

THE ECONOMIC VALUE *of* COLLEGE MAJORS

GEORGETOWN UNIVERSITY

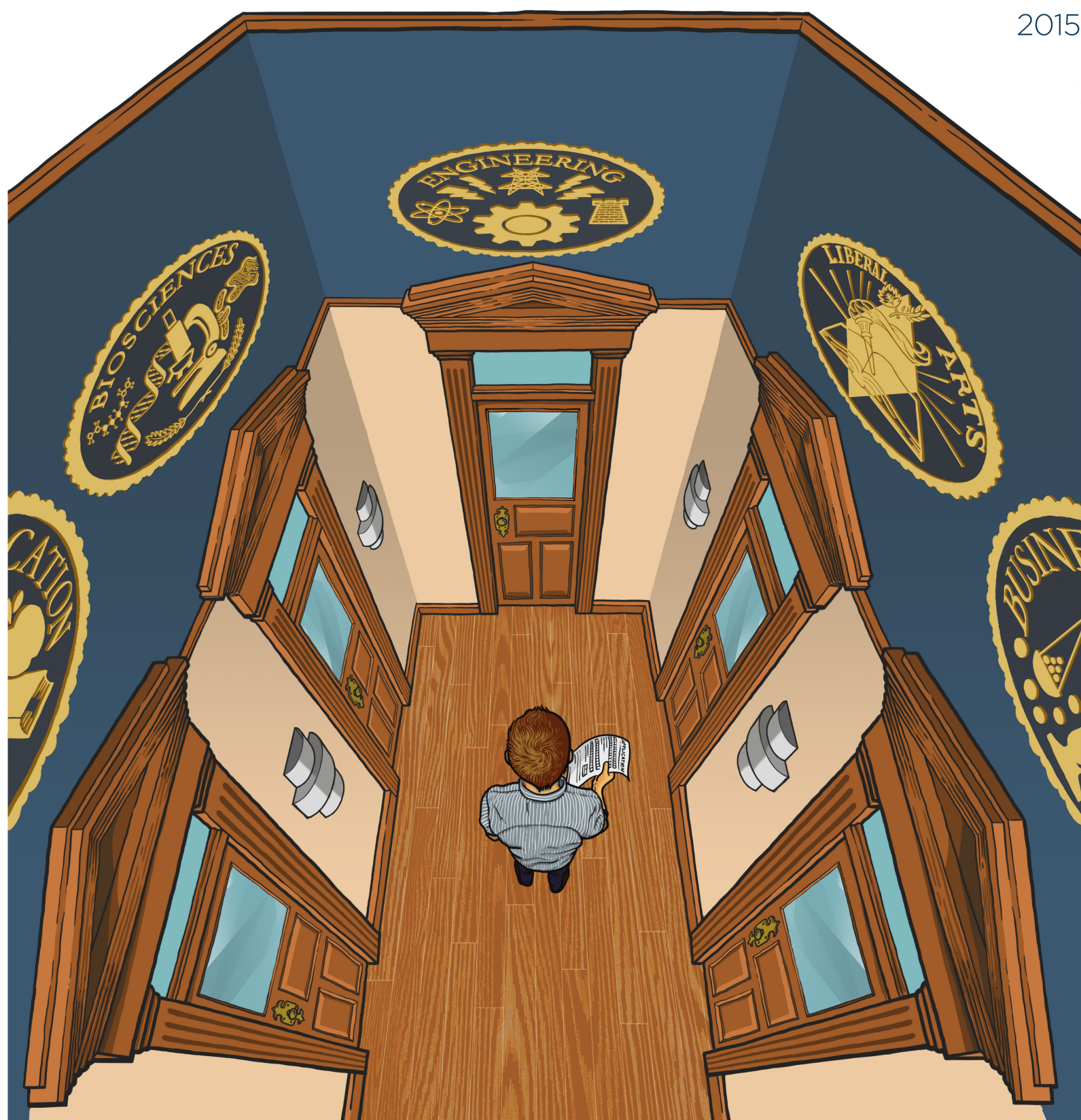


Center
on Education
and the Workforce

McCourt School of Public Policy

Anthony P. Carnevale | Ban Cheah | Andrew R. Hanson

2015



ACKNOWLEDGMENTS

We would like to express our gratitude to the individuals and organizations that have made this report possible. Thanks to Lumina Foundation, the Bill & Melinda Gates Foundation, and the Joyce Foundation for their generous support of our research for the past several years. We are honored to be partners in their mission of promoting postsecondary access and completion for all Americans. We are especially grateful for the support of Jamie Merisotis, Holly Zanville, Daniel Greenstein, Jennifer Engle, Elise Miller, Matthew Muench, and Whitney Smith.

