors related to college attendance have found that parents' educational attainment is related to students' transition into college and the progress they make while enrolled (Choy 2001). Table 2 summarizes parents' highest level of education achieved for older undergraduates, illustrating differences between employees who study and students who work. Employees who study tended to have less educated parents than students who work. In particular, they were less likely to have a parent with a bachelor's degree or higher (26 percent vs. 35 percent) and were more likely to have a parent with no more than a high school education (53 percent vs. 43 percent). Differences between employees who study and students who work

Table 2. Percentage distribution of parents' highest education levels for undergraduates age 24 or older, by student/employee role and age group: 1999–2000

	Parents' highest education level		
	High school or less	Some postsecondary education	Bachelor's degree or higher
		Total	
Total	50.1	20.9	29.0
Students who work	43.3	21.9	34.8
Employees who study	52.7	21.4	25.9
		24–29 years	
All students 24–29	39.7	24.4	35.9
Students who work	36.8	23.4	39.8
Employees who study	42.5	25.8	31.7
		30–39 years	
All students 30–39	52.7	20.0	27.3
Students who work	50.4	19.3	30.3
Employees who study	52.9	21.0	26.0
		40 years or older	
All students 40 or older	62.0	16.9	21.1
Students who work	61.8	19.7	18.5
Employees who study	61.5	17.8	20.7

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

with respect to parents' educational attainment were also evident among students in their 20s and 30s, but not detected for students in their 40s.

For both students who work and employees who study, students age 40 or older were less likely than students in their 20s or 30s to have a parent with a bachelor's degree or higher. In addition, with each successive age group, the educational attainment of parents declined.

Income Level

Because most undergraduates age 24 or older are financially independent of their parents, the reported incomes of these undergraduates reflect their own income, as well as their spouse's income if they are married. An examination of working adults with respect to income level suggests that because employees who study were more likely to be employed full time than

students who work, employees who study reported higher incomes than students who work ($46,000 vs. $22,000) (table 3). Employees who study were more likely than students who work to be in the highest income quartile (39 percent vs. 11 percent) and less likely to be in the lowest quartile (7 percent vs. 36 percent). Similar patterns were observed for each age group of working adults. In addition, among employees who study, income increased with each successive age group.

Marital Status and Number of Dependents

Marital status and number of dependents are taken into account when determining older students' eligibility for financial aid and the amount of aid they can receive (Berkner, Horn, and Clune 2000). In addition, previous research has shown that having dependents other than a spouse is related to lower persistence and attainment rates, suggesting that greater family

Table 3. Percentage distribution of income quartiles for undergraduates age 24 or older and their average income in 1998, by student/employee role and age group: 1999–2000

	Income quartiles			
	Low quartile	Middle quartiles	High quartile	Average income
		Total		
Total	18.8	51.8	29.3	$38,136
Students who work	36.4	52.7	10.9	22,486
Employees who study	7.0	53.8	39.3	46,482
		24–29 years		
All students 24–29	28.8	58.3	13.0	25,548
Students who work	41.0	53.3	5.7	18,196
Employees who study	12.1	67.4	20.5	33,926
		30–39 years		
All students 30–39	13.9	51.7	34.4	42,064
Students who work	29.8	52.8	17.5	28,011
Employees who study	4.9	53.5	41.7	47,969
		40 years or older		
All students 40 or older	10.6	43.1	46.3	51,222
Students who work	26.7	49.6	23.7	32,720
Employees who study	4.6	41.9	53.5	56,178

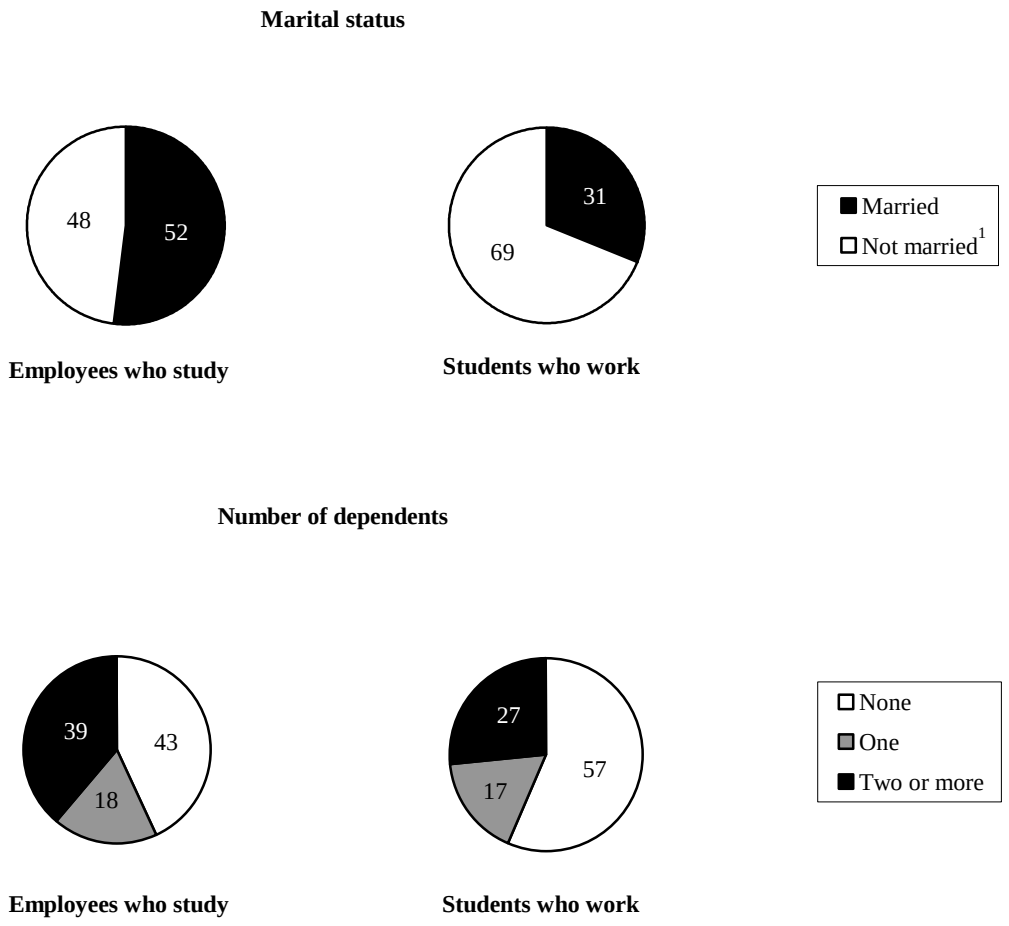
NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

responsibilities may reduce the ability of older undergraduates to complete a degree or certificate program (Berkner, Cuccaro-Alamin, and McCormick 1996; Horn and Berktold 1998). Therefore, it is important to examine the extent to which the family responsibilities of employees who work differ from those of students who work.

As shown in figure 3, about one-half (52 percent) of employees who study were married, compared with about one-third (31 percent) of students who work. The difference in marital status between employees who study and students who work was evident within all three age

Figure 3. Percentage distribution of undergraduates age 24 or older according to marital status and number of dependents other than spouse, by student/employee role: 1999–2000



[1]Includes single, separated, divorced, or widowed.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

groups (table 4). Overall, employees who study were also more likely than students who work to have dependents other than a spouse. However, when examining differences within age groups, this difference was observed only among undergraduates in their 20s: 39 percent of employees who study had dependents, compared with 30 percent of students who work (table 5). Among students in their 30s as well as those age 40 or older, roughly two-thirds of both employees who study and students who work had dependents.

Table 4. Percentage of undergraduates age 24 or older according to their marital status, by student/ employee role and age group: 1999–2000

	Marital status	
	Not married[1]	Married
	Total	
Total	53.3	46.7
Students who work	69.3	30.7
Employees who study	47.7	52.3
	24–29 years	
All students 24–29	70.0	30.1
Students who work	78.7	21.3
Employees who study	63.6	36.4
	30–39 years	
All students 30–39	46.2	53.8
Students who work	57.1	42.9
Employees who study	43.4	56.6
	40 years or older	
All students 40 or older	38.2	61.8
Students who work	47.1	52.9
Employees who study	37.9	62.1

[1]Includes single, separated, divorced, or widowed.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 5. Percentage distribution of number of dependents other than spouse for undergraduates age 24 or older and the average number of dependents, by student/employee role and age group: 1999–2000

	Number of dependents other than spouse			Average number of dependents excluding spouse
	None	One	2 or more	
		Total		
Total	46.3	17.6	36.2	1.1
Students who work	56.6	16.8	26.6	0.9
Employees who study	42.7	18.1	39.2	1.3
		24–29 years		
All students 24–29	63.5	17.4	19.2	0.7
Students who work	70.3	15.5	14.2	0.5
Employees who study	61.4	19.3	19.3	0.7
		30–39 years		
All students 30–39	31.8	18.5	49.8	1.5
Students who work	32.4	18.6	49.0	1.6
Employees who study	33.8	17.7	48.5	1.5
		40 years or older		
All students 40 or older	38.7	16.8	44.5	1.4
Students who work	36.8	19.5	43.7	1.5
Employees who study	35.3	17.3	47.4	1.5

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

How Working Adults Combine Attendance and Employment

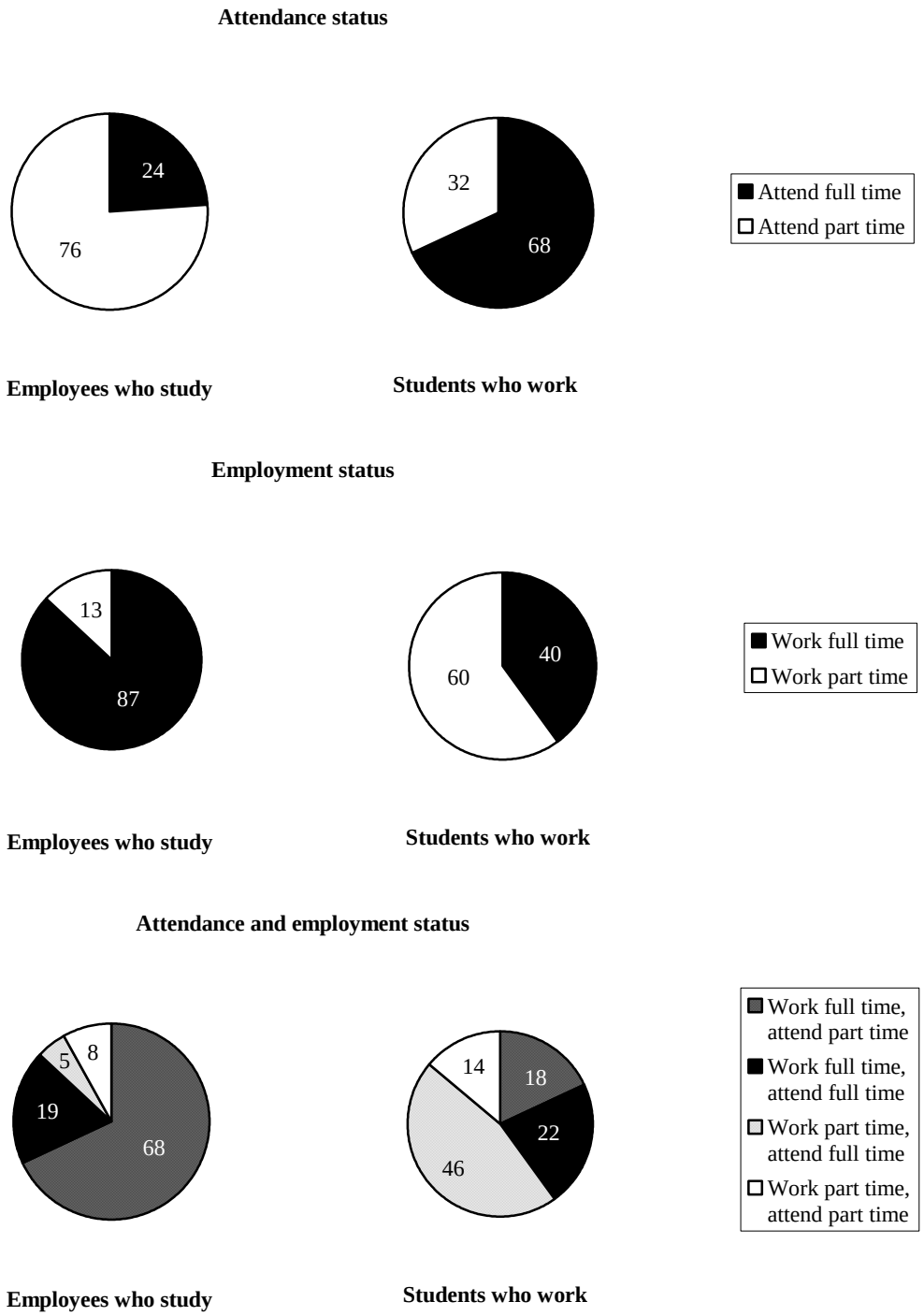
Because employees who study have greater family responsibilities and tend to be older than students who work, it might be expected that they would have different employment and attendance patterns than students who work. In fact, how students combined work and postsecondary attendance was clearly associated with how they characterized their student/employee role. Employees who study were much more likely to work full time and attend classes part time, while students who work were more likely to do the opposite (figure 4). The following section examines patterns of attendance and work separately and in combination for these two groups of students. Attendance intensity was based on the duration of students' enrollment. Students who attended exclusively full time or attended both full and part time were combined into the full-time group.[3] Thus those who attended exclusively part time for the duration of their enrollment made up the part-time group.

