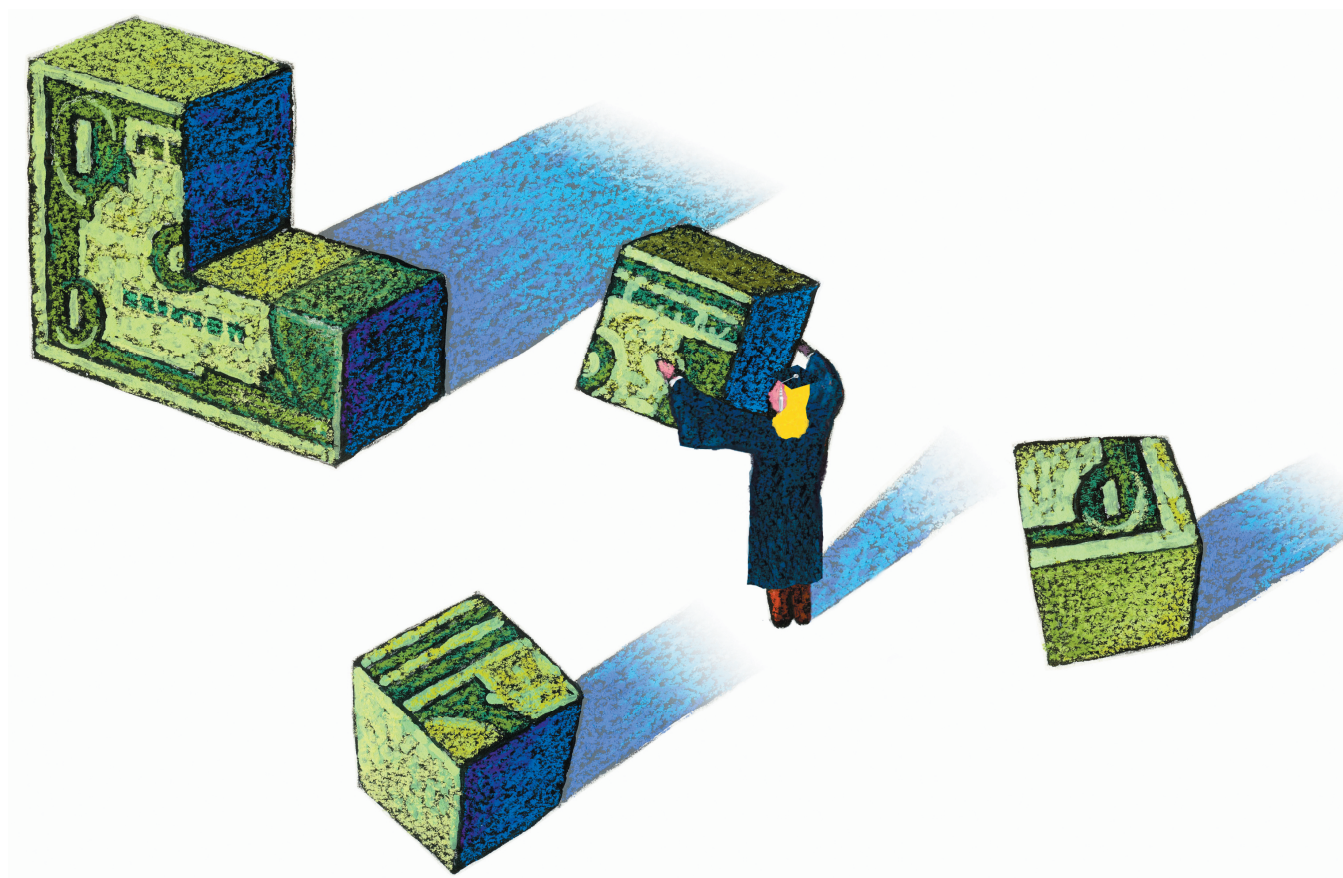


The College Payoff

Education, Occupations, Lifetime Earnings



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EDUCATION
OCCUPATIONS
LIFETIME EARNINGS

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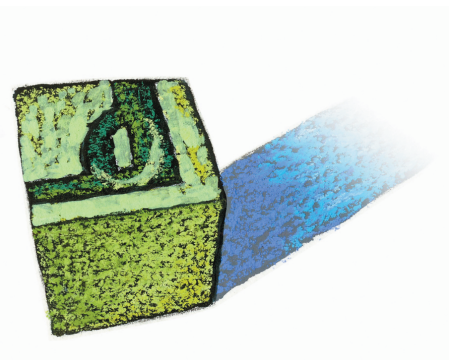
All data in this report are the authors' analysis of the 2007-2009 American Community Survey.

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A college degree pays off—but by just how much? In this report from the Georgetown University Center on Education and the Workforce, we examine just what a college degree is worth—and what else besides a degree might influence an individual’s potential earnings. This report examines lifetime earnings for all education levels and earnings by occupation, age, race/ethnicity, and gender. The data are clear: a college degree is key to economic opportunity, conferring substantially higher earnings on those with credentials than those without. A 2002 Census Bureau study estimated that in 1999, the average lifetime earnings of a Bachelor’s degree holder was \$2.7 million (2009 dollars), 75 percent more than that earned by high school graduates in 1999. Today, we find similar numbers—but since 1999, the premium on college education has grown to 84 percent. In other words, over a lifetime, a Bachelor’s degree is worth \$2.8 million on average.¹ We present our findings in dollar totals over a career, which is defined as being a full-time, full-year worker from 25 to 64 years old.²

Over a lifetime, individuals with a Bachelor’s degree make 84% more than those with only a high school diploma.



¹ See the technical appendix for a discussion about the different ways to measure returns, including a discussion on why we do not use net present value in estimating lifetime earnings.

² Using full-time, full-year workers helps reduce the earnings differentials produced from temporary labor market exit for reasons like maternity, caretaking, and disability. See technical appendix for why we chose simple dollar value over net present value. The earnings data are based on median values, compared to the Census report, which was based on averages because this metric, in our opinion, gives a clearer picture of the earnings distribution. We use median and not mean because it gives a better overall picture of what is happening, whereas mean can be skewed by outliers. For example, if Bill Gates walks into a room of 50 people, the average income of people in the room shoots towards a billion dollars, but the median income in the room would not significantly change.

Even within the same occupation, more education gets workers more money. Truck drivers with less than high school make \$1.3 million over a lifetime, compared to \$1.5 million for truck drivers with a high school diploma. Elementary and middle school teachers with a Bachelor's degree make \$1.8 million over a lifetime, compared with \$2.2 million for those with a Master's degree.

Despite a general earnings boost conferred by a degree, earnings vary greatly depending on the degree type, age, gender, race/ethnicity, and occupation of an individual. The findings are stark: Women earn less at all degree levels, even when they work as much as men. On average, women who work full-time, full-year earn 25 percent less than men, even at similar education levels. At all levels of educational attainment, African Americans and Latinos earn less than Whites. For example, African Americans and Latinos with Master's degrees have lifetime earnings lower than Whites with Bachelor's degrees.

But variations are not just among people of different degree levels or by gender or race/ethnicity. In spite of the obvious returns to more education, the job someone is doing — their occupation — also matters when it comes to earnings. In fact, there is a wide variation in earnings by occupation even among people with the same degree. For example, financial managers with a Bachelor's degree earn \$3.1 million over a lifetime, while accountants and auditors with a Bachelor's make \$2.5 million.³ Clearly, these differences are driven by the occupations, not only by educational attainment.

But that's not all — earnings also vary within the same occupation by education level. For instance, truck drivers with less than a high school diploma make \$1.3 million over a lifetime, compared to \$1.5 million for truck drivers with a high school diploma. Elementary and middle school teachers with a Bachelor's degree make \$1.8 million over a lifetime, compared with \$2.2 million for those with a Master's degree.

Finally, some people with lower educational attainment earn more than their more highly educated counterparts as a result of occupational difference. We call this concept 'overlap.' For example, customer service representatives with an Associate's degree make \$1.4 million over a lifetime, while high school graduates who are supervisors of production workers make \$1.8 million over a lifetime. In fact, 14 percent of people with a high school diploma make at least as much as the median earnings of those with a Bachelor's degree, and 17 percent of people with a Bachelor's degree make more than the median earnings of those with a Professional degree. A lot of this overlap can be explained by the occupations in which individuals are found.

These occupational differences highlight another fact: our traditional understanding of career mobility is from an industry perspective: you work your way up from the mail room to the corner office. This is a relic of an earlier time — today, careers are based on occupation. Because of the emphasis on postsecondary education — which generally means more specific occupational training — workers will be attached more to the occupations they will fill than the industries in which they work. In other words, workers progress up an occupational hierarchy, not an industry-based one.

In the first section of the report, we present earnings data on eight levels of educational attainment, including less than high school, high school, some college/no degree, Associate's degree, Bachelor's degree, Master's degree, Doctoral degree, and Professional degree. Next, we discuss how earnings change across the career of an individual, as related to age and educational attainment. Then, we turn to an often-overlooked fact: earnings within education levels can vary

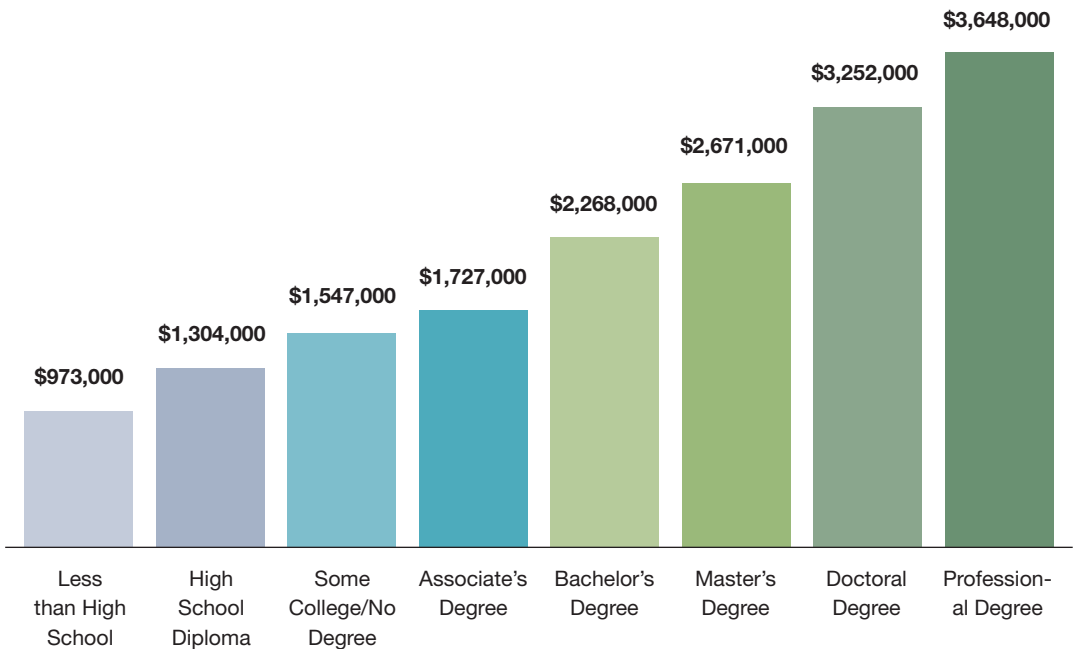
³ These earnings, and all earnings presented hereafter, are at the median and not the average.

dramatically. We show the range of earnings within each level, which demonstrates that there is significant overlap of earnings. In other words, those in the upper reaches of one level of educational attainment have significant earnings overlap with those in the lower reaches of another. For example, about 28 percent of workers with Associate’s degrees earn more than the median earnings of workers with Bachelor’s degrees. This section also presents earnings and education and occupation, which demonstrates that earnings vary not only by educational attainment, but by occupation. Next, we examine how earnings vary not just by educational attainment, but also by gender, and race/ethnicity. In the final section, we identify the ten most common occupations at each education level and their lifetime earnings. In the appendix table, we present earnings and demographic information on nearly 300 specific occupations.

PART I: Lifetime Earnings by Educational Attainment

As **Figure 1** shows, median lifetime earnings rise steadily for workers with increasing educational attainment. Overall, the median lifetime earnings for all workers are \$1.7 million, which is just under \$42,000 per year (\$20 per hour). Over a 40-year career, those who didn’t earn a high school diploma or GED are expected to bring in less than \$1 million, which translates into slightly more than \$24,000 a year (\$11.70 per hour). Obtaining a high school diploma adds 33 percent more to lifetime earnings; the average annual earnings of people with a high school diploma are \$32,600 (\$15.67 per hour). Clearly, then, the economic penalty for not finishing high school is steep — almost \$9,000 a year.