We would like to thank our designers Janna Matherly and the team from Woodpile; our editor Nancy Lewis; and our printer (insert printer). Our thanks also go to our colleagues, whose support was vital to our success:

- ♦ Jeff Strohl provided strong research direction and expertise that contributed to both strategic and editorial decisions.
- ♦ Andrea Porter provided strategic guidance in the design and production of the report.
- ♦ Ana Castañon assisted with the design and other logistics of producing the report.

Many have contributed their thoughts and feedback throughout the production of this report. That said, all errors, omissions, and views remain the responsibility of authors.

The views expressed in this publication are those of the authors and do not necessarily represent those of Lumina Foundation, the Bill & Melinda Gates Foundation, or the Joyce Foundation, or their officers, or employees.

TABLE OF CONTENTS

4	INTRODUCTION
8	PART ONE: SEVEN MAJOR SUPERGROUPS
12	PART TWO: 15 MAJOR GROUPS
20	PART THREE: 137 DETAILED MAJOR SUBGROUPS BY 15 MAJOR GROUPS
21	AGRICULTURE AND NATURAL RESOURCES
29	ARCHITECTURE AND ENGINEERING
37	ARTS
45	BIOLOGY AND LIFE SCIENCES
53	BUSINESS
61	COMMUNICATIONS AND JOURNALISM
67	COMPUTERS, STATISTICS, AND MATHEMATICS
75	EDUCATION
82	HEALTH
91	HUMANITIES AND LIBERAL ARTS
99	INDUSTRIAL ARTS, CONSUMER SERVICES, AND RECREATION
107	LAW AND PUBLIC POLICY
113	PHYSICAL SCIENCES
121	PSYCHOLOGY AND SOCIAL WORK
129	SOCIAL SCIENCES
137	APPENDIX ONE: REFERENCES, DATA SOURCES, AND METHODOLOGY
141	APPENDIX TWO: CLASSIFICATION OF MAJOR GROUPS AND SUBGROUPS
147	APPENDIX THREE: MAJOR SUBGROUPS RANKED BY MEDIAN ANNUAL WAGES
151	APPENDIX FOUR: MAJOR SUBGROUPS RANKED BY PREVALENCE
159	APPENDIX FIVE: MAJOR SUBGROUPS RANKED BY GRADUATE DEGREE ATTAINMENT
165	APPENDIX SIX: MAJOR SUBGROUPS RANKED BY GRADUATE DEGREE WAGE PREMIUM
171	APPENDIX SEVEN: PREVALENCE, WAGES, GRADUATE DEGREE ATTAINMENT, AND GRADUATE DEGREE WAGE PREMIUM BY MAJOR GROUP AND SUBGROUP

180	EARNINGS AT THE 25TH, 50TH AND 75TH PERCENTILES, BY BACHELOR'S DEGREE MAJOR
184	THE GRADUATE ADVANTAGE, EARNINGS AT THE 25TH, 50TH AND 75TH PERCENTILES BY BACHELOR'S DEGREE MAJOR
200	ALL MAJORS BY GROUP, RANKED BY EARNINGS AND POPULARITY
204	LOWEST- AND HIGHEST-EARNING MAJORS, BACHELOR'S DEGREE HOLDERS
206	LOWEST- AND HIGHEST-EARNING MAJORS, GRADUATE DEGREE HOLDERS
208	MAJORS RANKED BY POPULARITY FOR BACHELOR'S DEGREE HOLDERS
209	MAJORS RANKED BY POPULARITY FOR GRADUATE DEGREE HOLDERS
210	HELP READING OUR CHARTS

Reprint Permission

The Center on Education and the Workforce carries a Creative Commons license, which permits non-commercial re-use of any of our content when proper attribution is provided.



You are free to copy, display and distribute our work, or include our content in derivative works, under the CEW's following conditions:



Attribution: You must clearly attribute the work to the Center on Education and the Workforce and provide a print or digital copy of the work to cewgeorgetown@georgetown.edu.

Our preference is to cite figures and tables as follows:

Source: Georgetown University Center on Education and the Workforce, (name of publication).



Noncommercial: You may not use this work for commercial purposes. Written permission must be obtained from the owners of the copy/literary rights and from Georgetown University for any publication or commercial use of reproductions.



***Approval:** If you are using one or more of our available data representations (figures, charts, tables, etc), please visit our website at cew.georgetown.edu/publications/reprint-permission for more information.