Enrollment Intensity

Looking at all older undergraduates enrolled in 1999–2000, more than half (58 percent) attended postsecondary education on a part-time basis (table 6). Students who characterized themselves as employees who study were much more likely to attend part time than students who work (76 percent vs. 32 percent). In contrast, students who work attended full time more often than employees who study (68 percent vs. 24 percent). For employees who study, the percentage of those attending part time increased with each successive age group. For students who work, students in their 30s or 40s were more likely to attend part time than students in their 20s.

[3]Previous research using NPSAS data reported that the student characteristics of undergraduates with mixed attendance patterns resembled those of undergraduates who attended exclusively full time (Cuccaro-Alamin and Choy 1998).

Figure 4. Percentage distribution of working undergraduates age 24 or older according to separate and combined work and attendance intensity, by student/employee role: 1999–2000



NOTE: Detail may not sum to totals because of rounding. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 6. Percentage of undergraduates age 24 or older according to their attendance intensity, by student/ employee role and age group: 1999–2000

	Full-time[1]	Part-time
	Total	
Total	42.3	57.7
Students who work	67.9	32.1
Employees who study	24.1	75.9
	24–29 years	
All students 24–29	54.7	45.3
Students who work	71.1	28.9
Employees who study	32.0	68.1
	30–39 years	
All students 30–39	40.1	60.0
Students who work	67.7	32.4
Employees who study	24.2	75.8
	40 years or older	
All students 40 or older	27.4	72.6
Students who work	52.2	47.8
Employees who study	16.9	83.1

[1]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Work Intensity

Among working adult undergraduates, a majority (59 percent) worked full time (35 or more hours) while enrolled (table 7). Compared with students who work, employees who study were much more likely to do so (87 percent vs. 40 percent). Examining the average number of hours worked per week while enrolled, employees who study worked an average of 41 hours, compared with 30 hours for students who work. These differences were observed for all age groups.

Table 7. Employment status of undergraduates age 24 or older during their postsecondary enrollment, by student/employee role and age group: 1999–2000

	Percentage distribution of hours worked per week				Average hours per week worked	Percentage with number of jobs	
	1–15 hours	16–20 hours	21–34 hours	35 or more hours		One	Two or more
				Total			
Total	4.9	7.1	11.6	59.3	37.6	66.8	16.0
Students who work	13.6	20.1	26.4	39.9	29.7	71.2	28.8
Employees who study	1.8	3.0	8.1	87.1	41.5	85.1	14.9
				24–29 years			
All students 24–29	6.2	8.7	16.5	53.6	35.7	64.3	20.6
Students who work	12.8	17.7	28.9	40.5	30.3	68.5	31.5
Employees who study	1.7	3.2	10.2	84.9	40.9	82.3	17.7
				30–39 years			
All students 30–39	4.3	7.0	9.1	62.4	38.6	68.6	14.1
Students who work	14.0	24.1	23.1	38.8	28.9	75.7	24.3
Employees who study	1.5	3.2	7.1	88.2	42.0	85.4	14.6
				40 years or older			
All students 40 or older	3.9	4.7	7.6	63.9	39.3	68.4	11.7
Students who work	16.5	24.0	20.7	38.8	28.6	75.5	24.6
Employees who study	2.3	2.7	7.2	87.8	41.4	87.3	12.7

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Work and Attendance Intensity

Table 8 illustrates how older undergraduates combined work and attendance and how the patterns differed between employees who study and students who work. As expected, employees who study were more likely than students who work to combine full-time work and part-time enrollment (68 percent vs. 18 percent) and were less likely to do the opposite (5 percent vs. 46 percent). Employees who study were also less likely to work and attend part time (8 percent vs. 14 percent). The same pattern was observed for each age group.

Table 8. Percentage distribution of the enrollment and work intensity for undergraduates age 24 or older, by student/employee role and age group: 1999–2000

	Worked full time		Worked part time	
	Enrolled full time[1]	Enrolled part time	Enrolled full time[1]	Enrolled part time
		Total		
Total	19.9	51.9	18.1	10.1
Students who work	22.2	17.7	45.7	14.4
Employees who study	18.9	68.2	5.2	7.7
		24–29 years		
All students 24–29	23.9	39.3	27.1	9.7
Students who work	23.5	17.0	47.6	11.8
Employees who study	24.3	60.6	7.7	7.4
		30–39 years		
All students 30–39	20.3	55.3	14.8	9.6
Students who work	22.2	16.6	45.5	15.7
Employees who study	19.8	68.5	4.5	7.3
		40 years or older		
All students 40 or older	13.5	66.6	8.6	11.3
Students who work	15.6	23.2	36.6	24.6
Employees who study	13.2	74.6	3.7	8.4

[1]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

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Institutions Attended, Degree Programs, and Fields of Study

Previous studies have shown that older students give greater consideration to work and home life than do younger students when deciding where to attend college. Using the 1989–90 National Postsecondary Student Aid Study (NPSAS:90), Choy and Premo (1995) found that older students were more likely than younger students to report the following factors as very important in choosing the institution they attended: they could live at home; they could go to school while working; the institution was located close to home.

The choices students make about where to attend college correspond to the attendance requirements of postsecondary institutions (Choy and Ottinger 1998). For example, most 4-year institutions encourage full-time attendance and schedule most of their classes during the day. Private for-profit institutions often require students to attend full time for the duration of the program, but the length of the program is relatively short, on average 1 year (Berkner, Horn, and Clune 2000). On the other hand, public 2-year institutions, also referred to as community colleges, provide a variety of options for students with family and work responsibilities, including part-time attendance, evening classes, and flexible programs. Enrollment differences between employees who study and students who work reflect differences in personal needs as well as program requirements.

Where Students Enrolled

In large part, because a majority of employees who study combined full-time employment and part-time attendance, they enrolled most often in public 2-year institutions, and they were more likely than students who work to do so (61 percent vs. 39 percent) (table 9). About three-quarters of students who work, on the other hand, enrolled in either public 2-year institutions (39 percent) or public 4-year institutions (34 percent); they were more likely than employees who study to attend public 4-year institutions (34 percent vs. 17 percent). Though a relatively small percentage of students enrolled in private for-profit institutions, employees who study were less likely to enroll in these institutions than students who work (5 percent vs. 8 percent). However, among full-time students, employees who study were more likely than students who work to do so (14 percent vs. 10 percent). In addition, full-time employees who study were more likely than students who work to attend private not-for-profit 4-year institutions (18 percent vs. 12 percent) and to attend more than one institution (12 percent vs. 9 percent).

Table 9. Percentage distribution of institution attended for undergraduates age 24 or older, by student/ employee role and attendance intensity: 1999–2000

	Public 4-year	Private not-for-profit 4-year	Public 2-year	Private for-profit	More than one institution and other
			Total		
Total	22.5	10.3	53.9	6.5	6.9
Students who work	34.5	10.6	39.4	7.6	8.0
Employees who study	16.8	11.3	61.2	4.8	6.0
			Full-time[1]		
All full-time students	27.7	12.8	36.8	12.6	10.0
Students who work	37.6	12.0	31.9	9.9	8.6
Employees who study	16.4	17.7	39.4	14.5	12.0
			Part-time		
All part-time students	18.6	8.5	66.4	2.0	4.5
Students who work	27.8	7.6	55.1	2.8	6.7
Employees who study	16.9	9.3	68.1	1.7	4.0

[1]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Whether they attended full time or part time, employees who study attended public 2-year colleges more often than any other institution type, though a higher percentage of part-time students (68 percent) than full-time students (39 percent) did so. Among both full- and part-time students, employees who study were more likely than students who work to attend public 2-year institutions and less likely to attend public 4-year institutions.

For students who work, whether they attended a public 4-year or 2-year institution varied with their attendance status: full-time students were more likely to attend public 4-year institutions (38 percent vs. 32 percent or less) and part-time students were more likely to attend public 2-year institutions (55 percent vs. 28 percent or less).

Degree Program

As shown in table 10, employees who study and students who work differed in the types of degree programs in which they were enrolled. Differences in degree programs reflect differences in the types of institutions students attend. Nearly half of employees who study (45 percent) were

Table 10. Percentage distribution of degree program for undergraduates age 24 or older, by student/ employee role and attendance intensity: 1999–2000

	Certificate	Associate's degree	Bachelor's degree	No undergraduate degree[1]
		Total		
Total	21.6	41.7	29.1	7.6
Students who work	16.4	37.2	44.8	1.5
Employees who study	22.3	44.6	22.7	10.4
		Full-time[2]		
All full-time students	20.7	36.7	41.1	1.5
Students who work	14.7	34.0	50.7	0.7
Employees who study	21.7	40.0	35.8	2.5
		Part-time		
All part-time students	22.3	45.4	20.4	12.0
Students who work	20.2	44.0	32.4	3.4
Employees who study	22.4	46.1	18.5	13.0

[1]Includes programs that do not offer a formal award.

[2]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

enrolled in associate's degree programs, and about one-quarter (23 percent) were in bachelor's degree programs. In contrast, nearly half of students who work (45 percent) were in bachelor's degree programs, while roughly one-third (37 percent) were in associate's degree programs. In addition, a higher percentage of employees who study than students who work were in programs leading to vocational certificates (22 percent vs. 16 percent) or not working toward any degree (10 percent vs. 2 percent).

Taking attendance status into consideration, similar patterns were observed among full-time students in their rates of participation in degree programs: employees who study were more likely than students who work to be enrolled in associate's degree programs (40 percent vs. 34 percent) and certificate programs (22 percent vs. 15 percent) and were less likely to be enrolled in bachelor's degree programs (36 percent vs. 51 percent). However, among part-time students, roughly half (46 and 44 percent) of both employees who study and students who work were enrolled in associate's degree programs.

For both groups of working adults, full-time students were more likely than part-time students to be enrolled in bachelor's degree programs and were less likely to be in associate's degree programs. For students who work, however, part-time students were more likely than their full-time counterparts to be enrolled in certificate programs (20 percent vs. 15 percent). This pattern was not detected for employees who study. Twenty-two percent of both full and part-time employees who study were in certificate programs.

