

# **Can Attrition Be Controlled? Should Attrition Be Controlled? Interventions to Assist Students with Nontraditional Characteristics**

Frederic Jacobs and Stephen P. Hundley

## **Abstract**

*This article reviews the research findings from BPS:96/98 concerning student attrition. An examination of the findings related to students with nontraditional characteristics and discussion of their significance is presented. Recommendations are included to assist institutions in handling students with nontraditional characteristics, thus, reducing the rate of attrition for these students.*

Statistical studies provide precise and detailed information of a moment in time. Although sharply focused and rich in data, they are “snapshots” intended to describe what “is” at the time the research was undertaken. Longitudinal studies, on the other hand, assemble information over time, thus providing a view of change, and the effect of particular variables over the duration of the research study. Among the best-known and inclusive statistical studies of postsecondary education are the IPEDS reports, compiled annually.<sup>1</sup> These reports, for individual institutions and for postsecondary education in the aggregate, provide an essential “snapshot” of where we are at the time the data are compiled. Among the most significant and influential longitudinal studies are *The National Longitudinal Study of the High School Class of 1972 and High School and Beyond*.

Because of the complexity of analysis and the high costs of tracking data over time, the most dependable and reliable longitudinal studies are those undertaken by the federal government. One such study, *The 1996/98 Beginning Postsecondary Students Longitudinal Study* (BPS:96/98), examined student attrition during their first three years of postsecondary education. Specifically, the study looks at the attrition of a particular group of students — those whose initial enrollment in postsecondary education occurred during 1995/96 — during the period from enrollment until Spring 1968, and asks the question: Of students whose enrollment began in 1995/96, how

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<sup>1</sup> *The Integrated Postsecondary Education Data System (IPEDS)*, is the primary and most comprehensive postsecondary education data collection process. Compiled annually from all providers of postsecondary education, *IPEDS* collects institution-level data in areas such as enrollments, program completions, faculty, staff, and finances.

many left without a credential? This does not refer to students who left one institution and enrolled in another where they obtained a degree. Only students who left postsecondary education entirely are included. Prior research on cohorts beginning study at a particular time documented that the highest attrition occurred in the first year of study, with steadily decreasing attrition over the next two years. BPS:96/98 confirmed that pattern, concluding that almost one-third (32 percent) of beginning postsecondary students left without a credential within three academic years (Bradburn and Carroll, 2003).

From the perspective of an efficiency model, having any sizable population cohort cease activities toward their presumed objective would be viewed with concern. If, for example, a group of 1,000 people agreed to buy homes in a new development under construction, and, in the course of the construction period 250 or 300 of those people decided not to buy those homes, one would have to ask what had caused so many people to change their minds. If a group of subscribers to a theater or concert series began attending less often until attendance had declined by a quarter or a third, the organizers would wonder about the causes of those declines.

In postsecondary education, however, high attrition is accepted as a condition of doing business. Indeed, within the postsecondary sector, the anticipation of attrition has become axiomatic: institutions admit more students than they anticipate attending, and they accept deposits from more students than they are able to accommodate. Thus, for many institutions, the data from BPS:96/98 reinforced established beliefs about the volatility and transience of beginning postsecondary students.

The general issue of student attrition has been ably addressed in the past decade with authoritative studies focusing primarily on traditionally aged postsecondary students (Astin, 1993; Chickering and Reisser, 1993; Pascarella and Terenzini, 1991; Stage, et al., 1996; and Tinto, 1993). In response to this research and to individual institutional experiences, many institutions have developed intervention programs designed to identify and assist those at greatest risk. Popular conference and seminar programs, such as Gardner's "First Year Experience" place major emphasis on reducing student attrition. Thus, awareness of the attrition problem is evident, even if the data do not support success in reducing attrition. Specific factors leading to high student attrition have been identified, but not effectively controlled.

