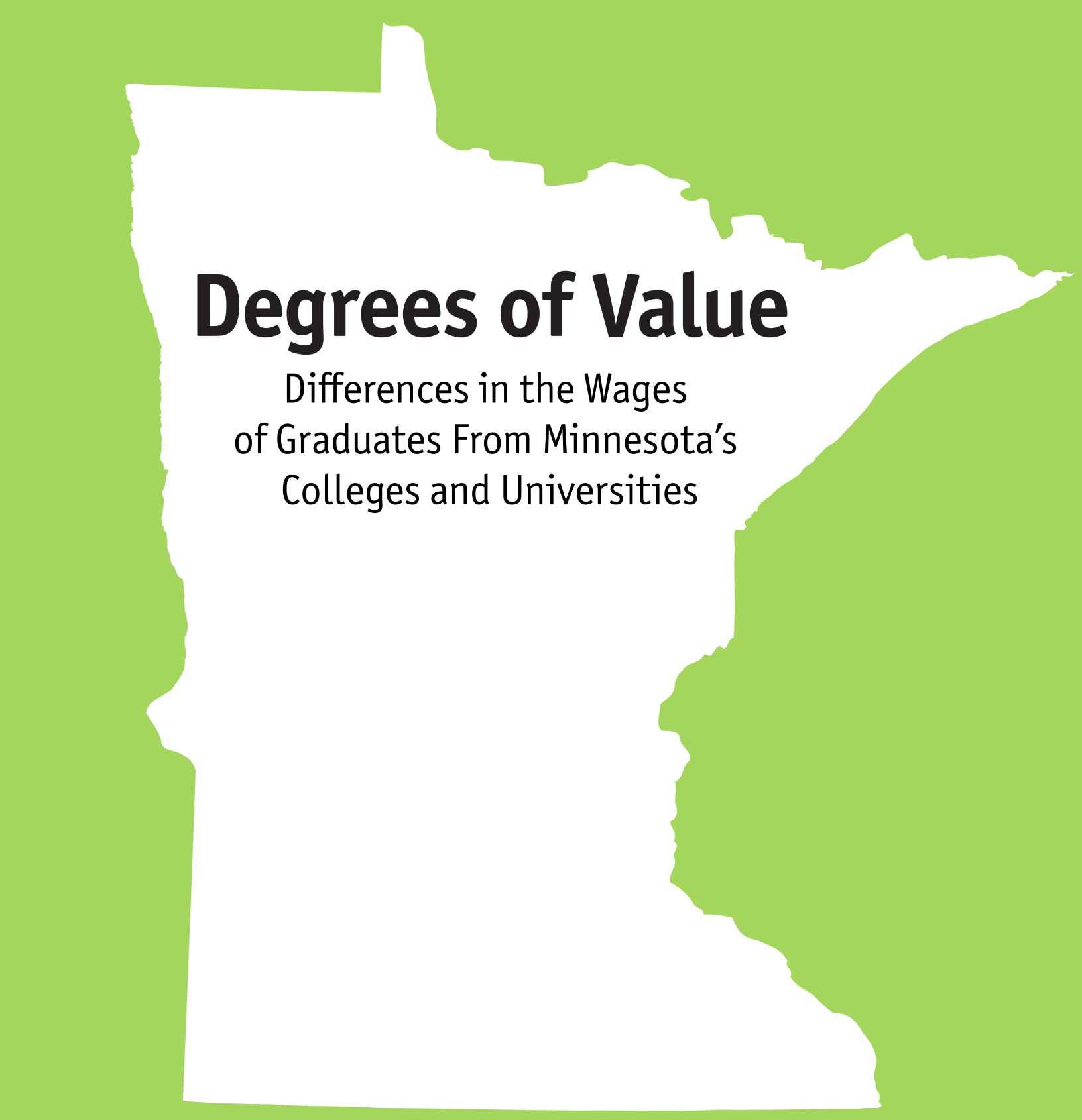




Degrees of Value

Differences in the Wages
of Graduates From Minnesota's
Colleges and Universities

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A product of College Measures' Economic Success Metrics
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Executive Summary

Students invest their time and money in postsecondary education for many reasons, but one of the most important is the belief that a college degree will lead to a good job and a higher salary. Taxpayers also subsidize higher education for many reasons, but they too expect their investment to yield better educated citizens who will, in turn, contribute to the community in many ways, including higher wages that can better support the local and state economies.

In general, these expectations are met. Postsecondary education pays, but it pays a lot more for some graduates than for others. There are systematic differences in the wage outcomes of graduates depending on their major, the postsecondary credential they earn, and where they study. This report centers on several important findings related to wage outcomes of postsecondary graduates in Minnesota:

- Although the median wages of completers¹ generally increase as credential levels increase, associate degrees in some career-oriented majors, such as Industrial Production Technologies and Registered Nursing, return wages that rival or surpass the wages of graduates with bachelor's degrees.
- Graduates with bachelor's degrees from many of the largest majors in the state, such as Psychology and Teacher Education, earn low wages.
- The shortage of graduates in the fields of STEM (science, technology, engineering, and mathematics) does not translate uniformly into higher wages for graduates in these fields. For example, in Minnesota, graduates with bachelor's degrees in Biology do not do particularly well in the labor market. Rather, their wages tend to be similar to the median wages of graduates from all bachelor's degree majors.
- In contrast, completers in Minnesota from majors in Technology, Engineering, and Mathematics tend to earn high median wages.
- Graduates in many health-related majors also earn high wages, as do technicians at every level of postsecondary education.
- In short, students who know how to *fix things* or *help people stay healthy* earn higher median wages in the labor market.

This report and its associated website (mnedtrends.org) are the result of a partnership between the Minnesota Office of Higher Education and College Measures, a division of the American Institutes for Research (AIR). The data highlighted in this report focus on the wages of completers of postsecondary studies between July 2010 and June 2011. Data come from the Graduate Employment Outcomes tool and the Minnesota Department of Employment and Economic Development, utilizing information from Minnesota's unemployment insurance wage record system 4 years after completers finished their studies.

1 Colleges and universities grant degrees, such as associate, bachelor's, or master's degrees, but they also award certificates that are not degrees. This report focuses on graduates with postsecondary degrees. The website (mnedtrends.org) has more extensive information about the labor market outcomes of completers with certificates.

Introduction

Students invest their time and money in postsecondary education for many reasons, but one of the most important is the belief that a college degree will lead to a good job and a higher salary. Taxpayers also subsidize higher education for many reasons, but they too expect their investment to yield better educated citizens who will, in turn, contribute to the community in many ways, including higher wages that can better support the local and state economies.

In general, these expectations are met—postsecondary education pays.

This report identifies some key patterns in the data that have just been released at mnedtrends.org. Those data allow for a far deeper investigation into the wages of graduates from different majors throughout the state.² For example, with data from the website, prospective students can compare the wages of graduates from every Psychology program³ in every public and many private universities in Minnesota. As another example, students can also compare the wages of graduates with degrees in different majors (e.g., Sociology and Mathematics) from the same institution (e.g., University of Minnesota, Twin Cities). These fine-grained data are also available at different credential levels, allowing for a comparison of wages earned by students in the same major but with different degrees (e.g., a graduate with a bachelor's degree in Psychology versus one with a master's degree in Psychology).