For the full legal code of this Creative Commons license, please visit creativecommons.org.

Should you need a form to be filled out by us, please email cewgeorgetown@georgetown.edu and we will send back in a timely manner.

INTRODUCTION

How much is a college major worth?

Today, 35 percent of jobs require a Bachelor's degree or higher.¹ On average, these jobs pay \$33,000 annually at the entry level and \$61,000 at prime age. But averages are deceiving. The economic risks and returns to Bachelor's degrees vary greatly among different majors. For today's high school graduates, and an increasing share of middle-aged adults who are pursuing a Bachelor's degree, the decision about what to major in will have critical economic consequences for the rest of their lives.

In some sense, deciding what to major in is more important than deciding whether to attend college. Over a lifetime, the average difference between a high school and college graduate's wages is \$1 million, but the difference between the lowest and the highest paying majors is \$3.4 million. Over a career, a Bachelor's degree in petroleum engineering pays \$4.8 million, while a Bachelor's degree in early childhood education pays \$1.4 million.

The importance of major is so powerful that Bachelor's degree holders in some majors earn more than many graduate degree holders. For example, architecture and engineering majors earn an average of \$83,000 annually over the course of their careers, while graduate degree holders who majored in education earn \$60,000 annually.

At the same time, a college major is not destiny. College provides access to particular occupations and career pathways but college is only the ante in the lifelong learning game.

Due to the complex relationships between college and careers, some college graduates who major in less lucrative fields of study earn more than those in typically high-paying majors. For example, on average, education majors have the lowest wages while engineering majors have the highest wages. But the top 25 percent of education majors earn more than the bottom 25 percent of engineering majors.

College graduates' wages are also influenced by whether they work in the for-profit, nonprofit, or public sector; which industry they work in; and whether they pursue lifelong learning opportunities and employer training that further hone their career-related skills. Usually working in an occupation aligned with a college field of study enhances earnings and working outside of one's field of study reduces earnings—but not always. Engineering majors who work as schoolteachers earn less than other engineers and education majors who work in business jobs earn more than most educators.

¹ Carnevale and Smith, *Recovery*, 2013.

The fact that college majors play such an enormous role in determining college graduates' wages and career trajectory has everyone asking: How much is a college major worth? In this report, we analyze the wages of college graduates by 15 major groups and 137 major sub groups. To provide a more complete picture of what college graduates are earning in the labor market, we use the interquartile range of wages, or what the middle half of college graduates are likely to earn (i.e., the range from the 25th to 75th percentiles).

However, this analysis alone is still incomplete because one out of every three college graduates goes on to earn a graduate degree. The fact that a college degree is a stepping-stone on the way to a graduate degree is a crucial part of its benefit: graduate degree holders earn 28 percent more than Bachelor's degree holders. Moreover, some majors are substantially more likely to lead to a graduate degree than others. For this reason, we also analyze the likelihood that a major leads to a graduate degree and the graduate wage premium—the percentage difference between a college graduate and a graduate degree holder—across majors.



Today, 35 percent of jobs require a Bachelor's degree or higher.

Here are the major findings of our analysis:

Wages:

- ◆ Among college graduates employed full-time year round, Bachelor's degree holders earn an average annual salary of \$61,000 over the course of their careers, while graduate degree holders earn \$78,000 annually.
- ◆ Among the 15 major groups, architecture and engineering majors are paid the most and education majors are paid the least. College graduates who majored in architecture or engineering earn an average salary of \$83,000 per year, while education majors earn \$45,000 per year.
- ◆ Among the 137 major subgroups, petroleum engineering majors are paid the most and early childhood education majors are paid the least. College graduates who majored in petroleum engineering earn an average annual salary of \$136,000 over the course of their careers, while those who majored in early childhood education earn \$39,000 annually.
- ◆ Business majors' wages vary the most. Business majors earn \$43,000 annually at the 25th percentile and \$98,000 annually at the 75th percentile, a difference of \$55,000.
- ◆ Education majors' wages vary the least. Education majors earn \$35,000 annually at the 25th percentile and \$59,000 annually at the 75th percentile, a difference of \$24,000.