In addition to implementing intervention programs, broader policy questions emerge from the realities of high attrition. These questions are both important and elusive: is attrition the result of unrealistic expectations by students and/or weak performance by faculty? To what extent is attrition a healthy process through which students remove themselves, or are removed, from environments that are not appropriate? Why are attrition rates different for groups with particular characteristics? What, if any, interventions are feasible, and with what possible outcomes?

The data in BPS:96/98 indicate two areas where the results are skewed: higher departure rates both in two-year public institutions and among students with some

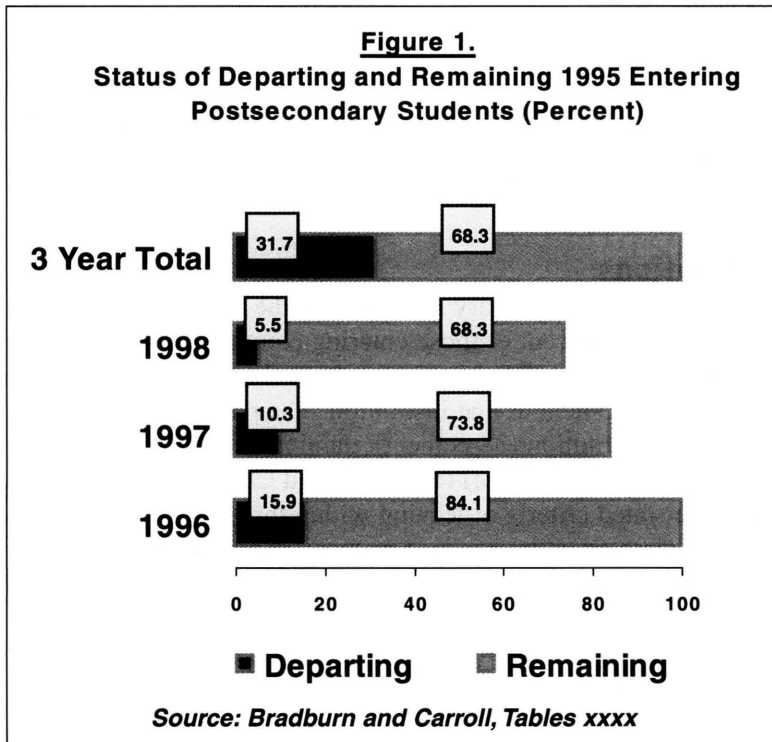
nontraditional characteristics in all three types of institutions. How can these significantly higher departure rates be explained, and what if any remediation interventions are possible? What are the policy implications of excessive rates of departure for students with nontraditional characteristics?

## Overview of Research Findings

### General Findings

Although the paper examines in detail those aspects of BPS:96/98 pertaining to students with nontraditional characteristics, BPS:96/98 analyzes broader questions of student attrition and early departure. The study included students beginning postsecondary study at two- and four-year public and private institutions. Those at four-year institutions were slightly more likely to remain during the three-year period of the study. Students at public two-year colleges had the highest percent of students who left both during the first year, and over the three-year period of the study. Women were more likely than men to say that they left because of a change in “family status,” but men were more likely to give “academic problems” as the reason for leaving (Bradburn and Carroll). Also, grades, not unexpectedly, were a factor in early attrition.

Among all students at all institutions studied, attrition was high. Attrition decreased each year from a high of 15 percent in the first year to five percent in the third year. At the end of the three-year period, attrition exceeded 30 percent as indicated in Figure 1.



The mean departure rate of nearly one-third does is not a true representation of the variation in departure rates by institutional type, as is evident in Table 1.

