

# **Beyond BA Blinders: Lessons from Occupational Colleges and Certificate Programs for Nontraditional Students<sup>†</sup>**

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**P**ostsecondary education mostly focuses on the four-year BA degree. One often hears claims about how such degrees have “million dollar payoffs,” an estimate which is based on average earnings for those who complete a four-year BA degree compared to those with only a high school education (for example, see how Couch 2012 presents the results of Carnevale, Rose, and Cheah 2011). While these “million dollar” claims are intended to be encouraging, they lead to predictable disappointments for many students who don’t complete a BA or don’t receive the higher pay.

Students’ educational goals have dramatically increased in recent decades (Schneider and Stevenson 1999). Among high school graduates, 89 percent plan to get BA degrees (authors’ analysis of data from the National Education Longitudinal Survey 2004), and over 80 percent actually enter college in the eight years after graduation (Adelman 2004). In keeping with these rising aspirations, enrollment has almost doubled over the last 40 years in public four-year colleges to almost 8 million students, with another 5 million in private four-year colleges (National Center for Education Statistics (NCES) 2012). However, many students pursue postsecondary education outside the context of four-year colleges. Enrollment has more than tripled over the last 40 years in public two-year colleges to over 7 million students,

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and increased at a similar rate in private two-year colleges. Two-year colleges' total enrollment was a small fraction of four-year college enrollment in 1970 (37 percent), but it had grown to 58 percent in 2010 (NCES 2012, table 199). Comparing just public colleges, total enrollment at public two-year colleges was 51.9 percent of public four-year college enrollment in 1970, but it was 91.1 percent of public four-year enrollment in 2010. Community colleges have reduced the formal barriers of time, distance, and cost that often hindered students in the past from pursuing a postsecondary degree by offering convenient locations, flexible schedules, and low tuitions. Even low achievement in high school is not a barrier because many community colleges have open admissions policies.

Community colleges are often promoted as the first step toward the ultimate goal of a four-year degree. However, community colleges have extremely poor degree completion rates, with only 37 percent of students finishing an AA (associate's) or BA (bachelor's) degree in eight years. In contrast, there are indications that their private two-year college counterparts enroll similar students, but have 56 percent degree completion rates (Stephan, Rosenbaum, and Person 2009). While recent evidence estimates less of a difference for AA degrees, it does suggest substantially higher certificate completion in the private institutions (Deming, Goldin, and Katz 2012). In any case, private colleges challenge many of our preconceptions about college. They are less wedded to college traditions, which raises interesting questions. Do private colleges offering certificates or AA degrees use different procedures? Should community colleges consider some of these procedures to reduce student difficulties and improve their completion rates?

In this paper, we examine a specific kind of college known as *occupational colleges*—private accredited colleges that offer career preparation in occupational fields like health care, business, information technology, and others. Occupational colleges are accredited, and they offer certificates, associate's degrees, and sometimes bachelor's degrees. Occupational colleges are private but not selective, and they enroll many low-achieving and low-income students, who are typically funded by federal and state financial aid. In the next section of this paper, we offer a brief overview of occupational colleges, and we compare their degree completion rates with those of community colleges.

We then describe findings from a detailed study comparing occupational and community colleges (Rosenbaum, Deil-Amen, and Person 2006; Rosenbaum, Rosenbaum, Stephan, Foran, and Schuetz forthcoming). Our concern is not with promoting occupational colleges themselves, but with identifying their distinctive procedures and how they work. Our observations suggest that the occupational college sector is heterogeneous: that is, it includes some colleges with exemplary outcomes, and others that apparently are frauds. Rather than assess the average outcomes of this heterogeneous sector, we identify some better colleges in this sector, which design procedures to reduce difficulties students have with traditional college procedures. We find that these innovative procedures at the better occupational colleges are based on economic principles: enhanced incentives, structured choice, and investments in signals. In particular, we find that occupational colleges *enhance incentives* by creating

quick payoffs, postponing obstacles, avoiding failure, and identifying unseen nonpecuniary rewards. They *structure choice* by creating pathways, timeslots, frequent monitoring, and mandatory advising. We find that besides investing in human capital, they also *invest in signals* by paying job placement staff to develop relationships that employers will trust to assure them that recommended graduates will not pose serious risks.

Of course, college incentives mostly come from labor market outcomes, and we find monetary and nonpecuniary gains resulting from certificate and AA programs of which many students are unaware. After reviewing evidence on monetary gains, we consider nonpecuniary gains, analyzing data from the National Longitudinal Study of Adolescent Health. We find that young adult workers ages 25–32 identify many nonpecuniary rewards of jobs such as job status, autonomy, relevance to later career, and others; that these rewards are more strongly associated with job satisfaction than are earnings; and that certificates and AA degrees have significant payoffs on these nonpecuniary rewards (compared to high school graduates). While community colleges assume that students are aware of all incentives for various credentials, students who seek the million dollar gains from a four-year BA may have difficulty seeing the nonpecuniary returns from a one- or two-year credential. In contrast, occupational colleges bolster students' incentives by identifying job rewards students don't see at the time but typically appreciate after they complete their credential.

For many community college students, earning the more likely, quick sub-BA credential—perhaps followed by a four-year degree in the future—will be preferable to the relatively unlikely pathway from a community college program directly to a four-year BA. In sum, this paper suggests that nontraditional colleges and nontraditional credentials (certificates and AA degrees) deserve much closer attention from researchers, policymakers, and students.