Prevalence:

- ♦ Among the 15 major groups, business is the most common major. It accounts for 26 percent of college-educated workers. Agriculture and natural resources is the least common major. It accounts for less than 2 percent of college-educated workers.
- ♦ Among the 137 major subgroups, business management and administration is the most common major, representing 8 percent of college-educated workers.
- ♦ Science, technology, engineering, and math (STEM) majors comprise 20 percent of college-educated workers and include four of the 15 major groups: engineering (8.3%); computers, statistics, and mathematics (5.6%), biology and life sciences (3.3%), and physical sciences (2.5%).
- ♦ The most lucrative majors are not necessarily the most common. The economic value of majors plays a role in students' choice of major, but students' abilities, academic preparation, interests, and values are also important.

Graduate degree attainment:

- ♦ Among the 15 major groups, biology and life sciences majors are most likely to earn a graduate degree, while communications and journalism majors are the least likely to earn a graduate degree. Fifty-eight percent of biology and life sciences majors earn a graduate degree, compared to 21 percent of communications and journalism majors.
- ♦ Health and medical preparatory programs majors are the most likely to lead to a graduate degree among the 137 major subgroups: three out of four health and medical preparatory programs majors earn graduate degrees, compared to 35 percent of all college graduates.

2 While the majority of college majors are occupational, the exposure of students to courses beyond their major field of study still dominates course taking. Most Bachelor's degrees require that about one third of courses be taken in a major field of study. Roughly half of courses are taken as general education in a broad set of disciplines required outside the major field of study and the remaining 15 percent are electives. While there is wide variation, a Bachelor's degree generally requires about 120 credit hours divided into 60 credit hours of general education across a variety of fields of study including the sciences, social sciences, foreign language, and humanities; 40 credit hours in a major field of study; and roughly 20 credit hours of electives chosen by the student. The two-year Associate's degree largely comprises general education courses parallel to those taken at the first two years of a Bachelor's degree and are oftentimes made eligible for transfer toward a Bachelor's degree. The four-year Bachelor of Science and two-year Associate of Science degree emphasize more technical and applied subject matter in technical fields of study but do not exclude general education or humanities course requirements. Associate of Applied Science degrees focus on applied learning in particular fields but credits generally are not eligible for transfer toward a Bachelor's degree. The share of humanities and liberal arts majors, for example, is relatively small (8.6 percent) but the exposure to humanities courses is growing. Humanities and liberal arts majors peaked at 17 percent of all majors with the onrush of the baby boomers into the postsecondary system in the early 1970s. But by the end of the '70s, the share of liberal arts and humanities majors declined and has remained relatively stable, varying between the high single digits and the low double digits as a share of all majors (Humanities Indicators, the National Academy of Arts and Sciences, <http://www.humanitiesindicators.org/content/indicatorDoc.aspx?i=9>). Nevertheless, humanities faculty has grown by more than 50 percent since 1999 and has maintained its' share of college faculty (Humanities Indicators, American Academy of Arts and Sciences, <http://www.humanitiesindicators.org/content/indicatorDoc.aspx?d=71&hl=faculty&m=0>).

Graduate degree wage premium:

- ♦ Biology and life sciences majors with graduate degrees earn 63 percent more than those with Bachelor's degrees, the largest graduate degree wage premium among the 15 major groups. By comparison, arts majors receive the lowest graduate degree wage premium: 23 percent.
- ♦ Graduate degree holders who majored in health and medical preparatory programs earn 137 percent more than those with Bachelor's degrees, the largest graduate degree wage premium among the 137 major subgroups.

Career-focused majors versus humanities and liberal arts:

- ♦ Four out of five college graduates majored in a career-focused field.
- ♦ Since the 1980s, the share of students in humanities and liberal arts majors has declined, but the number of students taking humanities and liberal arts has gone up due to more rigorous general education requirements.²

The report is organized into three parts. In **Part 1**, we analyze college graduates' wages, career wage growth, and prevalence by seven major supergroups. In **Part 2**, we analyze college graduates' wages, major selection, graduate degree attainment, and the wage premium from a graduate degree across the 15 major groups. In **Part 3**, we provide a similar analysis, but use the more detailed 137 major subgroups. We include a dashboard for each of the 15 major groups and their respective subgroups. For each major subgroup, the dashboard provides the following metrics for college graduates and college-educated workers between the ages of 25 and 59:

- ♦ Prevalence
- ♦ Median wages for Bachelor's and graduate degree holders
- ♦ Interquartile range of wages for Bachelor's and graduate degree holders
- ♦ Graduate degree attainment
- ♦ Graduate degree wage premium