FIGURE 1: MEDIAN LIFETIME EARNINGS BY HIGHEST EDUCATIONAL ATTAINMENT, 2009 DOLLARS



Having some postsecondary education, even without earning a degree, adds nearly one-quarter of a million dollars to lifetime earnings. Annual earnings rise to \$38,700 (\$18.69 per hour). Getting an Associate's degree adds another bump of nearly \$200,000 in lifetime earnings. At \$43,200 a year (\$20.77 per hour), those with Associate's degrees earn nearly one-third more than those with just a high school diploma. These numbers demonstrate conclusively the advantage of non-baccalaureate postsecondary education.

Getting a Bachelor's degree adds another large increase in lifetime earnings. With median earnings of \$56,700 (\$27.26 per hour), or \$2.3 million over a lifetime, Bachelor's degree holders earn 31 percent more than workers with an Associate's degree and 74 percent more than those with just a high school diploma. Further, obtaining a Bachelor's is also the gateway to entering and completing graduate education. About one-third of Bachelor's degree holders obtain a graduate degree.

All graduate degree holders can expect lifetime earnings at least double that of those with only a high school diploma. For those with a Master's degree (which includes those with Master's degrees in elementary teaching and in business administration), typical lifetime earnings are \$2.7 million (\$66,800 a year or \$32 per hour).⁴ Moreover, earnings rise substantially for those with Doctoral and Professional degrees: Doctoral degree holders have lifetime earnings of \$3.3 million (\$81,300 per year; \$39 per hour) while those with Professional degrees (mainly doctors and lawyers) have the highest earnings, making over \$3.6 million over the course of a lifetime (\$91,200 per year; \$44 per hour). This is a 61 percent increase (nearly 1.4 million) over Bachelor's degree holders.⁵

PART II: Lifetime Earnings by Educational Attainment and Age

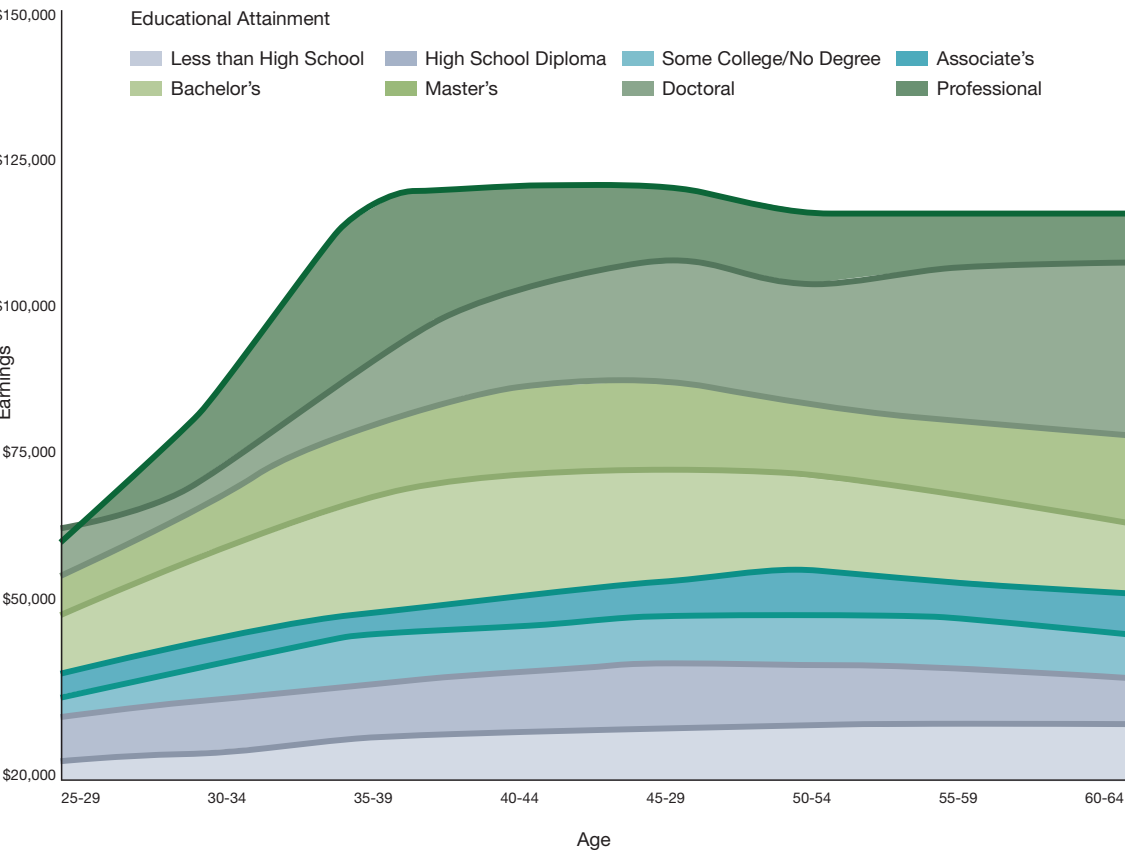
Another way to compare the labor force outcomes of workers with different levels of education is to detail their earnings over the course of their careers. As **Figure 2** shows, the differences among median earnings by education level are much smaller at the beginning of an individual's career (25-29 years old) than later in an individual's working life. Earnings at ages 40-44 are considerably higher for all workers, independent of educational attainment. However, the rise is only 19 percent for high school dropouts and 25 percent for those with high school diplomas. The returns

⁴ This number hides the fact that people with a Master's in Business Administration earn substantially more than the other large categories of Master's degrees—Master's in Education (and Master's in Fine Arts). However, there are significantly more Master's in Education, which bring the median down.

⁵ It should be noted that the choice to use the median values has the biggest effect on those with Bachelor's and graduate degrees because of the very high earnings of top earners. For example, the mean (average) earnings of those with a Bachelor's degree is \$500,000 higher than the median (\$2.7 million) and the Bachelor's to high school premium is 87 percent on the basis of the mean (versus 74% on the basis of the median). The mean of those with a Master's degree rises to \$3.3 million and for Doctoral degree holders to \$3.9 million. But the biggest effect of choosing median over mean is seen with Professional degree holders whose mean (\$5.1 million) is nearly \$1.5 million higher than its median.

to career advancement rise to 35 percent for those with an Associate’s degree and some college/ no degree. By contrast, earnings of Bachelor’s degree holders in the workforce grow by 50 percent over these years, those with Master’s degree grow by 57 percent, and those with a Doctoral degree grow by 65 percent. By far, the biggest gain over the early years of one’s career involves those with Professional degrees. Workers with Professional degrees earn 100 percent more in their 40’s than they do in their initial years in the workforce.

FIGURE 2: LIFETIME EARNINGS TRAJECTORIES, 2009 DOLLARS



There is significant overlap in earnings at all education levels: 17% of people with a Bachelor's degree make more than the median of those with a Professional degree, for example.

PART III: Variations in Earnings by Education and Occupation:
Earnings Overlap

Thus far, have we focused on the typical person at each educational level by using median earnings. It is important to also note that there is wide variation in earnings within educational levels, which means that the highest earners of a lower education level earn more than the typical worker at a higher level of educational attainment. We call this phenomenon “overlap.” Overlap is very much related to differences in earnings by occupation.

Table 1 shows what share of less-educated workers earn the same or more as those at the median in the next education level. For example, the bottom leftmost number of 31 percent means that 31 percent of workers without a high school diploma earn more than the median earnings of workers with a high school diploma. Moving up the “Less than high school” column, the highest earning 16 percent of this group earns more than the median of those with Associate’s degrees, and 7 percent of people with less than a high school diploma earn more than the typical worker with a Bachelor’s degree. At the extreme, the most successful 1 percent of less than high school workers has at least the median lifetime earnings of those with a Professional degree.

TABLE 1: PERCENT OF PEOPLE IN A PARTICULAR EDUCATION LEVEL EARNING MORE THAN THOSE AT A HIGHER EDUCATIONAL LEVEL

		Less than High School	High School Diploma	Some College/No Degree	Associate's	Bachelor's	Master's	Doctoral
How to read this chart Taking the less than high school column and reading down, it shows that 1.3% of people with less than a high school education make the same amount or more as the median earnings of someone with a Professional degree. 2.3% of people with less than high school make the same amount or more as the median for someone with a Doctoral degree, 4.6% of people with less than a high school education make the same amount or more than someone with a Master's degree, and so on.	Professional	1.3%	2.4%	4.8%	4.9%	17.2%	24.2%	36.9%
	Doctoral	2.3%	4.6%	8.6%	9.5%	26.7%	35.5%	.
	Master's	4.6%	9.2%	15.9%	19.2%	39.9%	.	.
	Bachelor's	7.3%	14.3%	23.1%	28.2%	.	.	.
	Associate's	16.3%	29.8%	41.9%	.	.	.	.
	Some College/ No Degree	21.3%	36.6%	.	.	.	.	.
	High School Diploma	31.4%	.	.	.	.	.	.

TABLE 1A: LIFETIME EARNINGS VARIATIONS WITHIN EDUCATION LEVELS, 2009 DOLLARS

	25th Percentile	75th Percentile	Interquartile Range
Less than High School	644,600	1,464,000	819,400
High School Diploma	867,500	1,889,500	1,022,000
Some College/No Degree	1,035,500	2,252,100	1,216,700
Associate's Degree	1,177,100	2,426,300	1,249,200
Bachelor's Degree	1,490,600	3,388,700	1,898,100
Master's Degree	1,864,400	3,835,600	1,971,200
Doctoral Degree	2,150,400	4,743,400	2,592,900
Professional Degree	2,004,600	6,472,800	4,468,200

Continuing up the lower diagonal, 37 percent of workers with a high school diploma have lifetime earnings greater than the median amount earned by workers with some college/no degree. Since some college/no degree has a median very close to that of Associate-degree holders, it is not surprising that the overlap is very high — 42 percent of some college/no degree workers have lifetime earnings more than the median of workers with an Associate's degree. However, the next step — from a two- to a four-year degree — is a big one, and only the most successful 28 percent of Associate's degree workers earn more than the median earnings of workers with a Bachelor's degree.

Another way to look at earnings variation within a specific education level is “interquartile range” — the difference between the lifetime earnings at the 75th and 25th percentile among people with the same highest educational attainment. For example, among those who did not finish high school, median lifetime earnings amount to \$973,000. However, at the 25th percentile, workers earn \$645,000 over a lifetime, while at the 75th percentile workers earn \$1.5 million over a lifetime. As Table 1A shows, the interquartile range is approximately 1–4.5 million dollars (which is about 80 percent of the value of the median for each education level, although it increases as educational attainment increases). The largest variation (120% of the median) occurs among those with Professional degrees, due to very high earnings at the 75th percentile of this group.

Finally, **Figure 3** shows the large amount of overlap when interquartile ranges are aligned with progressively higher levels of education. The overlap would even be greater if we didn't limit the low values to the 25th percentile and the high values to the 75th percentile.

As stated above, much of the overlap can be attributed to differences in occupation. As **Figure 4** shows, there is great variation among earnings for those with the same educational attainment in different occupations. Moreover, within the same occupation, different education levels see differences in earnings.