As faculty at institutions of higher education, this comparison may help us examine college procedures that we take for granted and help us perceive unnecessary obstacles they impose. Our aim is to understand nontraditional procedures, and how they implement economic insights and nontraditional goals to assist their students' success. Although "college" is usually assumed to be a single entity, we discover that some colleges use radically different procedures that enhance incentives, identify nonpecuniary incentives, structure choice, and invest in trusted signals.

## What are Occupational Colleges?

Occupational colleges are private institutions, both for-profit and nonprofit, that confer accredited degrees and certificates in occupational fields. This category includes large corporations like DeVry, Phoenix, and others as well as small colleges that offer preparation in many mid-skilled jobs in a variety of fields: for example, health sciences, consumer services, business, protective services, computer information sciences, engineering technicians, marketing, and legal services. Although annual tuitions at occupational colleges are much higher than tax-subsidized community colleges, federal and state grants cover some of the added costs, and

occupational colleges help students obtain these grants (which require complex paperwork). Critics contend that for-profit colleges will be deceptive, and Tierney (2012, p. 155, 159) agrees that some are, but he also argues that “the need for a better educated workforce will continue to grow. . . . The reality is that at a time when states need to increase college participation [to meet labor market needs], the public sectors are cutting back. Without the active involvement of the private non- and for-profit sectors, there is simply no way to reach the educational levels that will enable the United States to be a leader in college access, completion, and attainment.” At the same time that public community colleges are facing budget cutbacks, for-profit and nonprofit private colleges are growing.

Analyzing the National Education Longitudinal Survey of 1988 (NELS), Stephan, Rosenbaum, and Person (2009) found that occupational colleges enroll similar students as community colleges but their degree completion rates are 20 percentage points higher. These results are robust to different methods of estimation. For example, limiting the sample to comparable students (using propensity-weighted regression), the estimated difference in overall attainment rates is 20 percentage points or more. (This data source is not useful for comparing earnings, because too few people reported wages from occupational colleges.)

However, our purpose in this essay is not to characterize or defend the average performance of this sector. There have been a number of highly publicized cases of institutions that provided little for their students and, in some cases, even engaged in outright fraud. Even if average outcomes of for-profit colleges are no better than community colleges—and actually, the evidence seems to show that their graduation rates are better—occupational colleges are a heterogeneous group and averages should not prevent us from looking at the better institutions. In the next section, we focus on describing procedures used by some of the better private occupational colleges, what economic principles they may use, and whether they suggest procedures for reforming traditional community colleges.

## **Lessons from Occupational Colleges: Six Nontraditional Procedures**

Many who are involved in higher education, whether as participants or as researchers, assume implicitly or explicitly that traditional four-year BA degrees are the only meaningful goal of college, and that traditional college procedures are the only conceivable procedures. For example, community colleges require over 60 percent of students to take remedial courses in the hope of transforming them into traditional students who can meet traditional academic demands, regardless of how long this takes. This BA-centric approach has been tried many times, and it has failed repeatedly (Bailey, Jeong, and Cho 2010). These failures lead some observers to believe that disadvantaged students inherently lack the academic ability to succeed in college (Murray 2008).

However, blaming this failure solely on students’ abilities to master a specific academic curriculum overlooks the many nonacademic demands that colleges

make on students. Traditional college procedures require students to have culturally specific information and financial support to succeed in college: college and labor market knowledge, schedule flexibility, and resources to persist without payoffs for four years—and often much longer. In interviews, community college students report a wide variety of mistakes in course choices, time allocation, and degree plans. Such mistakes threaten college persistence by creating serious problems for students: courses without credits, credits without credentials, and credentials without job payoffs (Rosenbaum, Rosenbaum, Stephan, Foran, and Schuetz forthcoming). These problems arise from students' difficulties with traditional college procedures, but, as we will argue, the better occupational colleges use different procedures that reduce these difficulties.

Are there lessons from occupational colleges that community colleges could use to improve their completion rates? In Rosenbaum, Deil-Amen, and Person (2006), we analyzed the institutional procedures in seven community colleges and seven occupational colleges in the Chicago metropolitan area. Because our aim was to discover alternative procedures, rather than to evaluate average outcomes, we purposely chose better occupational colleges that we expected would be more effective at graduating students. Our group of seven private colleges includes three nonprofits and four for-profits, three of which are part of for-profit national chains across the United States.

Based on our observations, interviews with college staff and students, and surveys of 4,000 students, we discovered specific problems that students experience in community colleges that are less common in occupational colleges. Our study led to six lessons that broaden our conceptions of college procedures, which we identify below. Moreover, more recent research discovers a broad array of job rewards, many of which young adults find more satisfying than earnings. We find that occupational colleges apply economic principles to their procedures so students are more likely to see incentives, make good choices, and get trusted labor market signals.

### **Lesson 1: Quicker Successes with Sub-BA Credentials**

Most students enter community college to pursue a “four-year BA degree.” However, these plans lead to all-too-predictable disappointments. Among community college students pursuing a BA, only 4 percent complete a BA in four years (Stephan 2010, based on data from the National Education Longitudinal Survey). Another 8 percent complete a BA degree in five years, and yet another 16 percent do so in 6–8 years. In sum, only 28 percent get a BA in eight years. Over the next 20 years, another 10 percent of students may complete a BA degree (based on the authors' unpublished analyses from the National Longitudinal Survey of Youth 1979), but such long periods before completion will inevitably leave fewer years for payoffs in earnings or other nonpecuniary forms.

Thus, for the average community college student, the “four-year BA” is nearly a myth and the BA is still rare in eight years. The BA is likely to become an increasingly weaker incentive as students discover these outcomes.

