

# THE ACCT 2016 INVITATIONAL SYMPOSIUM: GETTING IN THE FAST LANE

*Ensuring Economic Security and Meeting the Workforce Needs of the Nation*

Discussion Papers 2016 Invitational Symposium

PUTTING STUDENTS

**FIRST**

ARE ASSOCIATE DEGREES PREPARING  
GRADUATES FOR SUCCESSFUL CAREERS?

▶ ▶ BY JONATHAN ROTHWELL, PH.D.

**ACCT**  
ASSOCIATION OF  
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# PUTTING STUDENTS FIRST:

## Are Associate Degrees Preparing Graduates For Successful Careers?

JONATHAN ROTHWELL, PH.D.

### SUMMARY

The earnings of Associate degree holders have been climbing in recent decades relative to high school educated workers, but inflation-adjusted salary gains have been weak, and the average benefits of getting a two-year degree mask considerable variation.

This paper summarizes what is known about how well community colleges are preparing their students to attain high incomes and high levels of satisfaction with their lives. It organizes findings into sections that discuss the major data sources and what can be readily observed from them.

#### The main findings are as follows.

- The U.S. Department of Education's national College Scorecard (<https://collegescorecard.ed.gov/>) and state data systems have allowed for new and useful insights into the variation in earnings outcomes by alumni, advancing consumer and policy knowledge.
- Limitations with the Scorecard and other sources include the difficulty of comparing students from very different family backgrounds and levels of academic preparation. Moreover, these background factors differ substantially across institution types and sectors. Taking these differences into account, value-added metrics hold some promise in providing clearer insights.
- Gallup has been a leader in expanding the types of outcomes measures used, moving beyond only income to include well-being and

health. Gallup surveys have also shed light on what sorts of college experiences predict better outcomes.

- Gallup data show broad but by no means unanimous satisfaction with community colleges from those who attended.

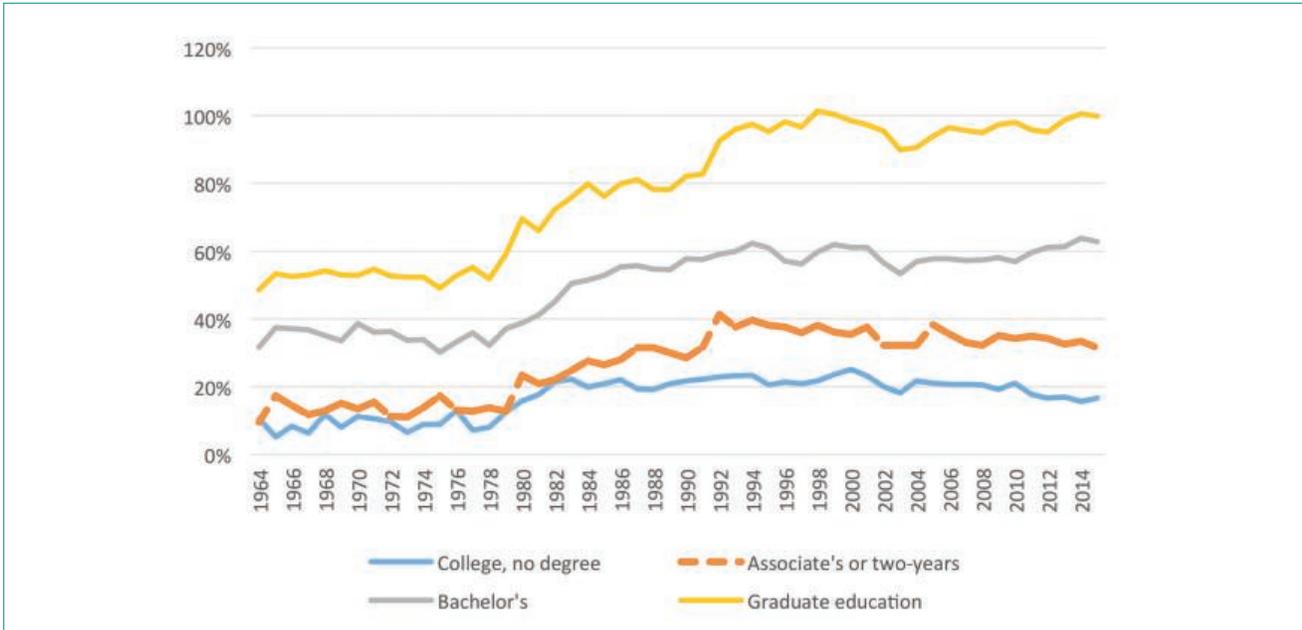
Much work remains to be done in better measuring and evaluating colleges and shedding light on the policies that will consistently lead to better outcomes for students of all backgrounds. Going beyond earnings and employment measurements to include a fuller range of outcomes will be important to understanding how well institutions are meeting their goals and serving the public.

#### The relative average returns to those with a higher education are growing, but the absolute returns are not.

Relative to a high school diploma or less formal education, the average economic advantages of obtaining a higher education has grown considerably for individuals since 1980. This applies not only to Bachelor's degrees but also Associate degrees. In 1980, the average earnings of those with an Associate degree were 23 percent higher than people with only a high school diploma, after adjusting for age and gender. In 2015, this earning premium reached 32 percent, roughly half the Bachelor's degree premium, but considerably higher than the premium for people with some college but no degree (17 percent).

**“GOING BEYOND EARNINGS AND EMPLOYMENT MEASUREMENTS TO INCLUDE A FULLER RANGE OF OUTCOMES WILL BE IMPORTANT TO UNDERSTANDING HOW WELL INSTITUTIONS ARE MEETING THEIR GOALS AND SERVING THE PUBLIC.”**