Fields of Study

As shown in table 11, employees who study differed from students who work in their major field of study. They tended to major in vocational fields such as computer/information science (12 percent vs. 9 percent), business/management (24 percent vs. 17 percent), and vocational technical fields (8 percent vs. 5 percent). They were less likely than students who work to major in health fields (11 percent vs. 16 percent), however. Students who work were more likely than employees who study to major in academic fields such social/behavioral sciences (9 percent vs. 5 percent) and life sciences (5 percent vs. 2 percent).

Reasons Employees Who Study Enroll

In the NPSAS:2000 survey, students who identified themselves as employees who study were asked to report their reasons for enrolling in postsecondary education. These reasons were grouped into four areas: gaining skills to advance in a current job or future career, completing a degree or certificate program, obtaining education required by a job, and personal enrichment or interest in the subject. Among employees who study, 85 percent reported that they were attending postsecondary education to gain skills to advance in their current job, 80 percent to complete a degree or certificate program, 36 percent to obtain education required by their job, and 89 percent to increase their personal enrichment or pursue an interest in the subject (table 12).

Being enrolled in a degree program, as well as work and attendance status were related to whether or not employees who study were enrolled to gain skills to advance in their current job. Those who enrolled in a specific degree program were more likely than those who did not to report that they enrolled in postsecondary education to gain skills to advance in their current job. Also, employees who study who worked full time and attended full time were more likely than those who worked part time and enrolled part time to report that they wanted to gain skills to advance in their current job (89 percent vs. 79 percent).

Also, among employees who study, those at public 2-year institutions were less likely than their peers at other types of postsecondary institutions to report that they enrolled to complete a

Table 11. Percentage distribution of major field of study for undergraduates age 24 or older, by student/employee role and gender: 1999–2000

	Humanities	Social/ behavioral sciences	Life sciences	Physical Sciences	Math	Computer/ information sciences	Engineering	Education	Business/ Management	Health	Vocational/ technical	Other technical/ professional
						Total						
Total	14.1	6.6	3.3	0.8	0.4	11.6	5.9	8.5	20.6	12.5	6.7	8.8
Students who work	13.8	8.7	5.3	1.0	0.5	9.4	5.5	8.7	17.2	15.7	4.7	9.5
Employees who study	14.6	5.2	2.1	0.8	0.4	12.4	6.6	7.7	24.0	10.7	8.2	7.4
						Male						
All males	13.3	5.4	4.4	1.3	0.5	16.6	12.4	4.1	17.4	4.6	13.2	6.9
Students who work	14.1	8.3	7.1	1.4	0.2	13.4	10.4	4.5	17.2	6.5	8.8	8.2
Employees who study	13.0	3.8	2.8	1.3	0.5	17.4	13.7	3.7	18.4	3.8	15.6	6.1
						Female						
All females	14.7	7.4	2.5	0.5	0.4	8.1	1.3	11.7	23.0	18.2	2.1	10.2
Students who work	13.5	9.1	3.8	0.6	0.7	6.2	1.7	12.1	17.2	23.0	1.6	10.5
Employees who study	15.8	6.3	1.6	0.3	0.3	8.5	0.9	10.9	28.4	16.2	2.5	8.4

NOTE: Detail may not sum to totals because of rounding. Total and “All” rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 12. Among undergraduates age 24 or older who considered themselves employees who study, percentage who reported important reasons for enrolling in postsecondary education, by selected student and enrollment characteristics: 1999–2000

	Gaining skills to advance in your current or future job	Completing a degree or certificate program	Obtaining education required by your job	Personal enrichment or interest in the subject
Total	85.0	79.6	36.3	89.2
Gender				
Male	84.5	77.7	39.2	88.0
Female	85.4	81.0	34.0	90.1
Age				
24–29 years	83.4	81.3	30.6	88.9
30–39 years	88.2	82.3	35.8	88.6
40 or older	83.2	75.2	41.7	90.2
Work and attendance intensity				
Worked full time				
Enrolled full time or mixed	89.2	89.2	34.1	87.6
Enrolled part time or less	84.6	77.2	37.4	89.5
Worked part time				
Enrolled full time or mixed	85.0	85.4	28.9	90.0
Enrolled part time or less	78.9	72.1	36.5	90.8
Degree program				
No undergraduate degree	67.9	33.9	34.3	88.8
Certificate	87.7	78.5	48.1	87.9
Associate's degree	86.3	83.5	31.7	90.7
Bachelor's degree	87.6	92.9	35.0	87.7
Type of institution				
Public 4-year	86.0	85.9	37.2	87.7
Private not-for-profit 4-year	88.0	92.4	36.1	88.9
Public 2-year	83.5	74.8	36.7	89.7
Private for-profit	89.1	87.2	25.4	90.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

degree or a certificate program. Employees who study who were in bachelor's degree programs were the most likely group to report that they enrolled to complete a degree or a certificate program. Employees who study in their 40s or older were more likely than their younger peers to report that they enrolled to obtain education required by their job. Among employees who study, those who were enrolled at private for-profit institutions were the least likely to report that their goal was to obtain education required by their job.

Financial Aid

Students who are 24 years of age or older are defined as financially independent of their parents according to federal financial aid regulations. In determining financial aid eligibility, the amount that financially independent students are expected to pay toward their education is based on their own income, or that of their spouse if married. The amount that all students are expected to pay is calculated by a formula referred to as the "expected family contribution" (EFC). Among independent students, the EFC calculation differs between those with and without dependents. The EFC is subtracted from the estimated student budget (tuition and nontuition living expenses that a student pays to attend) to determine whether the student is eligible for need-based financial aid, and if so, how much. The student's financial need is calculated as the difference between the EFC and the student budget.

Pell Grants and Stafford student loans are the two major types of federal student aid that older undergraduates are eligible to receive. The Pell Grant, awarded primarily to low-income students with substantial financial need, provided a maximum of $3,125 to eligible students in 1999–2000 (U.S. Department of Education 2000). Older students may also borrow to help pay for their postsecondary education through subsidized and unsubsidized Stafford loan programs. While students must attend at least half time to be eligible for both Stafford loans, the federal government pays the interest for students who take out subsidized loans when they are enrolled, but not for those who take out unsubsidized loans. These two types of Stafford loan programs also differ in their eligibility requirements. The subsidized Stafford loan program requires students to demonstrate their financial need, whereas the unsubsidized program does not.

If they qualify, older students can borrow both the maximum subsidized and unsubsidized amounts at the same time (Berkner et al. 2002).[4] In 1999–2000, they could borrow up to $6,625 in their first year, $7,500 in their second year, and $10,500 in their third year or higher. The following section examines in detail how older working adults finance their postsecondary education, distinguishing between employees who study and students who work.

[4]If the independent student's financial need exceeds the loan limit, the student can supplement the maximum subsidized amount with an unsubsidized amount (Berkner et al. 2002).

Type of Aid

Table 13 shows the percentage of older undergraduates who applied for financial aid in 1999–2000. While about two-thirds (65 percent) applied for any type of aid, a smaller percentage applied for federal financial aid (39 percent). According to Choy and Premo (1995), among 1989–90 older undergraduates who had never applied for financial aid, the two main reasons they gave for not doing so were either that they could pay for their postsecondary education, and therefore, may not have been eligible or that they did not want to incur any debt.

In 1999–2000, employees who study were much less likely than students who work to apply for financial aid, especially among those applying for federal aid. About 59 percent of employees who study applied for any aid, compared with 78 percent of students who work. One-quarter (25 percent) of employees who study applied for federal financial aid, compared with nearly two-thirds (62 percent) of students who work. In part, these differences reflect the lower financial need of employees who study because of lower tuition expenses related to their part-time attendance. In addition, employees who study work full time more often than students who work and thus have higher incomes, which also reduces their eligibility for aid.

Table 13. Percentage of undergraduates age 24 or older who applied for financial aid and who received various types of financial aid, by student/employee role and attendance intensity: 1999–2000

	Applied for financial aid	Applied for federal financial aid	Received financial aid	Type of aid: Grants	Type of aid: Loans	Type of aid: Employer aid[1]
			Total			
Total	65.1	38.9	53.7	43.6	21.9	14.6
Students who work	78.0	61.6	66.5	53.2	40.3	4.5
Employees who study	59.3	25.0	48.2	39.8	12.3	23.5
			Full-time[2]			
All full-time students	81.3	63.8	71.6	56.7	40.4	7.4
Students who work	85.4	72.6	76.7	62.0	50.5	3.1
Employees who study	78.1	51.9	67.4	50.0	31.6	16.2
			Part-time			
All part-time students	53.3	20.6	40.7	34.0	8.3	19.8
Students who work	62.4	38.6	45.0	34.8	18.7	7.5
Employees who study	53.3	16.4	42.1	36.5	6.2	25.8

[1]Included in grants.

[2]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Reflecting in large part these differences in eligibility, employees who study were less likely than students who work to receive financial aid (48 percent vs. 67 percent), and among those who did receive aid, employees who study received smaller amounts of aid, on average ($2,900 vs. $6,800) (table 14). The differences in aid receipt were also evident when examining the specific types of aid the undergraduates were awarded. As tables 13 and 14 illustrate, employees who study were less likely than students who work to receive grants (40 percent vs. 53 percent), and among grant recipients, employees who study received smaller amounts, on average, than students who work ($1,500 vs. $2,900).

Differences in the borrowing behavior of older undergraduates were also evident. Twelve percent of employees who study borrowed an average amount of $5,600, while 40 percent of students who work borrowed an average of $6,400.

Employer financial aid was an important source of financial aid for employees who study. Employers provided financial aid to nearly one-quarter (23 percent) of employees who study, compared with 5 percent of students who work (table 13). Among those who received employer

Table 14. Among undergraduate financial aid recipients age 24 or older, the average amount of aid received, by student/employee role and attendance intensity: 1999–2000

		Type of aid		
	Total aid	Grants	Loans	Employer aid[1]
		Total		
Total	$4,646	$2,130	$6,118	$1,240
Students who work	6,795	2,869	6,397	1,449
Employees who study	2,904	1,488	5,578	1,204
		Full-time[2]		
All full-time students	6,533	2,916	6,437	2,152
Students who work	7,646	3,215	6,581	1,699
Employees who study	5,109	2,417	6,173	2,414
		Part-time		
All part-time students	2,216	1,171	4,988	992
Students who work	3,738	1,567	5,351	1,231
Employees who study	1,785	1,084	4,614	961

[1]Included in grants.

[2]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

aid, however, no difference was detected in the amounts awarded to employees who study and to students who work (table 14).

When students' attendance status was taken into account, most, but not all, of the differences in financial aid receipt remained between employees who study and students who work. Among both full- and part-time students, employees who study were less likely than students who work to borrow and were more likely to receive employer aid (table 13). However, the difference in grant aid receipt held only for full-time students (i.e., students who work were more likely to receive grants), while among part-time students, no difference was detected between the two groups in their likelihood of receiving grants.

For both full- and part-time grant recipients, students who work received larger amounts of grant aid, on average, than employees who study. However, no difference in the average amount borrowed could be detected between students who work and employees who study among both full- and part-time students who borrowed. Finally, among full-time students, employees who study received larger amounts of employer aid, on average, than did students who work, but such a difference was not detected among part-time students.

Source of Aid

Undergraduates receive financial aid from three main sources—federal, state, and institutional (table 15). For both federal grants and loans, employees who study were less likely than students who work to receive such aid, and they received smaller amounts. Similarly, employees who study were less likely than students who work to receive state and institutional aid, and they also received smaller amounts, on average.