Figure 3: OVERLAP IN EARNINGS,
2009 DOLLARS

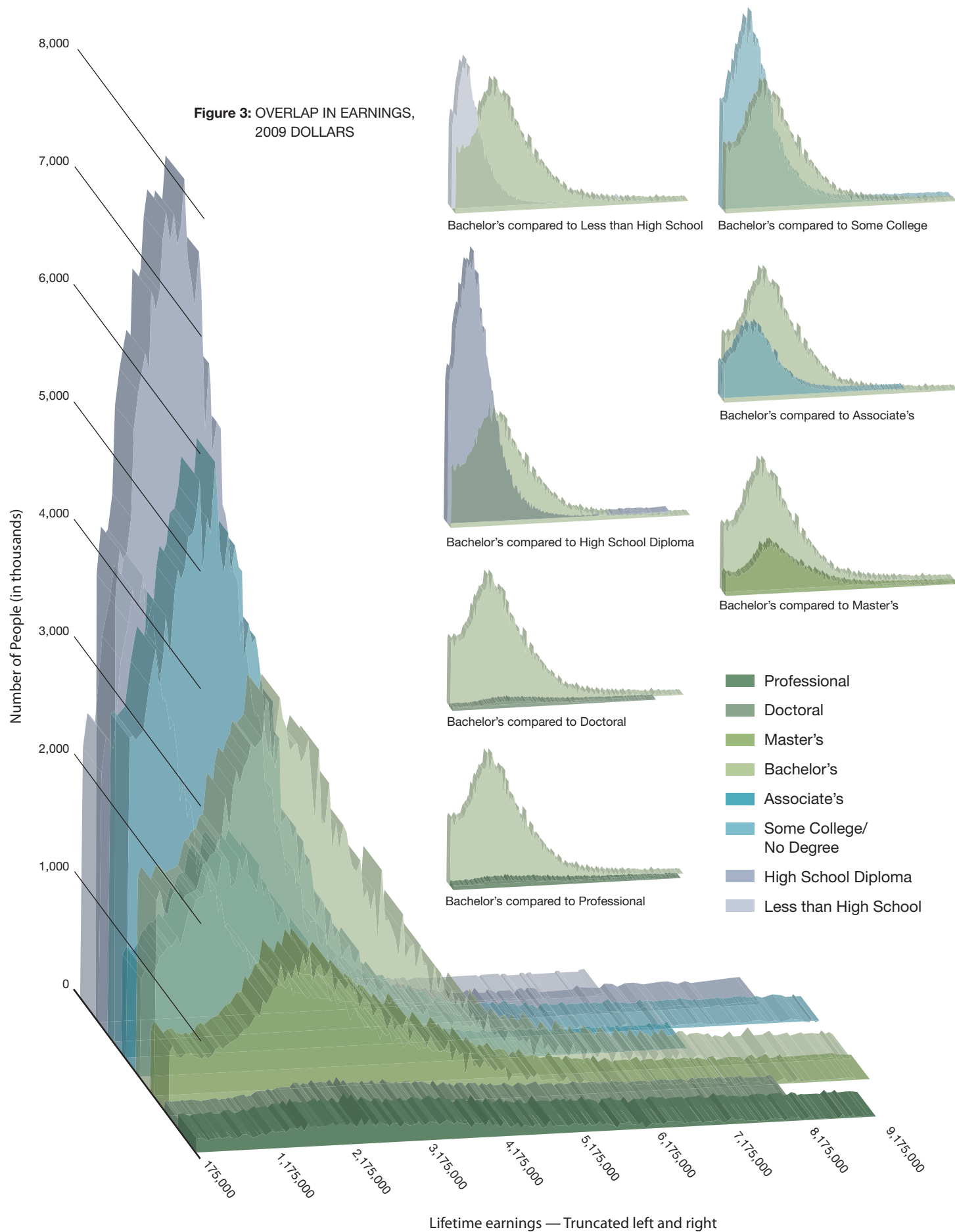
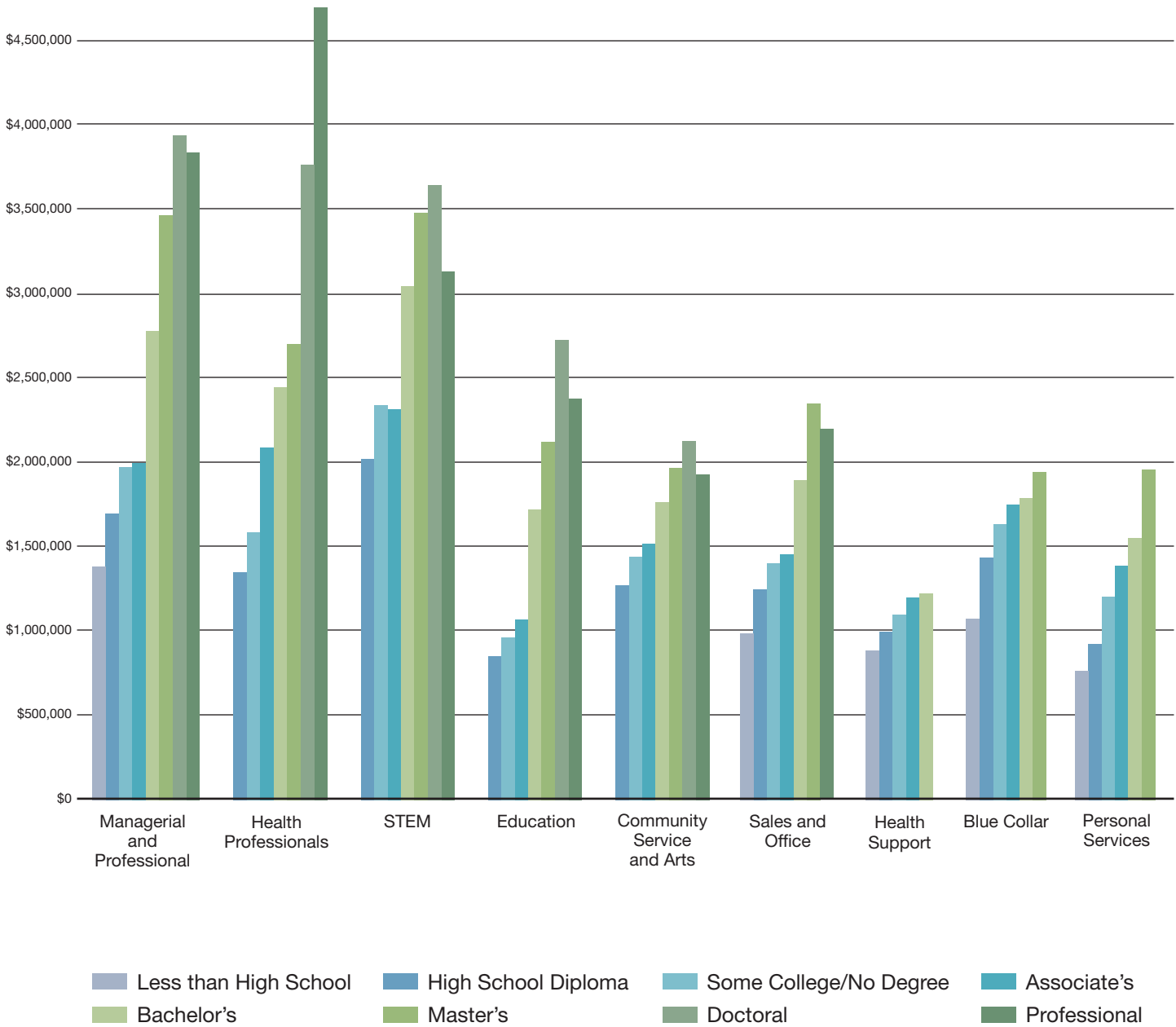


Figure 4: LIFETIME EARNINGS BY EDUCATION AND OCCUPATION, 2009 DOLLARS



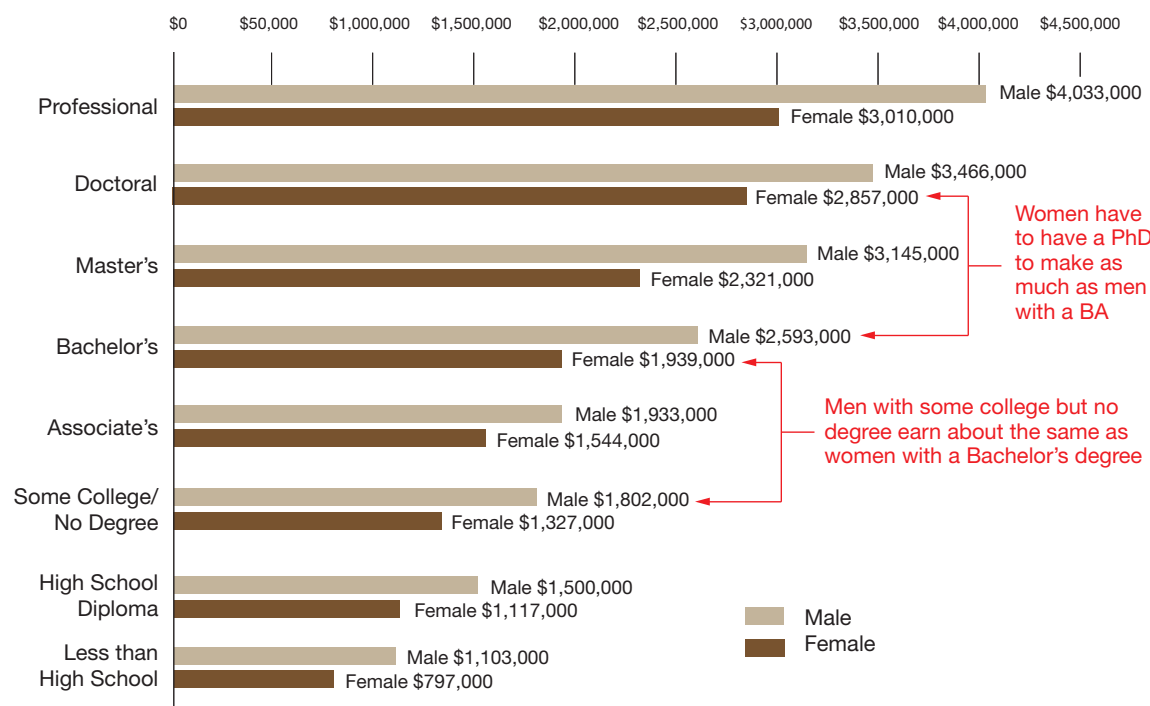
Women need a Doctoral or Professional degree to make more than men with a Bachelor's degree.

PART IV: Lifetime Earnings by Educational Attainment, Gender, and Race/Ethnicity

Figure 5 shows the median lifetime earnings of male and female workers for each of our eight education levels. As can be seen in **Table 2**, women with the same educational attainment as men earn about a quarter less than their male counterparts over a lifetime. This is consistent with the yearly reported gender earnings gap of 23 percent, which is based on comparing full-time, full-year workers in a single year. For example, over the course of their lifetime, women who obtain a Bachelor's degree make over \$650,000 less than men with the same level of education. The smallest gender gaps within postsecondary educational bands occurs among those with Associate's degrees and those with Doctoral degrees, where women earn about \$400,000 and \$600,000 less than men over a lifetime, respectively. However, the largest gender gap in earnings is for those with Professional degrees: men earn about a million dollar more over a lifetime than women with these degrees.

Had we defined lifetime earnings on the basis of all workers, including those who had periods with no earnings (for example, women who leave the labor force for childbearing/child rearing, or anyone who leaves for disability or other reasons), we would see even higher gaps between the earnings of men and women because women are much more likely than men to be out of the labor force for spells of time (and thus, not regularly work full-time, full-year). Considering all

Figure 5: MALE AND FEMALE EARNINGS BY EDUCATIONAL ATTAINMENT



workers — not just those who work full-time, full-year — the gender gap in earnings widens by about 20 percentage points (with the exception of those with a Master’s or Doctoral degree where it only widens 6–9 percentage points).

At all levels of educational attainment, women earn, on average, 25% less than men.

TABLE 2: GENDER GAP (FEMALE EARNINGS RELATIVE TO MALE EARNINGS)

	Full-time, Full-Year Workers (ideal)	Workers with Typical Experiences with the Labor Market
Less than High School	-27.7%	-90.0%
High School Diploma	-25.5%	-52.2%
Some College/No Degree	-26.4%	-47.1%
Associate’s Degree	-20.1%	-37.6%
Bachelor’s Degree	-25.2%	-43.7%
Master’s Degree	-26.2%	-33.7%
Doctoral Degree	-17.6%	-26.7%
Professional Degree	-25.4%	-44.6%

Because so few women with less than a high school diploma work, the earnings gap among this group expands to an alarming 90 percent. Women with just a high school diploma are also likely to be out of the labor force and their lifetime earnings gap versus comparable males is 52 percent. At the some college/no degree, Bachelor’s, and Professional degree levels, the gender gap stands at a hefty 45 percent. The smallest gender gaps for the ‘typical’ worker can be found at the Associate’s degree (38%), Master’s degree (34%), and Doctoral degree (27%) levels.

Wage disparities also are visible when lifetime earnings are examined on the basis of race or ethnicity. Historically, non-Hispanic Whites (hereafter, Whites) have had higher earnings than those of other races/ethnicities. There is now an exception, though, because Asians — especially highly-educated Asians — earn wages comparable to Whites. Latinos, meanwhile, have median lifetime earnings 34 percent lower than Whites across the board. African Americans make 23 percent less than Whites. A similar gap (22%) exists for Other Races/Ethnicities (Native Americans, Pacific Islanders, and others).