2 The website (mnedtrends.org) also provides rich data about the jobs and skills that are in demand throughout the state, plus other data on colleges and universities in Minnesota.

3 The official name for this program is Psychology, General.

Majors Matter

This report highlights just a narrow slice of the comparisons that are possible through the data on the website. Some of the most important patterns in the wage outcomes of graduates from different majors are highlighted below. Later in this report, these patterns are discussed in more detail:

- Although the median wages of completers⁴ generally increase as credential levels increase, associate degrees in some majors, such as Industrial Production Technologies or Registered Nursing,⁵ return wages that rival or surpass the wages of graduates with bachelor's degrees.
- Graduates with bachelor's degrees from many of the largest majors in the state, such as Psychology and Teacher Education, earn low wages.
- The shortage of graduates in the fields of STEM (science, technology, engineering, and mathematics) does not translate uniformly into higher wages for graduates in these fields. For example, in Minnesota, graduates with degrees in Biology do not do particularly well in the labor market. Rather, their wages tend to be similar to the median wages of graduates from all bachelor's degree majors.
- In contrast, completers in Minnesota from majors in Technology, Engineering, and Mathematics tend to earn high median wages.
- Graduates in many health-related majors also earn high wages, as do technicians at every level of postsecondary education. Students who know how to *fix things* or *help people stay healthy* earn higher median wages in the labor market.

As highlighted in this report, these and other findings can help students, their families, and taxpayers identify the value of majors and degrees as rewarded in the labor market.

4 Colleges and universities grant degrees, such as associate, bachelor's, or master's degrees, but they also award certificates that are not degrees. This report focuses on graduates with postsecondary degrees. The website (mnedtrends.org) has more extensive information about the labor market outcomes of completers with certificates.

5 The official name for this program is Registered Nursing, Nursing Administration, Nursing Research, and Clinical Nursing.

How Many Degrees Are Awarded in Minnesota?

When most people talk about a college degree, the bachelor's degree is what they have in mind. Indeed, in Minnesota, as in the nation as a whole, the bachelor's degree is the most common postsecondary degree awarded.⁶ As Table 1 shows, almost half of all degrees awarded by Minnesota's colleges and universities were at the bachelor's degree level.

In Minnesota, the median wage of high school graduates (including equivalency) in 2014 was \$30,858.⁷ As Table 1 shows, the median wages of completers generally increase as the credential level increases. Compared with high school graduates, the median wage of graduates with associate degrees was about \$11,300 greater than the median wage of high school graduates, and for graduates with bachelor's degrees, the premium was almost \$17,000. The difference was even more pronounced, more than \$42,000, for graduates with more advanced degrees.⁸ But the size in wage increases varies widely depending on the majors that students choose. Postsecondary education pays, but it pays a lot more for some graduates than for others.

Table 1. Number of Degrees Awarded to Graduates in 2011 and Their Median Wages 4 Years Later (in 2015)⁹

Degree Level	Number of Degrees Awarded	Percentage of Degrees Awarded	Median Wages 4 Years Later
Associate	20,457	31%	\$42,229
Bachelor's	32,074	48%	\$47,659
Graduate	14,220	21%	\$73,511

6 This report focuses on only *degrees* awarded by colleges and universities. These are the associate degree, the bachelor's degree, and various graduate and professional degrees. Institutions of higher education in Minnesota also award certificates that can usually be achieved in shorter duration than an associate degree. In the July 2012–June 2013 academic year, Minnesota awarded 11,339 certificates.

7 U.S. Census Bureau, American Fact Finder (http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_1YR_B20004&prodType=table)

8 The wage data in this report are for completers of postsecondary education in the academic year spanning July 2010–June 2011. The wages used in this report cover earnings 4 years after completers attained their degree.

9 The data in Table 1 and the rest of this report are based on students who graduated during the July 2010–June 2011 academic year. This is the latest graduating class for which wages 4 years after graduating can be computed.

Associate Degrees

Figure 1 displays the statewide median wages of graduates with associate degrees in the largest majors in Minnesota. The numbers of graduates with associate degrees in these majors ranged from just over 200 in Public Administration to more than 6,000 in Liberal Arts and Sciences.¹⁰

Figure 1 displays in green, the statewide median wages of all graduates with associate degrees and bachelor's degrees and the median wage of high school graduates (including equivalency) in 2014. The wages vary substantially. Graduates with associate degrees in Liberal Arts, the largest associate degree program in the state, who are in the labor market, earned about \$5,000 less than the median wages of all graduates with associate degrees.¹¹

Graduates from two of the largest associate degree majors—Nursing and Allied Health Diagnostics—earned more than the average graduate with a bachelor's degree. Despite pressure to increase the education *level* of nurses, requiring them to have a bachelor's degree in nursing, graduates with an associate degree in Nursing are well rewarded in the job market.

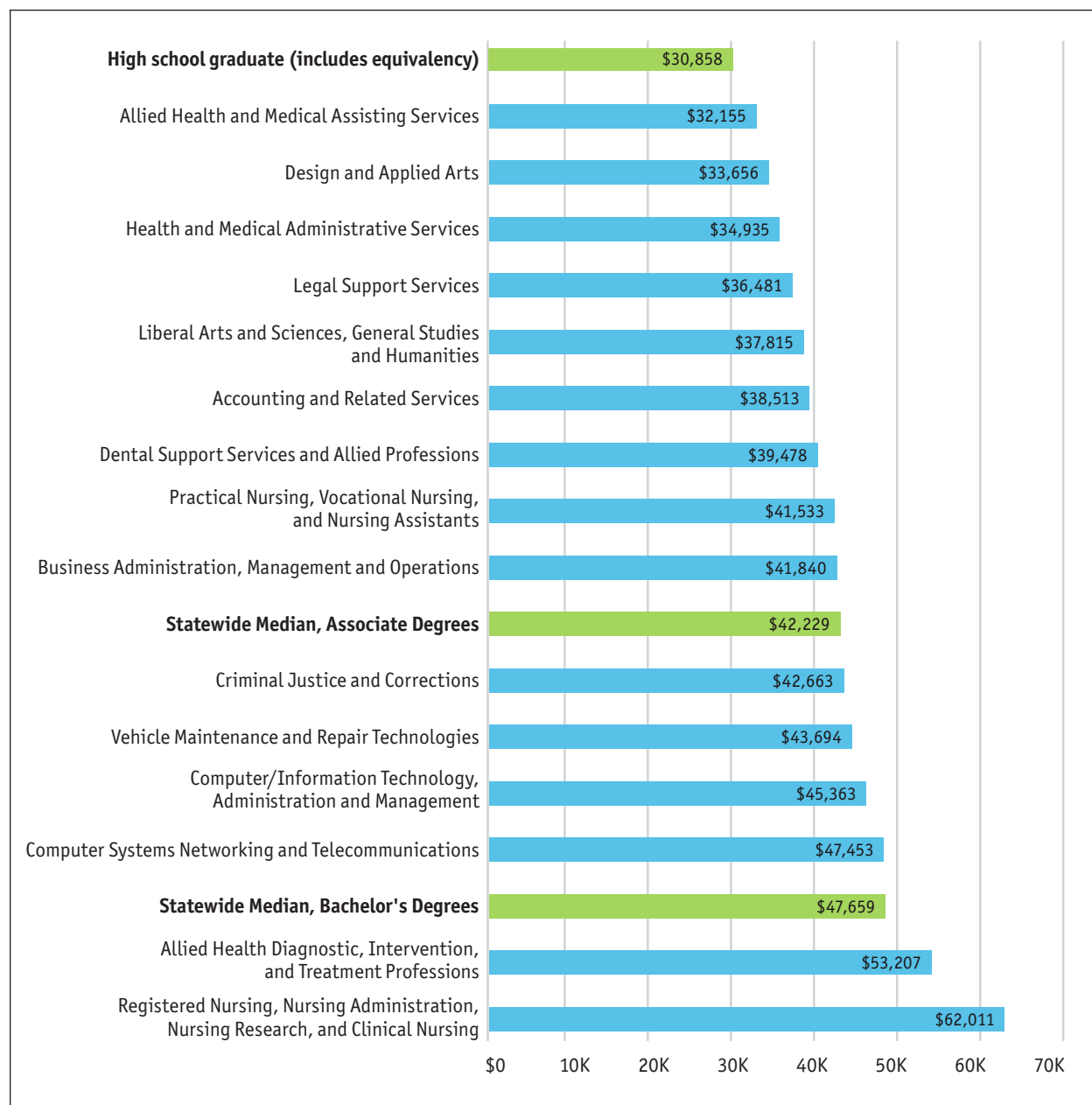
Graduates with associate degrees in Information Technologies (computer systems networking; computer/information technology administration) are also well rewarded. The median wages of these graduates were similar to the wages of all graduates with bachelor's degrees.

