

A Good Job After College

Earning a post-secondary credential helps people find better-paying, higher quality jobs, but race is a factor in labor market outcomes

Attaining a post-secondary credential translates into higher wages and better job quality than just completing a high-school degree. But the benefits of post-secondary education are not felt equally by all graduates. To what extent does race affect individuals' ability to make the most of their educational investment?

In order to document racial disparities in employment outcomes, the Minnesota Department of Employment and Economic Development (DEED) just released an online dashboard presenting four indicators of labor market outcomes after college. These indicators are:

1. Job quality: Are there differences by race in the likelihood of getting a full-time, stable job after graduation?

2. Earnings: Are there differences by race in post-graduation earnings?

3. Educational attainment: Are there differences by race in educational attainment?

4. Opportunities for career advancement: Are there differences by race in the types of work settings in which graduates are employed? What does this say about opportunities for racial minorities to use on the job the skills acquired in college?

The intent of this article is to summarize the evidence on each indicator and discuss the broader policy implications of the findings.

About the data

The sources for all data in this article are the Minnesota Department of Employment and Economic Development Unemployment Insurance wage records and the Minnesota Office of Higher Education post-secondary graduation records. These are linked and cleaned to form the Workforce Data Quality Initiative (WDQI) database.

Included in the dataset are:

200,000 graduates who obtained a post-secondary credential from July 2010 to June 2013 at 138 private and public post-secondary institutions in Minnesota and were between 20 and 55 years of age at the time of graduation. Graduates who earned more than one degree in the same academic year were classified according to the highest degree obtained.

Excluded from the dataset are:

Graduates who went to work for the federal government, were self-employed, or left the state. These workers are not covered by Minnesota's Unemployment Insurance program.

Individuals who did not report any race; Native Hawaiian or Other Pacific Islander because of the very small size of this group; individuals who reported being "Nonresident aliens", because they are more likely to leave the state after graduation skewing results and because this is not a race/ethnicity category.

Graduates older than 55 at the time of graduation, because individuals who have retired or are near retirement might skew the results of a study of labor market outcomes.

Graduates in a few academic programs that suffer from reliability issues in wage records or in student records, such as medical residency and theology programs, to prevent outliers from biasing the results.

Gap in Job Quality and Earnings

For the purpose of this study we will measure job quality by looking at part-time versus full-time employment status. Full-time jobs are typically higher quality than part-time. Full-time jobs result in higher overall earnings and are more likely to provide important benefits such as healthcare and retirement savings plans. Job quality also increases for those who work full-time for the whole year, even if they switch jobs, because being consistently employed facilitates career advancement. In contrast, part-time/seasonal work is often more precarious and lacks an option to negotiate for promotions and higher wages.

Figure 1 shows how employment status differs by race, thus influencing earnings.

We notice the following:

- * White and Asian graduates were more likely to be employed full-time and continuously for the whole year while American Indian and black graduates were more likely to be employed either part-time or temporarily/seasonally during the year. These disparities are systemic: they hold at every education and age level and persist over time.

- * Employment status strongly affects earnings. Full-time employment leads to much higher annual wages than part-time employment not only because individuals work more

hours in the primary job over the course of the year but also because they are more likely to have entered a stable career track. Still, racial differences persist even within the group of part-time workers and within the group of full-time workers. American Indians are always at the bottom while whites are always at the top of the wage spectrum.

- * Unknown employment status, representing situations where an individual is not in the labor market, is self-employed, or is employed outside the state of Minnesota, affects between 20 and 26 percent of graduates. Only two racial groups, American Indians and Latinos, have shares of unknown employment slightly higher

Figure 1: Employment Status and Wage Outcomes in the 2nd Year after Graduation by Race, Completers of All Award Levels, Classes of 2011-2013

Race Group	Median Annual Part-time Wages	Median Annual Full-time Year-Round Wages	Part-time/Seasonal ⁽¹⁾	Full-time Year-round ⁽²⁾	Unknown Status ⁽³⁾
American Indian	\$14,688	\$37,389	46.6%	27.6%	25.8%
Asian	\$17,610	\$42,015	42.0%	35.4%	22.6%
Black	\$16,762	\$41,210	48.2%	31.6%	20.2%
Hispanic/Latino	\$16,656	\$42,124	43.2%	31.5%	25.3%
Two or more races	\$16,295	\$39,434	46.2%	30.6%	23.2%
White	\$18,480	\$43,738	42.6%	34.3%	23.1%

(1) *Part-time/seasonal employment* represents individuals who were either employed for part of the year (less than four quarters) or worked a total of less than 1,820 hours during the year in their primary job.