<b>Table 1: Departure Rates of 1995 Entering Postsecondary Students, By Institutional Type (Percent)</b>				
	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>3 year total</b>
<b>Percent Departing</b>				
<b>2 year public All</b>	<b>23.9</b>	<b>13.0</b>	<b>6.8</b>	<b>43.6</b>
<b>4 year public All</b>	<b>7.3</b>	<b>7.5</b>	<b>4.1</b>	<b>18.8</b>
<b>4 year private All</b>	<b>6.4</b>	<b>6.8</b>	<b>4.0</b>	<b>17.2</b>
<i>Source: Bradburn and Carroll, Tables 2A—C, 3 A—C</i>				

As Table 1 indicates, three-fifths of students 24 and older who entered two-year public institutions in 1995, were not at the institution three years later and had departed without receiving a credential. This was nearly 50 percent higher than the rate for all entering two-year students after three years (60 and 44 percent respectively). Thirty-eight percent of students over 24 in two-year institutions departed in the first year, as compared with only 24 percent of all enrolled students in all two- and four-year institutions.

Viewing the above data, it is the high departure rate (nearly a quarter) in the first year, and the total departure rate after three years (nearly 40 percent) for those enrolled in two-year public institutions that require particular scrutiny and analysis. Three factors help explain the high departure rate: student intention, changed circumstances, and low academic performance.

### **Students' Intentions**

Student intention is one of the primary reasons why the departure rate from two-year institutions is so high; 76 percent of those entering community colleges describe reasons for enrolling which would not necessarily lead to either a credential or a multi-year commitment to enrollment at that institution. The reasons given are: preparing for transfer to a four-year institution (38 percent); gaining needed job skills (22 percent); and, personal enrichment (16 percent) (Bradburn and Carroll). Although these individuals meet the stated criteria of leaving within three years, without a credential, it is an inaccurate characterization because many — if not most — of them may not have intended to stay or to obtain a credential.

The more certain individuals were about their educational objectives, the more likely they were to remain. Those who were uncertain or indefinite about their longer-term educational plans were less likely to remain, particularly those attending public



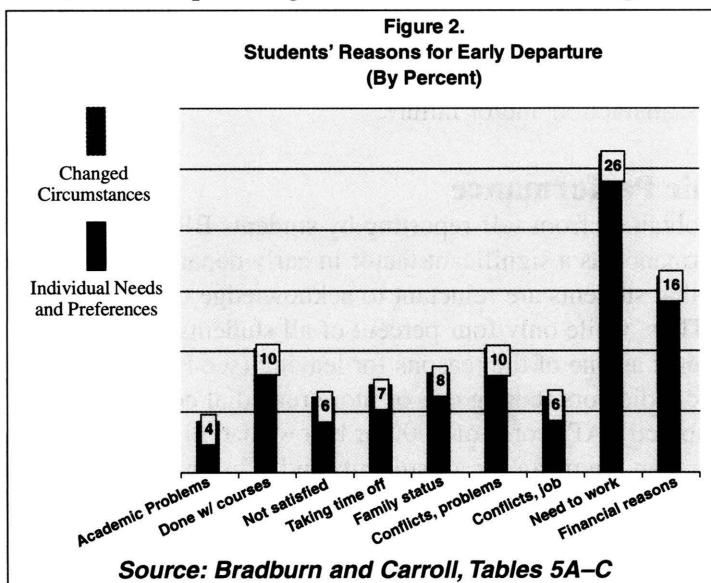
community colleges. While the percent of those in four-year public and private institutions who answered “don’t know” about educational objectives were similar (24 and 22 percent respectively), the percent of those who answered “don’t know” in the two-year institutions was twice as great (48 percent) (Bradburn and Carroll).

When asked about their eventual educational expectations, those at public and private four-year institutions indicated goals of bachelor’s and advanced degrees (77 and 74 percent) while the percent of those at two-year institutions was much lower (63 percent) (Bradburn and Carroll).

Intention, however, is both an abstract and elusive concept, susceptible to modification and change based on students’ actual experiences. For many students, “intention” is linked with “motivation;” the greater the motivation, the more likely it is that students will reach their intended goals. In Tinto’s research, there is strong evidence that marginality compromises and erodes motivation. Tinto asserts that two of the most important factors contributing to retention are academic and social integration; marginality results from a lack of integration and is a primary predictor of departure.