How Employees Who Study Use Financial Aid

As shown in table 16, the financial aid that employees who study received differed according to their degree program and institution attended. Two-thirds of those in bachelor's degree programs received financial aid, compared with about half (48 percent) of those in associate's degree programs and 40 percent in certificate programs. This difference in the likelihood of receiving financial aid was found for both part-time and full-time students. In addition, the amount of aid they received, whether the recipients were part-time or full-time students, was higher for those in bachelor's degree programs than for those in any other degree program.

Table 15. Percentage of undergraduates age 24 or older who received aid from various sources, and among those who received aid, the average amount received, by student/employee role and attendance intensity: 1999–2000

	Total federal aid		Federal grants		Federal loans		State aid		Institutional aid	
	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount
					Total					
Total	35.0	$5,214	22.7	$1,956	21.0	$5,754	10.3	$1,339	8.7	$1,519
Students who work	58.0	6,099	40.1	2,110	39.2	5,990	17.4	1,485	15.0	1,928
Employees who study	22.0	4,061	11.5	1,534	11.4	5,312	6.0	1,063	5.3	1,082
					Full-time[1]					
All full-time students	59.6	5,953	40.7	2,196	39.2	5,993	18.6	1,503	13.7	1,863
Students who work	69.5	6,604	48.5	2,290	49.2	6,156	22.0	1,588	18.3	2,090
Employees who study	48.5	5,062	26.7	1,850	30.3	5,692	14.1	1,265	8.4	1,469
					Part-time					
All part-time students	17.0	3,315	9.6	1,212	7.6	4,855	4.2	807	5.1	848
Students who work	33.7	3,897	22.2	1,283	18.0	5,030	7.8	869	7.9	1,129
Employees who study	13.6	2,925	6.7	1,134	5.5	4,645	3.5	801	4.3	843

[1]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Total and “All” rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 16. Among undergraduates age 24 or older who considered themselves employees who study, percentage who received various types of aid and amounts received among aid recipients, by degree program and type of institution and by attendance intensity: 1999–2000

	Total aid		Grants		Loans		Employer aid[1]	
	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount
				Total				
Total	48.2	$2,904	39.8	$1,488	12.3	$5,577	23.5	$1,204
Degree program								
No undergraduate degree	30.1	650	27.9	473	0.6	‡	24.1	417
Certificate	40.2	2,523	34.5	1,185	9.8	5,216	17.8	838
Associate's degree	47.6	2,215	38.9	1,226	9.6	4,774	21.5	819
Bachelor's degree	65.6	4,593	52.0	2,322	25.6	6,280	32.7	2,163
Type of institution								
Public 4-year	53.8	3,318	44.2	1,627	18.2	5,228	27.7	1,189
Private not-for-profit 4-year	72.8	4,696	60.6	2,613	23.5	6,667	40.5	2,594
Public 2-year	38.7	1,251	33.9	873	3.6	3,319	20.2	556
Private for-profit	82.9	7,033	46.0	2,676	66.6	6,419	11.8	2,960
				Full-time[1]				
All full-time students	67.4	5,109	50.0	2,417	31.6	6,173	16.2	2,414
Degree program								
No undergraduate degree	28.0	‡	20.6	‡	2.5	‡	6.1	‡
Certificate	60.8	4,523	46.8	1,926	27.5	5,786	8.1	1,918
Associate's degree	66.9	4,239	50.5	2,143	26.7	5,638	14.0	1,665
Bachelor's degree	74.6	6,363	53.5	3,002	41.7	6,723	24.4	3,028
Type of institution								
Public 4-year	65.8	5,832	46.1	2,592	40.6	5,801	12.9	1,809
Private not-for-profit 4-year	82.6	6,308	66.9	3,271	36.8	6,940	35.2	3,450
Public 2-year	54.5	2,553	45.3	1,657	11.1	4,229	10.7	1,026
Private for-profit	87.9	7,539	50.1	2,802	71.4	6,833	10.4	3,312

See notes at end of table.

Table 16. Among undergraduates age 24 or older who considered themselves employees who study, percentage who received various types of aid and amounts received among aid recipients, by degree program and type of institution and by attendance intensity: 1999–2000—Continued

	Total aid		Grants		Loans		Employer aid[1]	
	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount
				Part-time				
All part-time students	42.1	$1,785	36.5	$1,084	6.2	$4,614	25.8	$961
Degree program								
No undergraduate degree	30.2	596	28.3	443	0.5	‡	25.2	416
Certificate	33.8	1,416	30.8	838	4.3	4,100	20.8	708
Associate's degree	42.3	1,335	35.8	869	4.9	3,468	23.5	680
Bachelor's degree	60.1	3,245	51.1	1,886	15.8	5,565	37.8	1,820
Type of institution								
Public 4-year	50.1	2,295	43.6	1,311	11.2	4,586	32.3	1,112
Private not-for-profit 4-year	67.0	3,497	56.8	2,145	15.6	6,278	43.6	2,178
Public 2-year	35.8	887	31.9	668	2.2	2,463	22.0	514
Private for-profit	69.4	5,292	34.8	2,182	53.7	4,922	15.6	‡

‡Reporting standards not met (too few cases).

[1]Included in grants.

[2]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

When taking degree program into account, similar patterns were observed in the specific types of financial aid that employees who study received. As shown in table 16, employees who study in bachelor's degree programs were more likely than those in other degree programs to receive grants, loans, and employer aid, and to receive larger amounts, on average. When students' attendance status was taken into account, however, there were a few exceptions to this pattern. For those attending full time, no differences could be detected in students' likelihood of receiving grants according to the type of degree program except between those in bachelor's degree and certificate programs (54 percent vs. 47 percent).

The likelihood of receiving financial aid and the average amount received varied with the type of institution that the older undergraduates attended (table 16). Those who attended public sector institutions were less likely to receive aid and received lower amounts than those in the private sector. Across sector differences were also evident. Employees who study who attended private for-profit institutions were more likely to receive aid (83 percent vs. 73 percent) and to receive higher amounts ($7,000 vs. $4,700) than those in private not-for-profit 4-year institutions. Employees who study in public 4-year institutions were more likely to receive financial aid (54 percent vs. 39 percent) and to receive higher amounts than those in public 2-year institutions ($3,300 vs. $1,300). The differences in aid received among employees who study between those in public 4-year and those in public 2-year institutions remained for both full-time and part-time students.

For both full-time and part-time employees who study, those enrolled at private not-for-profit 4-year institutions were more likely than their peers enrolled at any other type of institution to receive grant aid and employer aid. On the other hand, employees who study at private for-profit institutions were the most likely group to take out loans, a pattern that also held for full-time and part-time students.

Working and Studying Full Time

While differences in work and attendance patterns were strongly associated with how students characterized their employee/student role, about one-fifth of each group combined full-time work and full-time attendance (19 percent of employees who study and 22 percent of students who work) (see table 8). In total, these students represent about 9 percent of all undergraduates.[5] Among these adult undergraduates who devote the maximum amount of time to both work and study, how do those who consider themselves employees who study differ from those who consider themselves students who work?

With respect to demographic characteristics, the differences between the two groups are illustrated in table 17. As observed for all working adults, among those who both worked and attended full time, employees who study were more likely than students who work to be White, older, married, and parents. In addition, compared with students who work, employees who study were more likely to have a parent with no more than a high school education (52 percent vs. 45 percent) and were less likely to have a parent with a bachelor's degree or higher (24 percent vs. 33 percent). Finally, employees who study were more likely to be in the highest income quartile than students who work. Thus, even when students who characterized themselves primarily as employees or as students devoted similar amounts of time to work and postsecondary attendance, differences in demographic characteristics remained.

Looking at enrollment characteristics, the differences observed for all working adults changed somewhat when comparisons were made between the two groups who worked and attended full time. Among all working adults, employees who study were more likely than students who work to attend community colleges. Among those who worked and attended full time, however, roughly one-third of employees who study (37 percent) and students who work (34 percent) were enrolled at public 2-year institutions. Differences by sector, however, were evident among those enrolled at 4-year institutions: employees who study were more likely than students who work to attend private not-for-profit 4-year institutions (20 percent vs. 14 percent) and less likely to attend public 4-year institutions (15 percent vs. 30 percent).

[5] 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000), Data Analysis System.

Table 17. Among undergraduates age 24 or older who worked full time and attended full time, the percentage distribution (by columns) by selected student characteristics and student/employee role: 1999–2000

	Employees who study	Students who work
Total	100.0	100.0
Race/ethnicity		
White, not Hispanic	60.8	55.1
Black, not Hispanic	19.2	17.4
Hispanic	11.8	16.6
Asian	3.8	3.9
American Indian/Alaska Native	1.0	1.0
Pacific Islander/Hawaiian	0.4	1.0
Other	1.3	2.2
Age		
24–29 years	39.2	66.1
30–39 years	37.1	25.1
40 or older	23.8	8.9
Marital status		
Not married[1]	48.6	72.2
Married	51.4	27.8
Number of dependents other than a spouse		
None	38.1	54.9
One	21.5	19.0
2 or more	40.4	26.1
Parents' highest education level		
High school or less	52.0	44.9
Some postsecondary education	24.3	22.0
Bachelor's degree or higher	23.7	33.1
Income quartiles		
Low quartile	8.0	26.1
Middle quartiles	60.2	66.7
High quartile	31.9	7.2
Type of institution		
Public 4-year	15.5	30.4
Private not-for-profit 4-year	20.1	14.2
Public 2-year	37.1	34.2
Private for-profit	14.7	11.1
More than one institution and other	12.6	10.1
Degree program		
No undergraduate degree[2]	2.5	0.6
Certificate	20.1	14.7
Associate's degree	38.8	39.4
Bachelor's degree	38.6	45.3

[1]Includes single, separated, divorced, or widowed.

[2]Includes programs that do not offer a formal award.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

As was found for all working undergraduates, among those who worked and attended full time, employees who study were more likely than students who work to be in programs leading to a vocational certificate (20 percent vs. 15 percent) and were less likely to be in bachelor's degree programs (39 percent vs. 45 percent). However, no difference could be detected between employees who study and students who work in their likelihood of being enrolled in programs leading to an associate's degree due in part to the fact that one-third of both groups attended community colleges.

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Postsecondary Completion of Working Adult Undergraduates

Previous research on persistence in postsecondary education determined that working full time and attending part time were independently related to lower rates of persistence and degree attainment (Berkner, Cuccaro-Alamin, and McCormick 1996; Horn 1996). In 1999–2000, about two-thirds (68 percent) of older undergraduates identified as employees who study reported both working full time and attending part time (table 8). In contrast, about one-fifth (18 percent) of students who work reported doing the same, while about one-half (46 percent) of students who work did the opposite (i.e., worked part time and attended full time). In addition, employees who study were more likely than students who work to have greater family responsibilities, which are also related to lower rates of postsecondary completion. Given these differences, it might be expected that employees who study would differ from students who work in their rates of completing postsecondary programs.

Using data from the 1996/01 Beginning Postsecondary Students Longitudinal Study (BPS:96/01), the analysis presented below examines the differences in rates of persistence and degree completion between employees who study and students who work about 6 years after they first enrolled in postsecondary education. As previously discussed, about one-fifth of the BPS students were 24 or older, and among these older beginning students, 43 percent were employees who study, 22 percent were students who work, and the remaining one-third were not working when they had first enrolled (see figure 1). Thus, students who work make up a relatively small percentage (4 percent) of the total BPS sample. Therefore, while overall differences between students who work and employees who study were evident, it was difficult to determine subgroup differences within the two groups of working adults because of the size of the sample.