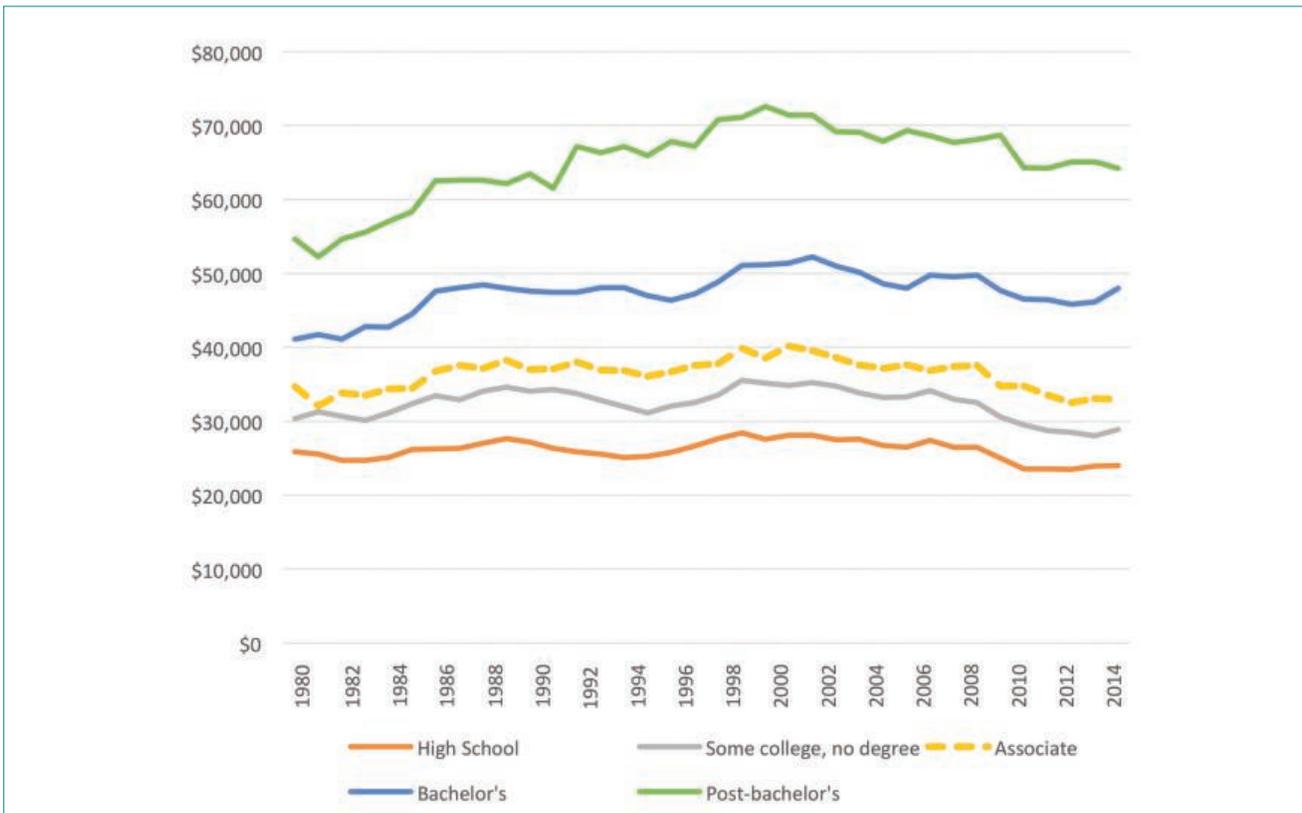
**FIGURE 1.** Personal income premium relative to high school, by education level, 1964–2015



At the same time, Americans of all educational groups have experienced income stagnation since 2000. There has been no increase in median incomes for any group, after adjusting for inflation. For Associate degree holders, median incomes peaked in 2001 at \$40,150, and in 2015, they stood at \$33,009, as

compared to \$24,016 for the median for those with a high school education (see Figure 2). During this period, the cost of higher education grew rapidly. Thus, the relative returns gained from attaining a higher education have been increasing, even as the absolute returns have fallen.

**FIGURE 2.** Real median incomes by education level, adults 25–64, 1980–2015



### Averages obscure the diversity and complexity of higher education decisions.

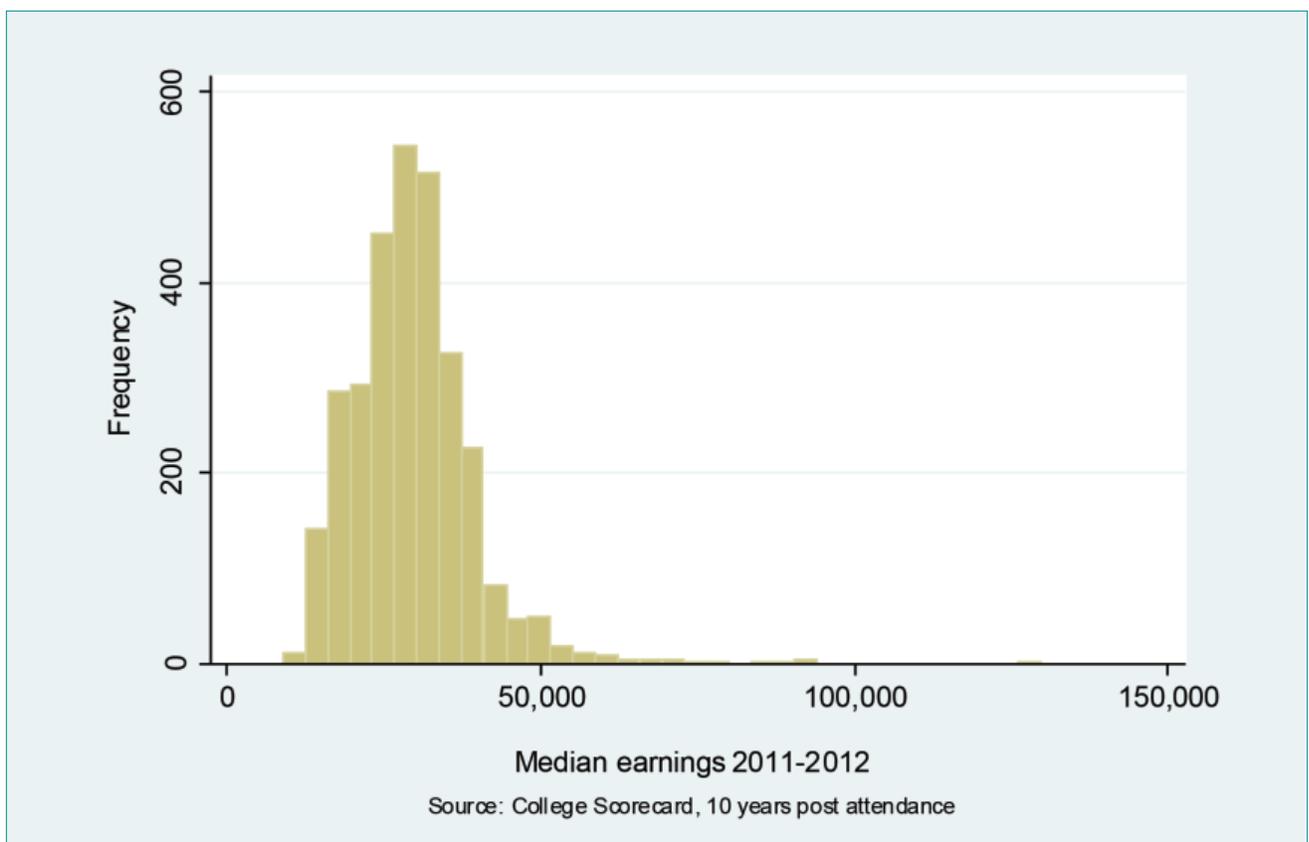
Average earnings advantages mask considerable variation in the experiences of people who enter a degree program.<sup>1</sup> New public and private data sources have allowed unprecedented access to earnings data at the institutional level, helping to empower students. States like Texas and Florida have released detailed summary information for their states' respective public colleges, including mean by college, by cohort, and even earnings by major.<sup>2</sup>