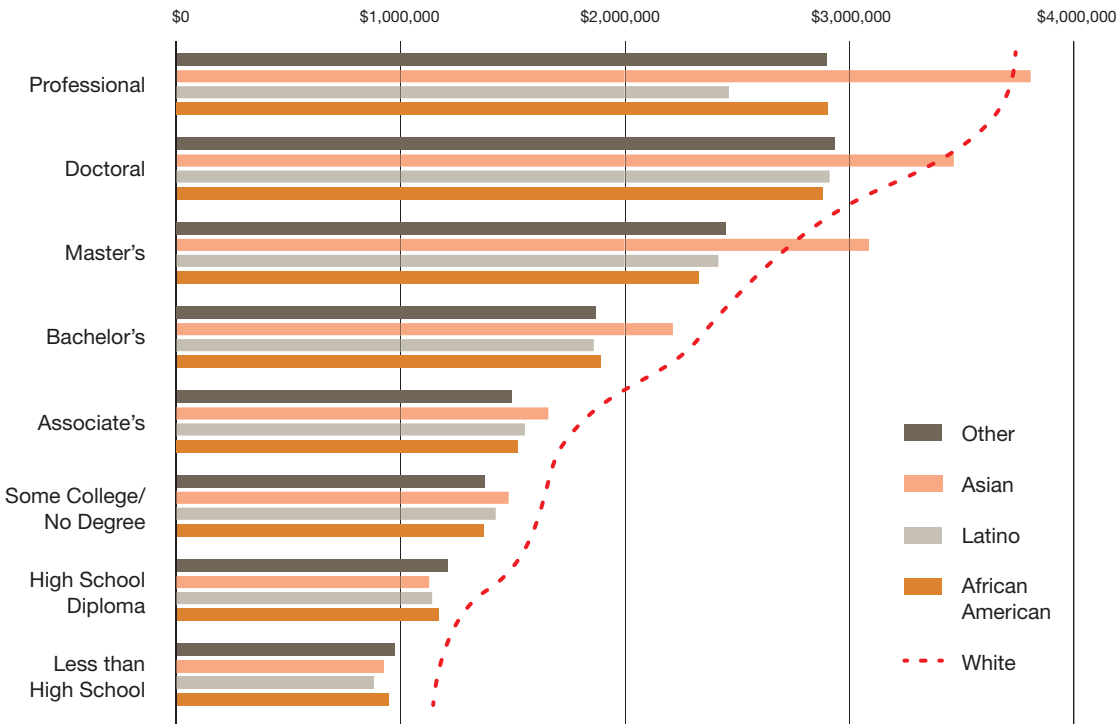
As **Figure 6** shows, there is a lot of variation of the relative earnings of people of different races/ethnicities relative to Whites. Among African Americans, for example, lifetime earnings are 13-16 percent less than Whites with three prominent exceptions — less than high school (18% less than Whites), Bachelor’s degrees (20% less than Whites), and Professional degrees (23% less than Whites). Latinos have a similar pattern, but the earnings gap is generally in a lower range (10-12%). A larger gap exists among Latinos with less than high school (23% less than Whites), high school (18% less than Whites), Bachelor’s degrees (21% less than Whites), and Professional degrees (18% less than Whites).

At the highest levels of educational attainment, African Americans and Latinos lag far behind the earnings of their White and Asian counterparts—over a lifetime, they make close to a million dollars less.

African Americans with Bachelor's degrees make 20% less than Whites with Bachelor's degrees.

For African Americans and Latinos, there are large gaps between earnings when compared to Whites, especially at the lowest levels of educational attainment. It should be noted that these gaps would be larger if the full-time, full-year approach was expanded to include periods when workers were out of the labor force. While the gaps are smallest at the some college/no degree, Associate's, Master's, and Doctoral degree levels, they are large again among Bachelor's and Professional degree holders. These patterns suggest that more study is needed regarding the nature of occupational concentration by race/ethnicity at the high and low ends of the occupational ladder.

FIGURE 6: LIFETIME EARNINGS BY RACE/ETHNICITY, 2009 DOLLARS



Asian workers, by contrast, have the most varied earnings relative to Whites. Among the least-educated Asian workers — high school graduates and dropouts — lifetime earnings are 20 percent below Whites with the same education levels. The gap falls to 6-9 percent for those with some college/no degree, an Associate’s degree, or a Bachelor’s degree. However, among those with graduate degrees, Asian workers have higher lifetime earnings than Whites.

PART V: Top Ten Occupations by Educational Attainment

Here we detail the ten most common occupations for each education level. There are 300 detailed occupations, which are all presented in the appendix table.

Table 3 presents the ten most common occupations for those who did not finish high school. Not surprisingly, virtually all of these jobs are low-skill manual labor and service jobs. The blue collar ‘male’ jobs of truck drivers, carpenters, construction laborers, and other production workers earn more than the median of all workers at this education level.

TABLE 3: TOP TEN OCCUPATIONS FOR THOSE WITH LESS THAN HIGH SCHOOL

	<i>Share of all Occupations for those with less than High School</i>	<i>Lifetime Earnings (2009 dollars)</i>
All Occupations, Less than High School		\$973,000
Driver/Sales Workers and Truck Drivers	6.1%	1,300,000
Janitors and Building Cleaners	4.6%	855,000
Cooks	3.3%	761,000
Construction Laborers	3.2%	1,037,000
Maids and Housekeeping Cleaners	3.1%	663,000
Laborers and Material Movers	2.9%	965,000
Maintenance Workers	2.7%	772,000
Other Agricultural Workers	2.6%	814,000
Other Production Workers	2.3%	980,000
Carpenters	2.2%	1,069,000

Table 4 lists the most common occupations for those with a high school diploma and no postsecondary education, many of which are also found in **Table 3**. However, the difference between having and not having a high school degree leads to much higher earnings in these same occupations. For example, driver/sales workers and truck drivers with a high school diploma have lifetime earnings \$230,000 higher than workers in the same field without a high school diploma. There is an equivalent bump for janitors, other production workers, and laborers and material handlers. In this table, however, there are also now new titles with greater responsibilities and pay — other managers, supervisors and managers of retail sales workers, and supervisors and managers of production workers.

TABLE 4: TOP TEN OCCUPATIONS, HIGH SCHOOL DIPLOMA

	<i>Share of all Occupations High School Diploma</i>	<i>Lifetime Earnings (2009 dollars)</i>
All Occupations, High School Diploma		\$1,304,000
Driver/Sales Workers and Truck Drivers	4.9%	1,531,000
Secretaries and Administrative Assistants	3.7%	1,264,000
Supervisors/Managers of Retail Sales Workers	3.3%	1,345,000
Janitors and Building Cleaners	2.6%	1,048,000
Laborers and Movers	2.2%	1,199,000
Retail Salespersons	1.8%	1,134,000
Nursing and Home Health Aides	1.8%	966,000
Other Production Workers	1.8%	1,308,000
Other Managers	1.7%	1,876,000
Supervisors/Managers of Production Worker	1.6%	1,809,000

Table 5 presents the occupations where workers with some college/no degree are concentrated. While some of these occupations also appeared in **Table 4**, the relative pay within these common occupations vary greatly. On the one hand, driver/sales workers and truck drivers and nursing and home health aides have virtually the same lifetime earnings. By contrast, retail salespersons and other managers with some college/no degree make considerably more than their counterparts with just a high school diploma. Finally, secretaries and administrative assistants make slightly more if they have some postsecondary education.

This variation shows that some jobs have narrowly defined tasks and that college education does not always lead to extra earnings. In other jobs, however, there is more room for personal initiative, which permits those with college-level skills to perform more productive activities and attain higher pay. Further, those with some college/no degree expand their access to more supervisory, financial, and high sales functions.

TABLE 5: TOP TEN OCCUPATIONS, SOME COLLEGE/NO DEGREE

	<i>Share of all Occupations, Some College/ No Degree</i>	<i>Lifetime Earnings (2009 dollars)</i>
All Occupations, Some College/No Degree		\$1,547,000
Secretaries and Administrative Assistants	4.7%	1,348,000
Supervisors/Managers of Retail Sales Workers	3.4%	1,507,000
Other Managers	2.8%	2,220,000
Drivers/Sales Workers and Truck Drivers	2.4%	1,569,000
Accounting, and Auditing Clerks	2.1%	1,391,000
Supervisors/Managers of Administrative Support Workers	2.0%	1,657,000
Customer Service Representatives	2.0%	1,331,000
Retail Salespersons	2.0%	1,320,000
Nursing and Home Health Aides	1.6%	1,030,000
Sales Representatives, Wholesale and Manufacturing	1.5%	2,009,000

As **Table 6** shows, registered nurse is by far the most common occupation among workers with an Associate's degree; this occupation pays considerably more than what is earned at the median for all workers with an Associate's degree. Medical technologists and technicians also make significantly more than the median for Associate's degree holders. For many other jobs, however, earnings for those with some college/no degree and those with an Associate's are quite similar; secretaries and administrative assistants, other managers, supervisory of retail sales workers and administrative support workers, accounting, customer service representatives, and retail sales workers all earn similar pay in the same occupation at the some college/no degree and Associate's degree level.

TABLE 6: TOP TEN OCCUPATIONS, ASSOCIATE'S DEGREES

	<i>Share of all Occupations Associate's Degree</i>	<i>Lifetime Earnings (2009 dollars)</i>
All Occupations, Associate's Degree		\$1,728,000
Registered Nurses	9.1%	2,267,000
Secretaries and Administrative Assistants	4.3%	1,385,000
Other Managers	2.6%	2,292,000
Supervisors/Managers of Retail Sales Workers	2.5%	1,531,000
Accountants and Auditors	2.0%	1,636,000
Supervisors/Managers of Administrative Support Workers	1.7%	1,736,000
Customer Service Representatives	1.6%	1,379,000
Retail Salespersons	1.5%	1,312,000
Medical Technologists and Technicians	1.2%	2,187,000
Accounting, and Auditing Clerks	1.2%	1,327,000

As **Table 7** indicates, Managerial and Professional occupations are the most common occupations for those with Bachelor's degrees. With the exception of elementary and middle school teachers and supervisors of retail workers, lifetime earnings are much higher at the Bachelor's level than for less-educated workers. Registered nurses earn \$260,000 more over a lifetime if they have a Bachelor's rather than an Associate's, while accountants/auditors and other managers with a Bachelor's have extra lifetime earnings of approximately \$800,000 more than their counterparts with Associate's degrees. New occupations such as chief executives, financial managers, computer software engineers, and marketing and sales managers all have lifetime earnings over \$3 million with only a Bachelor's, close to the median lifetime earnings of Doctoral degree holders.

TABLE 7: TOP TEN OCCUPATIONS, BACHELOR'S DEGREES

	<i>Share of all Occupations Bachelor's Degree</i>	<i>Lifetime Earnings (2009 dollars)</i>
All Occupations, Bachelor's Degree		\$2,268,000
Elementary and Middle School Teachers	5.1%	1,757,000
Other Managers	4.6%	3,094,000
Accountants and Auditors	4.6%	2,422,000
Registered Nurses	4.0%	2,527,000
Sales Representatives, Wholesale and Manufacturing	2.5%	3,062,000
Supervisors/Managers of Retail Sales Workers	2.3%	1,807,000
Chief Executives	1.9%	4,483,000
Financial Managers	1.9%	3,081,000
Computer Software Engineers	1.8%	3,554,000
Marketing and Sales Managers	1.8%	3,494,000

Those who obtain Master's degrees seek specialization, which limits the number of occupations in which they can seek work. **Table 8** details the top ten occupations for those with a Master's degree. Once again, elementary and middle school teachers lead the way because of the large number of teachers with a Master's in education. Many of the top jobs are common to both those with Bachelor's degrees (as shown in **Table 7**) and those with Master's degrees (as shown in **Table 8**). The difference is that at the graduate level workers have significantly higher lifetime earnings; for example, computer software engineers make nearly \$300,000 extra with a Master's degree over a lifetime, while elementary and middle school teachers make \$400,000 extra with a Master's degree. This is clear evidence that additional educational preparation, which is often only two years of schoolwork, leads to a significant payoff—but that payoff varies by occupation.

TABLE 8: TOP TEN OCCUPATIONS, MASTER'S DEGREES

	<i>Share of all Occupations Master's Degree</i>	<i>Lifetime Earnings (2009 dollars)</i>
All Occupations, Master's Degree		\$2,671,000
Elementary and Middle School Teachers	13.0%	2,155,000
Other Managers	5.4%	3,762,000
Education Administrators	4.0%	2,786,000
Accountants and Auditors	3.7%	3,030,000
Secondary School Teachers	3.1%	2,217,000
Computer Software Engineers	2.6%	3,835,000
Registered Nurses	2.5%	3,044,000
Postsecondary Teachers	2.5%	2,024,000
Counselors	2.4%	1,945,000
Chief Executives	2.4%	5,160,000

Traditionally, Doctoral degree holders have worked predominantly within academia, though today only 26 percent of Doctoral degree holders work as postsecondary teachers or professors (as shown in **Table 10**). Yet a number of people can have both Doctoral and Professional degrees (e.g., physicians, lawyers, etc.) and are put in the Doctoral degree category because the Census treats a Doctoral degree as a higher attainment level than a Professional degree (and defers to the higher educational attainment level). Doctors and lawyers can seek additional education (Doctoral degrees), though many of those who get a Doctoral degree in addition to their Professional degree tend to teach or do research at the university level rather than pursue private practice (which can be more remunerative). Finally, there are a few workers with Doctoral degrees who are categorized as business executives (other managers and chief executives); these may be scientists or technical specialists who have become company leaders and have been substantially rewarded as a result.

TABLE 10: TOP TEN OCCUPATIONS, DOCTORAL DEGREES

	<i>Share of all Occupations Doctoral</i>	<i>Lifetime Earnings (2009 dollars)</i>
All Occupations, Doctoral Degree		\$3,252,000
Postsecondary Teachers	26.0%	2,803,000
Physicians and Surgeons	5.7%	5,085,000
Physical Scientists	5.2%	3,577,000
Lawyers and Judges	4.7%	3,676,000
Education Administrators	4.6%	3,465,000
Other Managers	3.7%	4,670,000
Psychologists	3.5%	2,515,000
Medical Scientists	3.5%	3,259,000
Pharmacists	2.6%	4,358,000
Chief Executives	2.1%	5,131,000

Those who get Professional degrees receive specialized training for their occupations, in particular in law and medicine. About a third (32%) of these workers are practicing lawyers and judges, and another third (32%) obtained a degree in one of the medical specialties (physicians and surgeons, dentists, pharmacists, veterinarians, and nurses). The remaining occupations in the top ten are other managers, teachers, accountants, and auditors. The managerial field is particularly undercounted because of the plethora of industry-specific managers. There are also several occupations in this list that pay a similar amount as those with just a Master's degree: elementary and secondary school teachers, accountants and auditors, and registered nurses (who actually make less than their counterparts with a Master's degree).

