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James E. Rosenbaum, Caitlin E. Ahearn, Janet E. Rosenbaum, Kelly I. Becker

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Beyond Earnings and Social Reproduction: Can College Lead to Good Jobs Without Reproducing Social Inequalities?

JAMES E. ROSENBAUM, CAITLIN E. AHEARN, JANET E. ROSENBAUM, AND KELLY I. BECKER

College-for-all has become the educational policy in the United States, and it has led to many changes. Postsecondary subbaccalaureate (sub-BA) credentials (certificates and associate's degrees) are an increasing portion of college credentials, and we examine the implications for the reproduction of social inequalities. We find that despite the growth of sub-BA credentials, many students who enroll in college continue to get no credentials. After replicating prior findings of sub-BA employment and earnings payoffs, using the 2004–2012 Educational Longitudinal Study (ELS) survey, we analyze the AddHealth survey to see whether sub-BA credentials are associated with jobs with nonmonetary job rewards similar to those BAs get (autonomy, career relevance, and so on). Moreover, although BA degrees often reproduce social and academic inequalities, we examine whether sub-BA credentials pose socioeconomic status (SES) and test score obstacles to credential completion, and to employment and earnings within credentials. Beyond the usual earnings payoffs in prior research, we conclude that sub-BA credentials provide ways college students can attain desirable job rewards while avoiding SES and test score obstacles. We speculate on possible reasons and policy implications.

Keywords: status-attainment model, social reproduction, nonmonetary job rewards, sub-BA degrees

U.S. society strives to give all students the opportunity to attend college, and it has largely succeeded (Grubb 1996). Prior research found that more than 80 percent of on-time high school graduates enroll in college, and the rates are similar for whites, blacks, and Hispanics (83 percent, 80 percent, 80 percent, Adelman 2003). This increase comes thanks to an implicit educational policy, referred to as college-for-all (CFA), which encourages all students to attend postsecondary institutions. Given a labor market that increasingly demands college credentials, the college-for-all ideal may be appropriate, but its implications extend beyond increased college enrollment.

Thanks to widely seen payoffs, CFA tends to encourage students to seek bachelor's degrees (BAs) but mostly ignores sub-BA credentials, such as associate's degrees (AAs) and certificates. Public service ads proclaim $1 million

James E. Rosenbaum is professor of sociology, education, and social policy at Northwestern University. **Caitlin E. Ahearn** is research director of the Pathways Project at Northwestern University. **Janet E. Rosenbaum** is assistant professor in the Department of Epidemiology and Biostatistics at SUNY Downstate Medical Center, Brooklyn, New York. **Kelly I. Becker** is associate director of student affairs assessment at Northwestern University.

Direct correspondence to: James E. Rosenbaum at j-rosenbaum@northwestern.edu, Institute for Policy Research, Northwestern University, 2040 Sheridan Rd., Evanston, IL 60208; Caitlin E. Ahearn at caitlinahearn2013@u.northwestern.edu; Janet E. Rosenbaum at janet.rosenbaum@downstate.edu; Kelly I. Becker at kib@u.northwestern.edu.

payoffs to BA degrees, and students have gotten this message. By 2002, 84 percent of high school sophomores expected to attain a BA degree or higher (Goyette 2008), and unlike earlier generations, students' BA plans differ minimally by grades or academic track (Reynolds et al. 2006). As students set BA goals with little regard to their academic achievement, CFA is quickly becoming synonymous with BA-for-all.

An Internet search on the question, "what percentage of Americans have college degrees?" returns information only on bachelor's degrees and four-year degrees. The Salary.com article "8 College Degrees with the Worst Return on Investment" considers only majors of BA graduates (2013). Educators, reformers, and the college-choice industry stress K-16 reforms and BA goals, but say little about sub-BA credentials (National College Advising Corps n.d.; Princeton Review n.d.; Brown 2007; Zasloff and Steckel 2014), and "College Results Online" lists only four-year colleges (Education Trust 2014). Even researchers studying upward mobility sometimes consider the BA as the only college degree, ignoring alternative degrees when classifying parental education (Massey et al. 2003, 245). In their highly praised work on high school youth, Barbara Schneider and David Stevenson (2000) warn about students' unrealistic ambitions, and advise parents to provide better information for college planning, but their warnings do not include providing information about sub-BA credentials. More than ever, students are now planning BAs with less consideration to their social backgrounds or occupational ambitions (Goyette 2008).

Of course, BA degrees are often appropriate, but should they be the only goal? Despite the desirability of BA degrees, BA expectations may have serious disadvantages for some students, which they may not realize until they are in the middle of their attempt to obtain the degree. For example, although educators advocate four-year BA degrees, BAs now take an average of six years for most students who begin in community colleges (Bound, Hershbein, and Long 2009; Stephan, Rosenbaum, and Person 2009). Yet educators rarely mention these drawbacks, so students rarely receive warning about predictable risks and costs (Rosenbaum et al. 2015).

Despite society's focus on BA completion, community colleges offer sub-BA credentials, including associate's degrees (expected two years), and certificates (expected twelve months). Certificates and AA degrees have increased fourfold since 1969, whereas BA degrees have only doubled, meaning that more students complete sub-BA credentials than BAs. About two million students in 2011 completed a certificate or AA degree, compared with the 1.7 million who completed a BA degree (Snyder and Dillow 2012, table 301.10). Much of this increase has occurred in recent years, with certificate completion growing by 79 percent between 2000 and 2012 (Kena et al. 2014, 198).

This paper seeks to broaden the usual analyses of higher education credentials by examining both BA and sub-BA outcomes. In addition, we expand prior analyses of early labor market outcomes by examining whether sub-BA credentials lead to desirable job characteristics other than earnings, and whether certificates and associate's degrees pose fewer SES or test score obstacles to completion and post-graduation outcomes than BA degrees.

COMMUNITY COLLEGE CREDENTIALS AND OUTCOMES

Although colleges aspire to provide opportunity for all students, they are often rightly accused of reproducing initial disadvantages. As we will discuss in more detail later, research finds that low-SES backgrounds and low academic achievement lead to lower BA completion rates and worse employment prospects for BA graduates (Bills 2004, chapter 3). These findings have led to a policy debate. BA-for-all advocates want to avoid placing disadvantaged students in lower credentials and therefore seek BA-for-all policies (Ayers 2011; Kahlenberg 2011). Critics argue that because many youth are unlikely to complete BA degrees, society should encourage alternative dependable pathways to good jobs, including job training programs and high school occupational programs (Samuelson 2012; Glass 2014; Gardner 2013; Steinberg 2010). Both sides recognize that low-achieving and low-SES students face added

college and labor market obstacles. However, BA-for-all advocates believe that policymakers must redouble their efforts against those obstacles, and the critics suggest that society can provide other, more dependable pathways to success (Schwartz 2014). Yet the debate pits the issue as BA degrees versus vocational programs (no college), and ignores sub-BA credentials, perhaps because their value is neither understood nor recognized. Our analyses focus on providing insight into sub-BA credentials that may expand the options that educators, students, and reformers consider.