In short, graduates with some technically and career-oriented associate degrees do quite well in the labor market; these types of degrees are generally faster and cheaper to attain than bachelor's degrees.

¹⁰ The official name for this program is Liberal Arts and Sciences, General Studies and Humanities.

¹¹ Many graduates with this degree hope to pursue a 4-year bachelor's degree, but many do not achieve this goal and are in the labor market. Aspen Institute estimates that only 14% of community college students who transferred earned a bachelor's degree within 6 years (<http://ccrc.tc.columbia.edu/media/k2/attachments/tracking-transfer-institutional-state-effectiveness.pdf>).

Figure 1. Median Wages After 4 Years in the Labor Market Among Graduates With Associate Degrees From the Largest Programs



Wages of Graduates With Associate Degrees: Institution-Level Comparisons by Major

Clearly *what* a student majors in matters. But where a student studies also has an effect. This report highlights the variation in wages of associate degree graduates from two of the largest majors:¹² Liberal Arts and Sciences, and Business Administration, Management and Operations.¹³

With more than 6,000 graduates in the 2010–2011 academic year, Liberal Arts and Sciences is by far the largest associate degree program in Minnesota. Figure 2 shows the median wages of graduates with that degree for each institution that granted that degree.

Four years after completing an associate degree in Liberal Arts and Sciences, wages for these graduates ranged from about \$31,500 (Mesabi Range College) to nearly \$50,000 (Bethel University). Of note, the wages of graduates with this major cluster very tightly around the statewide median for all associate degrees (\$42,229). For example, of the 25 majors shown in Figure 2, graduates from 10 of them had wages that were within 5% of this statewide median.

Geography also matters. The community colleges from which graduates had the lowest wages are located in rural regions of the state, where wages are lower than in the Twin Cities region.

12 These are all the majors that graduated more than 200 students in the 2012–2013 academic year.

13 The official name for this program is Business Administration, Management and Operations.

Figure 2. Median Wages After 4 Years in the Labor Market Among Graduates With Associate Degrees in Liberal Arts and Sciences, by Institution