TABLE 9: TOP TEN OCCUPATIONS, PROFESSIONAL DEGREES

	<i>Share of all Occupations Professional degree</i>	<i>Lifetime Earnings (2009 dollars)</i>
All Occupations, Professional Degree		\$3,648,000
Lawyers and Judges	31.5%	4,032,000
Physicians and Surgeons	22.8%	6,172,000
Dentists	3.4%	4,035,000
Elementary and Middle School Teachers	2.8%	2,292,000
Pharmacists	2.3%	4,420,000
Veterinarians	2.1%	2,981,000
Accountants and Auditors	1.7%	3,203,000
Other Managers	1.7%	3,873,000
Postsecondary Teachers	1.6%	2,919,000
Registered Nurses	1.5%	2,722,000

CONCLUSION

No matter how you cut it, more education pays. The data presented here show that there is a sizeable economic return to going to college and earning at least a two- or four-year degree. The 33 percent of Bachelor's degree holders that continue on to graduate and professional schools have even more prosperous futures ahead. Moreover, the difference in earnings between those who go to college and those who don't is growing — meaning that postsecondary education is more important than ever.

However, as we have demonstrated, there are significant variations based on age, gender, race/ethnicity, and above all, occupation. In the following appendices, we present lifetime earnings by education level for 300 distinct occupations. These numbers prove that higher education opens up the highest-paying jobs, but also that there is a range of pay within jobs and that more highly-educated people usually earn considerably more than their less-educated counterparts in the same occupation.



TECHNICAL APPENDIX

We reproduced the methodology originally used in the 2002 Census report on lifetime earnings. They describe this approach as:

“Synthetic estimates of work-life earnings are created by using the working population’s 1-year annual earnings and summing their age-specific average earnings for people ages 25 to 64 years. The resulting totals represent what individuals with the same educational level could expect to earn, on average, in today’s dollars, during a hypothetical 40-year working life.”

Specifically, the Census approach looks at 5-year age groups — 25-29, 30-34, etc. — to get an average for each age group and then sums each of these 5-year averages of a particular demographic and/or educational group to estimate the average 40-year degree for that group.

This approach is an estimate and is not based on real careers of people. In real life, people’s careers are much more volatile — they change jobs, have wide yearly earnings variations, have periods of time where they are not working, often start working before age 25, and may retire before age 64 or work well past it. Also, by only using earnings levels from 2009 data, these estimates are only approximations of what individuals who are 25 years old today can expect to earn over their lifetime. It is quite probable that productivity growth will lead to higher earnings in the future and therefore the career of today’s young adults will lead to higher lifetime earnings than presented here.

We differ from the Census in that we use median earnings rather than average earnings. As noted in footnote 2, median earnings tend to be more representative of “typical” experiences than average earnings.

To construct medians and the 25th and 75th percentile groups, we combine the medians, 25th, and 75th percentile levels in the different 5-year periods rather than the averages.

Since no data source exists with a large number of cases that tracks individuals throughout their careers by earnings, occupation, and hours worked per year, this approach is the only viable one to construct even a rough estimate of lifetime earnings. While most people don’t increase their education level after age 25, very few people work full-time, full-year in the same narrow occupation. The numbers presented here should be viewed as representing the broad earning differences that exist based on education, gender, race/ethnicity, and occupation and not exact representations of an individual’s lifetime earnings.

Simple Dollars versus Net Present Value

A series of commentators objected to the Census computations because it treated a dollar today the same as a dollar 30 years later in one’s career (e.g., it didn’t take into account net present value). The essence of this criticism is the financial principle that a dollar in the future is worth less than dollar today. A person who wins a million dollars in the lottery has the choice of receiving \$50,000 per year for 20 years or taking a lump sum of \$450,000 to \$550,000 (depending on the state and current interest rate on government bonds). The reason for this discrepancy is that those who take the money today could be earning money by investing it (in government bonds, for example).

Simple financial calculators can turn a stream of earnings into a “net present discounted value” with a specific discounting rate. We chose 2.5% because this represents the real interest rate of long term government bonds.

Thus, the \$2,789,000 lifetime earnings of a Bachelor's degree holder has a current lump sum value of \$1,712,000, which is 39 percent less than the simple adding up of yearly earnings. Using discounted values, the dollar gap between Bachelor's degree holders and high school graduates falls to \$786,000 (from nearly \$1.3 million).

Even with discounted dollars, workers with a Bachelor's degree today can expect to have lifetime earnings \$593,000 higher than workers with only a high school diploma. Therefore, it is still worth the time and investment to obtain a college education.

For those interested in present discounted values, simply reducing each of these numbers by 39 percent will result in a satisfactory estimate.

Full-Time, Full-Year Workers Another important choice in determining lifetime earnings is whether to base these computations on an “ideal” career in which the person works full-time, full-year for each of 40 years from 25 to 64. In reality, only about half of men and a small share of women meet these criteria, since major interruptions, including temporary unemployment, illness, early retirement, and time taken off to meet family responsibilities, often take people out of the workforce for some period of time. Over a recent 15-year period, Rose and Hartmann (2004) found that 74 percent of men and 26 percent of women were “super attached workers”—working at least 1,750 hours in 12 of 15 years. Following the Census approach, we chose to compute lifetime earnings on the basis of full-time, full-year workers and alert the reader that many workers, especially female workers, don't meet this standard.

But what if we take the costs of college into account? James Altucher and others have been vocal that the costs of college change the equation and make going to college not worth it. In many media appearances, he has claimed that the \$200,000-\$250,000 that parents might spend on a college education could easily return over \$2 million if it were invested long-term in stocks and bonds rather than spent on college.

This argument contains several errors. To begin with, only a very small share of private colleges cost between \$200,000-\$250,000, and no public college costs this much; only 10% of 2008 Bachelor's degree students had total costs (tuition, fees, books, room, board, transportation, and other expenses) of \$50,000 or more per year. Second, more than two-thirds (65%) of students don't pay the full price of college and have access to grants and low-interest loans. Third, the multimillion-dollar payoff assumes that neither the principal nor the yearly profits on the investment will be used for 40 years. However, it is absurd to suggest that people with a high school education are likely to leave their investments untouched for 40 years, because, as we have just demonstrated, they are more likely to earn much less than their more highly educated counterparts and need the money. The reality is that 20- and 30-year olds have very low savings rates because this is the time when they are raising their own children. Most saving occurs after age 40, and are done by people with high earnings. The median net worth of people approaching retirement with a Bachelor's degree is four times higher than those with only a high school diploma. It is a fantasy to think that starting one's career after high school and using the money that might have been used to pay for college will lead to a gold mine later in life.

Lifetime Earnings by Degree (in millions of dollars)										Distributions of Race/Ethnicity, Gender, and Educational Attainment within Occupations				
Occupation	Less than High School	High School Diploma	Some college	Associate's	Bachelor's	Master's/ Profes- sional/ Doctoral	Gender Earnings Gap %	Percent Female	Percent White●	Percent African American●	Percent Latino●	Percent High School or less	Percent Some Col- lege and Associate's	Percent BA and Graduate
Chief Executives and Legislators	.	2.6	3.2	3.0	4.5	5.1	30.2	21.1	87.0	3.3	4.6	11.2	22.6	66.2
General and Operations Managers	.	2.2	2.5	2.5	3.3	4.0	28.1	28.0	82.2	5.7	7.6	18.0	33.8	48.2
Advertising, Promotions, Public Relations Managers	2.9	.	28.1	55.7	84.8	5.6	5.7	6.7	20.1	73.2
Marketing and Sales Managers	.	2.2	2.5	2.5	3.5	4.3	37.1	41.7	83.9	4.2	6.7	8.7	24.4	66.9
Administrative Services Managers	.	.	2.1	.	2.6	.	13.0	30.9	78.2	9.9	8.2	21.8	42.3	36.0
Computer and Information Systems Managers	.	.	3.1	3.0	3.7	4.0	14.6	28.3	77.4	6.0	5.2	4.9	24.1	71.0
Financial Managers	.	1.8	2.1	2.2	3.1	4.2	61.1	52.8	77.8	8.1	8.3	12.4	26.9	60.7
Human Resources Managers	.	1.9	2.2	2.2	2.9	3.4	19.9	60.2	75.2	9.6	10.1	13.9	29.8	56.3
Industrial Production Managers	.	2.3	2.4	.	3.3	3.9	23.8	16.6	83.4	4.1	8.3	23.6	33.0	43.4
Purchasing Managers	.	.	2.2	.	2.9	3.7	24.5	42.5	80.1	8.5	6.9	12.6	30.0	57.4
Transportation, Storage, and Distribution Managers	.	1.7	1.9	.	2.6	.	3.3	16.9	74.8	9.3	11.4	38.6	36.2	25.2
Farmers and Ranchers, Farm, Ranch, and other Agricultural Managers	11.7	92.6	.7	4.9	46.5	31.3	22.2
Construction Managers	1.5	2.0	2.3	2.3	3.1	3.6	20.0	6.4	85.4	3.0	9.0	34.8	33.4	31.8
Education Administrators	.	1.4	1.5	1.6	2.0	2.9	27.5	62.7	76.3	13.4	7.4	5.1	14.1	80.8
Miscellaneous Managers, including Engineering, Funeral Directors, Postmasters and Mail Superintendents	1.4	1.9	2.2	2.3	3.2	3.9	29.3	31.9	79.8	6.8	7.5	16.6	28.1	55.2
Food Service Managers	1.0	1.2	1.5	1.5	1.8	.	33.3	43.1	66.0	8.5	14.2	38.4	37.9	23.7
Gaming and Lodging Managers	.	.	1.7	.	2.1	.	30.1	48.3	70.4	6.7	9.3	24.4	36.3	39.3
Natural Sciences, Medical and Health Services Managers	.	1.7	1.9	2.3	2.7	3.5	29.5	67.7	75.4	12.1	7.2	10.8	28.0	61.2
Property, Real Estate, and Community Association Managers	.	1.5	1.7	1.6	2.2	2.9	27.2	49.5	75.5	9.1	11.7	24.4	37.2	38.4
Social and Community Service Managers	.	.	1.7	.	2.1	2.6	22.4	66.3	74.9	14.2	7.4	8.7	21.7	69.6
Agents and Business Managers of Artists, Performers, and Athletes, Logisticians, Meeting and Convention Planners	.	.	1.9	.	2.5	.	19.7	47.0	74.0	12.2	9.2	14.1	33.8	52.0
Purchasing Agents, except Wholesale, Retail, and Farm and Non-Farm Products	.	1.7	1.8	1.9	2.3	.	18.1	52.3	78.8	9.1	7.8	21.9	38.9	39.3
Wholesale and Retail Buyers, except Farm Products	.	1.4	1.6	.	2.1	.	15.7	49.0	79.6	5.7	8.8	26.2	36.9	36.9
Claims Adjusters, Appraisers, Examiners, and Investigators	.	1.7	1.7	1.8	2.3	.	27.0	61.8	72.3	15.2	8.3	18.2	36.0	45.8
Compliance Officers, except Agriculture, Construction, Health and Safety, and Transportation	.	.	2.0	.	2.7	3.1	10.9	46.2	73.8	11.0	9.0	11.7	29.8	58.5
Cost Estimators	.	.	2.2	.	2.7	.	37.5	12.9	88.8	1.5	6.5	26.2	41.8	32.0

* Percent White, Percent African American and Percent Latino rows total to 100% (may not add to exactly 100% due to missing other races.)