Sub-BAs may also pose different social or academic requirements than BAs. Like any academic goal, sub-BA credentials require effort and persistence, but may not require high test scores or class-related cultural capital. This study examines whether sub-BA credentials offer high-quality employment outcomes with fewer obstacles than BA degrees. As U.S. reformers attempt to improve employment opportunities for youth, they have seen the appeal of German apprenticeships, which provide students a streamlined pathway into a high-quality technical career (Hamilton 1990; Schwartz 2014). We ask whether sub-BA credentials, beside opening opportunities to BA degrees (Carnevale, Rose, and Hanson 2012), can operate like German apprenticeships in creating paths to desirable jobs (and career futures) that pose fewer SES or test score obstacles to credentials or employment outcomes than BA degrees.

In the 1980s, Steven Brint wrote that community colleges did great harm by diverting students to sub-BA credentials, which had little value at the time (Brint and Karabel 1989). More recently, however, Brint (2003) has observed that some occupational sub-BA credentials result in higher earnings than in earlier decades, a finding reinforced by recent research (Carnevale, Rose, and Hanson 2012; Holzer et al. 2011; Jacobson and Mohker 2008).

Indeed, despite advertisements announcing $1 million BA payoffs, 27 percent of those with one-year certificates earn more than the median BA graduate (Carnevale, Rose, and Hanson 2012). Reviewing many studies of earnings outcomes, Clive Belfield and Thomas Bailey find a research consensus that sub-BA credentials have significant earnings benefits. They also conclude that the "earnings premiums to education have grown over recent decades" (2011, 54–55). Sub-BA earnings premiums may be on the rise because of labor market demand for those credentials, which often prepare students for high-growth job markets such as health and information technology (Belfield and Bailey 2011). These fields maintained strong demand even in the recent recession (Holzer et al. 2011; Vuolo, Mortimer, and Staff 2014). In fact, employers often report shortages of qualified applicants for mid-skill jobs. Joshua Wyner (2014) estimates that two million mid-skill jobs, which often require sub-BA credentials, go unfilled because individuals lack qualifications.

Good jobs encompass more than just high earnings, however (Oreopoulos and Salvanes 2001). Indeed, high-paid jobs can be undesirable. Employers may offer higher earnings to compensate for undesirable job attributes: disagreeable, demanding, dangerous, dead-end, or deceptive (Rosenbaum, Stephan, and Rosenbaum 2010). Studies have examined whether sub-BA credentials are associated with improved health, less time on welfare, and lower criminal involvement (Belfield and Bailey 2011). Little research has examined the characteristics of jobs, however. In a study on job desirability, Janet Rosenbaum (2012) finds that associate's degrees are associated with health payoffs such as lower risks of smoking and obesity when compared with statistically matched high school graduates with similar high school backgrounds but no postsecondary degree. Other research suggests that job conditions may mediate health payoffs (Presser 2005; Grandner et al. 2010). Evidence indicates that job quality increases with skills requirements, suggesting that mid-skill jobs requiring sub-BA credentials may confer nonmonetary payoffs (Kalleberg 2011; Mortimer et al. 2008). Extending this interest, we study whether sub-BA credentials are related to a wide range of nonmonetary job rewards.

SOCIOLOGICAL STATUS-ATTAINMENT MODEL

According to the status-attainment model, individual attributes (such as SES or academic

achievement) increase years of education, which in turn increase job outcomes (Sewell and Hauser 1980). This model hypothesizes that students with low SES, test scores, or educational plans will attain less education and therefore lower earnings than more advantaged, higher achieving, or ambitious students. Moreover, the SES differences in cultural values taught in homes (Kohn and Schooler 1983; Lareau 2011) may also confer advantages in school and work. Other research supports these predictions (DiPrete and Buchmann 2013; Jacob and Wilder 2010).

This model offers little hope for low-income or academically low-achieving students who, because of CFA, have found themselves enrolled in today's colleges. If the status-attainment prediction holds, they may receive little benefit from their time in college. Although disadvantaged students are currently entering college at unprecedented rates, this model predicts that they will receive fewer college credentials and worse labor market outcomes than more advantaged students (Dougherty 1994). Research finds reduced success for disadvantaged students pursuing BA degrees and associate's degrees with intent to transfer to a BA (Stephan, Rosenbaum, and Person 2009), but we do not know whether this is true for students pursuing a sub-BA credential as their main goal. In addition, those results are based on data from the 1990s, and recent labor market changes and sub-BA expansion may change what influences credential completion.

Although most status-attainment research focuses on BAs, students pursuing sub-BA credentials may have higher odds of attainment than if they were pursuing BAs (Grubb 1996; Carnevale, Rose, and Hanson 2012; Choy 2001). Despite policy rhetoric that students need "college-level academic skills" to benefit from college, sub-BA credentials may require lower academic skills. Indeed, some community college faculty report that some sub-BA credentials and their associated occupations require only eighth-grade academic skills (Rosenbaum, Cepa, and Rosenbaum 2013). For example, computer technicians and medical assistants must calculate proportions quickly and accurately, but these sub-BA programs do not need Algebra II, as high school requirements might suggest (Stone and Lewis 2012; Tucker 2013). Although high-status occupations sometimes require high-SES cultural capital (Rivera and Ward 2010), mid-skilled jobs demand technical skills and work ethic, but perhaps not class-related cultural capital (Lareau 2011).

We examine how student attributes are related to various credentials and labor market outcomes. Although we expect BA completion and earnings to follow the status-attainment model, we predict that sub-BA success and sub-BA labor markets may not reward economic or academic advantage to the same extent, adding a new dimension to the status-attainment model.

RESEARCH QUESTIONS

Analyzing a cohort of high school graduates in the class of 2004, from tenth grade through eight years after graduation, this study updates and extends prior findings on sub-BA attainment and outcomes for young adults. We examine the following questions:

1. What is the frequency of college enrollment and credential attainment, by college type, and test score or SES, and how do these patterns differ from a cohort twelve years earlier?
2. How are credentials related to various labor market outcomes, including employment, earnings, and a variety of nonmonetary job rewards?
3. Are SES or achievement related to credential attainment or employment outcomes within each credential?
4. Do students combine a sub-BA with a BA or choose one or the other?

Because the sub-BA earnings payoff (over high school diplomas) is already well documented in many studies (Belfield and Bailey 2011), that is not our focus. Although we run those analyses to confirm that they occur for this recent cohort, we focus mostly on other employment outcomes. We extend prior studies of nonmonetary outcomes, but instead of studying nonemployment outcomes such as health, welfare, and crime, we focus on employment and non-

monetary job rewards. Of course, policy must consider earnings, and a living wage is important, but nonmonetary job rewards are also important. This is especially true for young adults at the early stages of their careers, when they are often advised to choose jobs for their experience, training, or career preparation.

We also examine whether SES background and academic achievement predict degree completion and employment outcomes for both BAs and sub-BAs. If we find that test scores predict BA attainment, but not sub-BA attainment, that will raise questions about popular rhetoric about a single form of college readiness based on academic skills. If we find that SES or test scores are related to later labor market success for BA graduates, but not for sub-BA graduates, that may suggest that these credentials lead to career paths that pose different requirements, and do not reproduce the prior inequalities.