(2) *Full-time year-round employment* represents individuals who were employed all four quarters of the year for a total of at least 1,820 hours in their primary job. It does not include individuals who hold multiple jobs totaling 1,820 hours over four quarters.

(3) *Unknown employment status* represents the share of graduates who did not have any record of employment in Minnesota during the second year after graduation. Individuals who are self-employed, employed out of state, unemployed and actively seeking work, or voluntarily not seeking work are not represented in Minnesota wage records.

Source: <http://mn.gov/deed/data/data-tools/graduate-employment-outcomes/race-geo.jsp>

than 25 percent, a fairly negligible difference compared to differences in full-time employment status. This finding suggests that race is not a barrier to graduates finding jobs. Instead, the real discrimination factor among racial groups is not job availability but job quality.

This analysis demonstrates that racial wage gaps are partially explained by differences in employment status, but some disparities persist even when employment status is the same. There are clearly other contributing factors that must be investigated.

Employment outcomes, especially earnings, are strongly driven by skill level. If some racial groups are less likely to acquire marketable skills compared to others, we can expect them to have less favorable outcomes in the labor market. To isolate the effect of skill level, we

created four groupings based on educational attainment and age at the time of graduation, which we used as a proxy for length of work experience. Observing how both indicators vary within these subgroups gives clues as to what types of policies could be effective at reducing racial disparities in the job market. Table 1 presents results for the three race groups that are typically positioned at the extremes: American Indians, blacks, and whites.

As expected, wages increase with age and educational attainment, regardless of race. However, no matter how we slice the data, racial disparities persist, with American Indians being almost always at the bottom and whites almost always at the top of the scale on both indicators.

The “age 20 to 30 Bachelor’s and above” category has by far the smallest gaps on both indicators. This important

finding suggests that completion of a post-secondary Baccalaureate credential by the age of 30 offers the best chance of success in reducing or preventing racial disparities. Policies aimed at increasing educational attainment are most effective when they target individuals early in their working life, especially before age 30.

Of course, going back to school after age 30 is a necessity for individuals who must re-train after a job loss or wish to upgrade their skills to access more rewarding career opportunities. In the “31 to 55 Below Bachelor’s” category displayed in Table 1, one of four individuals had a recent history of a permanent layoff, suggesting that an important goal for this group was rebound from a job loss. The ratios of full-time earnings of American Indians to whites (82.4 percent) and blacks to whites (93.0) and the

Table 1: Comparison of Wage Outcomes by Race, Age, and Education Level

Age at Graduation	Education Level	Race Group	Share of Graduates Employed Full-Time Year-Round over the Total Number of Graduates*	Median Annual Full-Time Wages	Earnings Ratio to Whites
20 to 30	Below Bachelor's	American Indian	<div><div></div></div> 20.8%	\$29,764	83.7%
		Black	<div><div></div></div> 22.1%	\$32,186	90.5%
		White	<div><div></div></div> 29.9%	\$35,574	100.0%
	Bachelor's and above	American Indian	<div><div></div></div> 32.5%	\$41,104	94.6%
		Black	<div><div></div></div> 30.6%	\$39,975	92.0%
		White	<div><div></div></div> 33.5%	\$43,473	100.0%
31 to 55	Below Bachelor's	American Indian	<div><div></div></div> 27.0%	\$35,236	82.4%
		Black	<div><div></div></div> 33.4%	\$39,754	93.0%
		White	<div><div></div></div> 36.9%	\$42,754	100.0%
	Bachelor's and above	American Indian	<div><div></div></div> 32.4%	\$47,837	70.3%
		Black	<div><div></div></div> 43.4%	\$54,539	80.1%
		White	<div><div></div></div> 43.4%	\$68,071	100.0%
*The total number of graduates includes those with unknown employment status, for example those who were unemployed, self-employed, or employed out of state.					

Source: <http://mn.gov/deed/data/data-tools/graduate-employment-outcomes/race-geo.jsp>

very low share of American Indians with a full-time job (27 percent compared to 36.9 percent among whites) indicate that racial minorities who go back to school after age 30 struggle to find well-paying full-time jobs more than their white counterparts. Finally, in the “age 31 to 55 Bachelor’s and above” category, whites earned significantly more than others – a median annual wage of \$68,071 for full-time employment – not just because returns to education were higher for this group but specifically because they had higher wages prior to graduation.¹

Gap in Educational Attainment

Among graduates in Minnesota, American Indians and blacks are more likely than other racial groups to complete a credential below

Bachelor’s. In contrast, white and Asian graduates are overwhelmingly more likely to attain a Bachelor’s degree and above, with percentages over 60 percent (see Table 2).