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Lifetime Earnings by Degree (in millions of dollars)										Distributions of Race/Ethnicity, Gender, and Educational Attainment within Occupations				
Occupation	Less than High School	High School Diploma	Some college	Associate's	Bachelor's	Master's/ Profes- sional/ Doctoral	Gender Earnings Gap %	Percent Female	Percent White●	Percent African American●	Percent Latino●	Percent High School or less	Percent Some Col- lege and Associate's	Percent BA and Graduate
Human Resources, Training, and Labor Relations Specialists	.	1.7	1.9	1.9	2.3	2.9	24.2	70.2	72.2	13.9	9.3	13.6	33.4	53.0
Management Analysts	.	.	2.2	.	2.9	3.5	24.6	40.6	78.5	6.7	5.3	5.4	18.4	76.2
Other Business Operations Specialists	.	1.6	1.8	.	2.3	3.1	39.7	60.6	69.5	14.0	9.3	15.5	33.5	51.0
Accountants and Auditors	.	1.5	1.7	1.6	2.4	3.0	40.8	58.2	73.6	8.8	6.6	4.5	18.6	76.9
Appraisers and Assessors of Real Estate	2.0	.	16.5	33.2	89.1	3.9	4.0	12.1	36.1	51.8
Budget, Credit, Financial Analysts	2.7	3.8	40.1	49.0	72.6	10.5	6.8	6.0	20.3	73.7
Personal Financial Advisors	.	.	2.0	.	3.1	3.8	53.5	28.7	79.9	7.0	6.6	4.9	17.1	78.1
Insurance Underwriters	2.7	.	42.6	68.9	78.9	9.5	6.8	17.4	33.4	49.2
Financial Examiners, Financial Specialists, all other	2.7	.	84.8	54.7	72.5	13.2	8.5	13.9	28.3	57.8
Loan Counselors and Officers	.	1.6	1.8	.	2.4	2.9	44.7	52.4	76.7	8.4	10.2	14.7	35.1	50.2
Tax Examiners, Collectors, Revenue Agents, and Preparers	2.2	.	23.0	61.1	66.1	17.5	11.5	15.5	33.4	51.2
Computer Scientists and Systems Analysts	.	2.2	2.4	2.3	3.0	3.5	14.8	29.3	70.0	9.2	5.9	5.9	28.4	65.6
Computer Programmers	.	.	2.6	2.7	3.0	3.3	11.0	24.0	74.4	4.7	4.4	5.4	24.4	70.2
Computer Software Engineers	.	.	3.1	3.0	3.6	3.9	16.5	20.4	63.4	4.5	3.7	2.8	15.1	82.1
Computer Support Specialists	.	1.9	2.1	2.0	2.4	2.6	15.0	29.4	72.5	11.1	7.8	12.1	47.0	40.9
Database Administrators	3.0	.	28.9	32.6	73.0	6.2	5.1	5.5	26.2	68.3
Network and Computer Systems Administrators	.	.	2.5	2.5	2.9	3.3	15.0	18.5	77.2	8.2	6.0	8.5	39.3	52.3
Network Systems and Data Communications Analysts	.	.	2.4	2.5	2.7	3.4	19.1	23.0	74.7	8.8	6.4	7.9	36.4	55.7
Actuaries, Miscellaneous Mathematical Science Occupations, including Mathematicians and Statisticians	3.8	23.6	40.3	73.8	4.2	4.6	1.2	6.3	92.4
Operations Research Analysts	3.0	3.5	14.6	49.0	72.7	12.6	6.2	7.1	25.5	67.4
Architects, except Naval	2.8	2.9	9.7	23.0	80.6	3.3	7.0	1.8	8.3	89.9
Surveyors, Cartographers, and Photogrammetrists, and Surveying and Mapping Technicians	.	.	1.9	.	.	.	18.2	12.6	85.7	2.9	8.1	23.4	47.2	29.4
Aerospace, Biomedical, Agricultural, Chemical, Computer Hardware, Environmental, Marine, Materials, Petroleum, Mining, Geological	3.6	4.0	13.9	12.8	75.6	4.9	5.6	3.4	14.3	82.2
Civil Engineers	3.2	3.7	16.9	11.1	79.3	4.4	5.7	3.5	11.5	85.0
Electrical and Electronics Engineers	3.4	4.1	12.8	8.3	72.4	4.7	5.6	4.2	17.9	77.9
Industrial Engineers, including Health and Safety	3.0	3.4	8.4	18.3	79.7	4.1	6.2	8.2	23.0	68.8

* Percent White, Percent African American and Percent Latino rows total to 100% (may not add to exactly 100% due to missing other races.)

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Lifetime Earnings by Degree (in millions of dollars)										Distributions of Race/Ethnicity, Gender, and Educational Attainment within Occupations				
Occupation	Less than High School	High School Diploma	Some college	Associate's	Bachelor's	Master's/ Professional/ Doctoral	Gender Earnings Gap %	Percent Female	Percent White●	Percent African American●	Percent Latino●	Percent High School or less	Percent Some College and Associate's	Percent BA and Graduate
Mechanical Engineers	3.2	3.6	10.5	7.1	81.7	3.5	5.4	5.2	21.5	73.4
Miscellaneous Engineers, including Nuclear Engineers	.	.	2.7	2.6	3.4	3.8	4.7	11.6	74.7	4.4	5.2	3.7	15.4	80.9
Drafters	.	.	2.0	1.9	2.0	.	12.4	17.3	81.4	4.3	8.5	14.1	62.2	23.8
Engineering Technicians, except Drafters	.	1.9	2.1	2.2	2.2	.	31.3	16.0	72.9	9.6	9.4	26.4	56.9	16.6
Agricultural and Food, Biological, Conservation Scientists and Foresters, Environmental Scientists and Geoscientists	2.3	2.8	2.9	32.9	84.0	4.4	4.1	2.5	7.6	89.9
Medical Scientists	3.1	16.4	51.3	59.9	5.1	4.8	1.0	2.0	97.0
Astronomers and Physicists, Atmospheric and Space, Physical Scientists, all other	2.8	3.4	29.5	33.4	70.0	3.0	4.6	.7	2.4	96.9
Chemists and Materials Scientists	2.5	3.4	7.7	36.0	67.9	7.6	5.4	1.2	7.4	91.4
Economists, Market and Survey Researchers, Urban and Regional Planners, Miscellaneous Social Scientists, including Sociologists	2.7	3.4	29.6	47.1	79.7	5.2	6.1	3.2	11.1	85.7
Psychologists	2.2	8.6	62.4	84.2	6.6	6.0	.4	.9	98.6
Agricultural/Food Science, Biological, Geological/Petroleum and Miscellaneous Life, Physical and Social Science Technicians, including Social Science Nuclear Technicians Research Assistants	.	1.5	1.7	.	2.0	.	15.9	42.7	72.9	7.8	10.1	21.7	36.3	42.0
Counselors	.	.	1.3	.	1.5	2.0	-2.3	68.3	64.6	22.0	10.1	7.5	17.3	75.2
Social Workers	.	1.3	1.3	1.4	1.6	2.0	6.5	78.0	61.4	23.8	11.2	7.1	17.1	75.8
Miscellaneous Community and Social Service Specialists	.	1.2	1.4	.	1.7	2.0	21.9	65.3	58.7	23.8	13.8	14.0	32.5	53.6
Clergy	.	.	1.4	.	1.6	1.8	10.4	14.2	79.9	9.1	5.8	8.2	14.7	77.2
Directors, Religious Activities and Education, and Religious Workers, all other	1.5	.	22.8	53.7	79.5	6.1	8.7	11.0	22.3	66.7
Lawyers and Judges, Magistrates, and other Judicial Workers	4.0	19.7	33.2	86.4	5.2	4.4	.8	1.3	98.0
Paralegals and Legal Assistants	.	1.7	1.7	1.7	2.0	.	10.2	88.1	74.5	9.4	12.0	13.5	47.3	39.2
Miscellaneous Legal Support Workers	.	1.5	1.6	.	2.2	.	32.7	71.9	73.1	11.2	10.7	19.1	41.0	39.9
Postsecondary Teachers	1.8	2.5	17.9	45.3	78.0	6.4	5.1	1.2	4.8	94.0
Preschool and Kindergarten Teachers	.	.7	.8	.9	1.3	1.9	57.9	98.0	63.4	20.2	12.7	15.9	40.3	43.8
Elementary and Middle School Teachers	.	.	1.1	1.3	1.8	2.2	9.9	77.6	80.7	9.5	7.4	1.4	3.6	94.9
Secondary School Teachers	1.8	2.2	8.4	56.6	81.1	8.9	7.3	1.0	3.3	95.7

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Lifetime Earnings by Degree (in millions of dollars)										Distributions of Race/Ethnicity, Gender, and Educational Attainment within Occupations				
Occupation	Less than High School	High School Diploma	Some college	Associate's	Bachelor's	Master's/ Profes- sional/ Doctoral	Gender Earnings Gap %	Percent Female	Percent White●	Percent African American●	Percent Latino●	Percent High School or less	Percent Some Col- lege and Associate's	Percent BA and Graduate
Special Education Teachers	1.8	2.1	6.7	84.2	79.6	11.8	6.4	3.5	7.6	89.0
Other Teachers and Instructors	.	1.2	1.6	1.8	1.7	2.1	36.6	54.5	74.6	13.2	8.0	14.1	31.2	54.7
Archivists, Curators, and Museum Technicians, Librarians	1.6	2.1	8.5	76.4	84.9	7.7	4.2	3.9	11.5	84.7
Library Technicians, and Other Education, Training, and Library Workers	2.3	8.7	72.3	73.5	12.8	8.7	10.0	18.3	71.7
Teacher Assistants	.	.7	.8	.8	.9	.	34.1	90.3	58.6	20.4	17.3	32.6	48.7	18.7
Artists and Related Workers	1.6	.	44.2	35.0	82.7	2.8	8.3	13.5	30.0	56.5
Designers	.	1.4	1.7	1.8	1.9	2.3	36.2	45.6	78.9	3.8	9.2	13.4	33.3	53.3
Producers and Directors and Broadcast and Sound Engi- neering Technicians and Radio Operators, and Media and all other Communication Equipment Workers, Television, Video, and Motion Picture Camera Operators and Editors	.	.	2.1	.	2.4	.	-9	25.2	77.6	8.6	10.0	11.8	30.1	58.1
Athletes, Coaches, Umpires and Related Workers	1.9	.	15.8	20.9	77.6	11.8	6.7	8.4	25.0	66.6
Announcers, and News Analysts, Reporters and Correspondents	2.2	.	15.8	35.2	79.6	6.0	10.6	9.0	20.2	70.8
Public Relations Specialists	2.5	.	29.3	60.4	82.6	7.2	6.7	4.3	15.2	80.5
Editors	2.3	2.2	13.7	52.5	85.0	5.0	5.5	4.3	14.8	80.9
Technical Writers	2.6	.	8.4	55.1	85.4	7.0	3.6	6.7	19.6	73.7
Writers and Authors	2.0	2.0	-3.7	51.0	85.8	5.9	3.6	2.9	10.5	86.6
Photographers and Miscellaneous Media and Communication Workers	1.3	.	19.1	44.2	69.6	5.4	17.4	16.9	35.3	47.7
Chiropractors, Optometrists, Podiatrists, Veterinarians	2.7	11.2	32.0	88.7	1.7	3.7	1.0	1.2	97.7
Dentists	4.0	18.2	22.4	74.9	3.4	6.1	.6	.9	98.5
Pharmacists	4.0	4.4	7.6	49.0	71.8	6.5	3.6	.8	1.9	97.3
Physicians and Surgeons	6.0	36.3	31.9	69.9	5.4	6.1	.6	1.1	98.2
Physician Assistants	3.5	29.3	61.6	74.1	11.0	8.6	6.7	18.2	75.1
Registered Nurses	.	.	2.1	2.3	2.5	3.0	13.2	89.1	74.1	11.3	4.9	1.6	43.0	55.4
Audiologists, Radiation Therapists, Recreational Therapists, Respiratory Therapists, Speech-Language Pathologists, Therapists, all other	.	.	.	2.1	2.1	2.2	10.9	75.4	79.2	10.1	7.0	2.9	29.2	67.8
Occupational Therapists, and Physical Therapists	2.7	2.8	13.1	69.6	79.4	5.6	4.6	1.5	8.6	89.9