### Changed Circumstances

Early departure students in the study were asked to indicate up to three reasons for their departure, chosen from nine: academic problems, done taking desired courses, not satisfied, taking time off, change in family status, conflicts at home/personal problems, conflicts with jobs/military, needed to work, other financial reasons. Four of the reasons (academic problems, done taking desired courses, not satisfied, taking time off) are related to individual needs and preferences, but the remaining five (change in family status, conflicts at home/personal problems, conflicts with jobs/military, need to work, other financial reasons) refer to changed circumstances. As Figure 2 indicates, 27 percent of the responses indicated individual needs and preferences as the reason for early departure, while 66 percent gave reasons related to changed circumstances.



The factors described above as changed circumstances are all related to the issues consistently reported, particularly among older students: the complexity of lives with multiple priorities, ongoing financial pressures, and pervasive stress. The five factors can be collapsed into two broad categories:

1. Personal Issues
  - Change in family status
  - Conflicts at home/personal problems
2. Financial issues
  - Conflicts with jobs/military
  - Need to work
  - Other financial reasons

Viewing these in the context of possible institutional interventions to reduce the number and percent of early departures, it is clear that there are limited institutional options. It is possible that workshops, such as time management, and counseling opportunities may be marginally effective in coping with the personal issues, they are, in fact, *sui generis*, to each individual and each family. Thus, while potentially helpful to some students, institutional interventions in this area will have limited results on the overall departure rate.

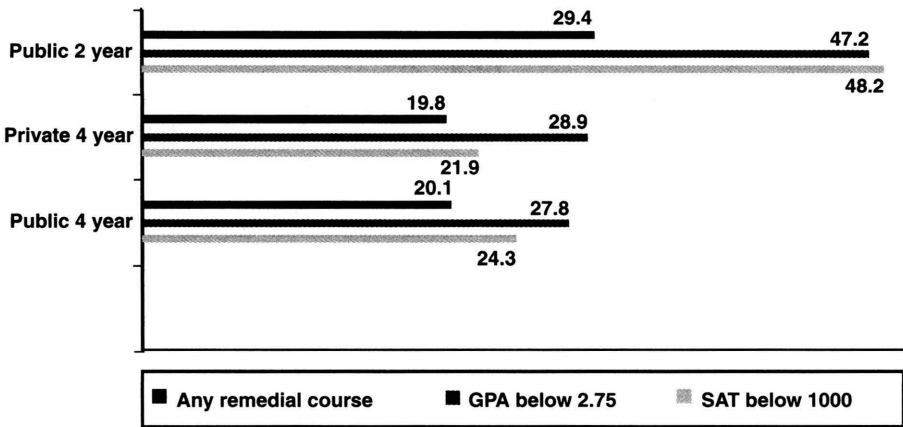
It is more difficult to conceptualize potential interventions to deal with the financial issues because they are seminal to basic financial stability, and are only peripherally connected to the price of tuition, a variable somewhat within the control of institutions through price setting and financial aid. To the extent that these financial issues contribute to high departure rates, there is little institutions can do to ameliorate their effects.

When the data are disaggregated as above, it becomes clear that the high number of early departures includes many who have departed because: (1) they have accomplished their objectives, or satisfied particular needs and (2) they have encountered problems unrelated to educational quality or instructional effectiveness. To some degree, this distorts the early departure data, which has often been viewed as a measure of dissatisfaction and/or failure.

### **Low Academic Performance**

While the data obtained from self-reporting by students BPS:96/98 do not support low academic performance as a significant factor in early departures, there has been a long standing belief that students are reluctant to acknowledge their own weak academic performances. Thus, while only four percent of all students in BPS:96/98 cited academic problems as one of the reasons for leaving (see Figure 2), those with the lowest academic indicators (taking one or more remedial courses, GPA of 2.75 or below, and combined SAT scores of 1000 or below) had higher departure rates in four-year institutions than the mean for all students and substantially higher rates in two-year institutions, as is evident below:

**Figure 3**  
**Status of 1985 Entering Postsecondary Students Departing Without Credential After Three Years, By Academic Indicators (Percent)**