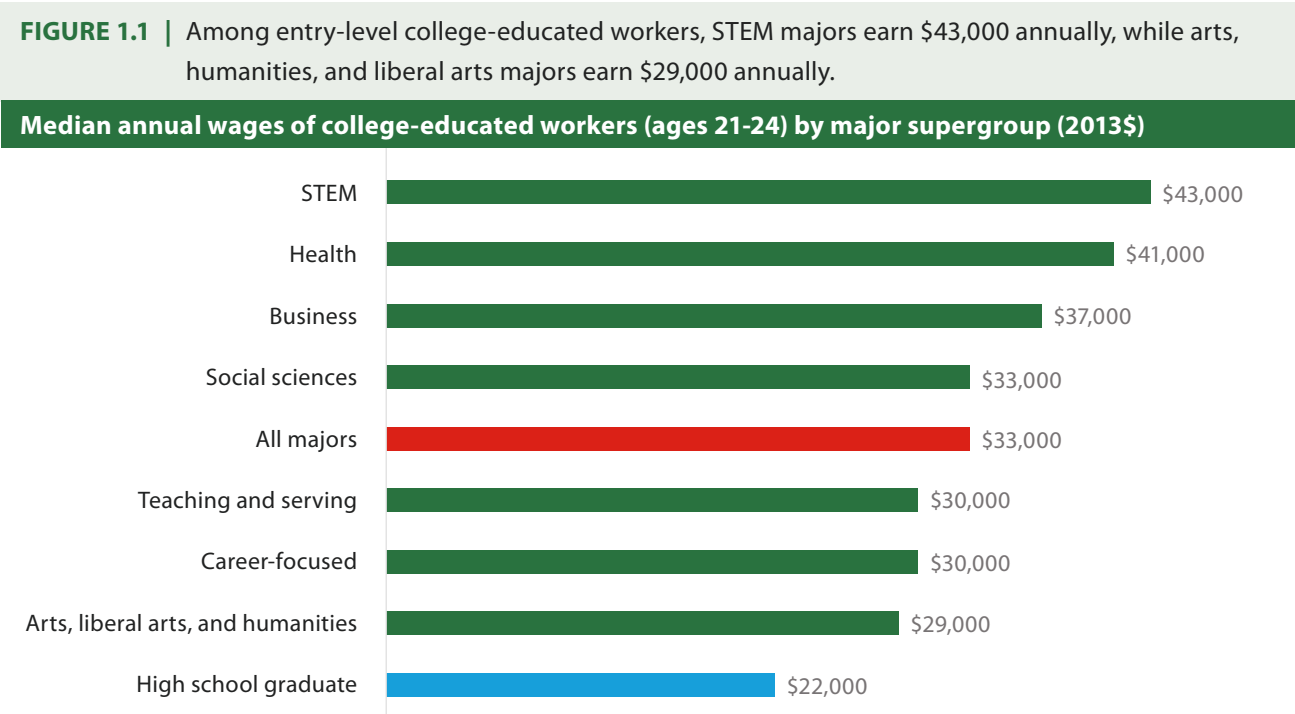
The appendices contain complete rankings of the 137 major subgroups by:

- ♦ Median wages of Bachelor's degree holders
- ♦ Prevalence
- ♦ Graduate degree attainment
- ♦ Graduate degree wage premium

The most lucrative majors are not necessarily the most common. The economic value of majors plays a role in students' choice of major, but students' abilities, academic preparation, interests, and values are also important.

SEVEN MAJOR SUPERGROUPS

At the entry level, college graduates earn \$37,000 annually. But their entry salaries vary by major (Figure 1.1). STEM majors earn \$43,000 upon entering the workforce, while arts, liberal arts, and humanities majors earn \$29,000 annually. No matter what they major in, recent college graduates typically earn more than recent high school graduates, who earn \$22,000 annually.



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Over the course of their careers, college graduates’ wages increase but so do the differences in wages among majors. College graduates earn an average annual salary of \$61,000 over the course of their careers.³ But science, technology, engineering, and mathematics (STEM) majors earn much more than teaching and serving majors, which include education, psychology, and social work majors. On average,