Age of college completion also plays a role in driving racial disparities. Black and American Indian graduates tend to have lower educational attainment but are also older compared to other college graduates. Almost one half (46 percent) of black and 39.7 percent of American Indian graduates completed a post-secondary credential after age 30, compared to 25.3 percent of white and 22.5 percent of Asian graduates.² The relatively larger share of white and Asian graduates who earn a Bachelor’s or higher credential by age 30 represents a considerable advantage in the labor market. Having more years to benefit from their degree, these individuals experience a more rapid skills

appreciation and higher life-long earnings.

Gap in Opportunities for Career Advancement

We know from the previous analysis that aggregate differences in earnings across racial groups are partially explained by the higher likelihood of whites being employed full-time for the whole year, which translates to higher job quality relative to other groups. But there is an even deeper explanation for the observed earnings and job quality differences, and that is the types of jobs held by individuals from different racial groups. In the absence of information on occupations of employment, we explore this topic by looking at the industries that hired the most graduates.

Table 2: Educational Attainment by Race, Classes of 2011 - 2013

Race Group	Education level	Number of Graduates in Race Group	As a Share of Race Group
American Indian	Below Bachelor’s	775	52.9%
	Bachelor’s and above	690	47.1%
Asian	Below Bachelor’s	3,265	36.1%
	Bachelor’s and above	5,778	63.9%
Black	Below Bachelor’s	5,334	52.6%
	Bachelor’s and above	4,814	47.4%
Hispanic/Latino	Below Bachelor’s	2,519	46.7%
	Bachelor’s and above	2,877	53.3%
Two or more races	Below Bachelor’s	2,065	49.9%
	Bachelor’s and above	2,075	50.1%
White	Below Bachelor’s	64,435	37.9%
	Bachelor’s and above	105,727	62.1%

Source: Minnesota Office of Higher Education

¹To appreciate fully the impact of post-secondary education on wages for older completers one should compare wage levels before with wage levels after graduation, which is beyond the scope of this study. To learn more, see Leibert, Alessia: “Racial Disparities in Wage and Employment After Graduation,” Minnesota Economic Trends, December 2015 <http://mn.gov/deed/newscenter/publications/trends/december-2015/disparities-wage-employment.jsp>