*Source: Bradburn and Carroll*

Early departure rates of students with weak academic performance in public and private four-year institutions are remarkably similar, with ranges between .3 percent and 2.4 percent:

	Taking remedial courses	GPA of 2.75 or below	Combined SAT scores below 1000
		Percent	
Public four-year	24.3	27.8	20.1
Private four-year	21.9	28.9	19.8

By contrast, public two-year institutions, with broader programmatic objectives and students with more academically diverse backgrounds, demonstrate a stronger correlation between academic performance and early departure:

	Taking remedial courses	GPA of 2.75 or below	Combined SAT scores below 1000
		Percent	
Public two-year	48.2	47.2	29.4

In essence, nearly half of all students entering public two-year institutions who have low GPAs and/or who are taking remedial courses will depart within three years, without a credential, with the largest attrition occurring in the first year. These data may have implications on student advising, course scheduling, and the deployment of faculty resources until after the period of highest departure.

The BPS:96/98 data also indicate some important differences in early departure rates as a function of student demographics and background characteristics. Three are of particular relevance and interest, as can be seen in Table 2. These are gender, race/ethnicity, and income quartile.

<b>Table 2: Departure Rates of 1995 Entering Postsecondary Students, By Student Demographics and Background Characteristics (Percent)</b>			
	<b>2 year Public</b>	<b>4 year Public</b>	<b>4 year Private</b>
<b>Percent Departing</b>			
<b>Total</b>	<b>43.6</b>	<b>18.8</b>	<b>17.2</b>
<b>Gender</b>			
<b>Male</b>	<b>41.3</b>	<b>19.8</b>	<b>19.2</b>
<b>Female</b>	<b>45.9</b>	<b>18.2</b>	<b>15.6</b>
<b>Race/Ethnicity</b>			
<b>White, non-Hispanic</b>	<b>42.7</b>	<b>19.6</b>	<b>16.1</b>
<b>Black, non-Hispanic</b>	<b>52.9</b>	<b>25.4</b>	<b>22.7</b>
<b>Hispanic</b>	<b>41.9</b>	<b>13.6</b>	<b>23.8</b>
<b>Asian/Pac/Islander</b>	<b>41.0</b>	<b>10.5</b>	<b>10.3</b>
<b>Other</b>	<b>*</b>	<b>13.1</b>	<b>*</b>
<b>1994 income quartile</b>			
<b>Lowest quartile</b>	<b>44.0</b>	<b>23.8</b>	<b>26.5</b>
<b>Middle quartiles</b>	<b>44.7</b>	<b>18.8</b>	<b>16.9</b>
<b>Highest quartile</b>	<b>39.3</b>	<b>15.2</b>	<b>11.3</b>
<i>* Too small to report</i>			
<i>Source: Bradburn and Carroll, Tables 2A—C</i>			

## **Early Departure Among Students With Nontraditional Characteristics**

### **Impact of Age on Early Departure**

The population group with the highest rate of early departures is the one comprised of those with nontraditional characteristics. Those with nontraditional characteristics consistently have higher rates of early departure. This was evident in both two- and four-year institutions.

The nontraditional characteristic of age (those older than 24 at the time of initial enrollment) is a striking example of its negative impact on remaining in school and obtaining a credential. This can be observed in Table 3.