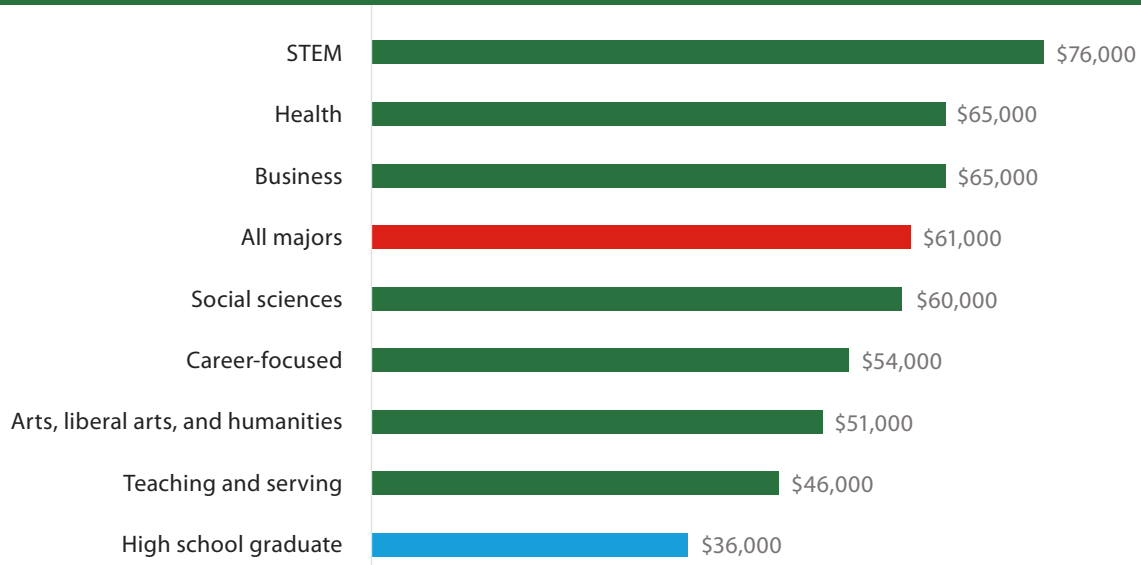
STEM majors earn \$76,000 annually, while teaching and serving majors earn \$46,000 annually (Figure 1.2). STEM, health, and business majors earn more than the average college graduate, while social sciences majors; career-focused majors⁴; arts, liberal arts, humanities majors, and teaching and serving majors all earn less than the average college graduate.

³ Annual wages are restricted to workers employed full-time year round in their prime working years (ages 25 through 59).
⁴ Career-focused majors include industrial arts, consumer services, recreation, communications, journalism, law and public policy, agriculture, and natural resources.

Over the course of their careers, college graduates' wages increase but so do the differences in wages among majors.

FIGURE 1.2 | On average, science, technology, engineering, and mathematics (STEM) majors earn \$76,000 annually, while teaching and serving majors earn \$46,000 annually.

Median annual wages of college-educated workers (ages 25-59) by major supergroup (2013\$)



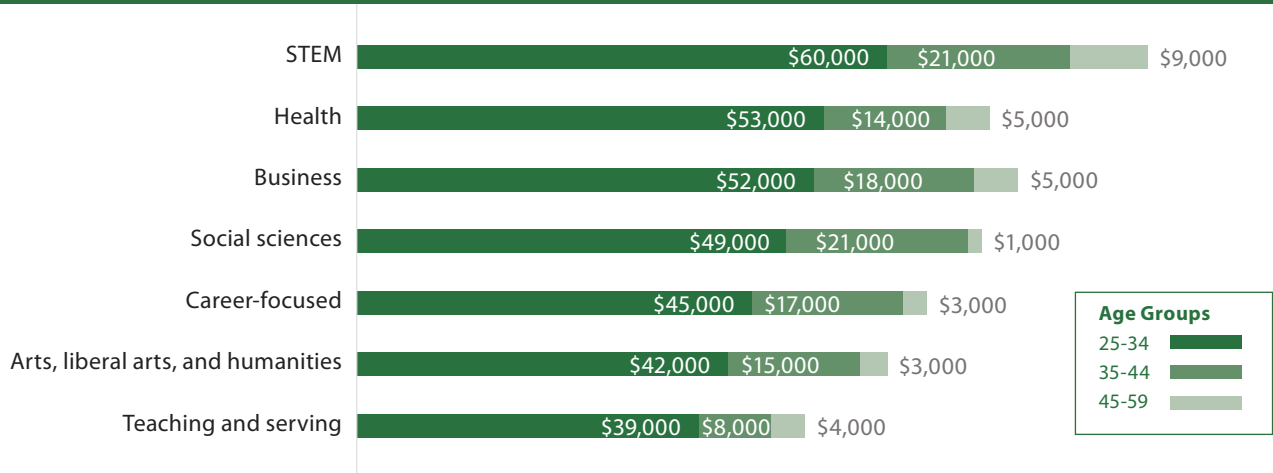
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

The differences in wages by major grow larger over the course of one's career (Figure 1.3). STEM majors' annual wages grow by \$21,000 from early to mid-career. But those who major in education, psychology, or social

work see their annual wages grow by only \$8,000 over the same transitional period. Most wage growth occurs in the transition from early to mid-career.