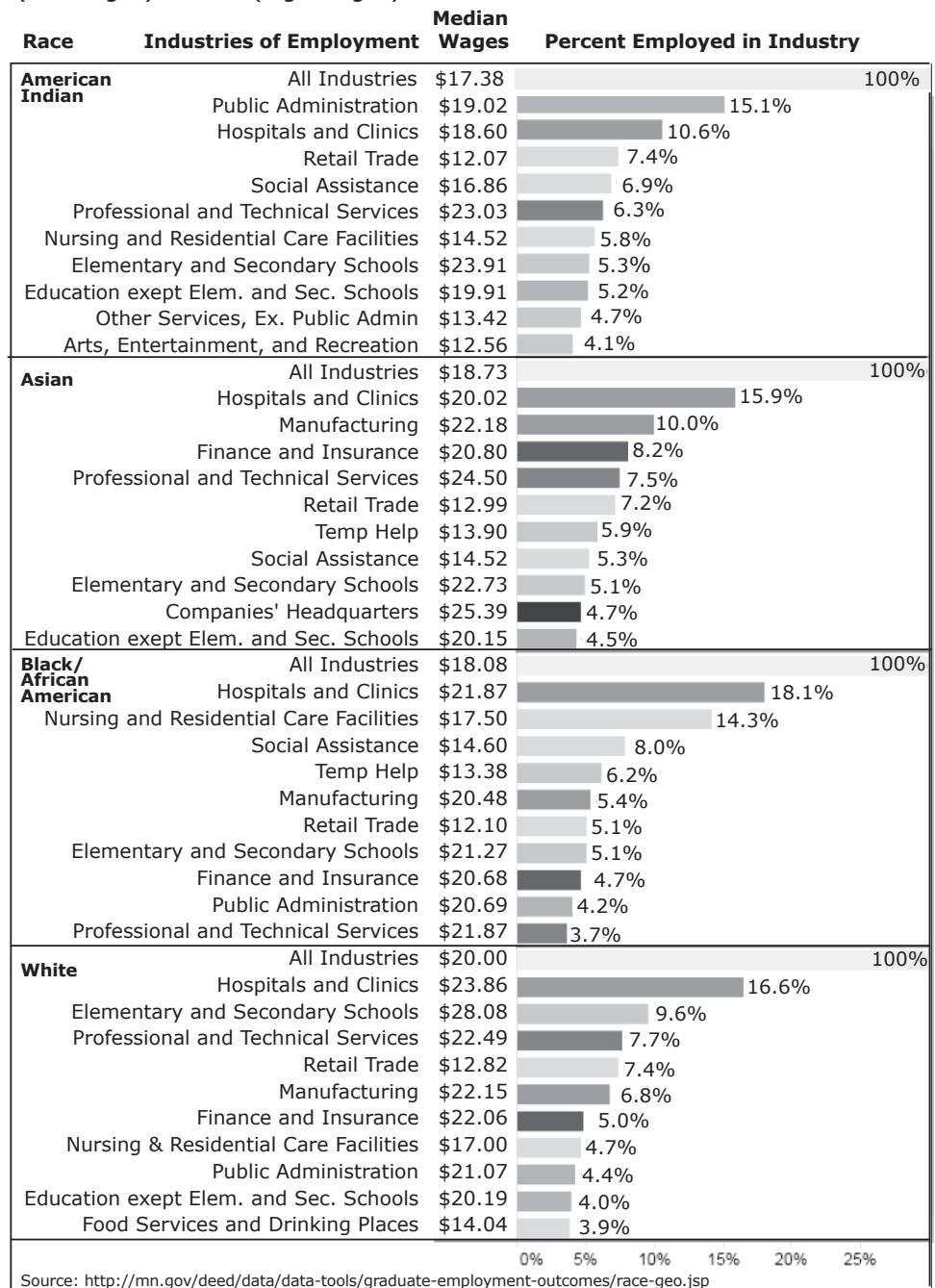
²Black graduates are more likely to enroll in college part-time, which delays age of degree completion relative to other race groups.

Figure 2 displays the top 10 industries of employment for American Indian, Asian, black, and white graduates 24 months after graduation. When we look at the entire population of graduates who were employed 24 months after graduation we observe a large gap in hourly wages between American Indians (\$17.38) and whites (\$20.00). This gap of 13 percent is driven by the different composition of industries of employment for each race and the different job quality prospects each industry offers. Since some industries tend to pay lower wages and offer fewer opportunities for full-time work, higher concentrations of employment in these industries drive down wages.

Bar colors in Figure 2 represent the average weekly wage earned by all workers – not just recently hired graduates – in the industry, ranging from light (low wages) to dark (high wages). Since low average weekly wages also depend on the number of hours worked in the week, industries where part-time or seasonal work is more common – for example Retail and Nursing and Residential Care Facilities – tend to have lower weekly wages. Therefore, industries with a light color tend to offer lower wages, lower hours of work, or both.

While the top 10 industries are very similar across racial groups, their relative composition varies. Whites are more likely to be found in high wage industries,

Figure 2: Top 10 Industries of Employment 24 Months After Graduation
Bars represent the share of graduates employed in the industry. Bar colors represent average weekly wages earned by all workers in the industry, from light (low wages) to dark (high wages).



which offer more full-time job opportunities and career ladders, such as Hospitals (16.6 percent), Elementary and Secondary Schools (9.6 percent), and Professional and Technical Services (7.7 percent). American Indian and black graduates, on the

other hand, are more likely to be concentrated in low wage industries such as Social Assistance and Nursing and Residential Care Facilities. The very high concentration of American Indians in Public Administration (15.1 percent) represents their high

participation in jobs in tribal government. Temp Help with 6.2 percent is the fourth top industry of employment for blacks and the highest of all racial groups, indicating that black graduates are over-represented in that sector. As for Asian graduates, we observe an unusual mix of very high paying and very low paying sectors. The top four industries — Hospitals, Manufacturing, Finance and Insurance, and Professional and Technical Services — offer high wages and full-time job opportunities, but Asians are also employed in very low wage industries such as Retail, Temp Help, and Social Assistance. This polarization may indicate that some subgroups of Asians fare significantly better than others in the labor market. Unfortunately the data do not allow tracking outcomes