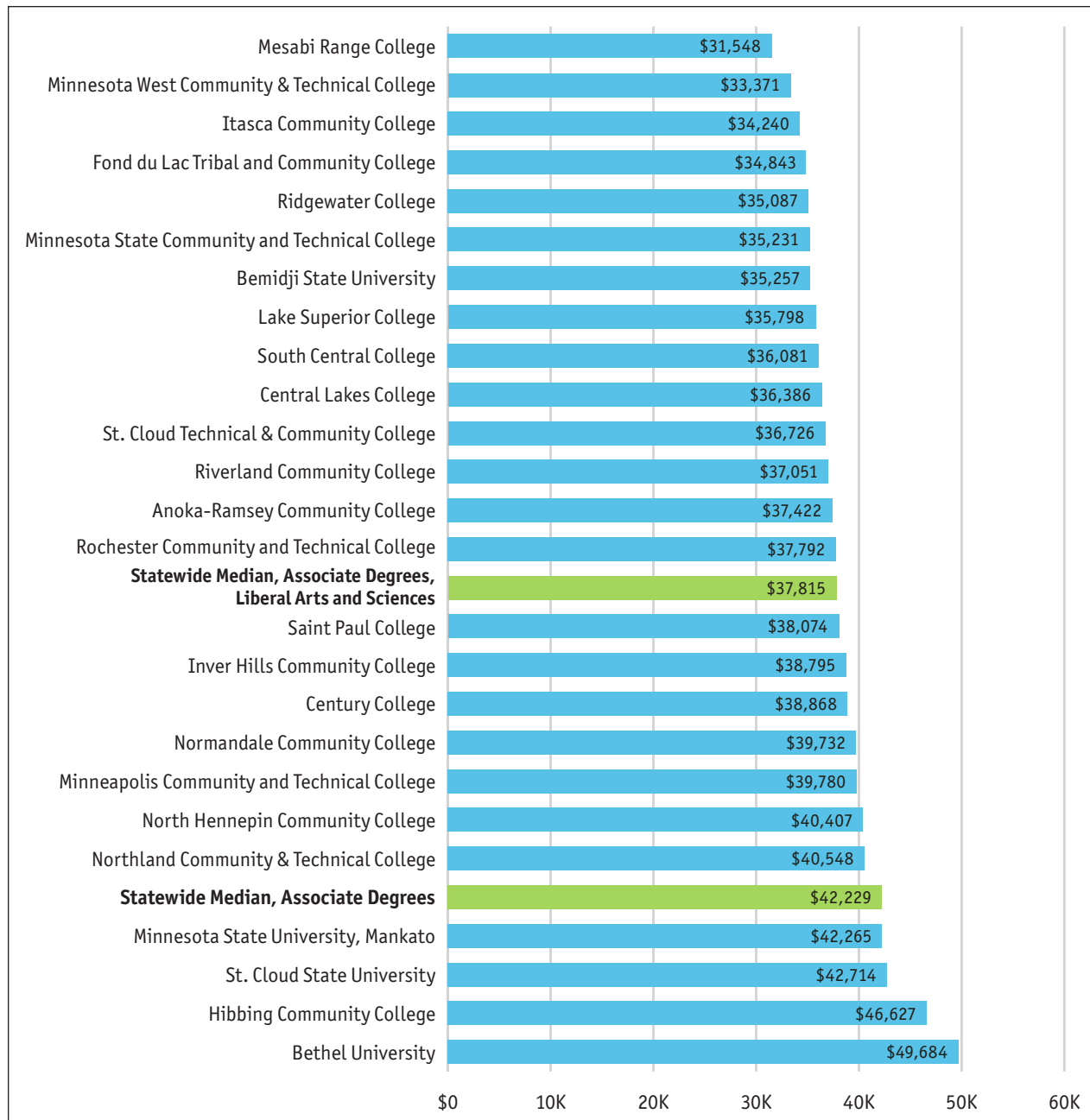
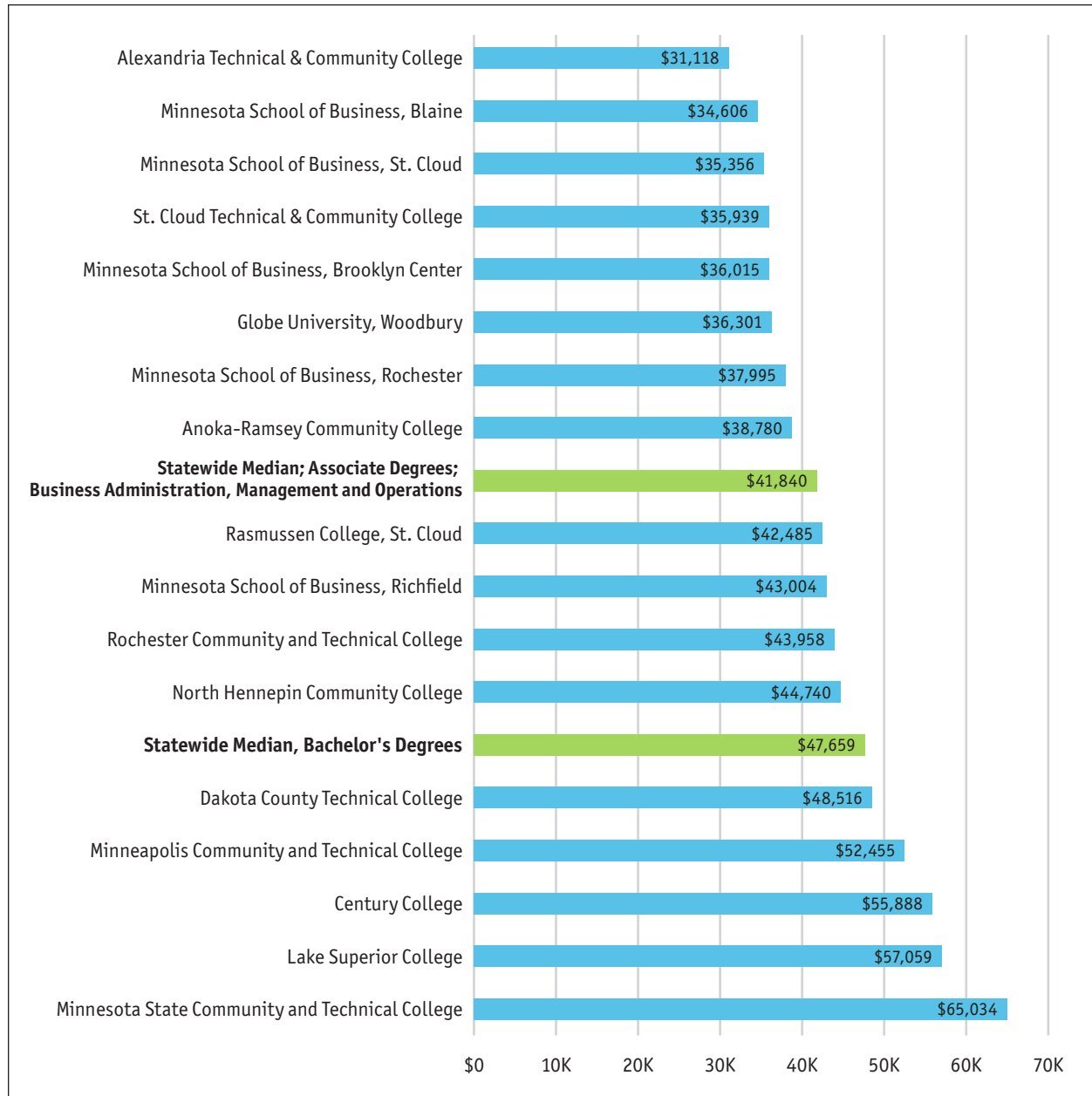


Figure 3 displays the wages of graduates with associate degrees in Business Administration, a degree that returns a statewide median wage that is about \$4,000 higher (\$41,840) than the median wage of only graduates with associate degrees in Liberal Arts and Sciences (\$37,815). Furthermore, only graduates with an associate degree in Liberal Arts and Sciences from one institution (Bethel University) had wages (\$49,684) that were higher than the statewide median for all graduates with bachelor's degrees (\$47,659). However, graduates with associate degrees in Business Administration from five institutions (Dakota County Technical College, Minneapolis Community & Technical College, Century College, Lake Superior College, and Minnesota State Community College and Technical College) earned higher, in some instances substantially higher, wages than the statewide median for all graduates with bachelor's degrees.

Compared with graduates with associate degrees in Liberal Arts and Sciences, there is also far less clustering among graduates with associate degrees in Business Administration around the statewide median. While 40% of schools were within 5% of the statewide median wage for graduates with associate degrees in Liberal Arts and Sciences, only two of the 17 schools (12%) shown in Figure 3 were within that range for Business Administration.

In short, majors matter—but in Minnesota, so does the institution offering that degree.

Figure 3. Median Wages After 4 Years in the Labor Market Among Graduates With Associate Degrees in Business Administration, by Institution