In contrast, occupational colleges enhance incentives by offering quicker credentials and making them an automatic part of the curriculum path. All seven of the

occupational colleges in our study offered certificates in one year and associate's degrees in two years, and these credentials were conferred automatically along the way for those who were continuing on to a BA. While these credentials are also offered in community colleges, they are deemphasized, and many students don't realize they can get a quick certificate with job payoffs on the way to a BA degree. In occupational colleges, students may still pursue a BA, but along the way they earn shorter credentials that have higher completion rates and may lead to high-demand, mid-skilled jobs by age 25, which is a good way to start a career and likely boosts students' confidence to go further.

## **Lesson 2: Postpone Remediation, Avoid an Obstacle**

Community colleges have opened their doors to new kinds of students, including many with previously low educational achievement (Long and Riley 2007). Nonetheless, these students are encouraged to plan BA goals. However, BA goals require college-level academic skills, which means that low-achieving students must take remedial courses. While these students take classes in college buildings and pay college tuition, they are not in "college classes."

Over 60 percent of students take remedial courses, which are high school-level courses that give no college credit (Adelman 2004), and many students take several remedial courses (Rosenbaum, Deil-Amen, and Person 2006).

While community colleges frontload remedial courses to prepare students for later BA courses, that policy only works if students complete the remedial courses—which most students do not. On average, about 46 percent of students complete the reading sequence, and 33 percent complete the math sequence. For students referred to the lowest-level remedial courses, completion rates are abysmal: Bailey, Jeong, and Cho (2010) report just 29 percent complete the remedial reading sequence and 17 percent complete the remedial math sequence. Very rarely does anyone warn students in low-level remedial courses that the math sequence only has a 17 percent success rate. Indeed, remedial classes are often concealed behind the euphemism of "developmental education," which many students don't understand. The incentives to continue in college may be undermined as students discover that they are getting no credits for some courses and that remedial courses usually don't work.

This is all the more unfortunate since, in fact, "college-level academic skills" are not necessary to benefit from postsecondary education. In our interviews, faculty at both community and occupational colleges report that ninth-grade math and reading skills are sufficient for completing certificates in many occupations, including high-demand fields in computer networking, medical technicians, allied health, and accounting (Rosenbaum, Cepa, and Rosenbaum 2013). For underprepared students, these alternatives to the BA do not require immediate remediation, while the traditional BA route, with its frontloaded remedial courses, is a major obstacle.

Occupational colleges enhance student incentives by avoiding or postponing obstacles that cause delays or failures, like remedial noncredit courses. Students can earn certificates and AA degrees without remedial requirements. Any academic remedial lessons that are needed are integrated into occupational courses, and remediation is gradually provided as needed, without becoming a separate noncredit obstacle.

### Lesson 3: Degree Ladders, Not a “Fail-First” Sequence

Most community colleges not only postpone success by emphasizing remedial courses, they also frontload failure. In the national Beginning Postsecondary Survey, researchers found what we call “a fail-first sequence:” that is, 42 percent of community college students drop out in the first year, 50 percent return to community college, and 53 percent then *drop out again* (Horn 1999). Only 14 percent of early dropouts acquire any credential.

“Fail first” is a costly method: it rarely leads to a credential, even among students who have the qualifications for a certificate or AA degree. Advisors often don’t tell students about these quicker interim credentials they could get while pursuing a BA. Certificates and AA degrees take less time, require fewer remedial courses, and have labor market value, and many credits will count for BAs (Rosenbaum and Cepa, 2013, discussed below). The fail-first sequence prevents students from seeing how they can succeed in college and undermines their incentives to continue trying.

In contrast, occupational colleges enhance incentives by creating “incremental success,” essentially reversing the fail-first sequence. In this approach, early courses are relatively easy, engaging, career relevant, and teach skills of general value, “the new basic skills,” which are computer skills, soft skills, and task management (Murnane and Levy 1996). Within twelve months, students can earn certificates in high-demand fields like health, computers, business, and other fields that often lead to better jobs (Carnevale, Rose, and Cheah 2011), and this may even permit students to begin gaining relevant job experience during college. For students who have never done well in school, these sub-BA credentials avoid early failure, give students a quick payoff and confidence that they can succeed in college, and offer the first step on a degree ladder to AA and BA degrees. Community colleges could greatly increase their rates for students completing some kind of credential if they placed more emphasis on degree ladders.

Traditionally, certificates were the end of an individual’s postsecondary education, but not anymore (Gill and Leigh 2004). Over 30 percent of people with certificates also get AA or BA degrees (Carnevale, Rose, and Hanson 2012). Some certificate courses count for the BA; in our community college sample: 47 percent of certificate courses count toward a BA, although the portion varies across colleges and majors (Rosenbaum and Cepa 2013). Getting a certificate on the way to a BA may add a little more time to the BA timetable, but this extra time is insurance that gives short-term job payoffs, access to a career, career-related job experience, and some credits toward AAs and BAs (Schuetz, Rosenbaum, Foran, and Cepa 2012). In particular, students at risk of dropping out might first aim for certificates, which can be completed in one year versus the six or more years it often takes to finish a BA (Bound, Hershbein, and Long 2009; Stephan 2010).