FIGURE 1.3 | STEM majors’ wages grow more than other majors’ wages over the course of a career, increasing the wage gap between STEM and non-STEM majors.

Median annual wages and wage growth for college-educated workers by major supergroup and age group (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

STEM majors not only have the highest wages, they experience the largest wage growth over the course of their careers (Figure 1.4). Their wages grow by 50 percent, compared to 28 percent growth for college graduates in teaching and serving-related majors (education, psychology, and social work).

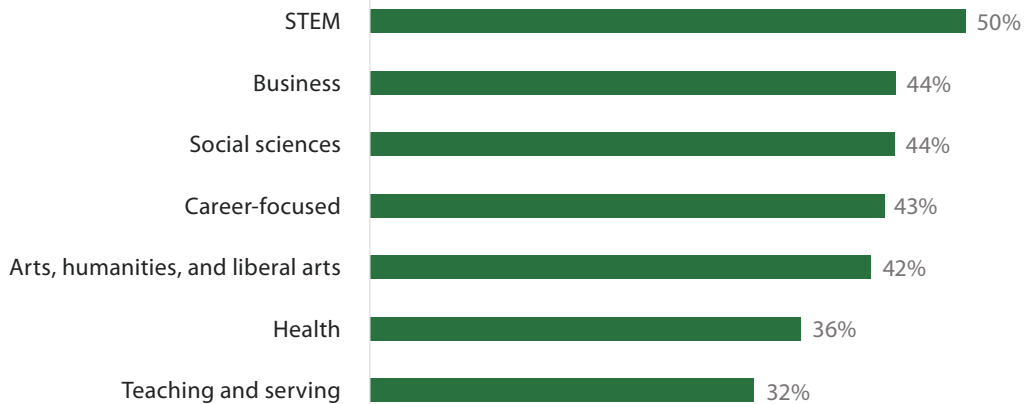
Business majors are the most common, followed by STEM majors (Figure 1.5). Twenty-six percent of college graduates majored in business, while 20 percent majored in STEM. The more academically focused majors—arts, liberal arts, humanities, and social sciences—comprise only 20 percent of college graduates.



STEM majors not only have the highest wages, they experience the largest wage growth over the course of their careers

FIGURE 1.4 | STEM majors' wages increase by 50 percent over the course of their careers, compared to 32 percent growth for teaching and serving majors.

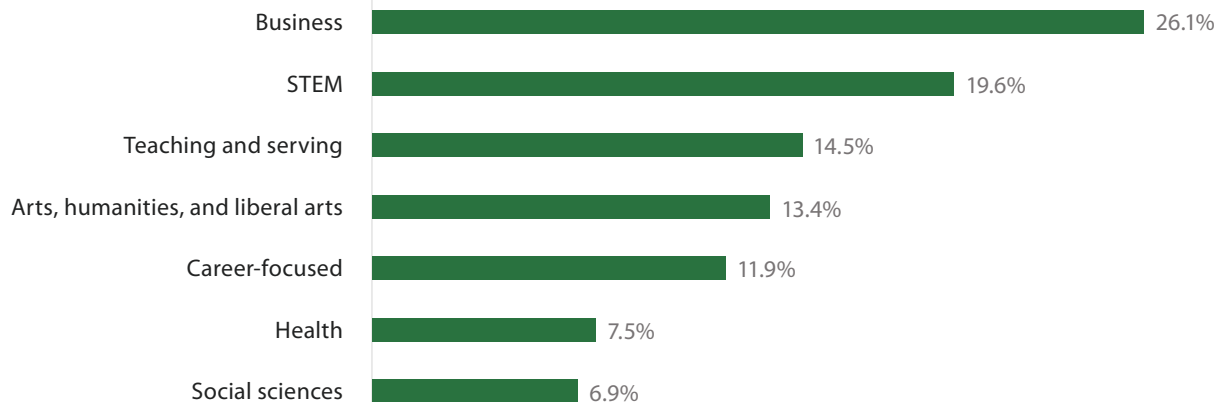
Career wage growth of college-educated workers (ages 25-59) by major supergroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 1.5 | Business majors are the most common, followed by STEM majors.