Six-Year Persistence and Attainment Rates

The degree attainment and 6-year persistence rates for undergraduates 24 or older who enrolled in postsecondary education for the first time in 1995–96 differed between the two groups of working adults. Employees who study were less likely than students who work to have completed a degree (31 percent vs. 44 percent) and were more likely to have left postsecondary education without any credential (62 percent vs. 39 percent) (table 18). When students' attendance status was taken into account, it appeared as though employees who study attending full time had lower attainment rates than full-time students who work (41 percent vs. 55 percent);

Table 18. Percentage distribution of the 6-year persistence status and of highest degree attained in June 2001 for 1995–96 beginning postsecondary students age 24 or older, by student/employee role and attendance status when they first enrolled

		Highest degree attained				
	Attained any degree	Bachelor's degree	Associate's degree	Certificate	No degree attained: Still enrolled	No degree attained: Not enrolled
			Total			
Total	38.7	2.9	8.4	27.3	9.5	51.8
Students who work	44.3	9.3	12.2	22.9	17.1	38.6
Employees who study	30.7	1.2	5.8	23.7	7.8	61.6
			Attend full time			
All full-time students	50.8	3.3	9.3	38.2	8.3	40.9
Students who work	54.7	7.1	16.3	31.3	9.4	35.9
Employees who study	40.8	2.5	4.3	34.0	7.5	51.6
			Attend part time			
All part-time students	29.6	2.8	8.0	18.9	10.6	59.8
Students who work	32.1	12.2	7.2	12.7	27.3	40.6
Employees who study	27.4	0.8	6.3	20.2	7.9	64.7

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995/96 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:96/01).

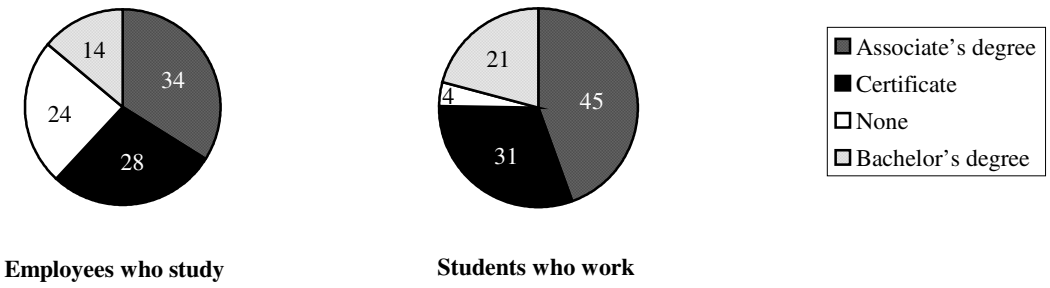
however, due to small sample sizes and large standard errors, the difference could not be confirmed statistically. Among those attending part time, on the other hand, no difference could be detected in degree attainment between employees who study and students who work. However, students who work were more likely than employees who study to be still enrolled part time in 2001 (27 percent vs. 8 percent).

Looking at specific types of credentials, roughly one-quarter each of employees who study and students who work had completed a vocational certificate as their highest degree. Compared with students who work, employees who study were less likely to have attained a bachelor's degree (1 percent vs. 9 percent). Although it also appears as though employees who study were less likely than students who work to attain an associate's degree (6 percent vs. 12 percent), there was not enough statistical evidence to confirm such a difference.

Persistence and Attainment by Degree Goal

Employees who study and students who work differed according to the degree goals they reported when first enrolling in 1995–96 (figure 5). In the BPS sample, employees who study

Figure 5. Percentage distribution by reported degree goal for 1995–96 beginning postsecondary students age 24 or older, by student/employee role



NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995/96 Beginning Postsecondary Students Longitudinal Study (BPS:96/01).

reported having no degree goal more often than did students who work (23 percent vs. 4 percent). Therefore, it is important to take students' degree goals into consideration when examining their completion rates. When doing so, differences in completion rates between employees who study and students who work remained (table 19). Overall, among students with degree goals, 55 percent of employees who study had left their postsecondary program with no credential, compared with 38 percent of students who work. Examining those with degree goals, a total of 37 percent of employees who study had obtained a credential, compared with 44 percent of students who work. Employees who study with bachelor's degree intentions were much less likely than students who work to attain the degree within the 6-year time period of the study (8 percent vs. 34 percent). Among those with an associate's degree goal, it appears as though employees who study were more likely than students who work to have left postsecondary education without earning a degree (63 percent vs. 38 percent), but this difference could not be confirmed statistically due to small sample sizes. Among associate's degree seekers, however, the difference in the percentage still enrolled and working toward a degree could be confirmed (6 percent vs. 27 percent). Among those planning to obtain a certificate, no differences were detected between the two groups of working undergraduates in terms of their completion or persistence rates.

Table 19. Percentage distribution of the 6-year persistence status and of highest degree attained in June 2001 for 1995–96 beginning postsecondary students age 24 or older, by student/employee role and degree goal when they first enrolled

		Highest degree attained				
	Attained any degree	Bachelor's degree	Associate's degree	Certificate	No degree attained: Still enrolled	No degree attained: Not enrolled
			Any degree goal			
Total	43.2	3.7	9.2	30.3	10.3	46.6
Students who work	44.2	9.7	12.8	21.8	17.5	38.3
Employees who study	36.8	1.6	7.1	28.1	8.4	54.8
			Bachelor's degree goal			
All with bachelor's goal	33.7	18.1	9.5	6.1	15.7	50.7
Students who work	51.1	34.1	11.2	5.9	16.6	32.4
Employees who study	26.7	8.2	9.4	9.1	19.6	53.6
			Associate's degree goal			
All with associate's goal	31.0	1.7	16.6	12.8	15.4	53.6
Students who work	34.9	5.2	21.1	8.6	27.0	38.1
Employees who study	31.7	0.1	9.5	22.1	5.7	62.6
			Certificate goal			
All with certificate goal	57.4	#	2.6	54.7	3.8	38.8
Students who work	53.2	#	1.7	51.6	4.3	42.5
Employees who study	48.0	#	3.1	44.9	5.9	46.1
			No degree goal			
All with no degree goal	21.5	#	6.2	15.2	5.9	72.6
Students who work	‡	‡	‡	‡	‡	‡
Employees who study	11.3	#	1.5	9.8	5.6	83.1

#Rounds to zero.

‡Reporting standards not met (too few cases).

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995/96 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:96/01).

When Do They Leave?

The first year of postsecondary education appears to be particularly hazardous for employees who study: 41 percent of students with intentions of completing a credential left and did not return within the 6-year time period (table 20). In contrast, 7 percent of students who work left in their first year. In the remaining years, no difference could be detected between the

Table 20. Percentage of 1995–96 beginning postsecondary students age 24 or older who completed a credential or were still enrolled in June 2001, and the percentage distribution of those who left, by year of departure as of June 2001, by degree goal and student/employee role when they first enrolled

	Attained any degree or still enrolled in 2001	The year they left without return			
		First year	Second year	Third year	Fourth year or later
			Total		
Total	48.2	30.2	9.2	5.2	7.3
Students who work	61.4	7.4	13.5	7.3	10.4
Employees who study	38.4	40.7	6.3	5.7	8.9
			Any degree goal		
All with degree goal	53.4	24.2	8.4	5.9	8.1
Students who work	61.7	7.4	12.9	7.0	10.9
Employees who study	45.2	31.9	6.7	7.2	9.1

NOTE: Total and "All" rows for each subgroup also include students who did not work while enrolled. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995/96 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:96/01).

percentages of those leaving among employees who study and students who work.[6] Even after excluding students with no degree goal, the difference in first-year attrition held: about one-third of employees who study left in their first year, compared with 7 percent of students who work.

Characteristics of Employees Who Study by Rates of Postsecondary Persistence and Completion

The results of the analysis on rates of persistence and degree completion demonstrate the relative difficulty employees who study have in completing their postsecondary education. To try and determine whether certain factors were related to their completion rates, characteristics related to persistence and attainment for all undergraduates were examined separately for employees who study. The results are shown in table 21. Unfortunately, when identifying subgroups, the BPS sample of adult employees who study is relatively small and the standard errors are large. Even though there appear to be large differences for some characteristics, the institution first attended, age, and students' degree goals were the only comparisons that reached statistical significance. Specifically, among employees who study, those who began their postsecondary education at private for-profit private institutions were more likely to complete a

[6]While it appears as though employees who study may have been less likely to leave in their second year of postsecondary education (6 percent vs. 13 percent), the difference could not be confirmed statistically.

Table 21. Among 1995–96 beginning postsecondary students age 24 or older who considered themselves employees who study, the percentage who attained any credential or were still enrolled in 2001, by selected student and enrollment characteristics

	Attained any degree or still enrolled in 2001
Total	38.4
Age	
24–29 years	47.9
30–39 years	38.2
40 or older	22.9
Degree expected—first institution 1995–96	
No degree goal	16.9
Degree goal	45.2
First month attendance status	
Full-time	47.5
Part-time	37.6
First institution type	
Public 2-year	33.0
Public 4-year	38.4
Private not-for-profit 4-year	54.8
Private for-profit less-than-4-year	57.0
Others	49.2
Employment status when first enrolled	
Part-time	48.9
Full-time	36.3
Dependents in 1995–96	
None	43.0
One or more dependents	36.8
Single parent in 1995–96	
Single parent	36.2
Not a single parent	39.9

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995/96 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:96/01).

credential than those who began at community colleges, and those who began at an older age (40 or older) were less likely to complete their studies than those who were in their mid- to late 20s.[7] Finally, employees who study who had specific degree goals were more likely to complete a credential than those who reported no degree goals.

[7]Because few bivariate differences were found among employees who work, a multivariate analysis is not shown.

Summary and Conclusions

Older working undergraduates who identify their primary activity as work differ from those who identify their primary activity as attending school in how they combine employment and postsecondary attendance. In 1999–2000, among working undergraduates age 24 or older, employees who study most often combined full-time employment with part-time attendance, while students who work did the opposite—combined part-time employment with full-time attendance.

In addition to the differences in their working and attendance patterns, employees who study also differed from students who work in several other ways. They were older, more likely to be married, and to have dependents. Moreover, employees who study were more likely to be White and to have a parent who had never attended college. Even among those who combined full-time work and full-time attendance, demographic differences between employees who study and students who work—in particular, age and family responsibilities—remained.

Consistent with the differences in their work and attendance patterns, employees who study and students who work differed in where they enrolled in postsecondary education and what they studied. Employees who study were more likely to attend community colleges and to be enrolled in programs leading to a vocational certificate or an associate's degree. They were also more likely than students who work to major in such occupational fields as business and computer science and were less likely to major in behavioral sciences.

Taken together, the demographic, attendance, and employment profile of employees who study place them at greater risk than students who work of not completing their postsecondary programs. Indeed, examining a longitudinal cohort of older undergraduates who first began their postsecondary education in 1995–96 confirmed such outcomes. Nearly two-thirds of employees who study (62 percent) had not completed a credential and were no longer enrolled 6 years after they first began their postsecondary studies. In contrast, the same was found for 39 percent of students who work. While no difference in certificate attainment could be detected between the two groups, employees who study were much less likely to have earned a bachelor's degree, even among those who intended to do so. The results suggest that full-time work and part-time attendance, in combination with family responsibilities, are barriers to completing a postsecondary credential, at least over the 6-year time period of this study.

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Appendix A—Glossary

The glossary describes the variables used in this report. The variables were taken directly from the NPSAS:2000 and BPS:96/01 Data Analysis System (DAS), an NCES software application that generates tables from the NPSAS and BPS data. Appendix B contains a description of the DAS software. The glossary is divided into two parts: Part I describes the NPSAS data, and Part II describes the BPS data. In the index below, the variables are listed in the order they appear in the report. The glossary items are in alphabetical order by variable name.

GLOSSARY INDEX

DAS Variable

NPSAS VARIABLES

Age as of 12/31/99 **AGE**

Indicates student's age on 12/31/1999.