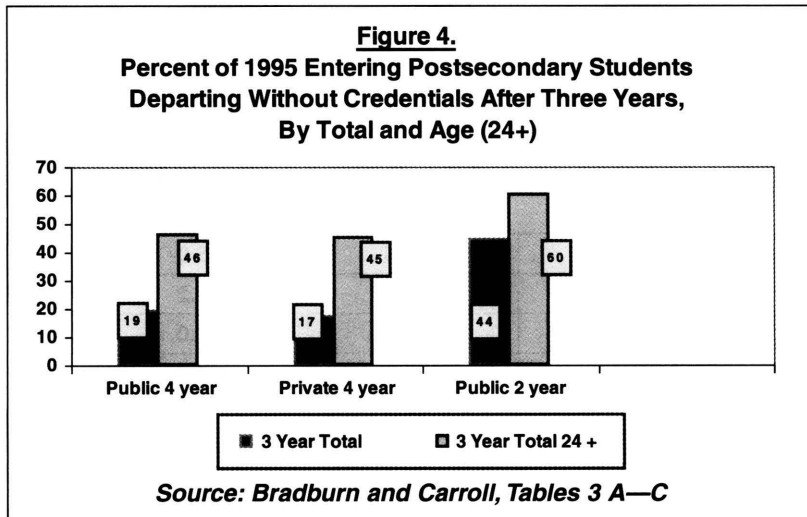
**Table 3:  
Departure Rates of 1995 Entering Postsecondary Students,  
By Institutional Type and Age (Percent)**

	1996	1997	1998	3 year total
<b>Percent Departure</b>				
4 year public All	7.3	7.5	4.1	18.8
4 year public 24+	31.6	9.5	4.9	46.0
4 year private All	6.4	6.8	4.0	17.2
4 year private 24 +	33.5	8.4	3.2	45.1
2 year public All	23.9	13.0	6.8	43.6
2 year public 24+	37.6	15.5	6.4	59.5

*Source: Bradburn and Carroll, Tables 2A—C, 3 A—C*

## Early Departure in Public Two-Year Institutions

Moving from a consideration of year-by-year departures, one can see the cumulative effect of nontraditional characteristics on the overall rate of departures. As can be observed in Figure 4, a significantly larger number of older students depart from all three types of institutions. The rate of departures from two-year institutions, however, is more than twice as great as at four-year institutions for all students (45–46 percent as compared with 17–9 percent). Among older students at two-year institutions, the departure rate is 60 percent, a third higher than the rate for all students.



# Nontraditional Characteristics Placing Students “At Risk”

There are other nontraditional characteristics that demonstrate the same point: particular student attributes put some students at greater risk to be among those who depart early and without credentials. How widespread is this knowledge? To what degree are students with nontraditional characteristics aware of their academic jeopardy? The nine nontraditional characteristics are: being age 24 or older, delaying enrollment in postsecondary education by a year or more after high school, enrolling part-time, being an independent student, working full-time while enrolled, having been married, having any dependents, being a single parent, and not having a regular high school diploma (Horn, 1996). Imagine for a moment an auditorium filled with 1,000 new community college students ready for the start of their educational endeavors. Imagine, too, that the administrator welcoming those students told them that 600 of them would never receive a credential or even been enrolled at the institution in three years. In reality, students, and probably many faculty members, are not aware that the data indicates that many students do not achieve their aspirations. The reasons for this are complex, some associated with student attributes, and some with what has been called “culture bias” resulting in marginalization of non-traditional students (Quinnan, 1997).

Although most frequently associated with elementary and secondary students, the term “at risk” can also be applied to returning adult students who are greeted by “lower academic expectations and fewer institutional resources” (Quinnan). In attempting to differentiate between “at risk” students in elementary and secondary schools and those in higher education, Quinnan, referring to Apps’ research (1981), continues: “the primary difference is where the doubts about success originate: adult students are hampered by self-imposed doubts” (emphasis added).

The BPS:96/98 data indicate that a particular cluster of characteristics put some students at especially high risk of early departure.

**Table 4:  
Departure Rates of 1995 Entering Postsecondary Students,  
By Nontraditional Characteristics (Percent)**

	2 Year Public	4 Year Public	4 Year Private
Percent			
Age (24 or older)	59.5	46.0	
Enrolled part time		47.2	50.8
Currently or previously married	60.4	47.0	62.4
Have dependents		46.7	58.4
Delayed enrollment	55.4		
Independent status	59.0		
Work full time	59.0		

*Source: Bradburn and Carroll, Tables 3A—C*

Table 4 identifies the population groups at highest risk for early departure, and, thus, the groups where intervention is most needed and, potentially, where interventions can have the greatest impact.