This is an exploratory analysis. Research to date has not examined whether sub-BA credentials are associated with better nonmonetary job rewards than a high school diploma, nor whether disadvantaged sub-BA graduates (with low SES or low test scores) have worse employment outcomes than more advantaged sub-BA graduates. These analyses may identify previously unnoticed aspects of alternative college pathways.

DATA AND METHODS

Most of our analyses use data from the nationally representative ELS, which follows the sophomore class of 2002 over ten years, through 2012. We rely mainly on data collected during the base year interview (tenth grade) and the third follow up ten years later (2012). Our sample therefore includes only individuals present in both survey years, and we use the corresponding survey weight created by ELS.

We limit all analyses to on-time high school graduates, students who graduated by the summer of 2004. On-time high school graduates are better students and have more time for credential completion, which poses a more uniform standard for judging the payoff of college credentials. In examining credential completion by age twenty-six, most analyses also exclude individuals still enrolled in college at the time of the third interview (June 2012), so individuals without credentials in our sample are no longer pursuing higher education as of 2012 (though we do not know if they return later to complete a credential). The only exception is our first table, which examines the percentage of respondents who ever enroll in college within eight years of graduating from high school. For all earnings regressions, we use the natural log of earnings in 2011 and restrict the sample to individuals who report having last attended college by December of 2010 and reported earnings for 2011. Similarly, the employment analyses, which examine employment in 2012, are limited to individuals who report having last attended college by December of 2011, which gives them some time to find employment.

Analyses begin with weighted tabulations that examine college enrollment and credential attainment, comparing students at high, middle, and low third of SES and tenth grade test score. This provides a preliminary look at today's college opportunity structure for on-time high school graduates. We compare these ELS results with a similar cohort twelve years prior, which follows the graduating class of 1992 through eight years after high school (NELS).

Using logistic and linear regression, respectively, we examine how educational attainment is related to employment status in 2012 and earnings in 2011. We then broaden our analysis by examining how various educational credentials are related to nonmonetary job outcomes in analyses based on National Longitudinal Study of Adolescent Health (AddHealth). AddHealth is also a nationally representative dataset following a sample of students in grades seven through twelve in 1995 through 2008. AddHealth was chosen because of its more thorough coverage of young adults' job characteristics.

Returning to ELS, a multinomial regression examines how student characteristics relate to attainment of various credentials. Logistic and linear regressions examine how student characteristics relate to employment and earnings within each credential category.

Question 1: What is the frequency of college enrollment and credential attainment, by college type, and test score or SES, and what changes are evident from twelve years earlier?

Current Opportunity Structure

First, descriptive statistics provide an overview of college enrollment and attainment of on-time high school graduates (table 1). This table, which includes even students still in college in 2012, finds that college-for-all largely succeeds in sending most (90 percent) on-time high school graduates to college in the eight years after high school. Even 81 percent of low-SES students attend college. Ironically, although researchers used to think college plans were necessary precursors to college attendance, now 50 percent of seniors who do not plan to attend college actually report attending in the next eight years (not shown). This highlights the new college reality that high school students who do not anticipate enrolling in college feel compelled to do so, perhaps because of labor market constraints. We should be encouraged, but not lulled into complacency, by this tremendous success. Efforts must continue to increase the high school graduation rate and to help students who did not complete high school on time to find postsecondary training.

Table 2 also shows completion rates for various credentials at two- and four-year colleges. Here (and in later tables) we exclude students still enrolled in 2012, who may complete a degree soon. Even though most students beginning in community colleges report BA plans, only 20 percent of all students initially enrolled in a community college get a BA in the next eight years. Such dismal findings are often reported by education reformers (Ayers 2011; Kahlenberg 2011). However, broadening our notions of postsecondary success, we find many more students who first enroll in two-year colleges complete either a certificate or associate's degree (33 percent). Although more students have BA plans, individuals more frequently attain sub-BA credentials.

Reinforcing prior research (Stephan, Rosenbaum, and Person 2009), our analyses indicate that students who begin at four-year colleges have higher odds (67 percent) of completing BA degrees (table 2), and are less likely to attain sub-BA degrees than students who began at two-year colleges, at each level of SES and test score. CFA encourages even students with low academic achievement to enter college. Of students who begin in two-year colleges in the low third of test scores, we find that 11 percent of individuals complete BA degrees, but 37 percent complete sub-BA degrees. In four-year colleges, 34 percent of those with low test scores get BA degrees, and 21 percent complete sub-BA degrees (presumably by transferring, since four-year colleges rarely offer sub-BA credentials). Note that the positive relationships be-

Table 1. College Attendance, ELS (2002–2012)

		Test Score[a]			SES[b]		
	All	Low Test	Middle Test	High Test	Low SES	Middle SES	High SES
HS diploma (on time, no GED)	11,573	2,164	2,909	3,402	2,233	2,585	3,354
Percent ever attend college: 2004–2012	90.0	79.0	90.0	97.0	81.0	90.0	97.0

Source: Authors' calculations based on ELS 2002–2012.

Sample: On-time high school graduates, completed postsecondary education by June of 2012.

[a]Test score is the composite math and language arts standardized test score from 2002.

[b]Our SES variable was created by NCES through ELS, comprised of information on parents' occupations and parents' education.

Table 2. College Type and Highest Credential Attainment, ELS (2004–2012)

		Test Score[a]			SES[b]		
	All	Low Test	Middle Test	High Test	Low SES	Middle SES	High SES
First college level							
Two-year	37.0	61.0	42.0	19.0	51.0	41.0	23.0
Four-year	59.0	30.0	56.0	80.0	42.0	55.0	75.0
Started at two-year college							
Some college	46.0	51.0	42.0	44.0	49.0	47.0	41.0
Certificate	17.0	22.0	17.0	9.0	21.0	17.0	11.0
Associate's degree	16.0	15.0	18.0	16.0	16.0	16.0	15.0
Bachelor's degree plus	20.0	11.0	24.0	31.0	14.0	19.0	33.0
Started at four-year college							
Some college	22.0	45.0	26.0	15.0	36.0	26.0	15.0
Certificate	5.0	12.0	5.0	4.0	7.0	6.0	4.0
Associate's degree	5.0	9.0	7.0	3.0	8.0	6.0	4.0
Bachelor's degree plus	67.0	34.0	61.0	78.0	49.0	61.0	76.0

Source: Authors' calculations based on ELS 2002–2012.
Sample: On-time high school graduates, completed postsecondary education by June of 2012.
Note: All numbers are percentages.
[a]Test score is the composite math and language arts standardized test score from 2002.
[b]Our SES variable was created by NCES through ELS, comprised of information on parents' occupations and parents' education.

tween BA completion and test scores and SES are absent for AA completion and may move in the opposite direction for certificates. These relationships are further examined in later analyses.

Many college students fail to complete any credential. Of students who begin in two-year colleges, almost half (46 percent) have no credentials eight years after high school, whom we refer to as *some college* (table 2). Although only 23 percent of students who began in four-year colleges have no credentials, among the students with low test scores, nearly half have no credential after eight years (45 percent).