Applied for financial aid **AIDAPP**

Indicates whether the student applied for financial aid. It measures the percentage of students who applied for any aid.

Attendance status (full-time/part-time) **ATTNPTRN**

Indicates the student's attendance status during all the months enrolled in 1999–2000. Full-time students include those who attended exclusively full time and those who attended both full and part time for the duration of their enrollment. Part-time students include those who attended exclusively part time for the duration of their enrollment.

Undergraduate degree program **DEGFIRST**

Degree program in which student enrolled in the first term, as reported by the institution. If not available from the institution, information was taken from the student interview. Refers to NPSAS institution for those enrolled in more than one institution.

Certificate	Student pursuing a certificate or formal award other than an associate's or bachelor's degree.
Associate's degree	Student pursuing an associate's degree.
Bachelor's degree	Student pursuing a Bachelor of Arts or Bachelor of Science degree.
No undergraduate degree	Student is not in any of the above degree programs.

Employer aid **EMPLYAMT**

Indicates total amount of aid received from employers in 1999–2000. It includes tuition waivers for employees and dependents and employer-paid tuition reimbursements. The percentage of students with employer aid is the percentage with positive amounts recorded for this variable. The average amount received is the average of all students who received employer aid.

Applied for federal aid **FEDAPP**

Indicates whether the student applied for federal financial aid. It measures the percentage of students who applied for federal aid.

	DAS Variable
Gender	**GENDER**

Male
Female

Institutional aid total	**INSTAMT**

Indicates the total institutional aid amount received during 1999–2000. It includes all types of institutional grants and scholarships, institutional loans, institution-sponsored work-study, and all other institutional aid. The percentage of students with institutional aid is the percentage with positive amounts recorded for this variable. The average amount received is the average for all students who received institutional aid.

Major field of study	**MAJORS3**

Undergraduate major field of study among those with declared majors. Refers to NPSAS institution for those enrolled in more than one institution.

Humanities	English, liberal arts, philosophy, theology, art, music, speech/drama, history/fine arts, area studies, African-American studies, ethnic studies, foreign languages, liberal studies, women's studies. Social/behavioral sciences: Psychology, economics, political science, American civilization, clinical pastoral care, social work, anthropology/archaeology, history, sociology.
Life sciences	Natural resources, forestry, biological science (including zoology), biophysics, geography, interdisciplinary studies, including biopsychology environmental studies.
Physical sciences	Physical sciences including chemistry, physics.
Math	Mathematics, statistics.
Computer/information science	Computer/information science, computer programming.
Engineering	Electrical, chemical, mechanical, civil, or other engineering; engineering technology; electronics.
Education	Early childhood, elementary, secondary, special, or physical education; leisure studies; library/archival sciences.
Business management	Accounting, finance, secretarial, data processing, business/management, public administration, marketing/distribution, business support, intern relations.
Health	Nursing, nurse assisting, community/mental health, medicine, physical education/recreation, audiology, clinical health, dentistry, veterinary medicine, health/hospital, public health, dietetics, other/general health.

DAS Variable

Major field of study—continued

Vocational/technical	Mechanic technology including transportation, protective services, construction, air/other transportation, precision production.
Other professional or technical	Agriculture, agricultural science, architecture, professional city planning, journalism, communications, communications technology, cosmetology, military science, dental/medical technology, home economics, vocational home economics including child care, law, basic/personal skills.

Obtaining education required by job **NDADDED**

Indicates students who enrolled in postsecondary education to obtain education required by their job. It is based on the student response to the question "Was the following an important consideration in your decision to go to school while you were working: Obtaining additional education that is required by your job?" This question only applies to students who considered themselves employees who study.

Gaining skills to advance in current job **NDCAREER**

Indicates students who enrolled in postsecondary education to gain skills to advance in their current job or for a new career. It is based on the student response to the question "Was the following an important consideration in your decision to go to school while you were working: Gaining skills to advance in your current job or for a new career?" This question only applies to students who considered themselves employees who study.

Completing a degree or certificate program **NDDEGREE**

Indicates students who enrolled in postsecondary education to complete a degree or certificate program. It is based on the student response to the question "Was the following an important consideration in your decision to go to school while you were working: Completing a degree or certificate program?" This question only applies to students who considered themselves employees who study.

Personal enrichment **NDENRICH**

Indicates students who enrolled in postsecondary education because of personal enrichment or interest in the subject. It is based on the student response to the question "Was the following an important consideration in your decision to go to school while you were working: Personal enrichment or interest in the subject?" This question only applies to students who considered themselves primarily employees who study.

Number of dependents **NDEPEND**

Number of dependents reported by the student not including a spouse. Dependents include any individuals, whether children or elders, for whom the student was financially responsible.

Number of jobs during NPSAS year 1999–2000 **NDNUMJOB**

Indicates number of jobs the student had while enrolled.

DAS Variable

Parent's highest education **NPARED**

The highest level of education completed by the student's mother or father, whoever had the highest level. In this report, the variable was aggregated to the following categories:

High school diploma or less	Students' parent earned a high school diploma or equivalent or did not complete high school.
Some postsecondary education	Students' parent attended some postsecondary education, but did not earn a bachelor's degree.
Bachelor's degree or higher	Students' parent attained a bachelor's or advanced degree

Income percentile rank for all students **PCTALL2**

Indicates 1998 income percentiles for all students (calculated separately for dependent and independent students). In this analysis, the percentiles were aggregated as follows:

Low quartile	Income at the 25th percentile or below.
Middle quartiles	Income between the 26th and 74th percentiles.
High quartile	Income at or above the 75th percentile.

Race/ethnicity **RACE2**

Indicates undergraduate's race/ethnicity. The category "other" includes those who reported other race and those who reported more than one race. Hispanic includes all who reported being Hispanic, regardless of race.

White, non-Hispanic	A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
Black, non-Hispanic	A person having origins in any of the black racial groups of Africa.
Hispanic	A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
Asian	A person having origins in any of the peoples of the Far East, Southeast Asia, or the Indian subcontinent. This includes people from China, Japan, Korea, the Philippine Islands, India, and Vietnam.
American Indian/Alaska Native	A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.
Pacific Islander/Hawaiian	A person having origins in the Pacific Islands including Hawaii and Samoa.
Other	A person having origins in race not listed above or who reported more than one race.

DAS Variable

Institution type **SECTOR4**

Indicates the combined level and control of the student's institution. Institution level concerns the institution's highest offering, and control (public/private) concerns the source of revenue and control of operations.

Public 4-year (combined doctorate- and nondoctorate-granting)
Private not-for-profit 4-year (combined doctorate- and nondoctorate-granting)
Public 2-year (also called community colleges)
Private for-profit (includes all levels: less-than-2-year, 2-year, and 4-year)
More than one institution and other (student attended more than one institution simultaneously)

Primary role (employee/student) while enrolled **SEROLE**

Indicates student response to the question "While you were working, would you say that you were primarily a student working to meet expenses or an employee who has decided to enroll in school?"

Student who works	Student working to meet expenses.
Employee who studies	Employee enrolled in school.
Does not work	Respondent did not work while enrolled.

In the tables, only students who work and employees who study were shown separately, but nonworking students are included in the totals.

Marital status **SMARITAL**

Indicates the marital status of the student when he or she applied for financial aid in 1999–2000.

Not married (includes single, separated, divorced, and widowed)
Married

State aid total **STATEAMT**

Indicates the total amount of state aid received by the student in 1999–2000. It includes state grants, state loans, state-sponsored work-study, and all other state financial aid. State grants include the LEAP portions funded by the federal government. At public institutions in some states, the distinction between state and institutional grant funds is not always clear because grants are funded by the state but are allocated by the institutions. The percentage of students with state aid is the percentage with positive amounts recorded for this variable. The average amount received is the average amount for all students who received state aid.

Total federal aid **TFEDAID2**

Indicates the total amount of federal financial aid received by the student in 1999–2000. It includes federal loans, federal grants, federal work-study, veteran's benefits, or military education aid. The percentage of students with federal aid is the percentage with positive amounts recorded for this variable. The average amount received is the average amount for all students who received federal aid.

DAS Variable

Total federal grants **TFEDGRT**

Indicates the total amount of federal grants received by the student in 1999–2000. It includes Pell Grants, Supplemental Educational Opportunity Grants (SEOGs), and a small number of Robert Byrd Scholarships. It does not include veteran's benefits or military aid. The percentage of students with federal grants is the percentage with positive amounts recorded for this variable. The average amount received is the average amount for all students who received federal grants.

Total federal loans (excluding PLUS) **TFEDLN**

Indicates the total amount of federal loans, excluding PLUS loans to parents. It includes Perkins, Stafford, and federal loans through the Public Health Service received during 1999–2000. The percentage of students with federal loans is the percentage with positive amounts recorded for this variable. The average amount received is the average amount for all students who received federal loans.

Total aid **TOTAID**

Indicates the total amount of financial aid received by the student in 1999–2000. It includes grants, loans, work-study, or any other type of aid, as well as loans to parents under the PLUS program, veterans benefits, and military education aid. The percentage of students with any aid is the percentage with positive amounts recorded for this variable. The average amount received is the average amount for all students who received financial aid.

Total grants **TOTGRT**

Indicates the total amount of all grants and scholarships received by a student in 1999–2000. It includes all federal grants, state grants, institutional grants, and other grants that were not classified as federal, state, or institutional. It also includes employer tuition reimbursements and grants from private sources. The percentage of students with grants is the percentage with positive amounts recorded for this variable. The average amount received is the average amount for all students who received grants.

Total loans (excluding PLUS) **TOTLOAN**

Indicates the total amount of all loans to students in 1999–2000. This includes all student loans through federal, state, institutional, or private programs except PLUS loans (which are given to parents). It does not include loans from family and friends. The percentage of students with loans is the percentage with positive amounts recorded for this variable. The average amount received is the average for all students who received loans.

Hours worked per week **WKHRS2**

Indicates average number of hours that students worked per week while enrolled in 1999–2000. In this report, work intensity is aggregated to full time or part time as follows.

Part-time	Worked less than 35 hours per week.
Full-time	Worked 35 or more hours per week.

DAS Variable

Work and attendance intensity **WORKATT**

Indicates combined employment and attendance intensity. Full-time work is defined as 35 or more hours per week.

Worked full time and enrolled full time
Worked full time and enrolled part time
Worked part time and enrolled full time
Worked part time and enrolled full time

BPS VARIABLES

Degree goal in 1995–96 **DGEXPY1**

Indicates highest degree expected at the first institution attended in 1995–96.

None
Certificate
Associate's degree
Bachelor's degree

Attendance intensity first term enrolled **ATTEND2**

Indicates enrollment intensity first term enrolled.

Full-time
Part-time

Student persistence in 2001 **PRENRL2B**

Indicates the highest degree the student attained as of June 2001 or if student had not attained, whether the student was still enrolled in June 2001.

Attained any degree

Highest degree attained
- Bachelor's degree
- Associate's degree
- Certificate

No degree attained
- Still enrolled
- Not enrolled

DAS Variable

Year student left without return **PRENYR2B**

For those who had not attained a degree, this variable indicates the academic year the student left postsecondary education and not returned by June 2001. Otherwise it indicates whether the student had attained a degree or was still enrolled by June 2001.

Attained any degree or still enrolled in 2001
The year students left without return
First year
Second year
Third year
Fourth year or later

Primary role (employee/student) while enrolled in 1995–96 **SEROLEY1**

Indicates student response to the question "While you were working, would you say that you were primarily a student working to meet expenses or an employee who has decided to enroll in school?" The role was determined when students first enrolled in the 1995–96 academic year.

Student who works	Student working to meet expenses.
Employee who studies	Employee enrolled in school.
Does not work	Respondent did not work while enrolled.