### Lesson 4: Structured Curriculum Pathways and Timeslots

College traditions encourage an exploratory process where students choose their own courses. This approach can work fairly well for many traditional four-year college students whose parents will support them through four years or more and

can offer advice and guidance. But for disadvantaged students without such financial support and guidance, this exploratory approach offers a bewildering plethora of choices, which many students report to be highly confusing, and it can increase the risks of not completing any credential at all. Among high school graduates in 1992, 8 percent got associate's degrees by the year 2000, and another 10 percent had enough credits for an AA, but no degree (60+ credits, Adelman 2004). Students have difficulty knowing which courses count so they take the wrong ones and fail to get degrees. The labor market mostly rewards credentials, not isolated credits, so 10 percent of this nation's high school graduates get *credits without credentials*, which will yield little or no payoff (Grubb 1996, 2002).

By tradition, college courses fill a patchwork of timeslots in a week. For students who live off campus, such a schedule may require commuting for each class and adjusting to schedule changes every semester. Many students report that each semester's unpredictable timeslots for required courses can conflict with work or childcare schedules, making the choice process more difficult and sometimes preventing required courses, which lengthens degree timetables.

To reduce these difficulties, occupational colleges impose structure on students' choices. They offer structured curricula in pre-set time slots. Like a package-deal vacation, students at such colleges choose their career goals, and then the college packages all the details at the outset, so students know at the beginning which classes to take and what timeslots to keep free. Echoing the findings of Schwartz (2004) about the disadvantages of too many choices, one student told us, "I am balancing childcare, work hours, shopping, cooking, cleaning, and college. I don't want more choices." While policymakers often assume that limiting choice is undesirable, for community college students worried about costly mistakes, structure can help them make dependable progress towards their goals.

### **Lesson 5: Mandatory Advising and Monitoring Student Progress**

Community colleges require students to make complex decisions about large numbers of courses and programs. Many of these students can't get advice from their parents—because their parents didn't attend college. As a result, students make many mistakes. They choose courses that are too easy, and so don't make sufficient progress; they choose courses that are too difficult, and face a greater chance of failure; or they choose courses that don't give the right kind of credit for their program, degree, transfer, or employment. Students miss deadlines, underestimate degree timetables, and even discover that early credits can expire if they progress too slowly. The rules for degree completion are often complex and confusing (Rosenbaum and Cepa 2013).

In contrast, occupational colleges structure the choice process by monitoring students' progress and offering frequent mandatory advising (Rosenbaum, Deli-Amen, and Person 2006). A monitoring system makes sure that students take the right courses and keeps track of absences, grades, and teacher concerns. Advisors quickly contact students before problems become serious. Unlike the student-initiated advising that is common in community colleges, occupational colleges make advising

meetings mandatory several times each term and target these meetings at preventing common student mistakes. Unlike individual advising in community colleges, advising occurs in small groups of students in the same program (that is, in cohorts), and one student will often ask questions that had not yet occurred to others.

### **Lesson 6: School-Directed Job Placement**

Traditionally, college degrees were expected to guarantee good jobs. That may have been true several decades ago, but no longer. Nonetheless, many colleges still operate as if it were true. At the community colleges we studied, career services offices offered optional workshops in interviewing and resume preparation to a few students, but these workshops were not aggressively marketed, perhaps because the offices had too few staff to handle a sizable influx of students. (One advisor at a community college discouraged the student newspaper from mentioning his work because the career office could not handle more students.) At many community colleges, the career services offices don't have time to interact with employers. They post ads on bulletin boards or websites for job openings, and many of these jobs are unrelated to college programs.

In contrast, occupational colleges do job placement, and they *invest in signals* employers will value. Job placement services are required, structured, and comprehensive. While community colleges offer a few students optional workshops to make prettier resumes, in occupational colleges, job placement staff help students translate course titles into work-relevant skills that employers will recognize, they provide extensive job search assistance to every graduate, they closely oversee and advise the job search process, they advise students on self-presentation, and they identify skill-relevant job openings. They are savvy. They understand the spatial-mismatch hypothesis (Kain 1968) and urge students to consider residential moves to improve employment prospects.

While community colleges focus mostly on improving human capital value, occupational colleges also invest in improving the value of their *signals* about graduates. Job placement staff invest time in developing long-term relationships with employers. Employers trust the recommendations and ratings of the placement staff because they know that staff won't jeopardize their future credibility. Employers can be confident that they know what risks they are taking in hiring applicants and what assets they are getting (Rosenbaum, Deil-Amen, Person 2006).

### **Monetary Payoffs from AA Degrees and Certificates**

Of course, the main college incentives are the payoffs associated with college credentials, and college procedures can improve students' awareness of incentives they will value after they graduate. We focus on payoffs after college, and how colleges can enhance incentives by improving awareness of future payoffs that students don't anticipate. While most students know the monetary payoffs to BA degrees, the returns to sub-BA credentials are poorly understood. Indeed, much research ignores these credentials and focuses on "years of education," which may not match well with

credentials. When BA degrees take eight years, we don't expect the recipients to have a greater payoff than a four-year BA; in reality, they may have less. While students who get one year of college but no credential may have little earnings payoff (Grubb 2002), one-year certificates in some fields have substantial payoffs (Jacobson and Mokher 2009).

Some public service ads have proclaimed that BA degrees have a \$1 million payoff in lifetime earnings, although some recent estimates are much lower (Lederman 2008). While BA degrees lead to higher median earnings than certificates and AAs, earnings are widely dispersed and overlap; for example, 24 percent of certificate graduates have higher earnings than the median earnings of BA graduates (Carnevale, Rose, and Hanson 2012; see also Baum, Ma, and Payea 2010; Jacobson and Mokher 2009).