In sum, although college access is close to universal for these students, college completion is a major obstacle, especially for two-year college students and for four-year college students with low test scores. Moreover, although two-year colleges are rightly criticized for lower BA completion than four-year colleges, their rates of overall credential completion are closer to parity, if we consider the sub-BAs they confer, particularly for students with low test scores (49 percent versus 56 percent). Whether sub-BA credentials count as true success depends on employment outcomes, which we examine later, after first examining attainment patterns from twelve years earlier.

Change Since 1992

We can better understand today's college reality by comparison with the corresponding cohort from twelve years ago. Just as ELS surveyed the high school class of 2004 and followed them eight years later to 2012, a prior survey (NELS, the National Educational Longitudinal Survey) studied the high school class of 1992 and followed them eight years later (until 2000). We find changes in college enrollment and credential attainment, particularly at the sub-BA level.

Table 3. College Attendance, College Type, and Highest Credential Attainment, NELS (1992–2000)

		Test Score[a]			SES[b]		
	All	Low Test	Middle Test	High Test	Low SES	Middle SES	High SES
HS diploma (on time, no GED)	8,668	2,217	2,808	3,133	2,492	2,912	3,264
Ever attend college: 2004–2012	80.0	65.0	82.0	94.0	62.0	79.0	93.0
First college level							
Two-year	40.0	65.0	44.0	22.0	57.0	47.0	28.0
Four-year	54.0	26.0	50.0	75.0	34.0	47.0	68.0
Started at two-year college							
Some college	57.0	67.0	56.0	45.0	60.0	60.0	51.0
Certificate	6.0	7.0	5.0	8.0	8.0	6.0	5.0
Associate's degree	14.0	12.0	16.0	14.0	15.0	15.0	12.0
Bachelor's degree plus	19.0	8.0	20.0	31.0	10.0	16.0	31.0
Started at four-year college							
Some college	24.0	47.0	30.0	17.0	39.0	32.0	17.0
Certificate	1.0	4.0	1.0	1.0	3.0	1.0	1.0
Associate's degree	3.0	2.0	4.0	3.0	4.0	4.0	2.0
Bachelor's degree plus	7.0	41.0	61.0	78.0	50.0	61.0	79.0

Source: Authors' calculations based on NELS 1990–2000.
Sample: On-time high school graduates, not enrolled in a postsecondary institution in 2000.
Note: All numbers after row one are percentages.
[a]Test score is the composite math and language arts standardized test score from 1992.
[b]Our SES variable was created by NCES through ELS, comprised of information on parents' occupations and parents' education.

Table 3 indicates that fewer high school graduates enrolled in college in the earlier cohort (80 percent to 86 percent). Much of the gain occurred outside the top third of SES and test scores. For students who initially enrolled in two-year colleges, certificate completion increased from 6 percent to 17 percent (for all ages, see Kena et al. 2014). Certificate completion also increased for students who began in four-year colleges, especially for students with low test scores (from 4 percent to 12 percent). In both two- and four-year colleges, this certificate gain is larger for students in the bottom third of the distribution of test scores and SES than for more advantaged and higher-performing students. Overall, the percentage of students with no credential declined (57 percent to 46 percent), especially for those with low test scores (67 percent to 51 percent). Associate's and bachelor's degree completion changed minimally.

Research has noted the increase in certificate completion at all ages (Kena et al. 2014). Our results indicate that for young adults, this increase occurred particularly for students with low SES and low test scores. The increase in sub-BA, particularly certificate, completion seems to explain the overall increase in credential attainment, because BA attainment remains unchanged.

Question 2: How are credentials related to various labor market outcomes, including employment, earnings, and a variety of nonmonetary job rewards?

Employment Outcomes by Educational Attainment

We now examine whether credential attainment is associated with employment and earnings outcomes. For individuals who report having last attended college by the end of 2011 (n = 7596), we ran logistic regression on whether they were employed part time or full time (table 4). We find that individuals with certificates, AAs, and BAs all had significantly and increasingly higher odds of being employed (1.53, 2.07, 3.32) than high school graduates with no postsecondary enrollment. However, individuals with some college but no credential were not significantly more likely to be employed than high school graduates who did not enroll in any college (1.17, n.s.).

Seventeen studies show that sub-BA credentials increase earnings over a high school diploma (Belfield and Bailey 2011). We thus confirm a well-established finding. Consistent with prior studies, we find that BA degrees increased earnings by 34 percent, AA degrees by 22 percent, and certificates by 13 percent, all significantly higher than high school graduates' earnings. In contrast, students who get some college with no credential have no better employment or earnings than on-time high school graduates with no college. This finding

Table 4. Employment and Earnings Outcomes Regressions

	Logistic Regression of Employment Status 2012[d]	Linear Regression on Log Earnings 2011
SES 2002[a]	1.14 (1.80)	0.05 (2.77)**
Tenth grade test score[b]	1.02 (4.07)***	0.01 (4.83)***
Graduate degree[c]	4.96 (6.04)***	0.46 (8.58)***
Bachelor's degree	3.32 (8.19)***	0.34 (8.83)***
Associate's degree	2.07 (3.89)***	0.22 (4.37)***
Certificate	1.53 (2.84)**	0.13 (2.74)**
Some college	1.17 (1.36)	−0.03 (−0.73)
Hours worked per week in 2011	–	0.02 (23.92)***
Weeks Employed in 2011	–	0.03 (29.97)***
Female	0.37 (−10.91)***	−0.16 (−7.52)***
Black	1.11 (0.71)	−0.12 (−3.23)***
Hispanic	0.82 (−1.63)	0.02 (0.50)
Other Race	0.76 (−2.01)*	0.06 (1.84)
Constant	–	7.49 (86.94)***
N	7596	5,109

Source: Authors' calculations based on ELS 2002–2012.

Sample: On-time high school graduates; completed postsecondary education by the end of 2011 (employment) or the end of 2010 (earnings).

Note: T-statistics in parentheses.

[a]Our SES variable was created by NCES through ELS, comprised of information on parents' occupations and parents' education.

[b]Test score is the composite math and language arts standardized test score from 2002.

[c]On-time high school graduates are the comparison for credential coefficients.

[d]Employed (full time or part time) versus unemployed.

*p < .05; **p < .01; ***p < .001

Table 5. Characteristics of Individuals with Different Levels of Highest Educational Attainment

	Some College	Certificate[c]	Associate's	Bachelor's	Graduate
Low high school GPA third, honors weighted	36.0	34.0	21.0***	6.0***	2.0***
Usually had homework done tenth grade	71.0	72.0	78.0**	84.0***	88.0***
Get in trouble three or more times tenth grade	13.0	12.0	9.0	6.0***	4.0***
Skip three or more times in tenth grade	12.0	11.0	11.0	5.0***	5.0***
Low sophomore test third[a]	34.0	45.0***	29.0	9.0***	5.0***
Low SES third 2002[b]	36.0	40.0*	33.0	17.0***	11.0***
BA plans in twelfth grade	62.0	50.0***	61.0	93.0***	98.0***
Enroll in college in first term after high school	66.0	61.0**	73.0***	92.0***	94.0***
Start at a four-year college	42.0	26.0***	33.0***	84.0***	93.0***

Source: Authors' calculations based on ELS 2002–2012.

Sample: On-time high school graduates, completed postsecondary education by June of 2012.