After years of methodological and political debate about whether colleges could be fairly evaluated using consumer-facing metrics, the former Obama Administration's Department of Education released its College Scorecard in 2015. This database provides comprehensive measures of earnings by cohort at the institutional level for 5,882 institutions, which represents most of the roughly 7,000 colleges and universities in the United States.<sup>3</sup> Its chief limitation is that the earnings data are only for non-federally aided students (about half of all students in the early 2000s, but closer

to three quarters now), and thus exclude all colleges with non-federally aided students for a given cohort and excludes a large number of students who do not receive aid. At community colleges, the current share of aided students is roughly 68 percent, which is slightly less than the 75 percent who receive aid at four-year colleges. The mix of aid is quite different, however, as community college students are less likely to borrow but more likely to qualify for Pell Grants, which support low-income students. Despite these limitations, the Scorecard database is a major step forward compared to what came before it. Payscale, a private company focused on enhancing salary negotiation transparency, provides early-career and mid-career earnings for alumni graduates for roughly 1,300 institutions, including a few hundred community colleges.

Much more so than census-based data on the average earnings of people with different education levels, these data can better help students understand their likely earnings and weigh these projected earnings against tuition costs and potential loan payments for specific institutions.

**FIGURE 3.** Median Earnings of Two-Year College Alumni 10 Years after Entering, 2011–2012



Of the 20 large two-year programs with the highest alumni earnings, many of them had a major focus on health or a focus on STEM fields. This includes the Los Angeles County College of Nursing and Allied Health, the Helene Fuld College of Nursing, St. Vincent's College, St. Joseph's College of Nursing, and

Laboure College. The Pittsburg Institute of Aeronautics represents a STEM-focused college that prepares students for high-paying jobs in aircraft maintenance and repair. Alumni salaries at the top 20 large two-year colleges range from \$44,000 to \$90,000. Many of these colleges are in the private non-profit sector.

**TABLE 1.** The 20 predominately two-year colleges with highest median earnings 10 years after entry, for federally-aided students with at least 100 students in cohort, 2011–2012

	Median earnings, 10 years post entry 2011–2012	City	State	Sector
Los Angeles County College of Nursing and Allied Health	\$90,300	Los Angeles	CA	public
Helene Fuld College of Nursing	\$86,406	New York	NY	non-profit
St Vincent's College	\$67,357	Bridgeport	CT	non-profit
St. Joseph's Coll of Nurs at St. Joseph's Hosp Health Ctr	\$62,094	Syracuse	NY	non-profit
Laboure College	\$59,674	Boston	MA	non-profit
Pittsburgh Institute of Aeronautics	\$57,779	West Mifflin	PA	non-profit
Adventist University of Health Sciences	\$53,780	Orlando	FL	non-profit
Foothill College	\$50,096	Los Altos Hills	CA	public
Carolinas College of Health Sciences	\$49,781	Charlotte	NC	public
College of Biblical Studies-Houston	\$49,149	Houston	TX	non-profit
Ranken Technical College	\$48,939	Saint Louis	MO	non-profit
Dunwoody College of Technology	\$48,833	Minneapolis	MN	non-profit
Peirce College	\$47,044	Philadelphia	PA	non-profit
Morrison Institute of Technology	\$46,518	Morrison	IL	non-profit
De Anza College	\$45,887	Cupertino	CA	public
Mercy College of Ohio	\$44,308	Toledo	OH	non-profit
Charter College-Anchorage	\$44,203	Anchorage	AK	private
ITI Technical College	\$43,887	Baton Rouge	LA	private
Northern Virginia Community College	\$43,887	Annandale	VA	public
North Dakota State College of Science	\$43,571	Wahpeton	ND	public

Source: College Scorecard. Analysis limited to predominately two-year granting colleges classified as Associate Colleges by the Carnegie classifications, with a minimum of 100 federally-aided entering students in 2001. 1,046 institutions included in analysis.

**“THE MAIN PROBLEM WITH COMPARING COLLEGES BY THEIR UNADJUSTED EARNINGS DATA IS THAT SEVERAL FACTORS BEYOND THE QUALITY OF THE COLLEGE AFFECT THE EVENTUAL SUCCESS OF ALUMNI.”**

While these data provide important information to students, the main problem with comparing colleges by their unadjusted earnings data is that several factors beyond the quality of the college affect the eventual success of alumni. Some of these are entirely outside the college’s control, except through its admission standards, which are typically open for community colleges and private two-year colleges: the level of entering students’ academic preparation, family income, parental education, and parental occupational class. (See Figure 3.) At public two-year colleges, classified as Associate institutions, family

incomes at time of entry are approximately \$35,000 less than entering students at public four-year colleges. Likewise, at public two-year colleges, 49 percent of students who received federal aid are first-generation, compared to just 37 percent at public four-year colleges. By educating a disproportionate share of low-income and first-generation students, community colleges face several challenges in terms of boosting the incomes or other metrics of well-being for their alumni. And even among two-year colleges, there is considerable variation in the background of students.

**FIGURE 4.** Median family earnings at time of enrollment for federally-aided students at 2- and 4- year colleges, by type



Source: Analysis of IPEDS data from the College Scorecard for the 2005-2006 entering class. Institutions categorized by type using most frequent award or Carnegie classification.