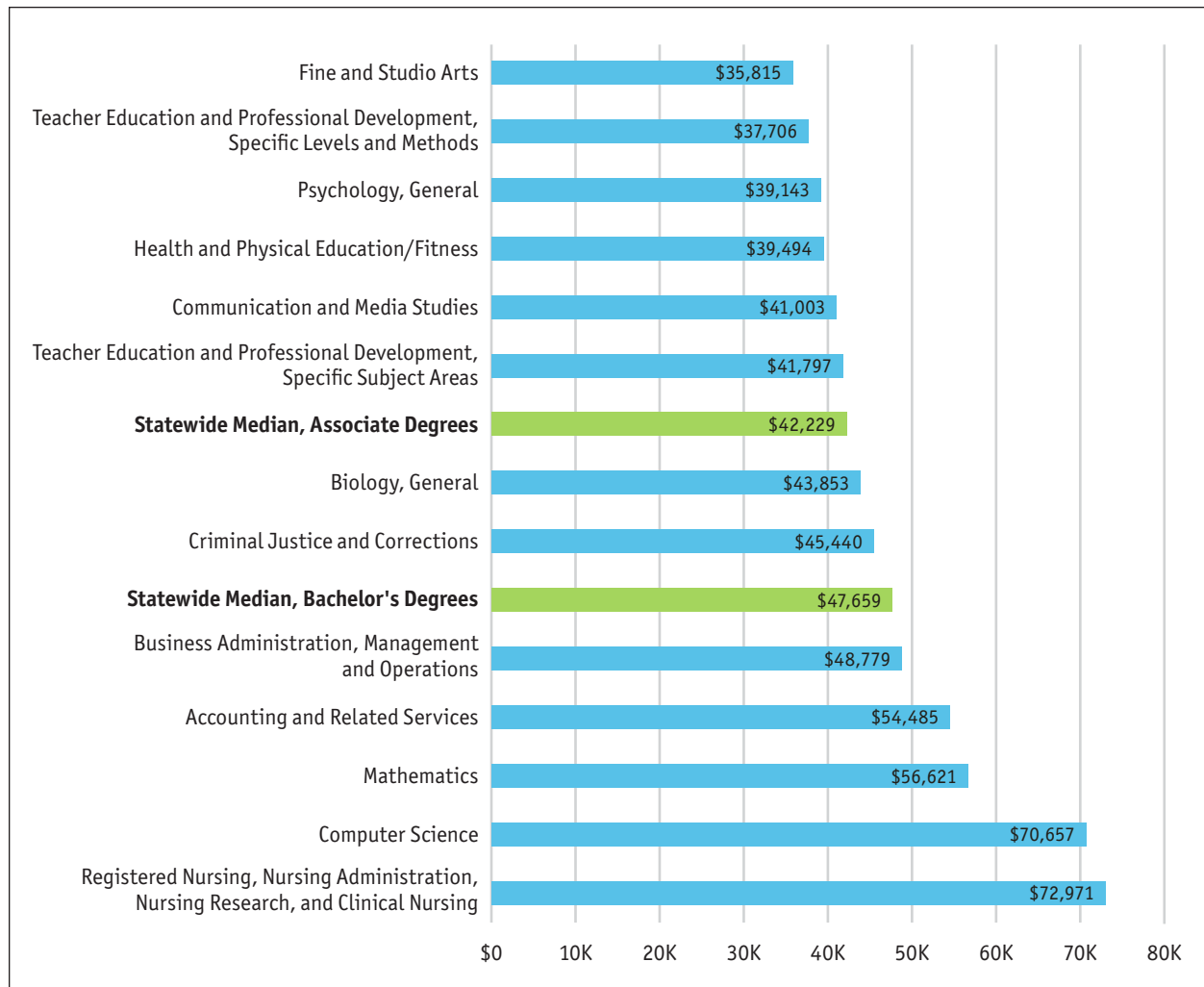


Bachelor's Degrees

The bachelor's degree is the most commonly awarded postsecondary credential in Minnesota. Figure 4 shows the wages of graduates with bachelor's degrees from the programs that graduated more than 400 students in the 2010–2011 academic year. The highest paid graduates, in Nursing and in Computer Science, earned about twice as much as the lowest paid graduates—those with bachelor's degrees in Fine Arts. Indeed, graduates from six of these large bachelor's degree programs had earnings *less* than the statewide median for all graduates with associate degrees.

There is a nationwide interest in increasing the number of students in the fields of STEM. But the labor market rewards these students quite differently. For example, Biology is by far the largest STEM program. However, the wages of graduates with bachelor's degrees in Biology were about \$4,000 lower than the statewide median wage for all graduates with bachelor's degrees. In contrast, graduates with bachelor's degrees in Mathematics had the third highest median wages among the largest programs, around \$9,000 more than all graduates with bachelor's degrees. This is a common pattern in many states: If wages are perceived as a market signal for valued majors, then a bachelor's degree in Biology results in wages that simply do not measure up to the level of public discussion about STEM.

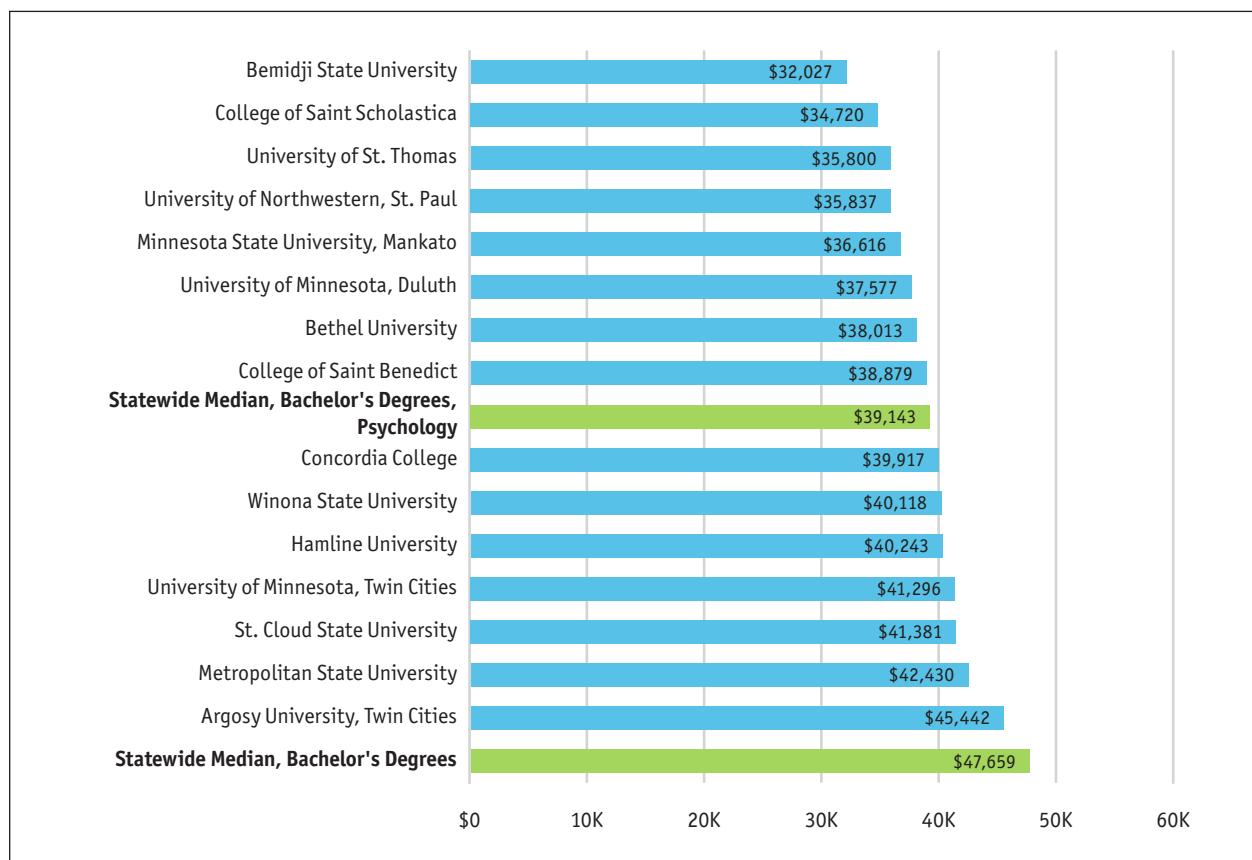
Figure 4. Median Wages After 4 Years in the Labor Market Among Graduates With Bachelor's Degrees From the Largest Programs



Wages of Graduates With Bachelor's Degrees: Institution-Level Comparisons by Selected Majors

Psychology is one of the most popular majors in Minnesota.¹⁴ Figure 5 displays the wages of graduates 4 years after graduating with a bachelor's degree in Psychology from one of the 15 largest psychology programs in Minnesota. According to Figure 5, Psychology is a relatively low-paying major. For example, the highest paid graduates with bachelor's degrees in Psychology attended Argosy University/Twin Cities. However, the median wage of these graduates was lower, by nearly \$2,000, than the statewide median for all graduates with bachelor's degrees. Indeed, graduates with bachelor's degrees from almost every one of the programs in the state had median wages that were *lower* than the median wages of graduates with associate degrees.