Note: All numbers are percentages.

[a]Test score is the composite math and language arts standardized test score from 2002.

[b]Our SES variable was created by NCES through ELS, comprised of information on parents' occupations and parents' education.

[c]Significance for all credentials is compared to some college.

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

has been reported in many but not all prior studies (Belfield and Bailey 2011; Grubb 2002, but see Marcotte et al. 2005), especially when examining the earnings of workers under age thirty (Day and Newburger 2002, figure 4; Carnevale, Rose, and Hanson 2012). Even in the most statistically sophisticated studies, findings conflict as to the benefits of some college (Belfield and Bailey 2011). Perhaps conflicts might be reduced if studies added key variables to the model. Some college may increase employment or earnings for students who are in certain majors, who get credits in certain skill areas, who already have certain jobs or job contacts, or who get jobs that use their skills. These variables are rarely studied, so although we can reasonably suspect that averages do not tell the whole story, we are unclear as to how, when, and for whom some college is beneficial.

However, virtually all studies agree that some college has no benefit if students get few or no credits (Grubb 2002), which is usually the case for students who do not get credentials (Rosenbaum 2001, 77). Indeed, nearly all research shows that credential attainment has significant earnings benefits over some college (Belfield and Bailey 2011, 55; Grubb 2002). At the very least, credentials increase employment in jobs that explicitly require credentials. The practical conclusion is that students at high risk of getting no credential cannot count on some college to yield better employment or earnings than a high school diploma, but completing a credential is likely to confer a significant benefit.

Are Students with Some College Less Qualified?

These findings raise the concern that individuals with some college have inferior qualifications or resources than students who get sub-BA degrees. We find that this does not appear to be the case. Students with some college have similar or better qualifications than certificate completers on a wide range of attributes likely to predict college success (table 5). Compared

with those who complete certificates, some-college students have similar rates of low grade point average (GPA), homework completion, getting in trouble, and skipping school, and they are significantly more likely to be higher on SES, test scores, immediate college enrollment, starting at four-year colleges, and having BA plans. However, some-college students are significantly lower than BA completers on every positive indicator, and significantly higher on every negative indicator. Overall, some-college students fall somewhere in the middle of the sample— not as high achieving, advantaged, or motivated as BA completers, but often higher achieving and more socioeconomically advantaged than certificate completers. Of course, these variables do not measure all possible student attributes, but they cover a range of behaviors and background that are likely associated with credential completion. Based on these findings, we see no reason why individuals with some college could not have completed at least a certificate had they followed an alternative postsecondary route.

Their two largest differences from certificate graduates (BA plans and starting at four-year colleges) provide a clue as to why they did not complete certificates. We speculate that students' BA plans and four-year college beginnings may prevent students from seeing certificates' desirable features. Because educators are reluctant to promote sub-BA credentials over BA goals, we suspect that students who began college with BA plans or began at four-year colleges may not realize the value of sub-BA credentials. Many students who lack qualifications and motivation to complete BAs may be capable of completing sub-BA credentials. Unfortunately, students cannot consider sub-BA credentials if they do not know about them or their labor market potential.

Nonmonetary Job Rewards

Certain issues are rarely considered in community college literature, one of which is nonmonetary job rewards. Most national surveys follow youth only until ages twenty-five through thirty-two, a young age when earnings may not be a good indication of a promising career.

Despite claims that BAs have $1 million payoffs, a credential's average earnings may be misleading. Like studies of the U.S. Census (Baum and Ma 2013), we also find large earnings overlaps across education levels. In ELS, more than 25 percent of certificate graduates earn more than the median BA, and 25 percent of BAs earn less than the median certificate graduate (not shown). Indeed, economic theory predicts that ambitious young employees might sacrifice early earnings to get career preparation (or might enhance their earning with strenuous dead-end jobs).

To consider other reasons individuals choose jobs, we examine whether various credentials predict nonmonetary job rewards, including career-related job attributes. The AddHealth survey has an unusually rich array of such measures. Extending a prior analysis of the AddHealth survey which examined health outcomes associated with educational credentials (Janet Rosenbaum 2012), here we examine whether other nonmonetary outcomes are associated with educational credentials. Despite the usual emphasis on earnings as indicating good jobs, we find that among young working adults (ages twenty-five to thirty-two), job satisfaction is less strongly related to earnings than to certain nonmonetary job rewards, such as autonomy, career relevance, and career preparation (table 6). This suggests the possibility that these nonmonetary job rewards are valued and actively sought by young adults. We are particularly interested in the job rewards related to career preparation, which may indicate training opportunities, valuable work experiences, or inferences about future career advancement.

Further analyses examine whether college credentials are related to increased nonmonetary job rewards compared to high school graduates, after extensive controls. Table 7 shows that both AA and BA graduates report similar nonmonetary job reward payoffs (compared to high school graduates). Indeed, despite their earnings disadvantage (compared with BAs), AA degrees confer nearly all of the same nonmonetary job rewards as BAs, sometimes at similar magnitude (autonomy, satisfaction, health benefits), and sometimes less

Table 6: Correlation Between Job Satisfaction and Job Rewards Within Education Levels

	Highest Degree by 2008						
Job Rewards	HS Graduate	Some College[a]	Certificate	Associate's	Bachelor's	Graduate	All
Personal earnings	0.12	0.12	0.17	0.07	0.10	0.02	0.10
Perceived SES	0.21	0.20	0.20	0.22	0.22	0.11	0.21
Job autonomy	0.28	0.29	0.37	0.32	0.33	0.33	0.32
Job not repetitive[b]	0.13	0.17	0.14	0.14	0.19	0.11	0.17
Job related to career goals[b]	0.29	0.31	0.32	0.36	0.35	0.28	0.33
Job part of career	0.35	0.35	0.36	0.35	0.38	0.37	0.37
Achieved desired educational level	0.11	0.12	0.11	0.11	0.12	0.01	0.12
N	4470	3028	938	1058	2838	1155	10459

Source: Authors' calculations based on Adolescent Health 1995–2008.

Sample: Restricted to high school graduates who are employed full time in one job in 2008.

[a]Some college is defined as (1) reporting at wave 3 and 4 having no degree beyond high school, and (2) at least one of the following (a) having completed a year of schooling beyond twelfth grade, reported at wave 3 (n=124); (b) being currently enrolled in school at wave 3 (n=933); (c) "received any vocational education or job training in a program that lasted at least 3 months" at a community college, reported at wave 3 (n=20); (d) enrolled for at least 3 months at a "regular school", reported at wave 3 (n=1781); (e) reported at wave 4 having completed "some college" at wave 4 (n=452) in response to question " What is the highest level of education that you have achieved to date?"; (f) affirmative answer at wave 4 to "Are you currently attending a college, university, or vocational/technical school where you take courses for academic credit?" (n=56). Individuals who "received any vocational education or job training in a program that lasted at least 3 months" at Bible college or religious institution was not counted as some college (n=9). Individuals who reported at wave 4 that their highest degree was "some vocational/technical training (after high school)," (n=162) or "completed vocational/technical training (after high school)" were not counted as some college.

[b]Scale was reversed to yield positive results.