In regression analyses of adults of all ages, Carnevale (2012) find that BAs, AAs, and certificates all have significantly higher earnings than high school graduates (72, 47, and 19 percent, respectively, after controls for gender, ethnicity, experience, and experience squared), and the certificate payoff is larger for males than for females (22 versus 15 percent, see their table A1). Focusing on young adults, Carnevale finds that BAs, AAs, and certificates all have significantly higher earnings than high school graduates (67, 39, and 33 percent respectively, after controls for the same demographics and also academic skills; see their table A3). The higher payoff for certificates in the younger sample may indicate that certificates have greater payoffs either for young adults or in the current decade (compared with earlier decades, when fewer jobs required certificates).

Of course, even when payoffs for different degree levels are adjusted for observable factors like experience or demographic factors, those who complete a degree may well be more likely to have valuable unobservable factors like persistence or social skills. As a result, the estimated gains to finishing a degree are a mixture of the learning from the degree itself and these unobservable factors and thus are biased upward. This paper is not the place to try to sort out these well-known endogeneity problems. But we would note that the students who start at occupational colleges and community colleges are observationally similar, and the socioeconomic status, high school grade point average, and achievement test distributions of the two groups of students strongly overlap (Stephan, Rosenbaum, Person 2009). Since students at both types of college are continuing on toward two-year degrees, they are likely to be more similar in some unobservable characteristics as well. Moreover, when students' progress is closely monitored and they meet in frequent mandatory counseling sessions, or when graduating students get personal job-search support from job placement staff who are well connected to employers, it is hard to ignore the possibility that these high-contact institutional procedures at occupational colleges contribute to strong incentives, and thus to positive completion rates and employment outcomes.

### **Nonpecuniary Gains from AA Degrees and Certificates**

Occupational colleges also enhance incentives by identifying nonpecuniary payoffs that students usually don't anticipate, but they will value in the future after

they graduate. While many students and policymakers focus on earnings payoffs from postsecondary education, our interviews indicate that community college students often ignore nonpecuniary job rewards like autonomy, career relevance, job status, healthy work conditions, and others. Although prior research has found that older adults value these job rewards, young college students may rightly dismiss the ratings of older adults, whose careers were shaped in very different labor market conditions. However, young students might be impressed if they were to learn that young adults value nonpecuniary rewards. Thus, it seems important to consider the extent to which young working adults value nonpecuniary job rewards, and whether some job rewards are strongly related to certificates and associate's degree credentials. If young workers value these nonpecuniary rewards, then colleges can help students recognize their value and increase students' incentives to pursue such credentials.

In occupational colleges, job placement staff report that they urge students to consider nonpecuniary outcomes when they are choosing jobs. As economic theory predicts, they report that many high-paid jobs are not necessarily "good jobs." High earnings may compensate for jobs having the serious disadvantages that we call the five Ds: dangerous, demanding (strenuous), disruptive (unpredictable work shifts), dead end, and deceptive (for example, jobs that promise large sales commissions that are unlikely to materialize). These staff warn graduates to think twice before taking such jobs. Instead, they urge graduates to seek nonpecuniary rewards—jobs that offer career preparation, on-the-job training, specialized skills, and advancement (Redline and Rosenbaum 2010). They contend that although young students are rarely aware of these nonpecuniary rewards, they will value them later when they are in the work world. This message often resonates with young adults, if not always with college students. A study of 69 young adults (27 year-olds) found that many were "disappointed in their career development because they had not achieved a career-type job" (Mortimer, Zimmer-Gembeck, Holmes, and Shanahan 2002, p. 447).

To investigate more systematically whether young adults actually find such rewards satisfying and gain such rewards from various postsecondary educational credentials, Janet Rosenbaum (2013) analyzed data from the National Longitudinal Study of Adolescent Health (Add Health).<sup>1</sup> This is "a longitudinal study of a nationally representative sample of adolescents in grades 7–12 in the United States during the 1994–95 school year. The Add Health cohort has been followed into young adulthood with four in-home interviews, the most recent in 2008, when the sample was aged 25–32" (for more on Add Health, see <http://www.cpc.unc.edu/projects/addhealth>).

The Add Health study asks young adult workers about many job attributes: perceived status, repetitive tasks, career-related, career preparation, and autonomy. These questions address the career concepts that counselors and students express in

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Table 1

**Correlation between Job Satisfaction and Job Rewards in each Education Level and for All Students**

<i>Job rewards</i>	<i>Highest degree</i>					
	<i>High school</i>	<i>Certificate</i>	<i>AA</i>	<i>BA</i>	<i>Post-BA</i>	<i>All</i>
Personal earnings	.11	.17	.07	.10	.02	.10
Perceived status	.21	.20	.22	.22	.11	.21
Job autonomy	.29	.37	.32	.33	.33	.32
Job not repetitive	.16	.14	.14	.19	.11	.17
Job related to career goal	.31	.32	.36	.35	.28	.33
Job part of career	.35	.36	.35	.38	.37	.37
Achieved desired educational level	.12	.11	.11	.12	.01	.12
<i>N</i>	(4,470)	(938)	(1,058)	(2,838)	(1,155)	(10,459)

open-ended interviews. These findings can also be interpreted as showing whether young adults who get sub-BA credentials get jobs with career-related attributes. For instance, certificates and applied associate's degrees can lead to mid-skill jobs in various fields like medical technology, computer networking, or paralegal jobs, which in turn may offer skill increases and career advancements.

Although these mid-skill jobs are not as highly paid as professional jobs, they do share some of the attributes of these jobs, as defined by sociologist Richard Ingersol (2004): "rigorous training and licensing requirements, clear standards for practice, substantial workplace responsibility, positive working conditions, an active professional organization or association." They may also have career ladders that build on their specialization, particularly when combined with higher credentials. For instance, computer networking may give valuable experience for becoming a network administrator, although additional credentials may also be required. Some counselors tell students to attend college to get a career, and students themselves often say they are seeking a "career, not just a job" and "I want a job I can stay in for my whole life" (Rosenbaum and Cepa 2013).