Some nontraditional characteristics appear to have greater impact in two-year, but not four-year institutions. For example, whether students have had regular or “other” high school completion, makes little difference in the departure rate in two-year institutions (43 percent regular and 49 percent “other”); in four-year institutions, on the other hand, twice as many students with “other” completion depart early (17 percent regular and 36 percent “other” in public four-year institutions and 17 percent regular and 37 percent “other” in private four-year institutions (Bradburn and Carroll).

Virtually the same pattern exists for single parent status:

	Two-Year Public	Four-Year Public	Four-Year Private
Percent			
Not Single Parent	43	16	18
Single Parent	50	47	40

**Conclusion and Recommendations**

The BPS:96/98 data confirm earlier findings that departure from two-year institutions is greater than at four-year institutions (Tinto; Dougherty), and that some student demographic, background and nontraditional characteristics can be identified with attrition (Tinto; Horn; Lynch and Bishop-Clark; Quinnan; Pascarella and Terenzini).

This is sobering news indeed, for administrators and faculty, particularly at public two-year institutions, because its implication is that high attrition may remain a fact of life for the foreseeable future. Early departure at all institutions in the BPS:96/98 study is nearly 16 percent in the first year and nearly 32 percent for three years (Bradburn and Carroll); institutional interventions, at best, may reduce those numbers marginally.

In fact, it is the demographic, background, and nontraditional characteristics, even more so than the attributes of persistence models (such as have been proposed by Tinto, Astin and others) that lead to higher attrition. Those persistence models emphasize intangible factors, such as the intersection of students’ interpersonal needs and institutions resources, and the degree to which students feel included rather than marginalized within the institutional context. Both Astin and Tinto assert that changes experienced by individual students make their “fit” within the institution less congruent. The BPS:96/98 findings related to changed circumstances, illustrated in Figure 2, provide evidence of how pervasive those changes are.

The likelihood of early departure, then, is greatest for those in two-year institutions and those with particular demographic, background, and nontraditional characteristics, as is illustrated in Table 5:



**Table 5:  
Overview of Risk Factors for Early Departure of 1995 Entering  
Postsecondary Students, By Nontraditional, Demographic,  
and Background Characteristics  
(Percent)**

Overview of Risk Factors	Total, Year 1  Total, 3 years	All 2 & 4	2 year public	4 year public	4 year private
		15.9	23.9	7.3	6.4
		31.7	43.6	18.8	17.2
Percent					
Nontraditional Characteristics	Age 24 +	59.5	46.0		
	Currently or previously married	60.4	47.0	62.4	
	Have dependents		46.7	58.4	
	Delayed enrollment	55.4			
	Enrolled part time		47.2	50.8	
	Independent status	59.0			
	Work full time	59.0			
Demographic and Background Characteristics	Female	45.9			
	Black non-Hispanic	52.9	25.4	22.7	
	Hispanic			23.8	
	Lowest quartile	44.0	18.8	26.5	
	Middle quartile	44.7			
<i>Source: Bradburn and Carroll</i>					

There are nine characteristics of students in two-year institutions that can be correlated with high attrition, eight of which can be linked:<sup>[2]</sup> age 24 +, currently or previously married, delayed enrollment, independent status, work full-time, female, and black non-Hispanic. For those in four-year institutions, there are six characteristics, five of which are the same: currently or previously married, have dependents, enrolled part-time, black non-Hispanic, and lowest quartile. The remaining characteristic for each type of institution is: age 24 + (four-year public) and Hispanic (four-year private). These characteristics offer a clear view of which students are at greatest risk of early departure.