**The policy tools needed to raise alumni outcomes are becoming clearer but have not been integrated into ratings.**

At the same time, community colleges possess tools that can and do lift student outcomes. These include discretion over curriculum (in terms of the types of courses offered), the effectiveness of faculty and support staff, student support services, and partnerships with business and industry and to varying degrees, tuition and financial aid. When used wisely, these tools can empower students and help launch successful careers, regardless of students' backgrounds.

There is strong evidence in the academic literature showing that financial aid and student support services can boost graduation rates.<sup>4</sup> More selective universities are more likely to implement these policies, and so college selectivity predicts higher graduation rates, even for students with similar levels of academic preparation.<sup>5</sup> Further research shows that colleges that pay their faculty higher salaries and offer a mix of majors focused on higher paying fields tend to have higher earning alumni<sup>6</sup>.

Yet, very little is publicly known about how specific community colleges or even four-year universities are using these tools. The major college rankings publications emphasize differences among the students who attend different colleges, rewarding colleges that attract the most prepared students. Recently, rankings from publications that include *Money* and *Forbes* have started including student outcomes such as salaries or outstanding achievements, but those are only partially attributable to college inputs. In their publicly released data, no non-academic ranking system attempts to distinguish the value that colleges provide to students from the attributes that students bring with them to the college—in terms of higher levels of academic preparation

or family resources. Moreover, most rankings either completely ignore community colleges or segregate them, so they can't be compared to other colleges.

**New data sources and measures of quality are shedding additional light.**

Recognizing these gaps, Rothwell and Kulkarni of the Brookings Institution published a thorough analysis of the “value-added” of colleges and universities.<sup>7</sup> Applying methods used in K-12 teacher ratings, Rothwell and Kulkarni used a regression-based model to predict student outcomes (e.g., salaries, loan repayment rates) based on the characteristics of the students and basic institutional features, and compared those predicted outcomes to actual outcomes. To predict earnings, several factors are included in the model, such as the test scores of students, the level of degrees conferred, the family incomes of entering students, the age, race, and gender of those students, as well as the cost of living in the metropolitan area of the college.

The difference between predicted and actual outcomes provides a measure of the college's value-added to alumni economic performance. In this case, added value consisted of measured college qualities—student financial aid, faculty salaries, curriculum value, retention and graduation rates—and unmeasured college qualities, which could include aspects of faculty quality and student support services. (Value-added was calculated as the difference between predicted student outcomes—based on regression estimates—and actual outcomes. The difference or value-added could be broken down into the contributions from observable factors listed above (each of which were correlated with better outcomes but subtracted from the prediction, since they were deemed qualities) and unobservable or

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X-factors, which were the remaining portion of unexplained variation. The X-factor consists of a combination of measurement error, modeling error, and actual qualities that were not captured in the model.)

In a follow-up paper, Rothwell estimated added value using earnings data from the Department of Education's College Scorecard.<sup>8</sup> Again, schools that awarded a higher percentage of degrees or certifications in more technical fields generated higher earnings of alumni, as did colleges with higher graduation rates, and higher faculty salaries. As with overall earnings, many of the top schools have a health orientation or

offer a mix of majors heavily oriented toward technical fields. Alumni from the Pittsburgh Institute of Aeronautics earn 43 percent more than predicted, making it the two-year college with the largest value-added for this cohort year, among large schools. Among the top 20 colleges are North Dakota State College of Science, CUNY Kingsborough Community College, and Northern Virginia Community Colleges. On this score, 15 of the top 20 colleges are public community colleges, a much higher share than the top 20 two-year colleges by earnings, in which no adjustments were made for student characteristics.

**TABLE 2.** The top-20 scoring two-year colleges for value-added to median earnings 10 years after entry, for federally-aided students with at least 100 students in cohort, 2011–2012

	Value-added	Predicted earnings	Actual earnings	City	State
Pittsburgh Inst of Aeronautics	43%	\$37,647	\$57,779	West Mifflin	PA
St Vincent's College	41%	\$44,577	\$67,357	Bridgeport	CT
Bramson ORT College	41%	\$20,179	\$30,310	Forest Hills	NY
Foothill College	40%	\$33,552	\$50,096	Los Altos Hills	CA
Laboure College	39%	\$40,221	\$59,674	Boston	MA
Roxbury Community College	33%	\$24,883	\$34,520	Roxbury Crossing	MA
Carolinas Coll of Health Sciences	30%	\$36,821	\$49,781	Charlotte	NC
De Anza College	29%	\$34,414	\$45,887	Cupertino	CA
Los Medanos College	28%	\$27,183	\$36,099	Pittsburg	CA
Diablo Valley College	28%	\$30,448	\$40,309	Pleasant Hill	CA
Moorpark College	27%	\$30,922	\$40,519	Moorpark	CA
CUNY Kingsborough Comm Coll	27%	\$28,430	\$37,151	Brooklyn	NY
No Dakota State Coll of Science	27%	\$33,359	\$43,571	Wahpeton	ND
No Central Kansas Tech College	27%	\$29,702	\$38,730	Beloit	KS
Seattle Comm Coll-North Campus	27%	\$27,856	\$36,309	Seattle	WA
Glendale Community College	26%	\$24,901	\$32,415	Glendale	CA
Prism Career Inst-Upper Darby	26%	\$25,318	\$32,942	Upper Darby	PA
Mitchell Technical Institute	26%	\$30,758	\$39,993	Mitchell	SD
College of Marin	26%	\$26,334	\$33,994	Kentfield	CA
Northern VA Comm College	25%	\$34,299	\$43,887	Annandale	VA