As a starting point, we examine whether young adults find these nonpecuniary job attributes rewarding. We look at how young working adults, ages 25–32 in this data, rate their jobs on earnings and other job attributes and whether jobs with such attributes are satisfying. We find that many job attributes are strongly correlated with job satisfaction, as shown in the last column of Table 1, and these correlation coefficients also persist at comparable levels in each education category, indicating that the relationships are not mediated by education (even though education is associated with many of these job attributes). We infer that young adults consider these attributes as rewards, since they are strongly associated with overall job satisfaction, even more strongly than earnings.

Then we use each of the job-reward variables as a series of dependent variables, and run regressions in which the postsecondary credentials shown in the columns

are explanatory variables, along with controls for many individual attributes, listed in the note beneath Table 2. Table 2 shows that compared with high school graduates, those with certificates and AA degrees see an increase in many job rewards, including perceived status, job satisfaction, autonomy, career relevance, career preparation, and whether their job is part of a career. AAs (but not certificates) are statistically significantly associated with increases in earnings, fringe benefits, and desk jobs, and decreases in various job demands like whether the job has characteristics like physically hard, irregular hours, night shift, or repetitive. Indeed, inspecting this long array of job rewards, we see that AA degrees have payoffs on virtually all job rewards for which BAs have payoffs.

In sum, besides certificates' earnings payoffs, certificate graduates get some of the same nonpecuniary job rewards as BAs, and sometimes at the same magnitude as BAs (for career related and career preparation). While the earnings advantage for those with an AA degree is much smaller than BAs, AAs get nearly all of the nonpecuniary job rewards as BAs, sometimes at a similar magnitude (autonomy, health benefits, career preparation), but often less (earnings, strenuous, night shift).

There is some evidence on other nonpecuniary benefits of AA degrees and credentials. Janet Rosenbaum (2012) identified health payoffs to greater education, although these credentials may have these health payoffs through access to better job conditions. For example, Presser (2005) has identified negative psychosocial and health consequences from nontraditional work schedules. Sleep problems have been cited as a cause of disparities in morbidity and mortality throughout the life course (Grandner, Hale, Moore, and Patel 2010). A substantial number of jobs with nontraditional schedules—either night shifts or irregular shifts—is a relatively new development in the US labor market. AA graduates are less likely to work night shifts or irregular shifts than high school graduates, but certificate graduates show no such advantage. Preliminary analyses find that after exact matching on job qualities, including shift work, sub-BA and BA graduates do not differ in sleep problems. Sub-BA credentials may improve health status compared to high school graduates, but parity with BAs may require better job conditions, such as avoiding night shifts, (Janet Rosenbaum 2012; Grandner 2010).

Are certificates preparing youth for narrow vocations with a short shelf life, diverting them from more substantial skill sets that would help them throughout their careers? There are many indications that the payoffs from certificates justify their investments. First, certificates are not an educational dead end, given that over 30 percent of people with certificates also get college degrees (Carnevale, Rose, and Hanson 2012). Second, for youth struggling to escape dead-end jobs (Doeringer and Piore 1971), these results suggest that certificates lead to career-related jobs, career preparation, and perhaps career advancement. Third, even if youth don't get further education, one-year certificates cost less (in time and money) and pose lower risks of interruption than BA degrees that often take 6–8 years (Bound, Hersbein, and Long 2009; Stephan 2010). Certificates are more likely among low-income youth (Carnevale, Rose, and Hanson 2012), but this segmentation is a problem for US society more generally, not the fault of colleges. Of course, certificates are not