In the tables in this report, only students who work and employees who study were shown.

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Appendix B—Technical Notes and Methodology

The 1999–2000 National Postsecondary Student Aid Study

The 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000) is a comprehensive nationwide study conducted by the U.S. Department of Education's National Center for Education Statistics (NCES) to determine how students and their families pay for postsecondary education.[8] It also describes demographic and other characteristics of students enrolled. The study is based on a nationally representative sample of all students in postsecondary education institutions, including undergraduate, graduate, and first-professional students. For NPSAS:2000, information was obtained from more than 900 postsecondary institutions on approximately 50,000 undergraduates, 9,000 graduates, and 3,000 first-professional students. They represented about 16.5 million undergraduates, 2.4 million graduate students, and 300,000 first-professional students who were enrolled at some time between July 1, 1999 and June 30, 2000 (the NPSAS year).

The response rate for obtaining institutional record data for all students was 97 percent, and the weighted overall student interview response rate was 65.6 percent.[9] Because the student telephone interview response rates for NPSAS:2000 were less than 70 percent in some institutional sectors, an analysis was conducted to determine if Computer Assisted Telephone Interview (CATI) estimates were significantly biased due to CATI nonresponse.[10] Considerable information was known for CATI nonrespondents, and these data were used to analyze and reduce the bias. The distributions of several variables using the design-based, adjusted weights for study respondents (study weights) were found to be biased before CATI nonresponse adjustments. The CATI nonresponse and poststratification procedures, however, reduced the bias for these variables; the remaining relative bias ranged from 0 to 0.35 percent. This analysis was performed on variables where the true value is known for both respondents and nonrespondents. For other variables collected in the survey, where data are available only for respondents, it is not known whether the weight adjustments reduce or eliminate bias to the same extent.

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[8]For more information on the NPSAS survey, see U.S. Department of Education, National Center for Education Statistics, *Methodology Report for the 1999–2000 National Postsecondary Student Aid Study* (NCES 2002–152) (Washington, DC: 2001). Additional information is also available at the NPSAS web site *http://nces.ed.gov/npsas*.

[9]Ibid.

[10]For nonresponse bias analysis, see U.S. Department of Education, National Center for Education Statistics, *National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), CATI Nonresponse Bias Analysis Report* (NCES 2002–03) (Washington, DC: 2002), available at *http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=200203.*

The NPSAS:2000 Data Analysis System includes a sample weight for the CATI respondents. Because the information on students' employee/student roles was based on CATI data, the NPSAS estimates and tables in this report used the CATI weight (CATIWT).

The Beginning Postsecondary Students Longitudinal Study (BPS:96/01)

The Beginning Postsecondary Students Longitudinal Study (BPS) is based on a sample of students who were enrolled in postsecondary education for the first time in 1995–96 and participated in the 1995–96 National Postsecondary Student Aid Study (NPSAS:96). The BPS study began with a sample of approximately 12,000 students who were identified in NPSAS:96 as having entered postsecondary education for the first time in 1995–96. Unlike other NCES longitudinal surveys (such as the National Education Longitudinal Study of 1988), which follow age-specific cohorts of secondary school students, the BPS sample is more likely to include nontraditional students who have delayed their postsecondary education due to financial need or family responsibilities.

The first follow-up of the BPS cohort (BPS:96/98) was conducted in 1998, approximately 3 years after these students first enrolled. Approximately 10,300 of the students who first began in 1995–96 were located and interviewed in the 1998 follow-up for an overall weighted response rate of 79.8 percent, which includes those who were nonrespondents in 1996. Among the NPSAS:96 respondents, the response rate was 85.9 percent.[11] The second follow-up of the BPS cohort (BPS:96/01) was conducted in 2001, 6 years after the cohort had entered college. All respondents to the first follow-up, as well as a subsample of nonrespondents in 1998, were eligible to be interviewed. More than 9,100 students were located and interviewed. The weighted response rate was 83.6 percent overall, but was somewhat higher among respondents to both the 1996 and the 1998 interviews (87.4 percent).[12]

Nonresponse among cohort members causes bias in survey estimates when the outcomes of respondents and nonrespondents are shown to be different. A bias analysis was conducted of the 2001 survey results to determine if any variables were significantly biased due to nonresponse.[13] Considerable information was known from the 1996 and 1998 surveys about the nonrespondents to the 2001 interviews, and nonresponse bias could be estimated using variables with this known

[11]For more information on the BPS:96/98 survey, consult U.S. Department of Education, National Center for Education Statistics, *Beginning Postsecondary Students Longitudinal Study First Follow-up 1996–98, Methodology Report* (NCES 2000–157) (Washington, DC: 2000).

[12]For more information on the BPS:96/01 survey, consult U.S. Department of Education, National Center for Education Statistics, *Beginning Postsecondary Students Longitudinal Study:1996–2001 Methodology Report* (NCES 2002–171) (Washington, DC: 2002).

[13]Ibid.

information. Weight adjustments were applied to the BPS:96/01 sample to reduce any bias found due to unit nonresponse. After the weight adjustments, some variables were found to reflect zero bias, and for the remaining variables, the bias did not differ significantly from zero. This analysis was performed on variables found on the frame where the true value is known for both respondents and nonrespondents. For other variables collected in the survey, where data are available only for respondents, it is not known whether the weight adjustments completely eliminate bias.

The BPS:96/01 Data Analysis System includes all of the variables from the BPS:96/98 study and several sample weights for a cross-sectional analysis of the students in either 1995–96, 1998, or 2001, as well as weights for the longitudinal analysis of students who responded in any two or in all three of the survey years. The BPS estimates and tables in this report used the longitudinal analysis weight B01LWT2 for about 9,000 sample students who responded in both the first (1996) and the last year (2001).

Accuracy of Estimates

The statistics in this report are estimates derived from a sample. Two broad categories of error occur in such estimates: sampling and nonsampling errors. Sampling errors occur because observations are made only on samples of students, not entire populations. Nonsampling errors occur not only in sample surveys but also in complete censuses of entire populations. Nonsampling errors can be attributed to a number of sources: inability to obtain complete information about all students in all institutions in the sample (some students or institutions refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors of collecting, processing, sampling, and imputing missing data.

Item Response Rates

Weighted item response rates were calculated for all variables used in this report. The weighted item response rates were calculated by dividing the final weighted number of valid responses by the weighted population for which the item was applicable. For both NPSAS:2000 and BPS:96/01, all but four items had response rates over 90 percent. The remaining four were NPSAS variables with response rates between 85 percent and 90 percent (table B-1).

Table B-1. Variables with response rates between 85 percent and 90 percent

Variable name	Variable label	Item response rate
NDADDED	Attend school-required (employee)	85.9
NDCAREER	Attend school-advancement (employee)	85.7
NDDEGREE	Attend school-degree (employee)	85.8
NDENRICH	Attend school-enrichment (employee)	85.8

Data Analysis System

The estimates presented in this report were produced using the NCES Data Analysis Systems (DAS) for the 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000) and the Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:96/01). The DAS software makes it possible for users to specify and generate their own tables. With the DAS, users can replicate or expand upon the tables presented in this report; the table parameter files (tpf) that produced these tables are available to users on the NCES Web site. In addition to the table estimates, the DAS calculates proper standard errors[14] and weighted sample sizes for these estimates. (For example, table B-2 contains standard errors that corresponds to table 8.) If the number of valid cases is too small to produce a reliable estimate (less than 30 cases), the DAS prints the message "low-N" instead of the estimate.

In addition to tables, the DAS can also produce a correlation matrix of selected variables to be used for linear regression models. Included in the output with the correlation matrix are the design effects (DEFTs) for each variable in the matrix. Since statistical procedures generally compute regression coefficients based on simple random sample assumptions, the standard errors must be adjusted with the design effects to take into account the BPS:96/01 sample design.

The DAS can be accessed electronically at *www.nces.ed.gov/das*. For more information about the NPSAS:2000 and BPS:96/01 Data Analysis Systems, contact:

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[14]The BPS:96/01 samples are not simple random samples, and therefore simple random sample techniques for estimating sampling error cannot be applied to these data. The DAS takes into account the complexity of the sampling procedures and calculates standard errors appropriate for such samples. The method for computing sampling errors used by the DAS involves approximating the estimator by the linear terms of a Taylor series expansion. The procedure is typically referred to as the Taylor series method.

Table B-2. Standard errors for table 8: Percentage distribution of the enrollment and work intensity for undergraduates age 24 or older, by student/employee role and age group: 1999–2000

	Worked full time		Worked part time	
	Enrolled full time[1]	Enrolled part time	Enrolled full time[1]	Enrolled part time
		Total		
Total	0.61	0.84	0.54	0.45
Students who work	0.82	1.00	1.14	0.89
Employees who study	0.73	0.89	0.35	0.49
		24–29 years		
All students 24–29	0.92	1.17	0.98	0.66
Students who work	1.10	1.10	1.34	0.99
Employees who study	1.29	1.62	0.80	0.90
		30–39 years		
All students 30–39	0.92	1.22	0.69	0.67
Students who work	1.65	1.79	2.23	1.77
Employees who study	1.02	1.22	0.52	0.70
		40 years or older		
All students 40 or older	0.85	1.19	0.63	0.79
Students who work	1.78	2.89	2.71	2.77
Employees who study	0.91	1.26	0.50	0.83

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Statistical Procedures

Differences Between Means

The descriptive comparisons were tested in this report using Student's *t* statistic. Differences between estimates are tested against the probability of a Type I error,[15] or significance level. The significance levels were determined by calculating the Student's *t* values for the differences between each pair of means or proportions and comparing these with published tables of significance levels for two-tailed hypothesis testing.

Student's *t* values may be computed to test the difference between estimates with the following formula:

[15]A Type I error occurs when one concludes that a difference observed in a sample reflects a true difference in the population from which the sample was drawn, when no such difference is present.

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}} \tag{1}$$

where E_1 and E_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors. This formula is valid only for independent estimates. When estimates are not independent, a covariance term must be added to the formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2 - 2(r)se_1\ se_2}} \tag{2}$$

where *r* is the correlation between the two estimates.[16] This formula is used when comparing two percentages from a distribution that adds to 100. If the comparison is between the mean of a subgroup and the mean of the total group, the following formula is used:

$$t = \frac{E_{sub} - E_{tot}}{\sqrt{se_{sub}^2 + se_{tot}^2 - 2p\,se_{sub}^2}} \tag{3}$$

where *p* is the proportion of the total group contained in the subgroup.[17] The estimates, standard errors, and correlations can all be obtained from the DAS.

There are hazards in reporting statistical tests for each comparison. First, comparisons based on large *t* statistics may appear to merit special attention. This can be misleading since the magnitude of the *t* statistic is related not only to the observed differences in means or percentages but also to the number of respondents in the specific categories used for comparison. Hence, a small difference compared across a large number of respondents would produce a large *t* statistic.

A second hazard in reporting statistical tests is the possibility that one can report a “false positive” or Type I error. In the case of a *t* statistic, this false positive would result when a difference measured with a particular sample showed a statistically significant difference when there is no difference in the underlying population. Statistical tests are designed to control this type of error, denoted by alpha. The alpha level of .05 selected for findings in this report indicates that a difference of a certain magnitude or larger would be produced no more than 1 time out of 20 when there was no actual difference in the quantities in the underlying population. When one tests hypotheses that show *t* values at the .05 level or smaller, one treats this finding as rejecting the null hypothesis that there is no difference between the two quantities. However, there are other cases when exercising additional caution is warranted. When there are significant

[16]U.S. Department of Education, National Center for Education Statistics, A Note from the Chief Statistician, no. 2, 1993.
[17]Ibid.

results not indicated by any hypothesis being tested or when one tests a large number of comparisons in a table, Type I errors cannot be ignored. For example, when making paired comparisons among different levels of income, the probability of a Type I error for these comparisons taken as a group is larger than the probability for a single comparison.