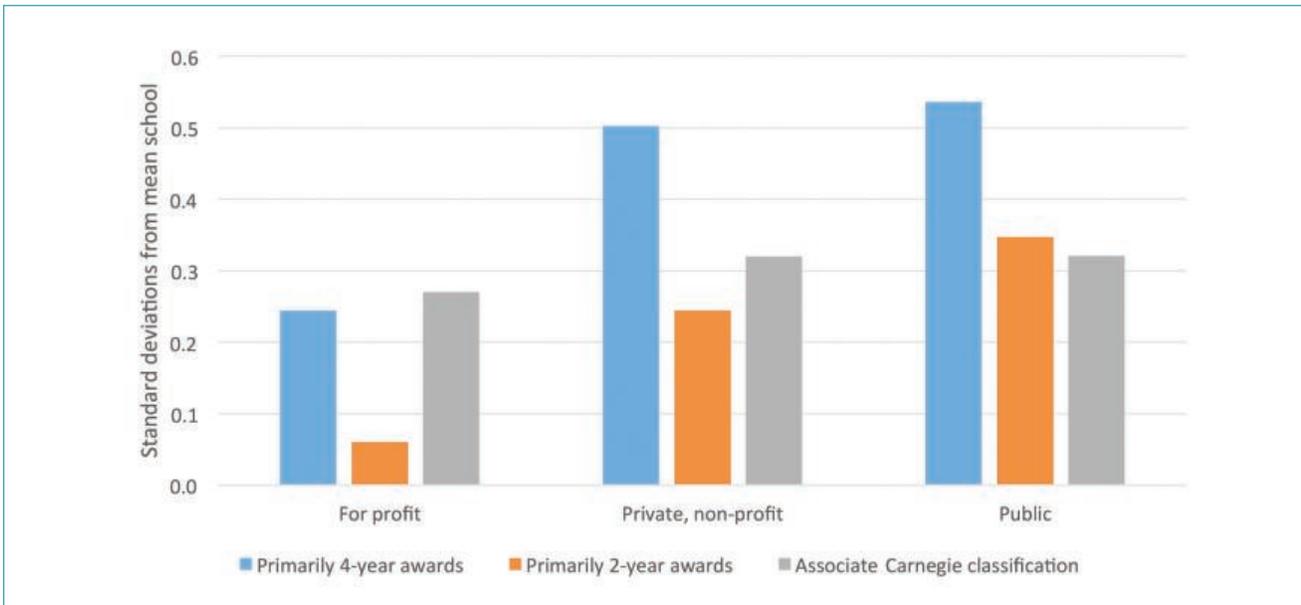
Source: College Scorecard and other sources using methods in Rothwell (2015). Analysis limited to predominately two-year granting colleges classified as Associates Colleges by the Carnegie classifications, with a minimum of 100 federally-aided entering students in 2001. Earnings measured in 2011.

## “TWO-YEAR PUBLIC COLLEGES TEND TO GRADUATE STUDENTS INTO HIGHER EARNING FIELDS THAN PRIVATE OR FOR-PROFIT COLLEGES.”

Importantly, this research identified several readily measurable mechanisms by which colleges can be compared and that predict a college’s contribution to alumni earnings—the graduation rate, curriculum value, and compensation of faculty. Moreover, this study points to additional information on aspects of college quality that could be collected and compared across colleges, like faculty quality, administrative quality, and student programs.

Two-year colleges tend to perform worse than four-year colleges in terms of offering a mix of majors that lead to high-value careers. Two-year public colleges tend to graduate students into higher earning fields than private or for-profit colleges. This is the case for predominantly two-year colleges and those classified as Associate-granting institutions by the Carnegie classifications.

**FIGURE 5.** Standardized curriculum value of two-year vs four-year colleges by type for degrees conferred in 2010



Source: Analysis of data from IPEDS and 2013 American Community Survey. The median earnings by field for Bachelor’s degree holders is imputed to each field of study code at the institutional-field level (i.e. unitid and CIP). Then, a weighted average earnings value is calculated by type of college using the number of awards as the weight. The y-axis is the standard deviation from the mean institution across all types, where the mean institution has a score of zero. All values shown are above zero because larger institutions tend to offer a more valuable mix of majors, and the means are weighted by student enrollment.

This broad finding on mix-of-majors can be further understood by looking at the fields of study where two and four-year colleges most diverge in terms of the share of awards granted. At two-year colleges, 20 percent of all awards granted in 2015 were classified in the “Liberal Arts and Science, General Studies” field. This compares to only 3 percent of Bachelor’s degree awards. This major may help students transfer and eventually complete a four-year

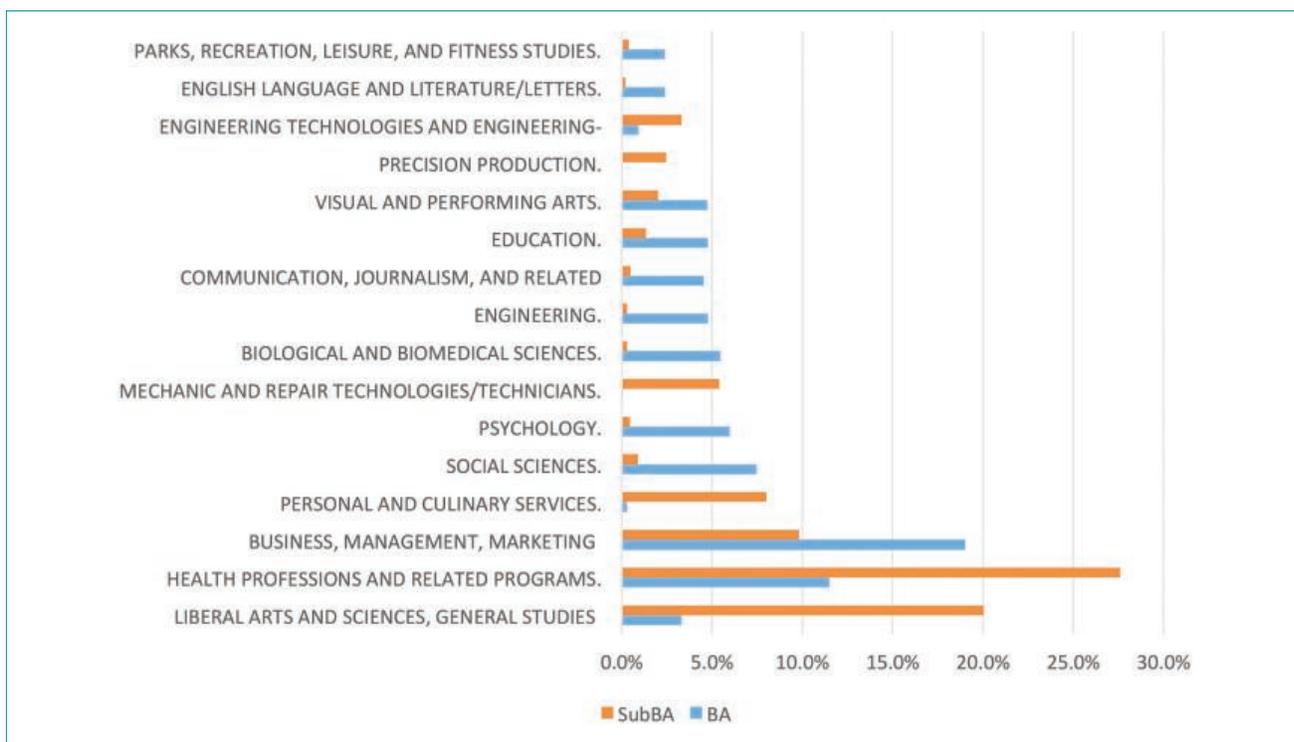
degree, but by itself, seems to have relatively low labor market value, as indicated by the salaries of alumni; moreover, graduation rates are particularly low for those who pursue general studies degrees.<sup>9</sup>