In framing this paper, the authors began with two questions: “Can attrition be controlled?” and “Should attrition be controlled?” Despite their apparent simplicity, both questions have significant reverberations when viewed in the context of the BPS:96/98 longitudinal study. The groundbreaking research of Tinto (and the many

<sup>2</sup> An individual could potentially have seven characteristics, plus an additional one related to family income (lowest or middle quartile).

replication and intervention studies which have resulted) provides a conceptual framework through which retention and attrition can be understood. Modifying or restructuring instructional processes and administrative procedures can make students feel more committed to the institution and can increase their sense of affiliation. The simple answer to whether attrition can be controlled is “yes,” but it is qualified by the phrase “to some degree.” As is often the case, the devil is in the details. Attrition — and particularly the early departures described in BPS:96/98 — can be controlled if institutional resources are committed to doing so, those at greatest risk are identified early and institutional interventions are readily available. Developing both early identification and intervention programs, however, is likely to be costly and will certainly require institutional change. The policy question for many institutions will not be: “What needs to be done?” Rather, it is likely to be: “Can what is needed become an institutional priority?”

The question of whether attrition should be controlled raises different issues both for students and institutions. Not all reasons for early departure without a credential can — or should — be assessed equally. It may be a disservice to students and institutions to imply that high attrition rates are somehow associated with failure.

Conveying a negative connotation for all reasons for early departures ignores an important reality: some reasons reflect accomplishing one’s objectives, and others result from circumstances beyond an individual’s immediate control. For example, the data indicate that 17 percent of students state that their early departure is because they are taking time off (seven percent) or have completed the courses they intended to take (10 percent), and that 42 percent are doing so because they need to work (26 percent) or for financial reasons (16 percent) (Bradburn and Carroll).

Furthermore, some attrition may be indicative of problems, the resolution of which should be early departure as the best alternative to repeated frustration and failure. These reasons include:

- students’ inadequate academic preparation and insufficient mastery of literacy skills to complete the required work;
- “situational” and “informational” barriers which impede students’ ability to fulfill course requirements (Cross); and,
- lack of congruence between the institutional environment and students’ learning styles.

In some instances, including the ones described above, “amicable separation” may be desirable and beneficial. This is especially true if it can be done with adequate academic counseling, specific recommendations to students about alternatives, and in a timely manner.

The data reveal, for example, that half of all departures occur during or at the end of the first year (15.9 percent and 31.7 percent). Institutional interventions during that critical period may have a strong impact both on retention of some students who might

otherwise be at risk, and on future re-entry of students who are counseled into “amicable separation.”

Thus, it is reasonable to conclude that, despite consistently high rates of early departure at four-year institutions, and extremely high rates at two-year institutions, some attrition can be reduced through early identification of population groups at greatest risk and through the implementation of intervention programs to address the academic and personal issues that arise and contribute to early departure. Furthermore, some attrition should be encouraged, particularly if it may lead to re-entry at a later time and in a different institution. Finally, it may be beneficial to establish clearer categorical definitions of early departure to differentiate between those who leave because they have accomplished their objectives and those who leave for academic, financial, or personal/family reasons.

From public policy and institutional effectiveness perspectives, early departure may be inefficient and costly, but interventions are possible to reduce the rate of such departure, and some departures, especially during the first year, may, in fact, result in greater efficiency and reduced costs.

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## **Author Information**

Frederic Jacobs is professor of education and director of the doctoral program at American University in Washington, D.C. He has held senior leadership positions at a number of institutions and routinely consults on matters pertaining to nontraditional learners in higher education.

Stephen P. Hundley is associate professor of organizational leadership at Indiana University-Purdue University, Indianapolis. He teaches courses in leadership development, human resources, and organizational research.

Together, the authors have written articles, papers, and a forthcoming text on adult learners in higher education.

Frederic Jacobs  
Professor of Education  
School of Education  
American University  
4400 Massachusetts Ave., NW  
Washington, DC 20016  
Email: fredj@american.edu  
Telephone: 202-885-2124

Stephen P. Hundley  
Associate Professor of Organizational Leadership  
School of Engineering and Technology  
Indiana University-Purdue University, Indianapolis  
799 W. Michigan Street, ET 309  
Indianapolis, IN 46202  
Email: shundley@iupui.edu  
Telephone: 317-274-2876