separately by each ethnic subgroup, such as Asian Indians, Chinese, or Hmong.³

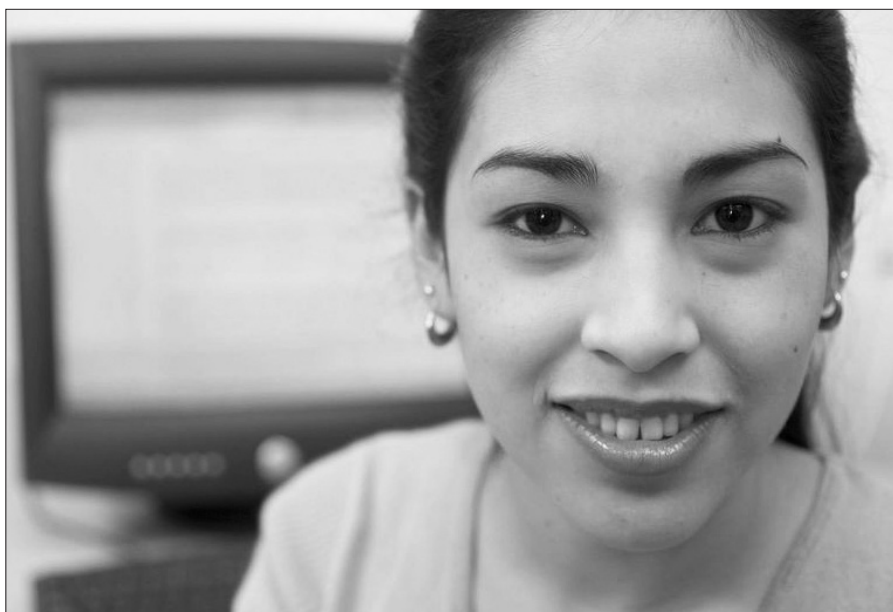
Wage differences across industries are much more pronounced than across racial groups, indicating that racial wage gaps are primarily driven by types of jobs held. For example, all graduates employed in Retail earned about \$12 an hour regardless of race. Filtering the results by education level and age group does not change the story. At similar levels of educational attainment and age, graduates from racial minorities are more likely to work in low-wage industries compared to whites. The relatively higher concentration of racial minorities, particularly blacks, in Temp Help or Social Assistance even when they complete Bachelor's and above degrees drives racial wage gaps

because of fewer opportunities for skills development and career advancement in these industries. When racial minorities are able to find jobs in high-wage/high skill industries such as Hospitals, Professional and Technical Services, Finance and Insurance, or Manufacturing, wage disparities shrink substantially. This suggests that initiatives aimed at helping racial minorities break into these industries are one key to reducing disparities.

Can Choice of Major Help Fix Racial Disparities in the Labor Market?

One of the possible reasons racial minorities are under-represented in certain industries is choice of major. For example, whites and Asians have better chances of being hired in the Professional and Technical Services industry because they are relatively more likely than others to graduate with a Bachelor's degree in a STEM field.

But just how much does major matter? Figure 3 represents the breakdown of below-Bachelor's completers by major in each racial group. We've selected the majors that are illustrative of the impact of educational choices on wage outcomes: Science, Technology, Engineering, and Math (STEM) programs combined, registered nursing (RN) training, licensed practical/vocational nurse



³Not only ethnicity, but also the timing of migration to the U.S. varies within this group, with implications in terms of knowledge of English, educational background, and overall skill level.

Figure 3: Share of Completers of Selected Majors Below Bachelor's by Race/Ethnicity, with Median Hourly Wages Earned in 2nd Year after Graduation, Cohorts of 2011 - 2013

			Median Hourly Wage
American Indian	STEM (i.e. IT, Engineering Technologies, Accounting)	5.7%	\$16.68
	Registered Nursing	2.5%	\$26.54
	Licensed Practical/Vocational Nurse (LPN)	4.5%	\$17.58
	Personal and Culinary services (i.e. Cosmetology)	11.3%	\$11.92
Asian	STEM (i.e. IT, Engineering Technologies, Accounting)	11.6%	\$17.72
	Registered Nursing	3.7%	\$26.76
	Licensed Practical/Vocational Nurse (LPN)	3.3%	\$18.83
	Personal and Culinary services (i.e. Cosmetology)	7.9%	\$12.08
Black	STEM (i.e. IT, Engineering Technologies, Accounting)	5.7%	\$18.28
	Registered Nursing	7.8%	\$27.78
	Licensed Practical/Vocational Nurse (LPN)	7.9%	\$19.86
	Personal and Culinary services (i.e. Cosmetology)	10.2%	\$11.24
Latinos	STEM (i.e. IT, Engineering Technologies, Accounting)	7.6%	\$18.67
	Registered Nursing	4.5%	\$27.98
	Licensed Practical/Vocational Nurse (LPN)	3.8%	\$18.62
	Personal and Culinary services (i.e. Cosmetology)	8.8%	\$11.37
White	STEM (i.e. IT, Engineering Technologies, Accounting)	8.8%	\$18.79
	Registered Nursing	7.3%	\$27.23
	Licensed Practical/Vocational Nurse (LPN)	5.0%	\$17.86
	Personal and Culinary services (i.e. Cosmetology)	5.6%	\$12.16