(part of a career, strenuous, day shift, irregular hours). In contrast, certificate completers report fewer job rewards than BA or AA graduates, but certificate graduates report higher satisfaction, autonomy, and job status than high school graduates. Certificate graduates are also more likely to report that their jobs are related to their career goals, are a part of their career pathways, and are providing career preparation than high school graduates.

Finally, unlike certificates, some college is not associated with greater job satisfaction, more job autonomy, or less repetitive jobs compared to high school graduates, although they get more benefits than high school graduates. Moreover, while some-college students report a weak gain in career preparation (much smaller than certificates offer), they do not report that these jobs are part of a career. Indeed, they are significantly more likely to say their jobs are unrelated to their intended careers than high school graduates, possibly because they had higher degree aspirations in the first place, and they experienced a failure that high school graduates did not experience. Some college seems to offer some material improvements (especially benefits), but not satisfaction, autonomy, variety, or jobs related to careers.

We must be cautious in accepting these ratings. Some are relatively objective, but many are subjective. However, studying earnings also has limitations, and nonpecuniary job payoffs broaden our view of attainments and perceived

Table 7. Multivariate Nonmonetary Regression Results (n=10582)

	Some College	Certificate	Associate's	Bachelor's	Graduate
Poisson regression					
Job relates to career					
Unrelated	1.11 (1.00, 1.22)*	0.64 (0.54, 0.77)****	0.93 (0.81, 1.08)	0.59 (0.51, 0.67)****	0.33 (0.27, 0.42)****
Preparation	1.15 (1.02, 1.29)*	1.45 (1.27, 1.65)****	1.17 (1.00, 1.37)*	1.27 (1.10, 1.45)***	1.23 (1.00, 1.50)*
Part of career	1.07 (0.97, 1.18)	1.49 (1.30, 1.70)****	1.40 (1.26, 1.57)****	1.64 (1.46, 1.84)****	1.96 (1.74, 2.21)****
Benefits offered					
Health benefits	1.24 (1.17, 1.31)****	1.22 (1.14, 1.30)****	1.36 (1.27, 1.46)****	1.42 (1.34, 1.51)****	1.45 (1.36, 1.56)****
Retirement benefits	1.24 (1.16, 1.32)****	1.24 (1.15, 1.35)****	1.44 (1.33, 1.56)****	1.49 (1.39, 1.59)****	1.52 (1.41, 1.64)****
Vacation benefits	1.20 (1.12, 1.29)****	1.18 (1.09, 1.26)***	1.35(1.25, 1.45)****	1.36 (1.26, 1.46)****	1.39 (1.29, 1.50)****
Job conditions					
Day shift	1.01 (0.96, 1.08)	0.97 (0.89, 1.05)	1.10 (1.03, 1.18)**	1.26 (1.18, 1.34)****	1.25 (1.17, 1.34)****
Irregular hours	1.03 (0.90, 1.18)	1.16 (0.99, 1.36)	0.90 (0.76, 1.07)	0.82 (0.70, 0.95)**	0.90 (0.76, 1.06)
Work hard physically	0.86 (0.75, 0.98)*	0.71 (0.56, 0.90)**	0.44 (0.33, 0.57)***	0.26 (0.21, 0.34)****	0.11 (0.05, 0.22)****
Work desk job	1.70 (1.50, 1.93)***	1.50 (1.26, 1.79)***	1.90 (1.62, 2.22)***	2.51 (2.21, 2.85)****	2.08 (1.78, 2.45)****
Supervise managers	0.92 (0.75, 1.14)	0.97 (0.75, 1.26)	1.20 (0.91, 1.59)	1.07 (0.87, 1.32)	0.96 (0.75, 1.24)
Supervise others	1.15 (1.04, 1.26)**	0.99 (0.86, 1.14)	1.09 (0.94, 1.25)	1.03 (0.93, 1.15)	1.07 (0.92, 1.25)
Number fimes Fired	0.77 (0.67, 0.88)***	0.76 (0.62, 0.93)***	0.61 (0.47, 0.78)***	0.47 (0.39, 0.58)****	0.30 (0.24, 0.38)****
OLS regression					
Perceived status (0–10)	0.27 (0.16, 0.39)***	0.43 (0.28, 0.58)***	0.52 (0.38, 0.66)***	1.08 (0.97, 1.20)****	1.76 (1.58, 1.94)****
Job satisfaction	0.01 (–0.00, 0.03)	0.05 (0.03, 0.06)***	0.03 (0.01, 0.04)**	0.02 (0.01, 0.04)**	0.06 (0.04, 0.08)****
Job autonomy	0.01 (–0.01, 0.04)	0.07 (0.04, 0.09)***	0.04 (0.01, 0.08)**	0.06 (0.04, 0.08)****	0.08 (0.05, 0.11)****
Job repetitive	–0.01(–0.03, 0.01)	–0.03(–0.06, –0.01)**	–0.06(–0.08, –0.04)***	–0.14(–0.16,–0.12)****	–0.20(–0.23, –0.17)****

Source: Authors' calculations based on Adolescent Health 1995–2008.

Sample: Restricted to high school graduates who are employed full time in one job in 2008.

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).

Note: Confidence interval in parentheses. Columns correspond to educational levels, and rows correspond to employment outcomes. Entries correspond to the multivariate regression coefficient predicting the outcome from the educational level.

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

Table 8. Multinomial Logistic Regression of Attainment, Odds Ratios (N=6938)

	Certificate[c]	Associate's	Bachelor's	Graduate
SES 2002[a]	1.00 (0.03)	1.06 (0.68)	1.67 (8.48)***	2.29 (9.50)***
Tenth grade test score[b]	0.98 (–3.60)***	1.00 (0.12)	1.06 (11.03)***	1.11 (12.36)***
BA plans in twelfth grade	0.67 (–3.84)***	0.83 (–1.51)	4.42 (12.89)***	11.26 (6.91)***
Enroll in first term after high school	0.99 (–0.07)	1.39 (2.35)*	3.20 (9.52)***	3.48 (5.89)***
Female	1.54 (4.14)***	1.43 (3.17)**	1.48 (4.88)***	2.49 (7.83)***
Black	1.07 (0.44)	0.55 (–2.89)**	0.81 (–1.55)	1.17 (0.76)
Hispanic	1.04 (0.25)	0.83 (–1.07)	0.97(–0.48)	1.04 (0.18)
Other race	1.04 (0.23)	0.97 (–0.16)	1.35* (2.42)	1.80 (3.56)***

Source: Authors' calculations based on ELS 2002-2012.

Sample: On-time high school graduates, not enrolled in a postsecondary institution in 2012.

Note: T-statistics in parentheses.

[a]Our SES variable was created by NCES through ELS of information on parents' occupations and parents' education.

[b]Test score is the composite math and language arts standardized test score from 2002.

[c]Some college is the reference category.

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

career implications for these young adults (Oreopoulos and Salvanes 2001).

Given the highly negative views of sub-BA credentials encouraged by older research (Karabel 1979), these findings indicate that individuals themselves see some previously ignored positive attributes of jobs from certificates and AAs. Critics dismiss sub-BA credentials as leading to routine, repetitive jobs, with little autonomy, low status, and minimal training and few career opportunities. Our findings contradict those preconceptions. These reports indicate that young working adults are aware of a variety of nonmonetary job rewards, which are related to their satisfaction and may be career-related indicators. They encourage us to broaden our perspectives, and consider the possibility of alternative dimensions for judging labor market payoffs.