Table 2

**Multivariate Regressions Show Job Rewards for Different Educational Levels, Relative to High School Graduates**

	<i>Certificate</i>	<i>AA</i>	<i>BA</i>	<i>&gt;BA</i>
<i>Poisson regression</i>				
<b>Job relates to career</b>				
Unrelated	0.59**** (0.52, 0.67)	0.76**** (0.68, 0.84)	0.51**** (0.47, 0.56)	0.25**** (0.21, 0.31)
Preparation	1.35**** (1.21, 1.50)	1.18** (1.06, 1.32)	1.22**** (1.12, 1.33)	1.08 (0.96, 1.22)
Part of career	1.36**** (1.25, 1.49)	1.35**** (1.24, 1.47)	1.60**** (1.50, 1.71)	2.09**** (1.94, 2.24)
<b>Benefits offered</b>				
Health benefits	1.01 (0.97, 1.06)	1.13**** (1.09, 1.17)	1.18**** (1.15, 1.22)	1.27**** (1.22, 1.31)
Retirement benefits	1.03 (0.97, 1.09)	1.15**** (1.09, 1.20)	1.25**** (1.21, 1.30)	1.34**** (1.29, 1.40)
Vacation benefits	1.01 (0.97, 1.06)	1.11**** (1.07, 1.15)	1.17**** (1.13, 1.20)	1.22**** (1.18, 1.27)
<b>Job conditions</b>				
Day shift	0.99 (0.94, 1.04)	1.08*** (1.03, 1.13)	1.23**** (1.19, 1.27)	1.23**** (1.18, 1.29)
Irregular hours	1.06 (0.93, 1.22)	0.83** (0.72, 0.96)	0.77**** (0.69, 0.86)	0.78*** (0.68, 0.90)
Work hard physically	0.90 (0.75, 1.09)	0.58**** (0.46, 0.72)	0.28**** (0.22, 0.35)	0.12**** (0.07, 0.21)
Work desk job	0.96 (0.85, 1.07)	1.20**** (1.09, 1.32)	1.71**** (1.60, 1.83)	1.44**** (1.32, 1.58)
Supervise managers	0.86 (0.68, 1.09)	1.18+ (0.97, 1.44)	1.28** (1.09, 1.50)	1.05 (0.84, 1.32)
Supervise others	0.97 (0.86, 1.10)	1.00 (0.89, 1.12)	0.96 (0.88, 1.05)	1.08 (0.97, 1.21)
<i>Ordinary least squares regression</i>				
<b>Personal earnings</b>	2.25 (-0.79, 5.29)	4.35** (1.43, 7.27)	12.9**** (10.6, 15.1)	19.8**** (16.7, 22.8)
<b>Perceived status (0–10)</b>	0.13* (0.02, 0.24)	0.27**** (0.16, 0.37)	0.86**** (0.78, 0.94)	1.48**** (1.37, 1.59)
<b>Job satisfaction</b>	0.03** (0.01, 0.04)	0.02** (0.01, 0.04)	0.01* (0.00, 0.03)	0.05**** (0.03, 0.07)
<b>Job autonomy</b>	0.05**** (0.03, 0.07)	0.03** (0.01, 0.05)	0.04**** (0.02, 0.06)	0.07**** (0.05, 0.09)
<b>Job repetitive</b>	-0.01 (-0.03, 0.01)	-0.04**** (-0.06, -0.02)	-0.13**** (-0.15, -0.12)	-0.19**** (-0.22, -0.17)
<b>Number times fired</b>	-0.01 (-0.11, 0.09)	-0.09* (-0.19, 0.00)	-0.19**** (-0.27, -0.12)	-0.32**** (-0.42, -0.22)

*Notes:* Multivariate regression results ( $n = 10,582$ ). Columns correspond to educational levels, and rows correspond to employment outcomes. The entries correspond to the multivariate regression coefficient predicting the outcome from the educational level. Control variables: demographics (race/ethnicity (black, Latino, Asian), gender); educational factors (grade average, test score, grades not reported by respondent); acculturation (nativity, parent nativity, speak English versus another language at home); and parent's socioeconomic status (parent's self-reported educational level, household income, and whether they have enough money to pay bills.)

+, \*, \*\*, \*\*\*, and \*\*\*\* correspond to .10, .05, .01, .001, and .0001 levels of significance.

for everyone. However, a fairly broad range of high school students and their advisors should consider occupational colleges and certificate programs as potentially useful pathways to higher education. In contrast to the abysmal BA completion rates in community colleges, certificates provide quick high-odds payoffs on the way to a more distant and less-certain BA degree.

## Conclusion

Our aim is to broaden the conception of possible college procedures and the range of job rewards. Most of us wear BA blinders. For anyone who attended colleges and universities, traditional practices that target BA goals are taken for granted, and it is hard to imagine other procedures that might pose fewer obstacles to disadvantaged students. Moreover, we usually focus on earnings outcomes, ignoring other job rewards that might offer important incentives, particularly to youths starting their careers.

In studying occupational colleges, we discovered six nontraditional procedures that differ from traditional college practices and make novel use of economic mechanisms: incentives, choice, and signals. Consistent with neoclassical economic theory that stresses incentives, occupational colleges *enhance incentives* by providing quick milestones and valued payoffs, and they identify unseen nonpecuniary job rewards that students will appreciate later. Consistent with some recent research (Schwartz 2004; Thaler and Sunstein 2008), occupational colleges *structure choice* by offering a few options, package deals, and substantial supervision (through frequent mandatory advising and monitoring). Consistent with signaling theory (Stigler 1961; Spence 1973), occupational colleges *invest in trusted signals*, not just in human capital. Just as prep schools invest in trusted signals by encouraging counselors to build long-term relationships with selective colleges (Persell and Cookson 1985), occupational colleges invest in the credibility of their signals by encouraging job placement staff to build trusted relationships and reputations with employers. These investments make the college's signals about their graduates trustworthy and reduce employers' uncertainties about graduates' hard-to-measure attributes. Even if occupational colleges' graduates had only "adequate" human capital, employers can depend on trusted placement staff not to recommend students who will seriously disappoint.

Particularly for middle- and lower-achieving high school students, traditional community college procedures offer a bewildering array of confusing choices and uncertain incentives. They offer many programs, multiple credentials for each, and uncertain job payoffs, so students have difficulty figuring out what outcomes are desirable for them. These problems only become worse for students who have achievement limitations, weekly schedule constraints, limited budgets, or uncertain timelines. Such complexity and confusion often lead to poor choices (Schwartz 2004). Many community college students complain that they can't anticipate the implications of their decisions.