Source: Minnesota Department of Employment and Economic Development Unemployment Insurance wage records, and the Minnesota Office of Higher Education post-secondary graduation records.

All wage figures have been adjusted for inflation to be in terms of constant 2015 U.S.dollars

(LPN) training, and personal/ culinary services. These four majors make up between 24 and 30 percent of all completers in each race category. The graph also displays median hourly wages earned by graduates who completed these programs and were employed in Minnesota the second year after graduation.

We can notice that wage differences across majors are more pronounced than across race groups, but the share of completers in each major varies by race. American Indian and black graduates are over-represented in personal and culinary services (11.3 and 10.2 percent respectively) that

typically lead to low-paying jobs such as hairstylists, while they are under-represented in STEM fields (5.7 percent) that typically lead to high-paying jobs. Whites who graduated in personal and culinary services earned a median of \$12.16 an hour, not much better than \$11.92 earned by American Indians, but only 5.6 percent of white sub-baccalaureate completers pursued this specialization.

On the other hand, American Indians are extremely under-represented in registered nursing, with only 2.5 percent of graduates (corresponding to just 19 individuals) graduating in this field compared to

7.3 percent among whites. American Indians are clearly not graduating in high-demand fields at the same rate as other racial groups, because fewer enroll and the large majority of those who enroll do not complete.⁴ As a consequence, they are missing out on excellent job opportunities in fast-growing occupations.

These results also demonstrate that racial minorities who pursue in-demand majors have good labor market outcomes. Wages among blacks and Latinos who completed training in STEM fields closely trailed those of whites, at above \$18 an hour. Even more remarkably, black and Latino graduates in



registered nursing and licensed practical nursing out-earned their white counterparts, probably upon obtaining an occupational license to work as RNs and LPNs. However, the earnings potential of LPNs is significantly lower than RNs because LPNs work under the supervision of RNs. Therefore, the strong representation of white graduates in RN programs gives this racial group an advantage in terms of career advancement options and wage growth prospects over time.

Choice of major, however, is not the only explanation for the observed differences in industry of employment by race. If this was the case, completion of a credential in a high-demand major would be enough to help racial minorities land a job

in the industries where such credentials are most rewarded. In particular, we would expect employers in sectors of the economy that experience shortages to be more likely to tap racial minorities as a pool of labor. This is not always the case. Table 3 on the next page shows results for graduates in three fields of alleged shortage — registered nursing, precision manufacturing, and construction — with the aim of discovering whether employers are hiring qualified racial minorities at the same rate as whites.

Let's start with graduates in Associate's degree programs in Registered Nursing. We see a remarkably high concentration of black graduates in Nursing and Residential Care Facilities (60.8 percent) where employers consistently report shortages.

Although it is disappointing to see lower employment rates of black graduates in high paying industries such as Hospitals and Clinics (32.7 percent versus 58.3 percent of Asian, 61.2 percent of Latinos, and 61.2 percent of whites) it is encouraging to see efforts on the part of employers in Nursing and Residential Care Facilities to diversify their workforce in response to labor shortages.

Industries like Manufacturing and Construction, on the other hand, do not seem to respond to labor shortages by decisively increasing employment of racial minorities. Among graduates in precision production programs, American Indians, blacks, and Latinos were less likely to be hired in Manufacturing compared to Asians and whites. Instead, they were more likely to end up in Temp Help, with blacks at 18.6 percent and Latinos at 13.2 percent. Similarly, among individuals who received training in construction programs, 53.7 percent of whites got a job in the Construction industry compared to 52.3 percent of Latinos, 51.7 of American Indians, 39.6 percent of Asians, and only 26.2 percent of blacks.