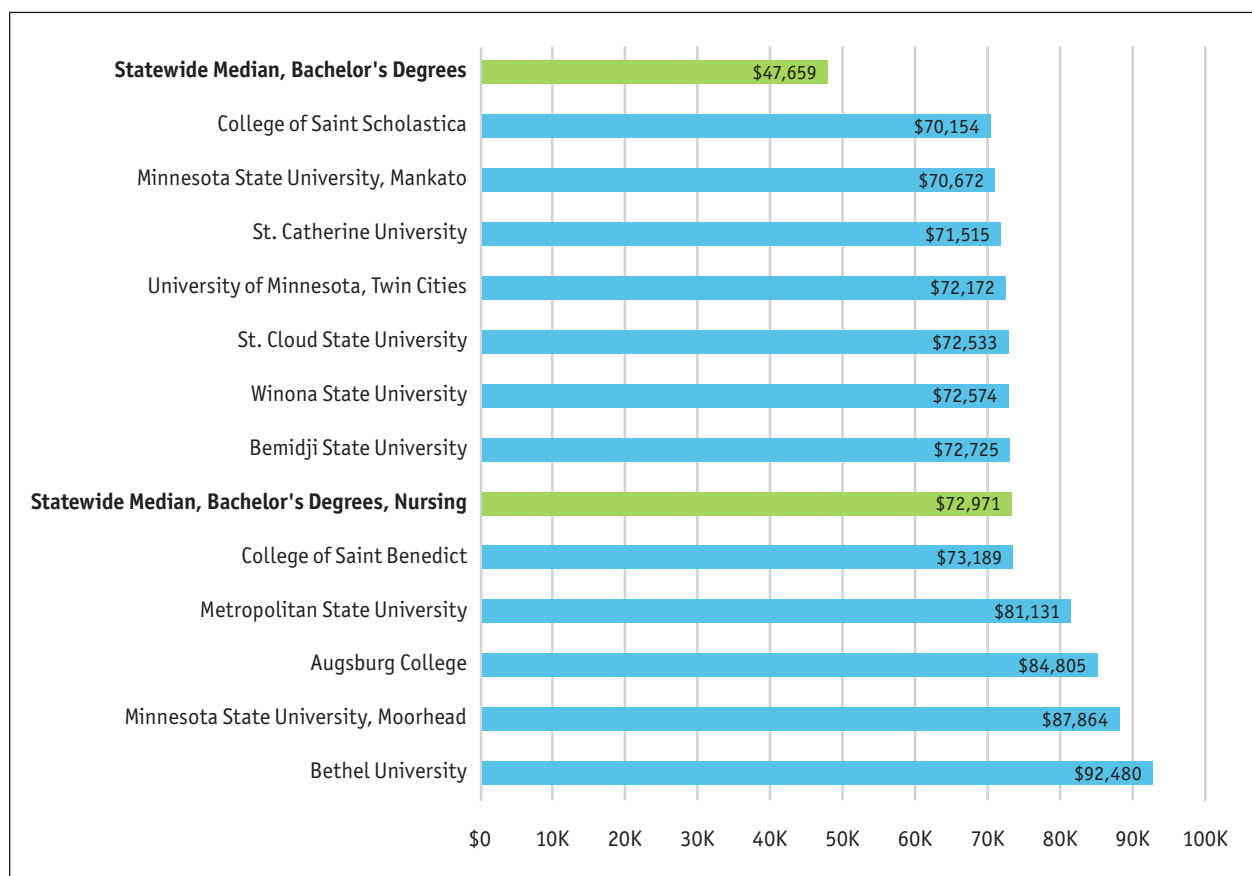
Figure 5. Median Wages After 4 Years in the Labor Market Among Graduates With Bachelor's Degrees in Psychology, by Institution



¹⁴ Minnesota's colleges and universities awarded more than 1,800 bachelor's degrees in Psychology during the 2010–2011 academic year, which is the third largest program after Business Administration (2,452) and Registered Nursing (1,810).

Figure 6 displays the median wages of graduates with bachelor's degrees in Nursing from the 12 largest bachelor's degree programs in nursing in Minnesota. The median wage of graduates with bachelor's degrees in Nursing from the program with the lowest median wage (College of Saint Scholastica, \$70,154) is almost 50 percent higher than the statewide median wage for all graduates with bachelor's degrees. And the median wage of graduates with bachelor's degrees in Nursing from the program with the highest median wage (Bethel University, \$92,480) is almost twice the statewide median for all graduates with bachelor's degrees.

Figure 6. Median Wages After 4 Years in the Labor Market Among Graduates With Bachelor's Degrees in Nursing, by Institution