Question 3: Are SES or achievement related to credential attainment or employment outcomes within each credential?

Multinomial Prediction of Degree Attainment

We next examine the status attainment prediction—do low-SES or low-achieving individuals have reduced success in pursuing all credentials or is it differentiated based on credential type? To study this, we ran a multinomial logistic regression, using some-college students (with no degree or certificate) as the comparison (table 8). Gender is the only uniform effect: females have higher odds for all credentials. Additionally, immediate enrollment increases the odds of completing all credentials except certificates. Otherwise, the BAs, AAs, and certificates have different predictors. BA completion resembles the traditional findings (Sewell and Hauser 1975; Dougherty 1994): SES, test scores, and BA plans all significantly increase the likelihood of BA attainment compared with some college. In contrast, these factors do not increase the odds of an AA or certificate. Indeed, higher test scores and BA plans actually decrease the odds of certificate attainment (they increase the odds of some college).

These findings indicate that, unlike BA completion, certificates and AAs present a more level playing field for individuals with low SES and low test scores. The lack of a test score effect is consistent with faculty reports that students need only eighth-grade academic skills to get certificates or applied associates degrees in some fields (Rosenbaum, Cepa, and Rosenbaum 2013), and the doubts about the

need for Algebra II for sub-BA success (Stone and Lewis 2012; Tucker 2013), noted earlier. Contrary to the usual rhetoric about college academic readiness, these findings suggest that sub-BA credential success does not require college-level academic achievement, nor high SES. Students with low test scores or low-SES backgrounds are no less successful at completing certificates or even associate's degrees than more advantaged students, all else equal.

Who Gets Higher Employment and Earnings in Each Credentials' Labor Market?

Next we examine whether SES or test scores are related to employment outcomes within each credential category. Each credential leads to different occupations, which may reward different personal attributes. If students with low test scores succeed in completing sub-BA credentials, do these graduates suffer lower employment rates or lower earnings than higher achieving graduates? It is conceivable that employers may prefer graduates with high test scores, high SES, or BA plans (perhaps a proxy for motivation), so these qualities may predict higher employment or earnings for graduates with each educational credential.

Logistic regressions analyze employment in 2012 for each credential separately (table 9, columns 1 through 4). SES does not predict employment for any credential (except those with no credential, some college). Similarly, higher test scores do not predict increased employment for any credential, except certificate graduates, which is just barely significant at t=1.98 (table 9). In addition, BA plans increase employment for students who complete BAs, but are not associated with higher employment rates for graduates of any other credential. In sum, SES, test scores, and BA plans pose few obstacles to employment for most credentials.

Looking at early earnings, we find that SES, test scores, and BA plans predict greater earnings among BA graduates, but not for individuals in the two sub-BA groups (table 8, columns 5 through 8). Thus, unlike the BA, sub-BA credentials lead to labor markets that do not hurt graduates with low SES, low test scores, or lower postsecondary plans.

Question 4: Do students combine a sub-BA with a BA or choose one or the other?

Like other researchers, we have treated students' highest credential eight years after high school as their ultimate attainment. This is consistent with the status-attainment model and the way counselors encourage students to choose a single, typically high, degree goal. Although advocates of BA expectations discourage sub-BA credentials because they lead to lower average earnings, that advice assumes that educational attainment ends after the first credential. However, those who complete certificates and AAs often combine credentials in a process referred to by reformers as *stacking*, in which they build on prior credentials (Ganzglass 2014). In the AddHealth sample of young adults, about 47 percent of BA graduates also have an AA (Rosenbaum 2012). Moreover, 19 percent of adult certificate holders also have AAs and an additional 12 percent have BAs (Carnevale, Rose, and Hanson 2012). These percentages may not seem large, but they are impressive given that, historically, community colleges have not designed explicit mechanisms by which to combine degrees.

However, it is likely that students who discovered degree ladder options in the past did so with little help from colleges. For example, in a study of twenty community college websites in Illinois and California, we saw no mention of this possibility. We also interviewed twelve counselors from various community colleges, none of whom mentioned combining degrees (Rosenbaum et al. 2015). Indeed, the only respondents who discussed degree ladders were a few community college faculty in occupational programs.

That study also included interviews with sixty-five community college students, and we found a few with plans to combine certificates with higher degrees. Doubting how long he would persist, one student was pursuing a certificate with a plan to pursue an associate degree if he succeeded. Another student was enrolled in a BA program in a four-year college, but was pursuing a certificate at a nearby community college on the side, just in case his liberal arts BA did not lead to a job. Interestingly, both students discovered this strategy from

Table 9. Predictors of Employment and Earnings by Highest Credential Attainment

	Logistic Regression of Employment Status 2012[c]				Linear Regression on Log Earnings 2011			
	Some College	Certificate	Associate's	Bachelor's	Some College	Certificate	Associate's	Bachelor's
SES 2002[a]	1.47**	1.22	0.72	0.97	0.08	−0.06	−0.11	0.08***
	(3.00)	(0.93)	(−1.06)	(−0.19)	(1.64)	(−0.81)	(−1.80)	(3.47)
Tenth grade test score[b]	1.01	1.03*	1.00	1.02	0.00	0.01	−0.00	0.00*
	(0.65)	(1.98)	(0.20)	(1.24)	(0.92)	(1.55)	(−0.04)	(2.02)
BA plans in twelfth grade	1.26	1.12	0.90	1.90*	−0.01	−0.01	−0.09	0.20*
	(1.43)	(0.42)	(−0.27)	(1.99)	(−0.14)	(−0.14)	(−1.15)	(2.36)
Enroll in first term after high school	1.87***	1.17	1.11	1.55	0.15*	0.13	0.08	−0.07
	(3.99)	(0.62)	(0.27)	(1.23)	(2.04)	(1.28)	(0.87)	(−0.65)
Hours worked per week in 2011	–	–	–	–	0.03***	0.02***	0.03***	0.02***
	–	–	–	–	(6.88)	(4.61)	(5.35)	(8.75)
Weeks employed in 2011	–	–	–	–	0.03***	0.02**	0.02***	0.02***
	–	–	–	–	(8.44)	(3.31)	(3.59)	(7.18)
Female	0.36***	0.40**	0.33**	0.39***	−0.22***	−0.38***	−0.21*	−0.09**
	(−6.54)	(−3.26)	(−2.86)	(−4.51)	(−3.59)	(−4.21)	(−2.48)	(−2.66)
Black	1.13	1.23	0.89	0.88	−0.22*	−0.13	−0.04	−0.07
	(0.53)	(0.54)	(−0.19)	(−0.33)	(−2.04)	(−0.70)	(−0.22)	(−0.81)
Hispanic	0.90	0.88	0.44	0.74	0.09	0.06	−0.03	−0.01
	(−0.51)	(−0.35)	(−1.47)	(−0.99)	(1.13)	(0.52)	(−0.23)	(−0.16)
Other race	1.22	0.59	0.35	0.89	−0.12	−0.17	−0.23	0.02
	(0.75)	(−1.36)	(−1.85)	(−0.49)	(−1.02)	(−0.89)	(−1.27)	(0.50)
Contant	–	–	–	–	7.34***	7.96***	8.23***	8.04***
	–	–	–	–	(27.94)	(16.22)	(18.59)	(34.29)
N	1845	671	536	2652	1142	417	346	2087

Source: Authors' calculations based on ELS 2002-2012.