Using unemployment insurance claims we can see that the most typical

⁴According to post-secondary enrollment records, 105 American Indian individuals enrolled in an Associate degree program in registered nursing from school year 2011 to school year 2014. Of those, only 30 (28.6 percent) completed the credential by June 2014. In contrast, 42.6 percent of whites who enrolled in the same program completed it by June 2014.

Table 3: Top 3 Industries of Employment During the Second Year after Graduation by Race, Classes of 2011-2013, Selected Fields of Study

Associate's Degree Programs in Registered Nursing		
Race	Industry	Percent Employed in Industry
American Indian N*=19	Suppressed due to small size	NA
Asian N=108	Hospitals and Clinics	58.3%
	Nursing and Residential Care facilities	28.7%
	Social Assistance	2.8%
Black N=385	Nursing and Residential Care facilities	60.8%
	Hospitals and Clinics	32.7%
	Social Assistance	3.1%
Hispanic/Latinos N=98	Hospitals and Clinics	61.2%
	Nursing and Residential Care facilities	31.6%
	Social Assistance	2.0%
White N=4,091	Hospitals and Clinics	61.2%
	Nursing and Residential Care facilities	30.9%
	Social Assistance	1.9%
Sub-baccalaureate Programs in Precision Production (including Welding and Machining)		
Race	Industry	Percent Employed in Industry
American Indian N*=9	Suppressed due to small size	NA
Asian N=93	Manufacturing	68.8%
	Temp Help	10.8%
	Construction	6.5%
Black N=43	Manufacturing	44.2%
	Temp Help	18.6%
	Construction	16.3%
Hispanic/Latinos N=38	Manufacturing	47.4%
	Construction	13.2%
	Temp Help	13.2%
White N=1,172	Manufacturing	56.4%
	Construction	14.0%
	Temp Help	8.6%
Associate's Degrees and Certificates of More than One Year in Construction		
Race	Industry	Percent Employed in Industry
American Indian N=29	Construction	51.7%
	Public Administration	13.8%
	Arts, Entertainment, and Recreation	10.3%
Asian N=48	Construction	39.6%
	Manufacturing	18.8%
	Retail Trade	8.3%
Black N=42	Construction	26.2%
	Temp Help	19.0%
	Manufacturing	9.5%
Hispanic/Latinos N=44	Construction	52.3%
	Manufacturing	13.6%
	Wholesale Trade	4.5%
White N=1,817	Construction	53.7%
	Manufacturing	10.1%
	Utilities	5.9%

*Numbers represent graduates who had employment records in Minnesota during the second year after graduation. These numbers might be smaller than the total of those who graduated in the selected majors because some people might be self-employed, unemployed, or employed out of state.

Source: Minnesota Department of Employment and Economic Development Unemployment Insurance wage records, and the Minnesota Office of Higher Education post-secondary graduation records.

occupations of employment in Temp Help for individuals who had previously earned a sub-baccalaureate credential in precision manufacturing, construction, engineering, or engineering technologies from 2009 to 2014 were occupations typical of the Construction and Manufacturing industries. In particular, among those who filed a claim and reported their job title when they were laid off, 78 percent held jobs in production, construction, or engineering, clearly indicating that they were performing temporary work in Manufacturing and Construction. Reliance on staffing agencies is very common in these sectors to ensure flexibility when

customer demand fluctuates seasonally or by volume of orders. However, the uniquely high concentration of college-educated racial minorities in Temp Help signals difficulty finding stable employment that rewards their skills and knowledge.

The under-representation of black and American Indian graduates in industries that are most closely related to their field of training and that pay higher wages is not only inequitable but also harmful to economic growth. If two individuals acquire the same skills and knowledge in college, but one is doing work that makes full use of their skills and

abilities while the other is not, there is inequality in access to career advancement opportunities. Workers who are highly skilled but work in low paying or low skill jobs, and part-time workers who would prefer to be full-time⁵ are often generically referred to as “underemployed”. If underemployment affects some racial groups more than others, and such imbalances arise as early in a career as we’ve seen in this analysis, racial wage gaps will inevitably increase over time because some graduates can start developing valuable work experience right away while others are at risk of skills depreciation.

Moreover, if industries experiencing skills shortages do not hire these individuals they miss an opportunity to train already skilled workers further. These results do not prove the existence of discrimination in hiring, as many other factors can come into play such as lack of knowledge of firm-specific recruiting practices, lack of networking and job search skills, or low income that forces graduates to accept the first job offer they receive. Yet to the extent that these barriers are often correlated with race, de facto racial discrimination is going unaddressed. The business community needs to do more to ensure the recruitment and selection



⁵While some individuals are employed part-time by choice, most part-time workers would prefer to work full-time to access fringe benefits and opportunities for career advancement.

of diverse talent. Especially employers experiencing labor force shortages would clearly benefit by making their hiring practices as transparent and unbiased as possible and by actively reaching out to graduates of technical and other college programs.