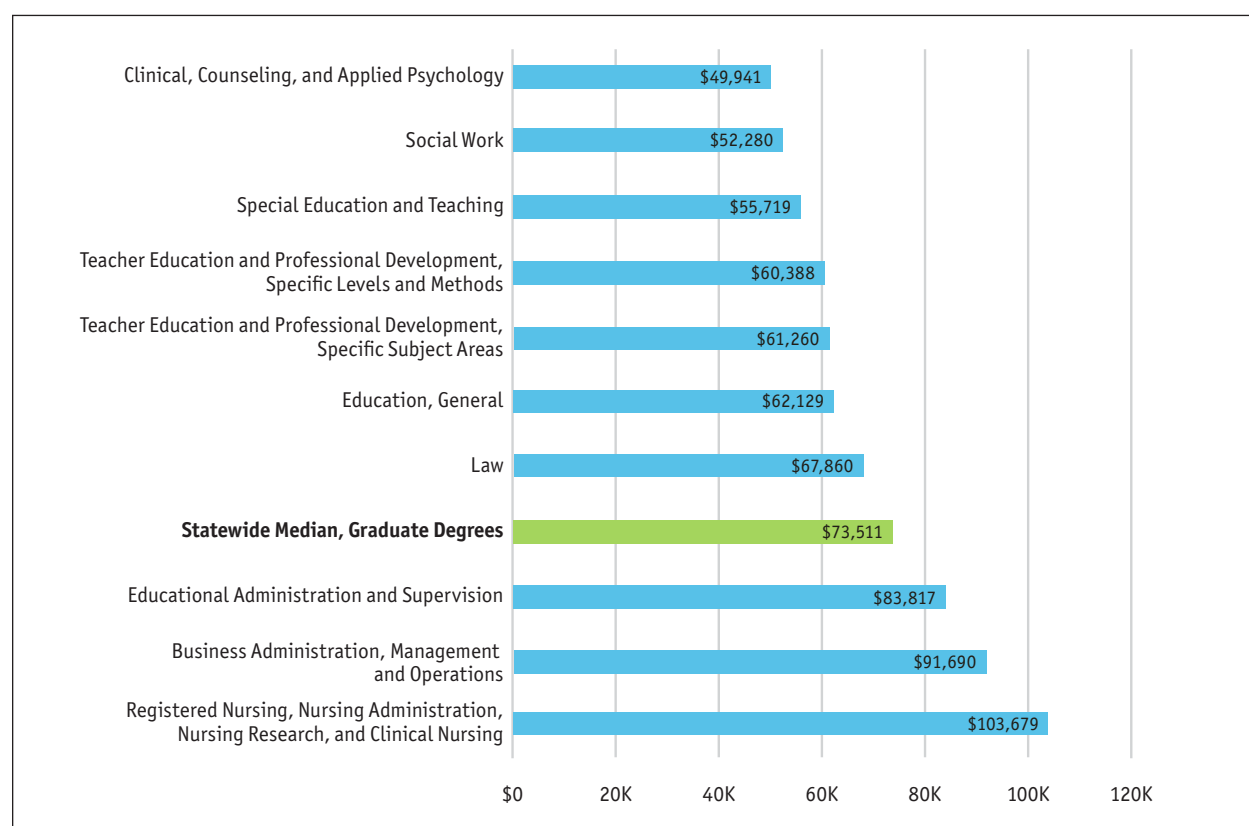


Graduate Degrees

In general, completers of graduate and professional degrees can expect a large payoff. Compared with the median wage of graduates with bachelor's degrees (\$47,659), the statewide median wage for all completers of graduate and professional degrees 4 years after graduation is more than \$73,500—a wage premium of over 54 percent. But as with associate and bachelor's degrees, majors matter.

Consider the data in Figure 7. The median wage of completers with graduate degrees in Clinical Counseling and Applied Psychology is barely more than the statewide median for all graduates with bachelor's degrees. Completers with graduate degrees in Social Work and most education-related programs had higher wage premiums, but they still fell below the median wage for all completers of graduate degrees. In contrast, the wages of completers with graduate degrees in Business Administration and Nursing are at the top of the distribution for graduates from these large programs.

Figure 7. Median Wages After 4 Years in the Labor Market Among Completers of Graduate Degrees From the Largest Programs



Business Administration and Social Work are two of the largest graduate programs in the state. But the wage outcomes of graduates from these programs differ greatly. Business Administration is the largest graduate program in the state, with over 1,900 degrees conferred in 2010–2011 academic year.

The median wages of completers of graduate degrees in Business Administration from two institutions (Minnesota School of Business, Richfield; and Globe University, Woodbury) were below the statewide median for all completers of graduate degrees, while the median wages of graduates from nine institutions were above that benchmark. The range is also substantial, from less than \$57,000 (Minnesota School of Business, Richfield) to more than twice that (University of Minnesota, Twin Cities, \$115,715) (Figure 8). The median wages of graduates in Business Administration from two institutions (University of St. Thomas and University of Minnesota, Twin Cities) exceeded \$100,000, while the median wages of graduates in Business Administration from three institutions (St. Catherine University; Augsburg College; St. Cloud State University) were greater than \$80,000.

In contrast to Business Administration, which is a high-paying major, consider Figure 9, which shows the median wages of completers with graduate degrees in Social Work, the second lowest paying major among the largest programs (as displayed in Figure 7).

Median wages of completers of graduate degrees in Social Work ranged from less than \$45,000 (St. Cloud State University)—which is only about \$2,000 more than the statewide median wage for all graduates with associate degrees and almost \$3,000 less than the statewide median wage for all graduates with bachelor's degrees—to about \$54,500 (Augsburg College), which is almost \$20,000 less than the median wage for completers of all graduate degrees.

Clearly, majors matter—at every degree level.

Figure 8. Median Wages After 4 Years in the Labor Market Among Completers of Graduate Degrees in Business Administration, by Institution

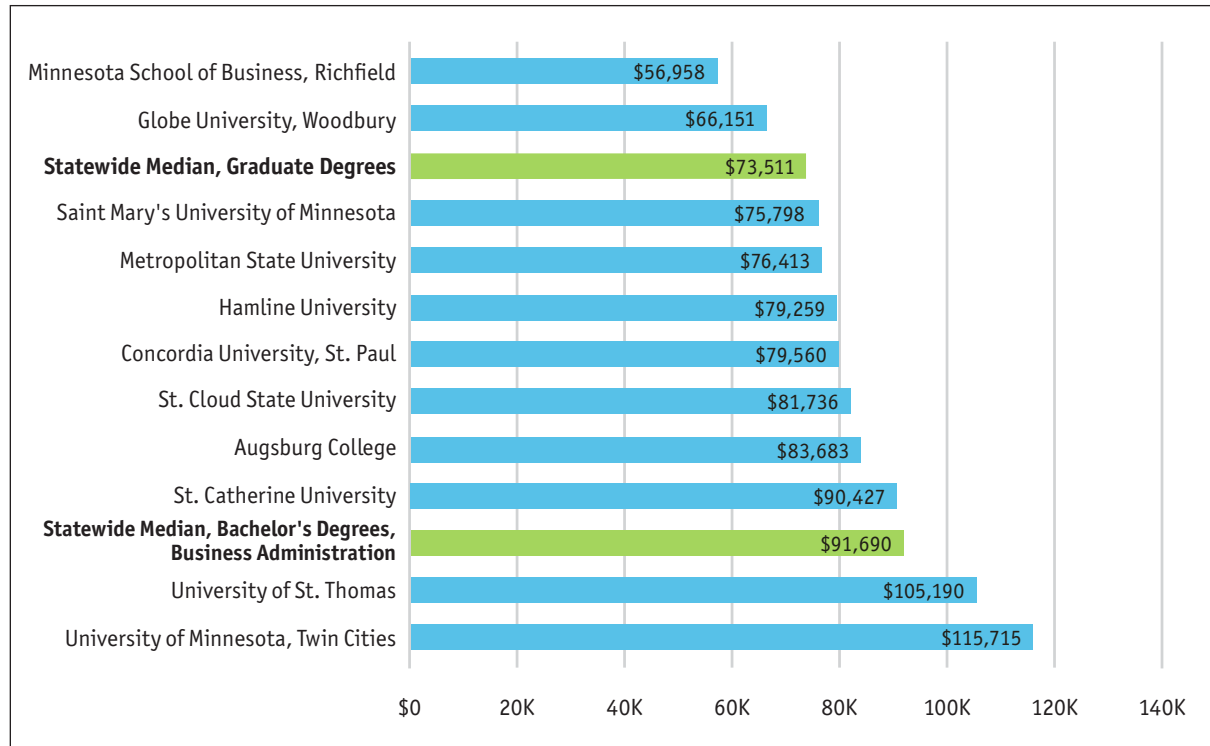
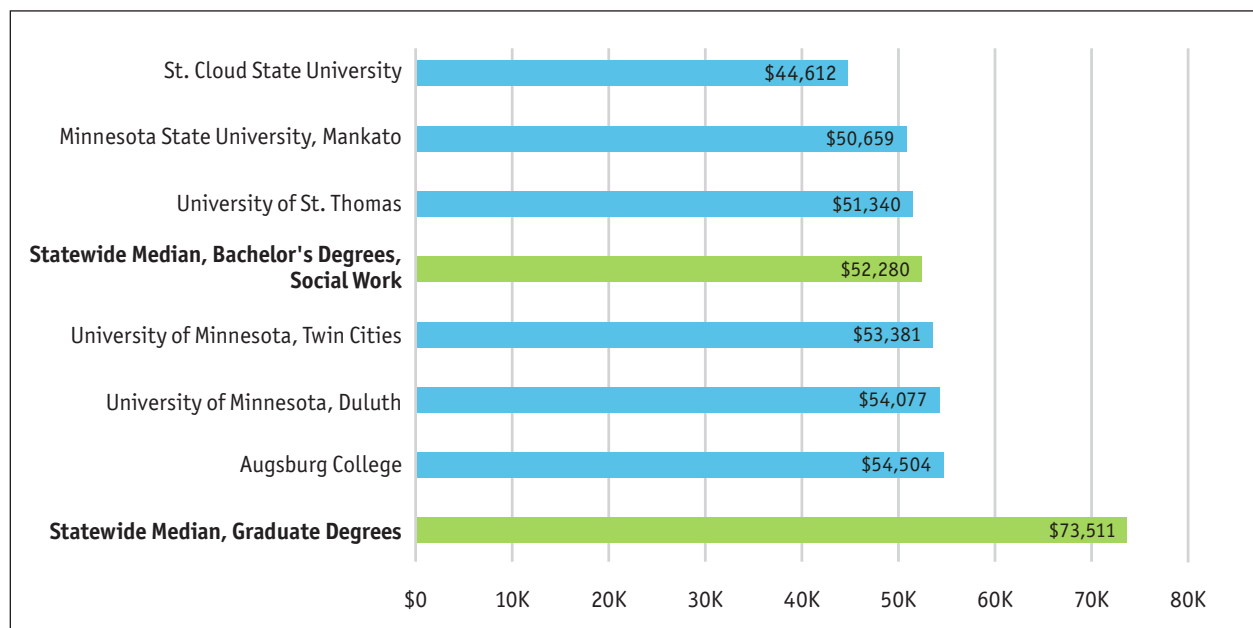