Table 3

**Traditional Procedures at Community Colleges and Nontraditional Procedures at Occupational Colleges**

<i>Community colleges: Traditional procedures</i>	<i>Occupational colleges: Nontraditional procedures</i>
Deferred 6+ year payoffs	Quick payoffs
Early obstacles (remedial)	Postponed obstacles
Direct BA goal	Incremental success degree ladders
Complex choices & schedules	Package deal pathways & preset timeslots
Unassisted course choices	Mandatory advising & monitored progress
Self-directed job search	College-guided job choice & job search

In contrast, occupational colleges reduce complexity and the associated risks by alternative procedures, shown in Table 3. They offer a relatively few package-deal options, where each option offers high odds of desirable outcomes. Students make a single choice—their program goal—and this choice then illuminates a specific pathway toward completion, reducing mistakes and increasing the odds of success. Moreover, when 80 percent of entering students have BA plans (Deming, Goldin, and Katz 2012, Table 1), community colleges encourage them to focus on BA credentials, even if they don't understand the risks and costs. In contrast, even though, in Deming's sample, 64 percent of for-profit college students expect to earn BA or higher, these for-profit colleges also encourage students to aim for interim credential goals, which often have monetary and nonpecuniary job payoffs along the way to the BA. While community colleges emphasize remedial courses which delay payoffs and emphasize academic skills that are weaknesses for many students, occupational colleges also emphasize job skills and soft skills, which employers often value more than academics (Zemsky 1994). While community colleges focus on improving human capital, occupational colleges may *increase the payoffs* to human capital by investing in signals that employers trust. In effect, occupational colleges design processes that simplify choices, frontload successes, maximize payoffs, and reduce mistakes. Community colleges could adapt many of these procedures, and they might gain similar benefits.

Some of these procedures might be implemented in community colleges, and there are already a few examples. Some Tennessee community colleges have structured choice with package-deal programs that specify all courses and minimize noncredit remedial coursework (Carnevale, Rose, and Hanson 2012, p. 17). Some community colleges have improved supervision with computerized monitoring of student progress, and they notify students about teacher concerns or wrong class choices (for example, <http://www.cuny.edu/asap>). Some community colleges have structured incentives, and they identify certificates with dependable job payoffs (for example, Ivy Tech in Indiana). Some community college program staff invest time in employer contacts which enable them to provide evaluations of their graduates that employers trust (Rosenbaum, Deil-Amen, and Person 2006). However, many

of these reforms are piecemeal, initiated by a few staff in a few programs. Most community colleges seem wedded to traditional conceptions of unstructured choices, vague unstructured incentives, and signaling graduates' competencies by credentials alone, which employers often mistrust.

These findings have implications for research, for college policies, and for public policy. From a research perspective, our findings suggest that community college students rarely perceive credential options, their odds of success, or nonpecuniary job rewards, so these students often make uninformed choices. They are deprived of seeing the full range of potential rewards—the nonpecuniary incentives they will later value, for which they would be willing to exert effort. Research can identify these alternatives and future payoffs, so that students can see a wider range of incentives.

In particular, research needs to consider how students are affected when they face predictable disappointments pursuing BAs, and whether they might be more motivated if they began their postsecondary experience with an *incremental success model*: where their first goals are quick credentials and nonpecuniary payoffs, particularly ones that lead to careers. More generally, while BA degrees and earnings may provide dependable incentives for high-achieving students, they may be long-shots for other students. By conceiving of credentials and outcomes more broadly, research may discover how incentives and outcomes can be improved for all students in community colleges, and perhaps in other schools and colleges.

Our results suggest that institutions can shape their procedures to make incentives stronger: clearer, quicker, more certain, and more dependable. Indeed, some of these lessons may also hold true in high schools targeting low-achieving students (Rosenbaum and Becker 2011). While community colleges cannot offer that single model exclusively, they could make it an option, and quick credentials with high odds of success would create stronger incentives for low-achieving students (Jones 2011; Rosenbaum, Deil-Amen, and Person 2006). The all-or-nothing BA degree can remain an option, but students with low-achievement need to know about interim credentials with better odds and quicker timetables on the way to pursuing a BA degree.

When education reformers proclaim that “Time is the enemy” (Complete College America 2011), they are noting that many students have a limited window of time to complete a postsecondary credential of some sort, before their time and money run out. Long-duration credentials, noncredit courses, early failures, mistaken courses, and the wrong job search strategies are costly, especially to students who don't have much time, but colleges can avoid these costs with nontraditional procedures. Middle-class policymakers (and researchers) need to understand this lesson. Choices may also change if students consider a broader range of job rewards. Instead of reifying college procedures, credentials, and outcomes as if they were single entities, research can identify alternatives and study how different kinds of students fare with them.

For public policy, these issues have implications for addressing labor market needs. Even in the weak economy of the last few years, some industries report shortages for filling mid-skilled jobs (Deloitte and Manufacturing Institute 2011; ManpowerGroup 2011; Haymes 2012). Mid-skill jobs in technician and health occupations continue to have strong demand (Holzer, Lane, Rosenblum, and Andersson

2011, p. 149), and technician occupations grew even during the 2007–2009 recession (Acemoglu and Autor 2010). Many youth don't have such skills, which they could get from community college sub-BA programs. Unfortunately, most students don't know about these credentials or their payoffs, and they often don't consider them an option. Alternative procedures that make these credentials and their nonpecuniary payoffs more salient may improve students' incentives and outcomes, and indeed may broaden their conceptions of success. Like the mythical Lake Wobegon, "where all the children are above average," perhaps most community college students can get above-average jobs—at least on some dimension.

Research must be more focused to examine procedures, but this approach may be more useful in understanding reforms. At a time when community colleges are trying new reforms, research can go beyond average outcomes to look at variation and underlying processes. Such research can use economic conceptions to clarify how reforms operate and how reforms can be better designed to conform to economic principles.

Over the past 40 years, college aspirations and enrollment have dramatically increased, and social science research may have contributed to encouraging new kinds of students to attend college (including low-achieving students). However, researchers have not considered whether these students would have greater success with different college procedures, different interim credentials, different sequences, and different job goals. Researchers can make an important contribution by testing these preconceptions and helping policymakers see beyond their BA blinders.

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