When the either of the two situations described in the previous paragraph was encountered in this analysis, comparisons were made only when $p < .05/k$ for a particular pairwise comparison, where that comparison was one of k tests within a family. This guarantees both that the individual comparison would have $p < .05$ and that for k comparisons within a family of possible comparisons, the significance level for all the comparisons will sum to $p < .05$.[18]

For example, in a comparison of males and females, only one comparison is possible (males vs. females). In this family, k=1, and the comparison can be evaluated without adjusting the significance level. When students are divided into five age categories (18 or younger, 19, 20–23, 24–29, 30 or older) and all possible comparisons are made, then k=10 and the significance level of each test must be $p \leq .05/10$, or $p \leq .005$. The formula for calculating family size (k) is as follows:

$$k = \frac{j(j-1)}{2} \tag{4}$$

where j is the number of categories for the variable being tested. In the case of age, there are five age groups, so substituting 5 for j in equation 4, results in the following family size.

$$k = \frac{5(5-1)}{2} = 10 \tag{5}$$

[18]The standard that $p \leq .05/k$ for each comparison is more stringent than the criterion that the significance level of the comparisons should sum to $p \leq .05$. For tables showing the t statistic required to ensure that $p \leq .05/k$ for a particular family size and degrees of freedom, see Olive Jean Dunn, "Multiple Comparisons Among Means," *Journal of the American Statistical Association* 56 (1961): 52–64.

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Appendix C—Supplementary Tables

Additional tables by gender and age.

Table C-1. Percentage of undergraduates age 24 or older according to their attendance intensity, by student/employee role, gender, and age group: 1999–2000

	Male		Female	
	Full time[1]	Part-time	Full time[1]	Part-time
		Total		
Total	43.0	57.0	41.8	58.2
Students who work	70.6	29.4	65.8	34.2
Employees who study	24.4	75.6	23.9	76.2
		24–29 years		
All students 24–29	56.3	43.7	53.3	46.7
Students who work	73.2	26.8	69.1	30.9
Employees who study	33.3	66.7	30.7	69.3
		30–39 years		
All students 30–39	37.6	62.4	41.6	58.4
Students who work	69.9	30.1	66.4	33.6
Employees who study	23.9	76.2	24.5	75.5
		40 years or older		
All students 40 or older	25.7	74.3	28.4	71.6
Students who work	52.0	48.0	52.3	47.7
Employees who study	15.2	84.9	18.1	82.0

[1]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table C-2. Employment status of undergraduates age 24 or older during their postsecondary enrollment, by student/employee role, gender, and age group: 1999–2000

	Percentage distribution of hours worked per week				Average hours per week worked	Number of jobs	
	1–15 hours	16–20 hours	21–34 hours	35 or more hours		One	Two or more
				Male			
				Total			
Total	4.0	6.4	10.7	66.0	39.6	69.7	17.3
Students who work	11.4	18.1	27.6	42.9	30.8	69.3	30.7
Employees who study	0.8	2.4	5.0	91.9	43.9	85.0	15.0
				24–29 years			
All students 24–29	6.1	8.2	16.8	57.7	36.7	66.7	21.8
Students who work	12.0	15.8	29.1	43.1	30.9	67.9	32.1
Employees who study	1.0	3.0	9.0	87.0	42.4	82.3	17.7
				30–39 years			
All students 30–39	2.4	5.6	7.0	74.9	42.1	73.8	15.8
Students who work	9.1	20.3	25.0	45.6	31.2	71.2	28.8
Employees who study	0.5	2.5	3.3	93.7	45.0	85.3	14.7
				40 years or older			
All students 40 or older	2.3	4.3	4.3	70.3	41.8	69.9	11.1
Students who work	11.5	30.7	22.1	35.7	28.8	75.6	24.4
Employees who study	0.8	1.6	2.5	95.2	44.1	87.6	12.4
				Female			
				Total			
Total	5.6	7.5	12.2	54.6	36.1	64.8	15.1
Students who work	15.3	21.7	25.5	37.6	28.9	72.7	27.3
Employees who study	2.6	3.6	10.5	83.3	39.6	85.2	14.8
				24–29 years			
All students 24–29	6.4	9.2	16.2	50.0	34.8	62.2	19.6
Students who work	13.6	19.6	28.8	38.1	29.7	69.2	30.9
Employees who study	2.3	3.4	11.4	82.9	39.5	82.4	17.6
				30–39 years			
All students 30–39	5.5	7.9	10.5	54.5	36.1	65.2	13.1
Students who work	16.7	26.1	22.1	35.2	27.7	78.1	21.9
Employees who study	2.3	3.8	10.1	83.8	39.6	85.4	14.6
				40 years or older			
All students 40 or older	4.9	5.0	9.5	60.0	37.8	67.6	12.0
Students who work	18.9	20.7	20.0	40.3	28.4	75.4	24.6
Employees who study	3.2	3.4	10.2	83.2	39.8	87.2	12.9

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table C-3. Percentage distribution of the enrollment and work intensity of undergraduates age 24 or older, by student/employee role, gender, and age group: 1999–2000

	Worked full time		Worked part time	
	Enrolled full time[1]	Enrolled part time	Enrolled full time[1]	Enrolled part time
		Male		
		Total		
Total	21.7	54.4	17.4	6.5
Students who work	25.3	17.6	45.3	11.8
Employees who study	20.2	71.7	4.3	3.9
		24–29 years		
All students 24–29	25.3	39.9	27.6	7.2
Students who work	25.8	17.3	47.5	9.5
Employees who study	25.0	62.0	8.2	4.8
		30–39 years		
All students 30–39	22.5	61.1	11.0	5.3
Students who work	27.2	18.4	42.7	11.7
Employees who study	21.2	72.4	2.6	3.7
		40 years or older		
All students 40 or older	13.8	73.4	6.0	6.9
Students who work	17.2	18.5	34.9	29.5
Employees who study	13.4	81.8	1.8	3.1
		Female		
		Total		
Total	18.5	50.0	18.7	12.9
Students who work	19.8	17.8	46.0	16.4
Employees who study	17.9	65.4	5.9	10.8
		24–29 years		
All students 24–29	22.6	38.7	26.7	12.1
Students who work	21.3	16.8	47.8	14.1
Employees who study	23.6	59.3	7.1	10.0
		30–39 years		
All students 30–39	18.7	51.1	17.5	12.7
Students who work	19.5	15.7	47.0	17.9
Employees who study	18.6	65.2	5.9	10.2
		40 years or older		
All students 40 or older	13.3	62.6	10.2	14.0
Students who work	14.9	25.5	37.5	22.2
Employees who study	13.1	70.1	5.0	11.8

[1]Based on full-year attendance. Full-time attendance includes those who also had mixed full-time and part-time enrollment.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table C-4. Percentage distribution of institution attended for undergraduates age 24 or older, by student/ employee role and age group: 1999–2000

	Public 4-year	Private not-for-profit 4-year	Public 2-year	Private for-profit	More than one institution and other
			Total		
Total	22.5	10.3	53.9	6.5	6.9
Students who work	34.5	10.6	39.4	7.6	8.0
Employees who study	16.8	11.3	61.2	4.8	6.0
			24–29 years		
All students 24–29	29.3	9.5	45.6	8.2	7.4
Students who work	40.8	10.6	33.4	7.6	7.7
Employees who study	19.0	9.0	58.3	7.1	6.6
			30–39 years		
All students 30–39	19.4	11.0	56.5	6.3	6.7
Students who work	24.9	11.2	48.5	7.9	7.5
Employees who study	16.6	12.0	61.2	4.4	5.8
			40 years or older		
All students 40 or older	16.4	10.8	62.4	4.2	6.2
Students who work	22.1	9.7	50.8	7.1	10.4
Employees who study	14.9	12.7	63.8	3.1	5.5

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table C-5. Percentage distribution of institution attended for undergraduates age 24 or older, by student/ employee role, attendance intensity, and gender: 1999–2000

	Public 4-year	Private not-for-profit 4-year	Public 2-year	Private for-profit	More than one institution and other
			Male		
			Total		
Total	24.1	9.9	52.7	6.6	6.7
Students who work	40.2	10.4	35.6	6.9	7.0
Employees who study	16.8	10.5	61.3	5.4	6.1
			Full-time		
All full-time students	31.3	13.2	33.6	12.6	9.4
Students who work	44.2	12.1	27.4	8.6	7.7
Employees who study	16.6	18.2	37.4	16.7	11.1
			Part-time		
All part-time students	18.7	7.5	67.1	2.0	4.8
Students who work	30.6	6.2	55.0	2.8	5.4
Employees who study	16.8	8.0	69.0	1.7	4.5
			Female		
			Total		
Total	21.3	10.6	54.7	6.4	6.9
Students who work	30.0	10.8	42.3	8.2	8.7
Employees who study	16.8	12.0	61.1	4.3	5.9
			Full-time		
All full-time students	25.1	12.5	39.2	12.6	10.5
Students who work	32.2	11.9	35.6	11.1	9.3
Employees who study	16.3	17.2	41.1	12.7	12.7
			Part-time		
All part-time students	18.6	9.3	65.9	2.0	4.4
Students who work	25.9	8.6	55.2	2.7	7.6
Employees who study	16.9	10.3	67.4	1.7	3.7

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table C-6. Percentage distribution by degree program for undergraduates age 24 or older, by student/ employee role and age group: 1999–2000

	Certificate	Associate's degree	Bachelor's degree	No undergraduate degree[1]
		Total		
Total	21.6	41.7	29.1	7.6
Students who work	16.4	37.2	44.8	1.5
Employees who study	22.3	44.6	22.7	10.4
		24–29 years		
All students 24–29	16.9	41.8	36.8	4.6
Students who work	13.1	34.1	51.7	1.0
Employees who study	19.7	48.7	23.4	8.1
		30–39 years		
All students 30–39	23.0	44.3	26.2	6.4
Students who work	20.0	45.1	33.8	1.1
Employees who study	21.4	46.5	23.5	8.6
		40 years or older		
All students 40 or older	26.7	38.6	21.7	13.0
Students who work	25.6	36.8	32.7	4.9
Employees who study	25.4	39.1	21.2	14.4

[1]Includes programs that do not offer a formal award.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table C-7. Percentage distribution by degree program for undergraduates age 24 or older, by student/ employee role, attendance intensity, and gender: 1999–2000

	Certificate	Associate's degree	Bachelor's degree	No undergraduate degree[1]
		Male		
		Total		
Total	22.7	38.8	31.0	7.5
Students who work	15.6	32.7	50.5	1.2
Employees who study	24.5	42.9	22.2	10.5
		Full-time		
All full-time students	19.6	33.5	45.4	1.5
Students who work	13.6	29.2	56.6	0.6
Employees who study	22.1	38.9	36.6	2.5
		Part-time		
All part-time students	25.0	42.8	20.2	12.0
Students who work	20.3	41.1	35.9	2.6
Employees who study	25.3	44.1	17.5	13.0
		Female		
		Total		
Total	20.9	43.7	27.8	7.6
Students who work	17.1	40.7	40.4	1.8
Employees who study	20.5	46.0	23.1	10.4
		Full-time		
All full-time students	21.5	39.0	38.0	1.5
Students who work	15.5	37.9	45.8	0.7
Employees who study	21.5	40.9	35.2	2.5
		Part-time		
All part-time students	20.4	47.2	20.5	12.0
Students who work	20.1	46.0	30.1	3.9
Employees who study	20.2	47.6	19.3	12.9

[1]Includes programs that do not offer a formal award.

NOTE: Detail may not sum to totals because of rounding. Total and "All" rows for each subgroup also include students who did not work while enrolled.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).