Figure 9. Median Wages After 4 Years in the Labor Market Among Completers of Graduate Degrees in Social Work, by Institution



Conclusions

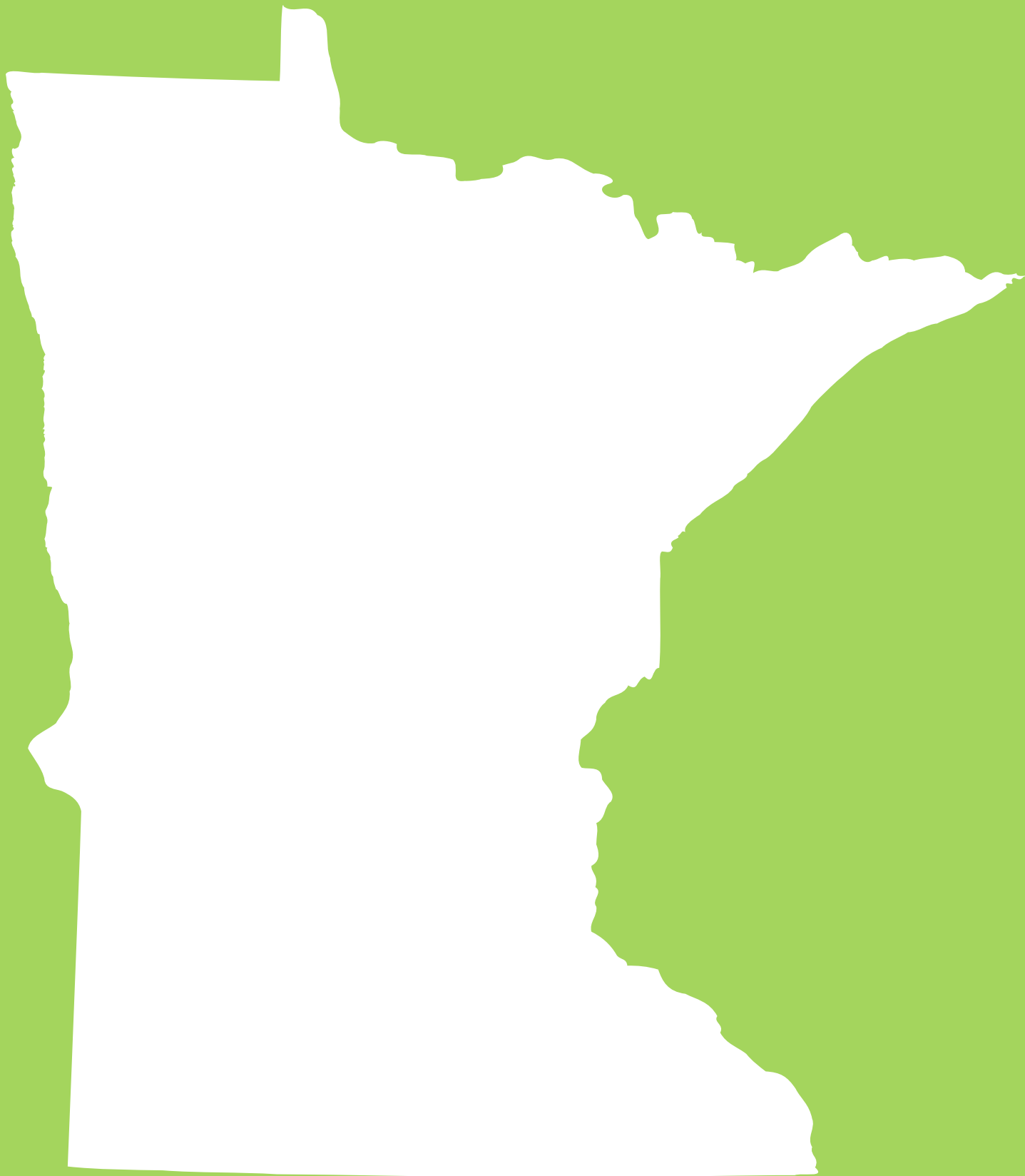
Postsecondary education confers many benefits to students and society. For example, college graduates tend to live longer, healthier lives and are less likely to be divorced than people with less education. But postsecondary education is also a human capital investment associated with direct monetary rewards through lower unemployment rates and, as documented in this report, higher wages.

But if postsecondary education pays, the payoff varies according to the major a student chooses. This report does not explain why there is such a variation. Do some students graduating with high-paying technical degrees already have work experience that is rewarded in the job market? Is it because students who choose to study in high-paying majors, such as Mathematics or Nursing, already have marketable skills and an ability to master new skills that are then rewarded in the labor market? Or do these high-paying majors add value to any student who walks through the doors of an institution?

Moreover, there is less variation across graduates from different institutions than the nation's fixation on school reputation might lead one to expect. But graduates from some institutions earn higher wages than graduates from the same major at different institutions. Some of this no doubt reflects the geographic location of the school. For example, the cost of living in Minneapolis is about 10% higher than the cost of living in Duluth,¹⁵ and wages of graduates from institutions in different parts of the state likely reflect some of those differences in cost of living. But other factors may also drive these differences. Some programs may do a better job educating their students, giving them the skills needed to succeed in the labor market, and some may do a better job connecting their students to employers. These are all important possibilities not explored in this report.

In short, the data presented in this report (and the far more detailed data on mnedtrends.org) can help students identify degrees of value. But this is only one step in a student's search for the right major at the right school in which to invest their time and money.

¹⁵ Based on data available at <http://www.bestplaces.net/city/minnesota/>.



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