Sample: On-time high school graduates, not enrolled in a postsecondary institution in 2012.

Note: T-statistics in parentheses.

[a]Our SES variable was created by NCES through ELS of information on parents' occupations and parents' education.

[b]Test score is the composite math and language arts standardized test score from 2002.

[c]Employed (full time or part time) versus unemployed.

*p < .05; **p < .01; ***p < .001

their middle-class relatives, while none of the low-income students in our sample knew about certificates. Few students seem to know about degree ladders or their possible desirability, although many could likely benefit from this strategy.

However, some colleges do announce degree ladders, and a few go one step further by building them into their programs. These colleges structure the curriculum so that students get an automatic certificate after passing the first year's courses, an associate's degree after two years, and a BA after four years (Rosenbaum, Deil-Amen, and Person 2006). These colleges consider degree ladders an insurance policy to guarantee interim payoffs. The debate about which degree to choose disappears in these programs because everyone pursues multiple credentials simultaneously.

Although certificate and associate degree credits do not always count toward later degrees, the overlap is typically higher in new bachelors of applied science degrees (BAS), which are often in the same occupations as applied associate's degrees such as computer networking, health, and business (see also Bragg and Ruud 2012). Even if all credits do not transfer, degree ladders can provide valuable fallback options. For example, we interviewed a student who dropped out after two years because of a family crisis (Rosenbaum, Deil-Amen, and Person 2006). Although she could not complete her planned BA, she had attained a certificate and associate degree in the meantime, both of which had already improved her labor market prospects. For students who face high risks of family crises, degree ladders seem ideally suited to unpredictable interruptions.

Colleges can create procedures that take advantage of colleges' current credential options and reduce students' financial and academic risks (Rosenbaum, Deil-Amen, and Person 2006). Degree ladders, which can be developed from existing two-year college programs, allow students new options for combining credentials and create potential for increased labor market benefits. We reported a few examples, but more comprehensive research can help educators understand how these options alter student success outcomes.

CONCLUSION

Our aim is to provide a starting point for new questions about rarely considered college options and outcomes. Our central contention is that many desirable options are available that would increase youths' odds of success, but are not usually a part of their plans. We show that students with low test scores and from low-SES families complete sub-BA credentials more frequently than BAs, and that sub-BA credentials are associated with improved employment, earnings, and many nonmonetary job rewards. Moreover, while being low SES and having low test scores are significant obstacles to BA degree completion, and to earnings payoffs from BA degrees, they may not be obstacles to sub-BA credential completion or their payoffs.

Research often finds hidden obstacles to helping disadvantaged youth, and even the most well-intentioned and carefully considered reforms may have adverse effects. One famous example is Sesame Street, which aimed to reduce inequality in reading skills, but actually had greater benefits for advantaged children, which ultimately increased inequality (Cook 1975). Although reformers call for new career pathways that do not encourage traditional inequalities (Schwartz 2014), our analyses indicate that colleges already provide valuable alternative pathways in sub-BA credentials, but they are not visible and are not considered in the college-planning process in most high schools. Certificates and associate's degrees are better options than many expect, and are even associated with nonmonetary job rewards that are rarely considered by research. At a time of increasing inequality, when education often reproduces background disadvantages, these sub-BA credentials may not reproduce inequality in completion odds or in labor market outcomes, and they deserve further consideration.

Some observers criticize processes that do not reward high test scores for being unmeritocratic. However, that may be a mistaken inference in this case. Sub-BA credentials and sub-BA labor markets require many kinds of merit—effort, persistence, and technical skills, but perhaps not high-level academic or testing skills. Surgical technicians, computer network

technicians, and mechanics must possess job skills, communications skills, problem-solving skills, and meticulous attention to quality, but basic math and English skills may be sufficient. Requiring high test scores for these jobs may have nothing to do with merit or performance. Moreover, with potentially reduced academic requirements for certain college credentials, a single college readiness standard is likely not enough.

The lack of SES correlation with postgraduation sub-BA outcomes is perhaps our most surprising finding. SES usually increases education and occupational attainments, often because of better schooling, social connections, or cultural capital associated with SES. However, mid-skilled jobs that require sub-BA credentials may not need the skills and cultural values emphasized in middle-class homes, meaning more students who follow that pathway can succeed (Lareau 2012). One potential explanation for the lack of disadvantages for low-income or low-achieving students may be that more advantaged students do not recognize the value of sub-BA credentials, so they do not seek them in large numbers and use their advantages to crowd out other students. A different explanation is that these credentials and their related career pathways simply may not require the cultural capital that comes from higher SES backgrounds (Laureau 2012), or these programs teach the necessary soft skills and cultural values.

One serious limitation in most research, including ours, is that credentials likely have different payoffs in different occupations (Jacobson and Mohker 2008). Even large national samples such as ELS may be too small to analyze specific occupations, and miss important nuances of sub-BA credential outcomes. The best data sets to study these issues are the universe of students in an entire state. Jacobson and Mohker took advantage of Florida's rich data to study nearly four million students to find large discrepancies by major, and future research on these issues can do the same.

Another limitation in the presented data is the age of the ELS and AddHealth samples (twenty-six to thirty-two) because credential payoff disparities may increase at older ages. Yet the employment outcomes of young adults are important. Young adults have great difficulty earning enough to support a family (Settersten and Ray 2011), and as discussed earlier, these are the foundational years for career development. Further work can examine whether our findings that certificates and AAs lead to valuable careers holds as individuals get older.

Despite those caveats, the presented analyses give hope that nontraditional students with poor odds of BA completion may be able to attain a credential with real labor market value. We have discussed at length the possibility of degree ladders, contending that the usual either-or arguments of sub-BAs versus BAs present a false dichotomy. Students do not have to pick a single degree goal, and some may benefit from planning a sequence of credentials. Some colleges even make degree ladders almost automatic. Advising procedures can make sub-BA credentials fallback options for students about to drop out of a BA program, so that students can benefit more quickly, instead of wasting several years before returning to college (Horn 1999). Future studies should examine college procedures designed to help students see how to combine credentials and their benefits.

Americans can be proud of dramatically improving college access for high school graduates, but we cannot stop there. Our society gives youth a too narrow vision of college options, careers, and the academic requirements for attaining them. In particular, while most students pursue BA degrees that may have low odds of success for the most disadvantaged among them, they often ignore valuable sub-BA credentials. We do youth a disservice by avoiding mention of sub-BAs and their desirable features. Advocates of the universal BA pursuits should reconsider blindly advising all students into a singular goal that prevents them from seeing sub-BA credentials that offer fewer academic and financial obstacles, better odds, desirable outcomes, and the potential to pursue BA plans later. Students would benefit from receiving full information on all their postsecondary options.

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