On the other hand, degrees in healthcare fields are more prevalent at two-year colleges compared to four-year colleges (28 vs 11 percent). Likewise, two and four-year

institutions are roughly equally likely to grant degrees in computer science, with a slight edge to two-year colleges (3.6 percent vs 3.1 percent of all awards). Yet, these advantages in curriculum for two-year colleges are offset by the large number of majors in general

studies and personal and culinary services, both of which have low average earnings for alumni. At the same time, four-year colleges are much more likely to confer degrees in high-earning fields like business, biology, and engineering.

**FIGURE 6.** Share of Bachelor’s or lower awards by major by type of institution, 2015, restricted to majors with largest absolute differences across institution type



Source: Analysis of 2015 data from IPEDS. Majors listed are limited to those with an absolute value difference between institution types of two percentage points or higher, as measured by award shares.

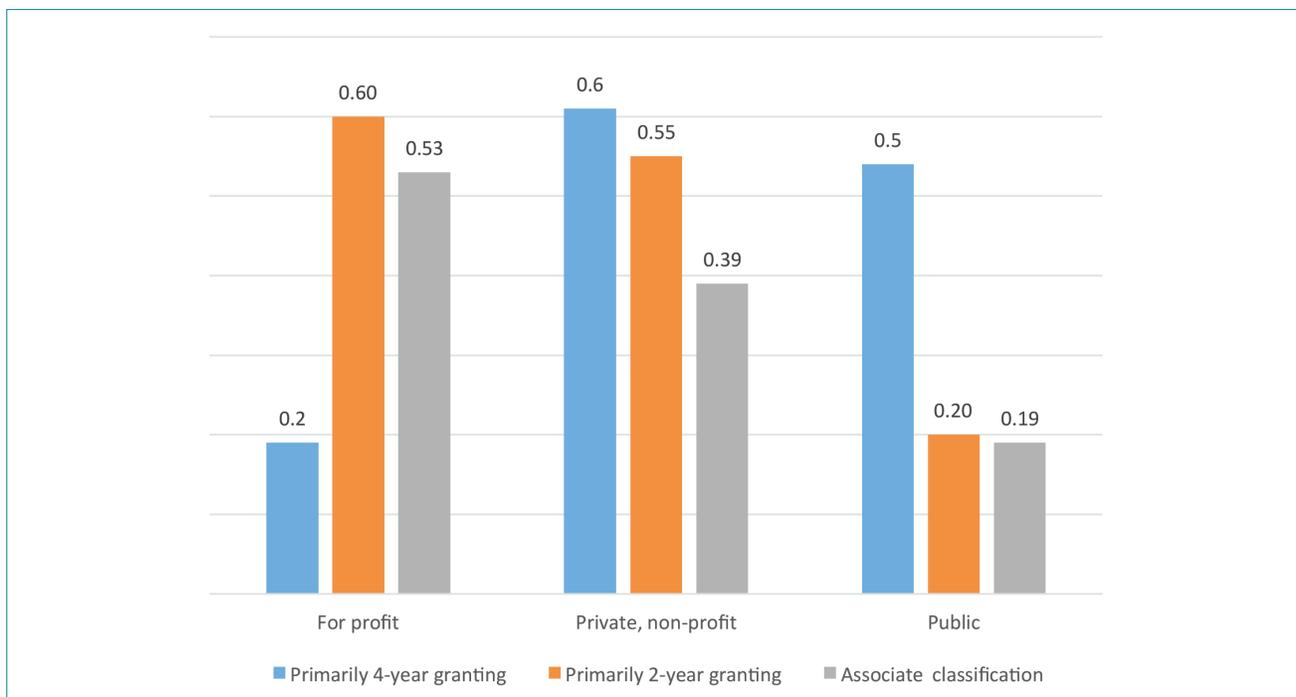
Two-year colleges also tend to have lower graduation rates than four-year colleges, and this is particularly a problem at public two-year colleges, where just 20 percent graduate within 150 percent normal time (that is to say, three years for a two-year program). This has a direct effect in that it leaves students less skilled and prepared than otherwise for a successful career, and it may also indicate other indirect factors that depress student outcomes and

are correlated with low-graduation, such as lack of student support services, unavailability of internships or business and industry partnerships, etc. As noted above, these types of interventions have been found to raise graduation rates, even in experimental settings. On the other hand, personal complications or lack of preparation on behalf of students also explain, at least in part, the low graduation rates of community college students.<sup>10</sup>

**“DEGREES IN HEALTHCARE FIELDS ARE MORE PREVALENT AT TWO-YEAR COLLEGES COMPARED TO FOUR-YEAR COLLEGES (28 VS 11 PERCENT).”**

**“AS WITH OVERALL EARNINGS, MANY OF THE TOP SCHOOLS HAVE A HEALTH ORIENTATION OR OFFER A MIX OF MAJORS HEAVILY ORIENTED TOWARD TECHNICAL FIELDS.”**

**FIGURE 7.** Graduation rate (150% normal time) at two- and four-year colleges, by type



Source: Analysis of IPEDS data from the College Scorecard for 2005–2006 entering class.

Moving beyond income metrics, Gallup and Purdue University have spearheaded important new research on issues of quality in four-year colleges through the Gallup-Purdue Index (GPI), a survey of roughly 30,000 Bachelor’s degree holders conducted in 2014 and again in 2015, for a total of approximately 60,000.<sup>11</sup> The most important innovation of the GPI is to provide comparable data on student outcomes that go beyond earnings and employment, though these outcomes are also included in the database. Specifically, the GPI measures what Gallup called “workplace engagement,” which measures the extent to which people are intellectually and emotionally engaged with their work. The survey also measures physical, social, financial, and community well-being, as well as life evaluation and meaning through work activities. Thus, one can link these data to college and individual characteristics to better understand the

characteristics of institutions that predict greater alumni success on these dimensions.