Summary and Recommendations

This research outlined four indicators of labor market outcomes after college and documented racial gaps in each indicator. Here is a summary of findings:

* **Gap in job quality:** White and Asian graduates were more likely to be employed full-time and continuously for the whole year while American Indians and blacks were more likely to be employed either part-time or temporarily/seasonally during the year.

* **Gap in earnings:** White graduates earned more while American Indian graduates earned less than other groups. These disparities are systemic: they hold at every education and age level and persist over time.

* **Gap in educational attainment:** Black and American Indian graduates are more likely than other race groups to complete a credential below Bachelor's. Among the few who completed



a Bachelor's and higher credential before age 30 the wage gap was significantly reduced, indicating that initiatives aimed at helping racial minorities complete a college degree before age 30 have the best probability of success in reducing or preventing racial disparities in the labor market.

* **Gap in opportunities for career advancement:** At a similar level of educational attainment and age, graduates from racial minorities are more likely to work in low-wage industries with fewer opportunities for career advancement compared to

whites. Since some industries are more likely than others to offer full-time, stable employment, racial inequalities in access to these industries lead not only to a higher incidence of part-time/casual employment among certain racial minorities but also restrict their ability to utilize on the job the skills they acquired in school. Therefore, this indicator ultimately drives the kinds of gaps we observed in the previous indicators.

When we look deeper into the issue of underrepresentation of racial minorities in certain industries, the evidence suggests that

choice of major strongly determines employability in these industries, but other more systemic barriers are preventing inclusion even for people who successfully complete an in-demand credential. Although the data do not allow us to identify these barriers, we can document a few success stories and also a few areas of concern. While some industries, such as Nursing and Residential Care Facilities, hire recent graduates from racial minorities at a very high rate and at competitive wages, others, especially Construction and Manufacturing, are harder to access for certain racial groups.

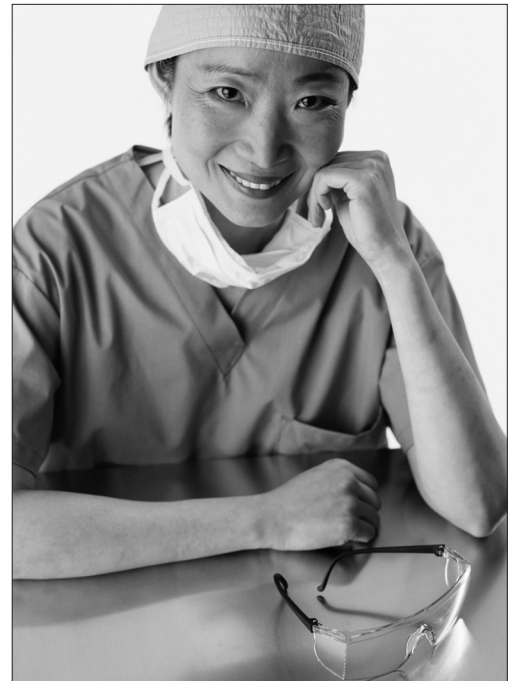
In light of this evidence, the essential tools for expanding representation of racial minorities in the sectors of the economy that offer the most labor market success are the following:

1. Increase the number of individuals from racial minorities who complete a post-secondary credential by age 30 in fields that lead to viable careers.
2. Increase in-school support to ensure that minority students learn about employers' expectations and

hiring practices, set clear learning and career goals, gain early career experience especially in an industry related to the field of study, and conduct a well-targeted job search.

3. Increase recruitment and hiring of qualified racial minorities by Minnesota's business community to the same rate as whites with comparable credentials.

Closing the educational attainment gap is necessary but not sufficient to reduce racial disparities in the labor market, because even among individuals who recently completed a post-secondary degree there is evidence of unequal access to full-time, stable jobs by race. As Minnesota faces the challenge of flat or declining growth in the working-age population, college educated racial minorities are an essential source of labor especially for sectors of the economy where employers report difficulty finding qualified candidates. The skills and knowledge of blacks and other racial minorities are clearly being underutilized in Minnesota's labor market, and employers are one of the groups losing out as a result.



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