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Occupation	Less than High School	High School Diploma	Some college	Associate's	Bachelor's	Master's/Profes-sional/Doctoral	Gender Earnings Gap %	Percent Female	Percent White●	Percent African American●	Percent Latino●	Percent High School or less	Percent Some Col-lege and Associate's	Percent BA and Graduate
Health Diagnosing and Treating Practitioner Support Technicians, Health Diagnosing and Treating Practitioners, all other	.	1.2	1.3	1.4	1.3	.	20.0	79.0	66.5	15.3	10.9	28.3	53.2	18.5
Clinical Laboratory Technologists and Technicians	.	.	1.4	1.7	2.1	.	11.9	72.6	62.4	16.8	8.0	12.8	36.8	50.5
Dental Hygienists, and Other Healthcare Practitioners and Technical Occupations	.	.	.	2.1	2.2	.	15.3	66.1	79.8	8.8	7.4	9.0	43.6	47.4
Diagnostic Related Technologists and Technicians	.	.	2.0	2.2	2.4	.	14.7	66.6	76.2	8.8	8.7	9.8	66.9	23.3
Emergency Medical Technicians and Paramedics	.	.	1.7	1.8	.	.	27.0	27.6	83.1	6.0	8.8	15.1	69.8	15.1
Licensed Practical and Licensed Vocational Nurses	.	1.4	1.5	1.5	.	.	11.0	92.0	63.1	25.4	7.0	20.9	73.4	5.7
Miscellaneous Health Technologists and Technicians	.	.	1.3	.	.	.	43.2	64.9	60.2	21.4	10.2	24.4	50.4	25.3
Nursing, Psychiatric, and Home Health Aides	.9	1.0	1.0	1.1	1.2	.	22.7	87.1	44.4	36.9	12.6	54.2	37.9	7.9
Occupational Therapist Assistants and Aides, Physical Therapist Assistants and Aides	.	.	.	1.7	.	.	7.4	78.1	74.4	11.3	10.4	11.4	70.6	18.0
Dental Assistants	.	1.2	1.2	.	.	.	19.4	95.9	65.0	7.7	20.7	34.9	55.0	10.1
Medical Assistants and Other Healthcare Support Occupations, except Dental Assistants	.	1.1	1.2	1.2	1.3	.	14.9	89.4	60.0	17.2	17.6	32.0	56.9	11.1
First-line Supervisors/Managers of Police and Detectives	.	.	2.5	.	3.0	.	28.1	14.9	78.2	12.1	7.8	13.6	47.7	38.7
Fire Fighters, Fire Inspectors	.	2.1	2.4	2.6	2.7	.	9.1	3.6	81.2	8.5	8.2	18.7	62.2	19.1
Bailiffs, Correctional Officers, and Jailers	.	1.6	1.7	1.8	1.9	.	26.5	28.5	63.1	23.4	11.4	34.0	53.2	12.8
Detectives and Criminal Investigators	.	.	2.5	.	2.9	.	26.9	22.8	72.8	12.7	11.4	9.1	39.3	51.6
Police Officers	.	1.9	2.2	2.4	2.7	3.1	12.5	13.9	72.0	12.7	12.5	13.5	53.0	33.4
Security Guards and Gaming Surveillance Officers	.9	1.1	1.3	1.3	1.6	.	9.4	23.5	50.8	29.7	14.3	42.2	43.7	14.1
Chefs and Head Cooks	.9	1.2	1.3	1.6	.	.	24.2	16.0	48.9	12.3	20.2	49.3	38.3	12.4
First-line Supervisors/Managers of Food Preparation and Serving Workers	.9	1.0	1.1	.	1.5	.	37.2	54.1	60.1	15.8	18.7	51.7	34.5	13.7
Cooks	.8	.8	.8	.9	.9	.	26.9	39.6	34.2	16.2	41.5	76.0	19.2	4.9
Food Preparation Workers	.7	.8	.8	.	.	.	17.9	55.8	33.4	14.4	39.9	74.7	19.2	6.2
Bartenders	.	.9	1.0	.	.	.	25.3	50.1	78.1	5.4	13.1	38.8	45.0	16.2
Combined Food Preparation and Serving Workers, including Fast Food	.	.8	.	.	.	.	12.1	73.1	58.6	14.8	19.8	70.5	23.4	6.1
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop, Waiters and Waitresses	.7	.8	.9	.	1.0	.	37.8	66.0	59.4	7.1	23.4	53.0	32.2	14.8

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Food Servers, Non-restaurant	.	.9	31.1	67.4	40.7	25.4	23.5	63.3	29.7	7.0
First-line Supervisors/Managers of Housekeeping and Janitorial Workers	1.1	1.2	1.4	.	.	.	50.8	35.2	57.7	16.8	22.1	56.9	32.5	10.7
First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers	.	1.1	1.3	.	.	.	39.5	5.2	72.9	4.2	21.0	48.5	32.4	19.1
Janitors and Building Cleaners	.9	1.0	1.2	1.2	1.0	.	40.0	25.5	48.6	17.4	29.5	71.4	23.6	5.0
Maids and Housekeeping Cleaners	.7	.7	.7	.	.	.	33.7	85.4	29.8	19.3	44.0	80.4	15.6	4.0
Pest Control Workers, Grounds Maintenance Workers	.8	1.0	1.0	1.2	1.1	.	1.9	4.7	42.9	7.5	47.5	74.1	19.5	6.3
First-line Supervisors/Managers of Personal Service Workers	.	.8	1.1	.	.	.	69.1	59.8	68.2	8.3	11.1	37.5	37.9	24.6
Animal Trainers, Non-farm Animal Caretakers	.	.0	.	.	.	.	15.9	62.7	83.0	3.9	11.2	46.2	33.3	20.5
Gaming Services Workers, Motion Picture Projectionists, Ushers, Lobby Attendants, and Ticket Takers, Miscellaneous Entertainment Attendants and Related Workers	.	1.3	1.4	.	.	.	13.3	44.5	55.6	11.7	11.8	41.2	41.4	17.5
Barbers, Hairdressers, Hairstylists, and Cosmetologists	.	.6	.	.	.	.	-5.7	78.5	63.3	15.0	15.0	54.8	38.7	6.5
Miscellaneous Personal Appearance Workers	.6	.7	.	.	.	.	2.9	82.1	27.4	2.3	9.5	62.9	27.8	9.3
Baggage Porters, Bellhops, and Concierges, Transportation Attendants	.	.	1.4	.	.	.	-3.2	46.4	54.4	20.3	17.9	35.7	38.5	25.8
Tour and Travel Guides, Recreation and Fitness Workers	.	1.0	1.1	.	1.4	.	21.2	58.2	73.5	12.3	9.5	23.6	36.5	39.9
Child Care Workers	.	.4	.3	.3	.6	.	193.7	95.6	54.5	19.5	21.4	47.7	38.2	14.0
Personal and Home Care Aides	.7	.8	.8	.9	.9	.	16.1	85.4	46.7	26.7	17.9	55.0	34.5	10.5
First-line Supervisors/Managers of Retail Sales Workers	1.1	1.3	1.5	1.5	1.8	2.0	41.0	41.3	75.4	7.7	10.8	37.4	38.3	24.3
First-line Supervisors/Managers of Non-retail Sales Workers	1.3	1.7	2.0	2.0	2.9	3.4	17.5	28.5	78.0	6.2	10.1	27.2	32.7	40.1
Cashiers	.7	.8	.9	.9	1.1	.	32.5	71.8	53.5	15.9	19.7	59.5	29.4	11.2
Parts and Salespersons	.	1.3	.	.	.	.	4.1	11.0	80.5	4.9	12.6	58.2	34.9	6.9
Retail Salespersons	.9	1.1	1.3	1.3	1.8	1.9	49.3	39.0	73.4	9.5	12.1	36.8	37.9	25.3
Advertising Sales Agents	.	.	1.8	.	2.6	.	15.8	50.5	82.3	6.6	8.4	13.7	31.1	55.2
Insurance Sales Agents	.	1.5	1.6	1.6	2.2	2.4	35.2	45.4	81.7	6.8	8.1	17.2	36.6	46.2
Securities, Commodities, and Financial Services Sales Agents	.	.	1.9	.	3.4	4.4	53.7	29.0	82.0	5.6	6.7	8.4	22.0	69.7
Sales Representatives, Services, all other	.	1.8	2.0	2.0	2.9	3.7	27.3	31.4	82.7	6.3	7.8	17.6	34.1	48.3
Sales Representatives, Wholesale and Manufacturing	1.4	1.8	2.0	2.1	3.1	3.6	21.2	24.2	85.5	3.3	7.8	19.6	31.9	48.5
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Models, Demonstrators, and Product Promoters, Sales Engineers, and Sales and Related Workers, all other	.	1.3	1.7	.	2.6	3.1	42.6	48.1	83.9	4.9	7.1	15.2	25.6	59.3
Real Estate Brokers and Sales Agents	.	1.0	1.1	1.2	1.5	1.5	37.7	49.0	80.8	5.4	8.9	15.1	37.3	47.5
First-line Supervisors/Managers of Office and Administrative Support Workers	1.4	1.5	1.7	1.7	2.2	2.8	29.8	64.3	73.6	11.1	10.9	26.8	43.3	30.0
Bill and Account Collectors	.	1.3	1.3	.	.	.	11.1	71.2	62.0	20.1	15.1	36.1	49.5	14.4
Billing and Posting Clerks and Machine Operators	.	1.2	1.3	1.3	1.4	.	22.9	90.1	71.2	12.3	11.5	36.1	49.8	14.1
Bookkeeping, Accounting and Auditing Clerks	.	1.3	1.4	1.3	1.5	.	19.1	88.9	75.8	9.1	9.8	34.9	52.3	12.9
Gaming Cage Workers, Procurement Clerks, Payroll and Timekeeping Clerks	.	1.4	1.5	.	.	.	20.7	85.8	71.9	12.4	10.1	32.9	51.0	16.1
Tellers	.	1.0	1.0	.	.	.	23.0	91.0	70.0	11.8	12.4	41.0	44.4	14.6
Brokerage Clerks, Customer Service Representatives, New Account Clerks	1.0	1.2	1.3	1.4	1.6	1.9	25.2	68.7	65.3	17.1	13.1	31.8	45.3	22.9
Court, Municipal, and License Clerks	.	.	1.4	.	.	.	20.2	80.4	67.4	14.4	13.3	30.2	50.5	19.3
File Clerks	.	1.2	1.3	.	1.4	.	14.5	80.9	62.9	18.3	12.6	34.9	46.5	18.6
Loan Interviewers and Clerks	.	.	1.5	.	.	.	14.3	82.3	72.7	10.6	11.6	29.5	48.4	22.1
Correspondence Clerks and Order Clerks	.	1.2	1.3	.	.	.	11.3	60.9	68.6	11.7	14.5	45.6	38.0	16.4
Receptionists and Information Clerks	.	1.0	1.1	1.1	1.2	.	19.1	91.5	66.7	13.7	16.0	41.6	46.7	11.7
Reservation and Transportation Ticket Agents and Travel Clerks	.	.	1.5	.	.	.	28.5	59.5	61.7	17.0	12.9	28.5	43.8	27.7
Information and Record Clerks, all other	.	.	1.3	.	.	.	18.8	86.8	68.4	15.0	11.0	26.1	56.5	17.4
Cargo and Freight Agents, Couriers and Messengers	.	1.4	1.6	.	.	.	31.6	14.1	63.6	14.6	17.1	45.9	42.0	12.2
Dispatchers, Meter Readers, Utilities	.	1.4	1.5	1.6	.	.	20.7	51.5	72.8	14.1	10.9	42.0	47.0	11.0
Postal Service Clerks	.	2.0	2.0	.	.	.	6.9	48.7	52.3	26.9	9.1	36.5	47.8	15.7
Postal Service Mail Carriers	.	2.0	2.0	2.0	2.0	.	7.0	34.5	67.3	15.7	9.5	35.8	49.4	14.9
Production, Planning and Expediting Clerks	.	1.5	1.7	1.8	2.2	.	38.7	55.5	76.4	10.3	9.1	28.4	41.6	30.1
Shipping, Receiving, and Traffic Clerks	1.1	1.2	1.2	.	.	.	19.0	29.8	61.0	13.9	20.9	62.2	30.3	7.5
Stock Clerks and Order Fillers	.9	1.1	1.2	1.2	1.3	.	19.2	39.4	58.3	16.6	19.9	59.9	31.8	8.4
Secretaries and Administrative Assistants	1.1	1.3	1.3	1.4	1.5	1.6	24.3	96.3	76.5	10.5	9.8	33.2	50.3	16.6
Computer Operators and Statistical Assistants	.	1.4	1.6	.	.	.	31.8	51.2	68.9	14.1	9.8	26.9	47.4	25.7
Data Entry Keyers	.	1.2	1.2	1.3	1.3	.	28.9	81.1	63.5	17.7	12.6	37.9	47.3	14.9