In addition to expanding the outcome measures available in the study of higher education, the GPI collected several novel quality metrics, such as the share of alumni who agreed that their education was “worth the cost.” Further, the GPI work has identified specific qualities that are predictive of positive outcomes, including student support from faculty and experience-based learning opportunities. Such metrics can be assessed as stand-alone quality variables or complementary, in the sense that they may predict higher added value on one or more student outcomes, like salary or well-being. They can also be assessed by field of study or category of institution, such as for-profit versus not-for-profit.

In a special poll, the Gallup-USA Funds Associate Degree Graduates Survey replicated the GPI for Associate degree holders. The study confirmed that gaps in the earnings between Associate degree holders and Bachelor's degree holders correspond with gaps in various measures of well-being, including physical health and financial stress.<sup>12</sup>

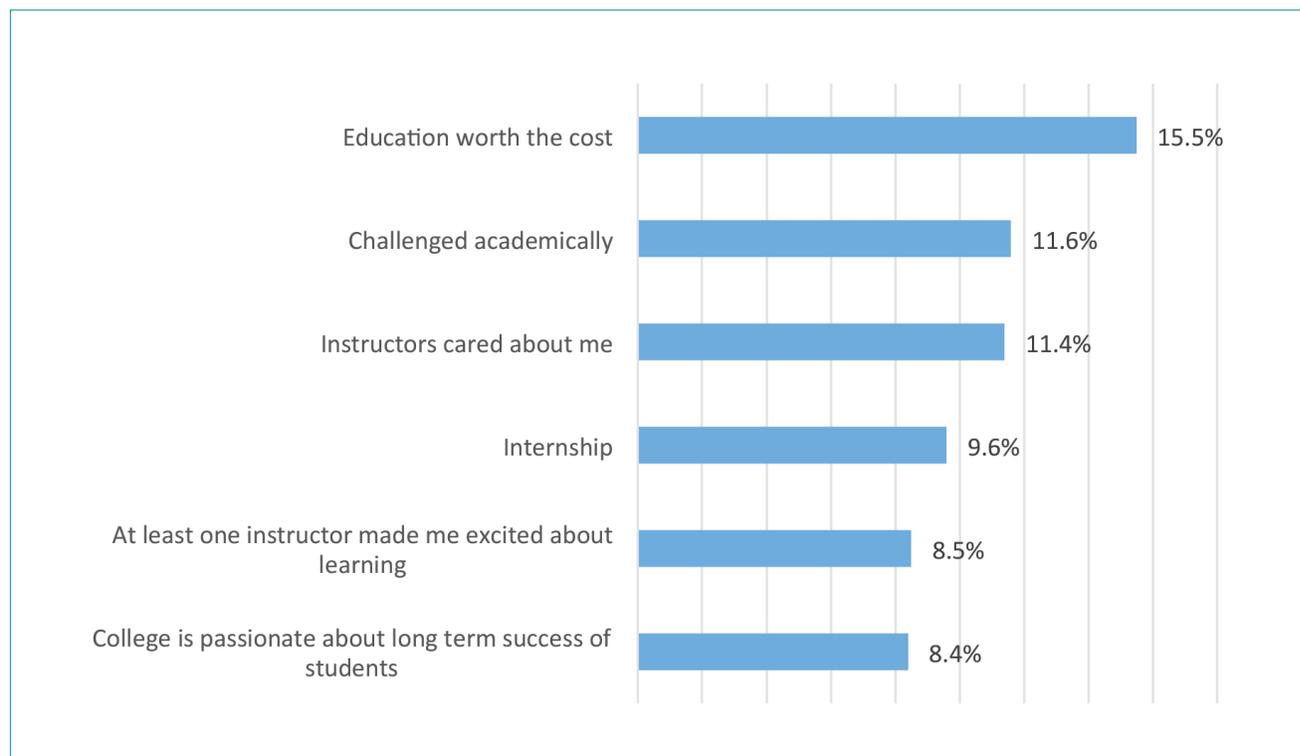
These data also allow for analysis of how college experiences predicted successful outcomes. For example, people who had a paid internship while enrolled in their two-year program earned significantly higher average annual incomes (\$7,000), were more likely to be employed (by 6 percentage points), and were more likely to have found a “good job” within two months of graduating (10 percentage points).

An analysis of the 2015 Gallup-USA Funds Associate Degree Graduates Survey reveals that a number of student experiences are highly predictive of overall life-evaluation.

In particular, people who believe that college was worth the cost are 15.5 percentage points more likely to evaluate their lives in a highly positive way. These data, which include public and private two-year colleges, also point to the importance of high-quality instruction. Students who believe their instructors cared about them or those who had at least one instructor who made them excited about learning were much more likely to report a high well-being score. Workforce-development services may also make a big difference. Students who participated in internships while earning an Associate degree rated their lives as better and earned higher salaries than those who did not engage in internship programs.

Of course, these relationships should not be interpreted as necessarily causal, based on this evidence. Follow up research should investigate—with experimental techniques—whether participation in these kinds of activities causes or is merely correlated with alumni success.