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Word Processors and Typists	.	1.2	1.3	1.2	1.4	.	18.3	90.0	67.3	16.4	10.5	36.3	48.2	15.5
Insurance Claims and Policy Processing Clerks	.	1.3	1.3	1.4	1.6	.	18.1	83.5	69.7	17.0	10.3	31.0	46.9	22.2
Mail Clerks and Mail Machine Operators, except Postal Service and Office Machine Operators, except Computer	.	1.1	.	.	.	.	19.1	51.2	54.0	22.4	15.6	53.1	36.9	10.1
Proofreaders and Copy Markers, Office Clerks, General	.	1.2	1.3	1.3	1.5	.	21.7	84.1	63.8	15.7	14.4	35.7	46.8	17.4
Miscellaneous Office and Administrative Support Workers, including Desktop Publishers	.	1.3	1.5	1.5	1.7	2.2	33.3	74.6	68.7	15.5	10.6	25.9	43.4	30.6
Graders and Sorters, Agricultural Products, Miscellaneous Agricultural Workers, including Animal Breeders	.8	1.0	1.0	.	.	.	29.0	17.4	35.9	4.3	57.9	81.9	13.6	4.5
Fishing and Hunting, Forest and Conservation, Logging Workers	.	.9	.	.	.	.	-27.6	3.3	79.0	7.8	10.3	77.0	16.0	7.1
First-line Supervisors/Managers of Construction Trades and Extraction Workers	1.7	2.0	2.2	2.2	2.3	.	24.8	2.5	79.9	4.1	14.1	56.5	33.1	10.5
Structural Iron and Steel Workers, Reinforcing Iron and Rebar Workers including Boilermakers	.	1.8	.	.	.	.	43.7	1.6	70.4	7.6	19.4	68.2	28.7	3.0
Brick Masons, Block Masons, and Stonemasons	.	1.4	.	.	.	.	-26.9	1.2	52.7	7.1	39.1	77.8	18.3	3.9
Carpenters	1.1	1.3	1.2	1.2	1.1	.	.8	1.2	65.1	4.7	27.5	67.2	25.9	6.9
Carpet, Floor, and Tile Installers and Finishers	.	1.1	.	.	.	.	10.1	2.1	54.6	3.4	39.8	75.6	18.9	5.5
Construction Laborers	1.0	1.2	1.3	1.3	1.3	.	9.5	2.4	48.7	7.7	41.0	74.7	19.7	5.5
Construction Equipment Operators, Except Paving, Surfacing and Tamping Equipment Operators	1.4	1.6	1.8	.	.	.	-2.0	1.8	77.7	5.9	14.2	75.1	22.0	2.9
Drywall Installers, Ceiling Tile Installers, and Tapers, Plasterers and Stucco Masons	1.0	1.1	.	.	.	.	54.7	1.9	35.6	4.4	57.7	84.1	13.2	2.7
Electricians	1.4	1.8	2.0	2.1	1.8	.	5.8	1.8	75.7	6.2	15.2	46.7	46.2	7.0
Glaziers, Insulation Workers, Paperhangers	.	1.4	.	.	.	.	64.1	3.1	65.5	7.0	25.3	70.9	24.2	5.0
Painters, Construction and Maintenance	.9	1.1	1.0	.	.	.	67.3	4.8	48.9	6.1	42.9	73.8	19.8	6.4
Pipelayers, Plumbers, Pipefitters, and Steamfitters	1.3	1.7	1.9	2.0	.	.	25.9	1.0	71.9	6.4	19.9	63.1	32.6	4.3
Roofers	1.0	1.2	.	.	.	.	130.6	.9	43.3	5.3	49.2	84.7	11.7	3.6
Sheet Metal Workers	.	1.7	.	.	.	.	19.6	3.1	77.5	5.8	14.0	65.4	31.5	3.2
Miscellaneous Construction	.	1.5	.	.	.	.	10.7	5.7	62.4	9.1	26.0	67.0	27.0	6.0
Construction and Building Inspectors	.	.	1.9	.	.	.	12.0	11.5	76.9	7.3	11.5	27.7	47.1	25.2
Highway Maintenance Workers	.	1.3	6.9	3.3	76.1	10.0	12.2	69.0	28.3	2.7
Ext-Mining Machine Operators	.	2.1	17.0	3.1	82.9	5.1	10.7	69.2	27.1	3.8

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Lifetime Earnings by Degree (in millions of dollars)										Distributions of Race/Ethnicity, Gender, and Educational Attainment within Occupations				
Occupation	Less than High School	High School Diploma	Some college	Associate's	Bachelor's	Masters/ Professional/ Doctoral	Gender Earnings Gap %	Percent Female	Percent White●	Percent African American●	Percent Latino●	Percent High School or less	Percent Some College and Associate's	Percent BA and Graduate
First-line Supervisors/Managers of Mechanics, Installers, and Repairers	.	2.0	2.2	2.3	2.6	.	16.9	6.9	80.0	7.0	9.9	43.1	44.0	12.9
Computer, Automated Teller, and Office Machine Repairers	.	1.6	1.9	1.9	1.9	.	3.9	11.6	71.6	10.6	9.6	22.0	56.0	22.0
Radio and Telecommunications Equipment Installers and Repairers	.	2.0	2.2	2.2	.	.	3.2	11.5	72.3	13.0	10.7	32.5	54.8	12.7
Avionics Technicians, Aircraft Mechanics and Service Technicians	.	2.0	2.2	2.3	.	.	21.7	4.3	73.8	7.3	13.2	32.6	56.2	11.2
Other Electric/Electronic	.	1.7	1.8	.	.	.	20.2	3.9	72.0	8.3	15.0	43.0	48.4	8.6
Automotive Body and Related Repairers, Automotive Glass Installers and Repairers	1.2	1.5	.	.	.	.	33.4	1.3	69.2	4.5	23.4	73.0	24.4	2.5
Automotive Service Technicians and Mechanics	1.1	1.3	1.6	1.6	.	.	23.1	1.2	69.5	6.7	19.6	63.3	32.8	3.9
Bus and Truck Mechanics and Diesel Engine Specialists	1.5	1.7	1.8	.	.	.	-22.2	.8	77.3	6.8	13.0	63.3	34.1	2.5
Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics	.	1.8	1.9	.	.	.	4.7	1.0	81.1	4.9	12.5	61.9	34.4	3.7
Small Engine Mechanics, Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers and Repairers, Control and Valve Installers and Repairers	.	1.3	.	.	.	.	-24.3	2.5	73.9	8.9	15.5	65.0	30.0	5.0
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	.	1.6	1.8	1.8	.	.	5.3	1.0	74.8	6.7	16.0	51.7	42.6	5.7
Home Appliance Repairers, Maintenance Workers, Machinists, Millwrights	.	1.7	2.0	.	.	.	30.7	3.3	81.5	6.3	9.6	55.2	39.2	5.6
Industrial and Refractory Machinery Mechanics	1.5	1.7	2.0	2.0	.	.	28.2	3.1	76.8	7.1	12.9	53.4	41.3	5.3
Maintenance and Repair Workers, General	1.2	1.6	1.7	1.9	.	.	19.9	3.0	71.3	8.8	16.1	56.1	37.9	6.0
Electrical Power-line Installers and Repairers	.	2.4	2.6	.	.	.	61.0	1.2	80.8	7.1	10.8	51.3	43.4	5.3
Telecommunications Line Installers and Repairers	.	2.0	2.2	.	.	.	14.5	5.9	67.4	15.0	14.8	41.3	49.1	9.6
Other Installation, Maintenance, and Repair Workers	1.1	1.4	1.6	.	.	.	24.8	6.6	71.5	8.1	16.6	56.0	35.9	8.1
First-line Supervisors/Managers of Production and Operating Workers	1.5	1.8	2.1	2.2	2.5	3.1	41.4	17.9	72.6	9.1	14.0	49.3	34.9	15.8
Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders, Food Batchmakers, Food Cooking Machine Operators and Tenders	.	1.3	.	.	.	.	55.8	35.5	61.5	11.3	22.5	67.4	26.4	6.2
Electrical, Electronics, and Electromechanical Assemblers	.	1.1	.	.	.	.	29.2	55.6	49.0	11.5	19.6	68.7	24.5	6.9
Miscellaneous Assemblers and Fabricators	.9	1.2	1.4	1.3	1.3	.	31.5	40.0	57.5	14.2	18.9	68.3	26.1	5.6

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Bakers	.	1.0	23.4	49.0	44.5	10.9	37.6	70.2	22.6	7.2
Butchers and other Meat, Poultry, and Fish Processing Workers	.9	1.2	39.8	21.3	44.0	10.4	40.7	78.7	18.7	2.6
Aircraft Structure, Computer Control Programmers/Operators, Extruding/Drawing, Forging, Rolling Machine Setters, Operators and Tenders, Metal and Plastic	.	1.5	.	.	.	.	32.1	10.8	77.6	7.4	10.7	58.3	35.9	5.7
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	.	1.2	.	.	.	.	38.4	21.2	71.6	10.4	14.8	72.1	24.1	3.8
Machinists	1.4	1.7	1.8	1.8	.	.	39.6	3.8	76.6	5.7	12.1	58.9	37.6	3.5
Metal Workers including Klin Model Makers, Molders and other Machine Setters	1.3	1.5	1.7	1.8	.	.	44.7	6.2	69.5	8.5	18.6	69.3	27.9	2.9
Miscellaneous Metal Workers and Plastic Workers, including Milling and Planning, and Multiple Machine Tool Setters and Lay-out Workers	1.1	1.3	1.4	.	.	.	37.4	23.0	54.8	12.7	24.4	71.1	24.4	4.5
Bookbinders and Bindery Workers, Job Printers, Prepress Technicians and Workers	.	1.3	.	.	.	.	40.1	34.2	72.7	9.8	12.3	56.0	32.1	11.9
Printing Machine Operators	.	1.4	1.5	.	.	.	50.2	15.0	72.6	9.1	14.5	63.5	30.2	6.3
Laundry and Dry-cleaning Workers	.7	.8	.	.	.	.	25.3	60.2	37.1	15.9	35.2	78.7	14.6	6.7
Textile, Apparel, and Furnishings Workers	.8	.9	.	.	.	.	29.4	53.5	47.2	12.3	28.0	74.9	17.3	7.7
Sewing Machine Operators	.7	.8	.	.	.	.	17.5	73.4	33.1	11.0	42.1	82.9	13.2	3.9
Miscellaneous Woodworkers, including Model Makers and Pattern Makers	.	1.1	.	.	.	.	26.3	11.9	69.9	5.8	20.3	73.8	19.9	6.3
Power Plant, Water and Liquid Waste Treatment, Miscellaneous Plant and System Operators	.	1.9	2.2	.	.	.	21.3	4.9	79.7	8.7	9.2	42.2	45.7	12.0
Stationary Engineers and Boiler Operators	.	2.0	2.0	.	.	.	25.4	2.9	70.9	13.6	11.2	45.2	44.7	10.1
Chemical Processing Machine, Extruding, Forming, Pressing and Compacting, Furnace, Klin, Oven, Drier, and Kettle Operators and Tenders	.	1.7	.	.	.	.	42.9	13.7	70.4	13.3	13.0	55.3	35.1	9.6
Crushing, Grinding, Polishing, Mixing, and Blending Workers	.	1.4	.	.	.	.	28.2	10.5	62.6	12.9	20.8	66.4	28.1	5.5
Inspectors, Testers, Sorters, Samplers, and Weighers	1.0	1.4	1.7	1.8	2.0	.	54.1	38.0	66.9	11.3	14.7	48.0	37.3	14.8
Other Production Workers, including Semiconductor Processors and Cooling and Freezing Equipment Operators	1.0	1.3	1.5	1.6	1.6	.	38.6	28.7	56.2	14.2	23.5	68.1	25.7	6.1
Packaging and Filling Machine Operators and Tenders	.8	1.1	.	.	.	.	33.8	56.7	37.0	17.1	40.4	77.8	18.0	4.3
Painting Workers	1.1	1.4	.	.	.	.	46.6	12.7	57.6	9.9	29.6	75.1	21.7	3.2
Supervisors, Transportation and Material Moving Workers	.	1.8	1.9	.	2.3	.	30.8	18.7	69.7	12.5	13.4	43.4	38.9	17.6
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Aircraft Pilots and Flight Engineers, Air Traffic Controllers and Airfield Operations Specialists	3.9	.	24.0	8.5	88.7	4.3	4.4	7.7	29.4	62.9
Ambulance Drivers and Attendants, Taxi Drivers and Chauffeurs, Motor Vehicle Operators, all other	.8	.9	.9	.	.	.	10.2	12.8	39.5	28.6	20.7	55.1	31.4	13.5
Bus Drivers	.	1.2	1.3	.	.	.	39.4	41.2	45.2	35.3	15.4	54.2	38.7	7.1
Driver/Sales Workers and Truck Drivers	1.3	1.5	1.6	1.5	1.5	.	42.2	3.8	64.9	14.0	18.4	68.5	26.8	4.8
Locomotive Engineers, Railroad Brake, Signal and Switch Operators, Railroad Conductors and Yardmasters, Subway, Streetcar, and other Rail Transportation Workers	.	2.4	2.5	.	.	.	22.6	6.8	71.8	18.4	7.5	44.2	44.5	11.3
Parking Lot, Service Station Attendants	.	.9	20.9	15.4	48.0	17.6	26.2	65.8	24.8	9.5
Conveyor Operators/Tenders, Hoist/Winch Operators, Miscellaneous Material Moving/Transportation Workers, Inspectors	.	1.6	1.8	.	.	.	41.3	13.7	67.4	14.1	14.6	49.8	41.2	9.1
Crane and Tower, Dredge, Excavating, and Loading Machine, Pumping Station Operators	.	1.9	26.5	2.7	77.5	8.6	12.0	71.7	24.7	3.7
Industrial Truck and Tractor Operators	1.1	1.2	1.3	.	.	.	6.1	8.7	49.2	21.1	27.4	76.8	20.7	2.6
Cleaners of Vehicles and Equipment	.9	1.0	7.9	13.3	36.2	18.9	41.9	79.1	17.4	3.5
Laborers and Freight, Stock, and Material Movers, Hand, Machine Feeders and Offbearers	1.0	1.2	1.3	1.4	1.3	.	27.6	18.2	59.6	15.2	21.6	70.6	24.5	5.0
Packers and Packagers, Hand	.8	.9	25.5	60.2	34.1	12.5	46.2	80.5	15.6	4.0

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