**FIGURE 8.** Factors that are predictive of high-life evaluation of Associate degree holders

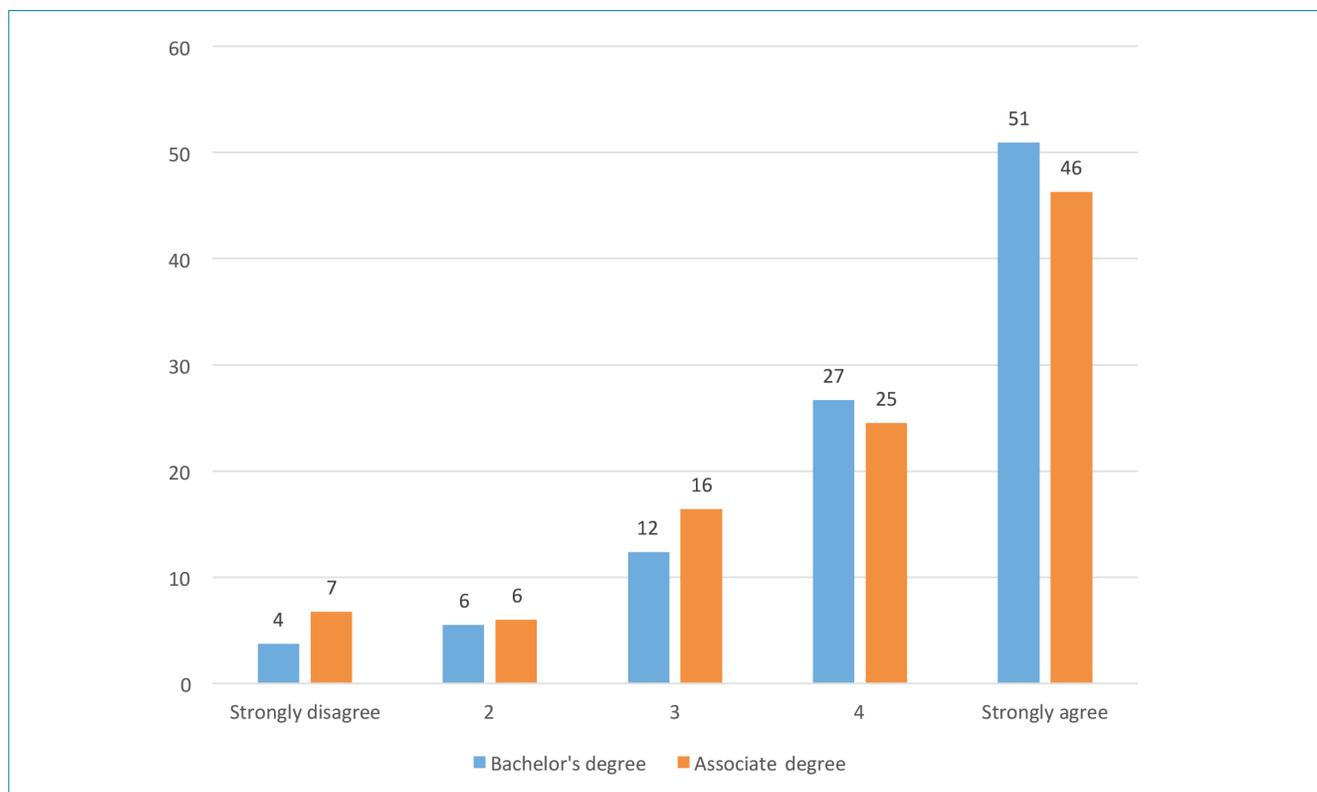


Source: Author analysis of Gallup-USA Funds Associate Degree Graduates Survey. Analysis uses probit regression to predict probability of reporting a high level of life evaluation (7 or above on 0 to 10 scale), controlling for gender, race, age, and first generation status. Results are statistically significant at 5 percent or lower p-values.

Overall, just under half of Associate degree earners strongly agree that their educational experiences were worth the cost, compared to just over half of Bachelor's degree earners surveyed in the GPI. Another 25 percent of Associate degree earners agree with the statement, suggesting that a large majority (71 percent) believe their educational experiences

were worthwhile. The distribution across responses is similar between Bachelor's and Associate degree earners, with just slightly less of the latter group believing their education was worth the cost. Yet, while many feel it was worth the cost, a smaller majority, only 54 percent, agree or strongly agree that their alma mater prepared them well for life outside of college.

**FIGURE 9.** Share of students reporting that their college education was worth the cost by type of degree, 2015



Source: Analysis of Gallup-USA Funds Associate Degree Graduates Survey, 2015; N=2,548; and Gallup-Purdue Index 2014-2015, N=30,011

Even with these advances, there is no survey large enough to produce reliable institutional level data for most colleges. Also, there are no large-scale surveys collecting detailed educational experience data for the adults with less than a Bachelor's degree, which is why the special Associate degree survey was conducted as a supplement.

Partly filling these gaps, USA Funds and Gallup have launched a new higher-education survey that is currently collecting data from 350 Americans per day for three years and 350 days per year. The total number of completions will reach between 350,000 and 400,000.

This survey will provide unprecedented data on the higher educational experiences of the sub-bachelor's level population and use some of the quality metrics available in the GPI, as well as introduce new ones. The large size of the survey will allow for rich insights at the institutional level for a larger number of colleges, and expanded possibilities for general insights.

**There is still much more to do in making higher education function better for students.**

Data advances hold the promise of better informing consumers as to which institutions, fields of studies, and types of institutions

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consistently add value, measured in various ways, to their alumni.

Yet, there are important elements still missing from all these data collection efforts. Outcomes metrics by institution and by program remain unavailable publicly for most colleges, and even where the data are available, income and employment are usually the only measurements. Learning is not a measured outcome in any of these data sources, despite its critical importance to the mission of higher education. Likewise, there remains only a limited understanding of the specific features of institutional and faculty

quality that most matter and how these compare across institutions. Finally, even with perfect outcomes data, there would be no consensus among academics or policymakers on how to best compare institutions, which differ dramatically in missions and student populations.

In the face of rapidly escalating college costs, better and more inclusive data are needed to guide policies and to inform students, with the hope that higher education costs can become better aligned with quality and outcomes, and more students can affordably and reliably pursue the education they need to realize their ambitions for prosperous and meaningful lives.



## ENDNOTES

- 1 Beth Akers and Jonathan Rothwell, “More data can make college less risky,” (Washington: Brookings Institution, 2016).
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**“STUDENTS WHO PARTICIPATED IN INTERNSHIPS WHILE EARNING AN ASSOCIATE DEGREE RATED THEIR LIVES AS BETTER AND EARNED HIGHER SALARIES THAN WHOSE DID NOT ENGAGE IN INTERNSHIP PROGRAMS.”**

## STUDY GUIDE/ QUESTIONS

1. How is your college doing on rough high-level measures of quality, including a value-added ranking, the value of the mix of majors offered, graduation rates, default-rates, and alumni earnings, and why do you think this is the case?
2. Does your college use data—such as student end-of-course feedback or passage rates on licensing exams—to evaluate and reward faculty?
3. Are there proven programs or support services—like those offered by the CUNY ASAP program—that your college does offer or could offer to boost completion?
4. Do you collect data on your alumni, and how are that data used to improve student outcomes and identify common reasons for success, such as field of study, exposure to certain instructors/faculty, or tutoring programs, internships, or scholarships?



## ABOUT THE AUTHOR



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Jonathan Rothwell researches and publishes on a broad range of topics and advises Gallup clients and associates on research questions and economic analysis.

Before joining Gallup, Rothwell was a fellow at the Brookings Institution's Metropolitan Policy Program. He publishes research on issues such as trade; innovation; education; college quality; the supply and demand for skills; residential segregation by income, race and ethnicity; and the causes of income inequality. In 2015, he was commissioned by the National Academies of Science to define "skilled technical work."

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