Share of college graduates (ages 25-59) by major supergroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

15 MAJOR GROUPS

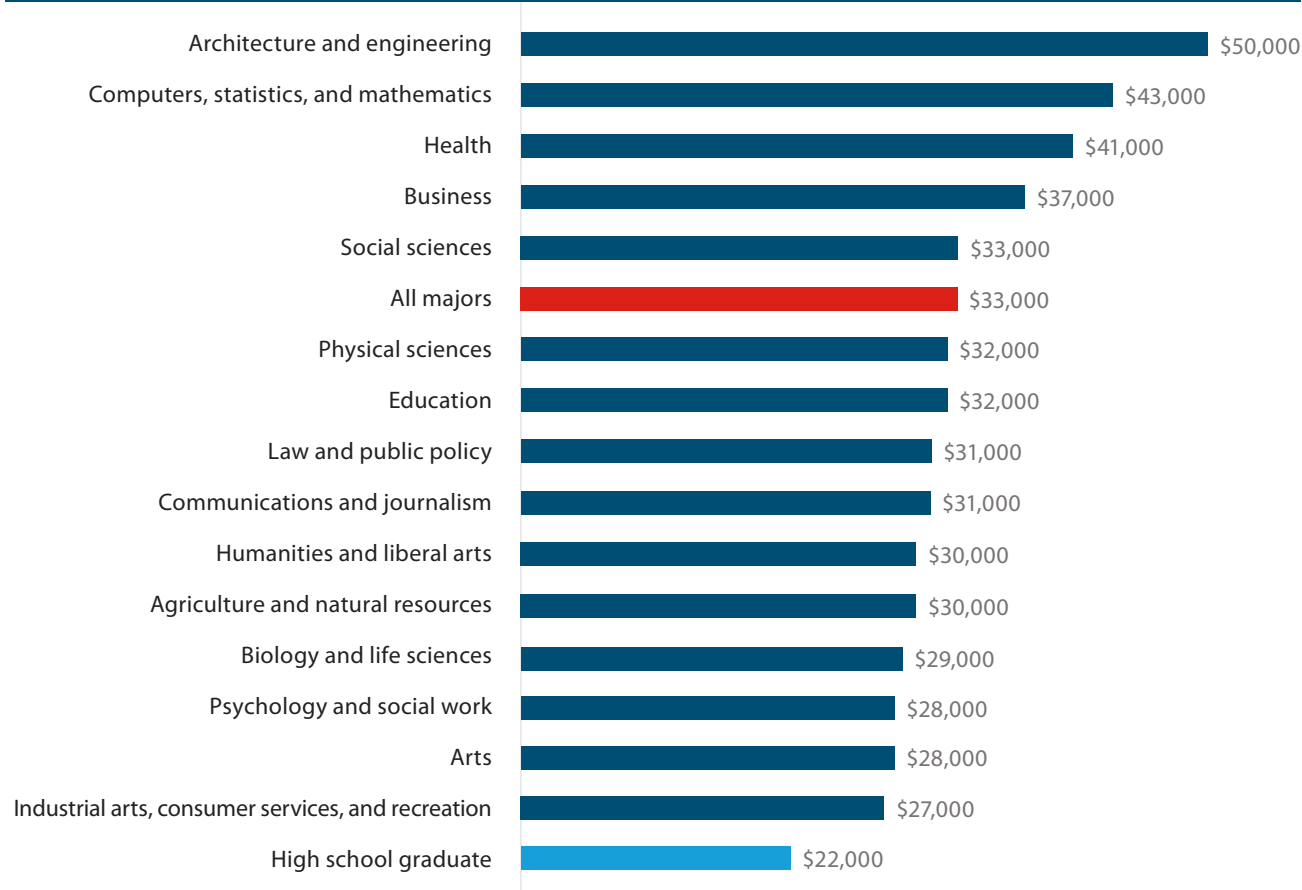
In Part Two, we continue analyzing college graduates' education and labor market outcomes by major. But instead of using seven major supergroups, we use 15 major groups to get a more detailed understanding of the value of college majors.⁴

Wages by major group

Recent college graduates' annual wages vary from \$27,000 to \$50,000 depending on their major (Figure 2.1). On average, recent college graduates earn \$33,000 annually. Recent college graduates in five major groups have above average wages: architecture and engineering; computers, statistics, and mathematics; health; business; and social sciences. Recent college graduates with the lowest wages are concentrated in three major groups: industrial arts, consumer services, and recreation; arts; and psychology and social work.

FIGURE 2.1 | Recent college graduates who majored in architecture or engineering earn \$50,000 annually, while those who majored in industrial arts, consumer services, or recreation earn \$27,000 annually.

Median annual wages of college-educated workers (ages 21-24) by major group (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

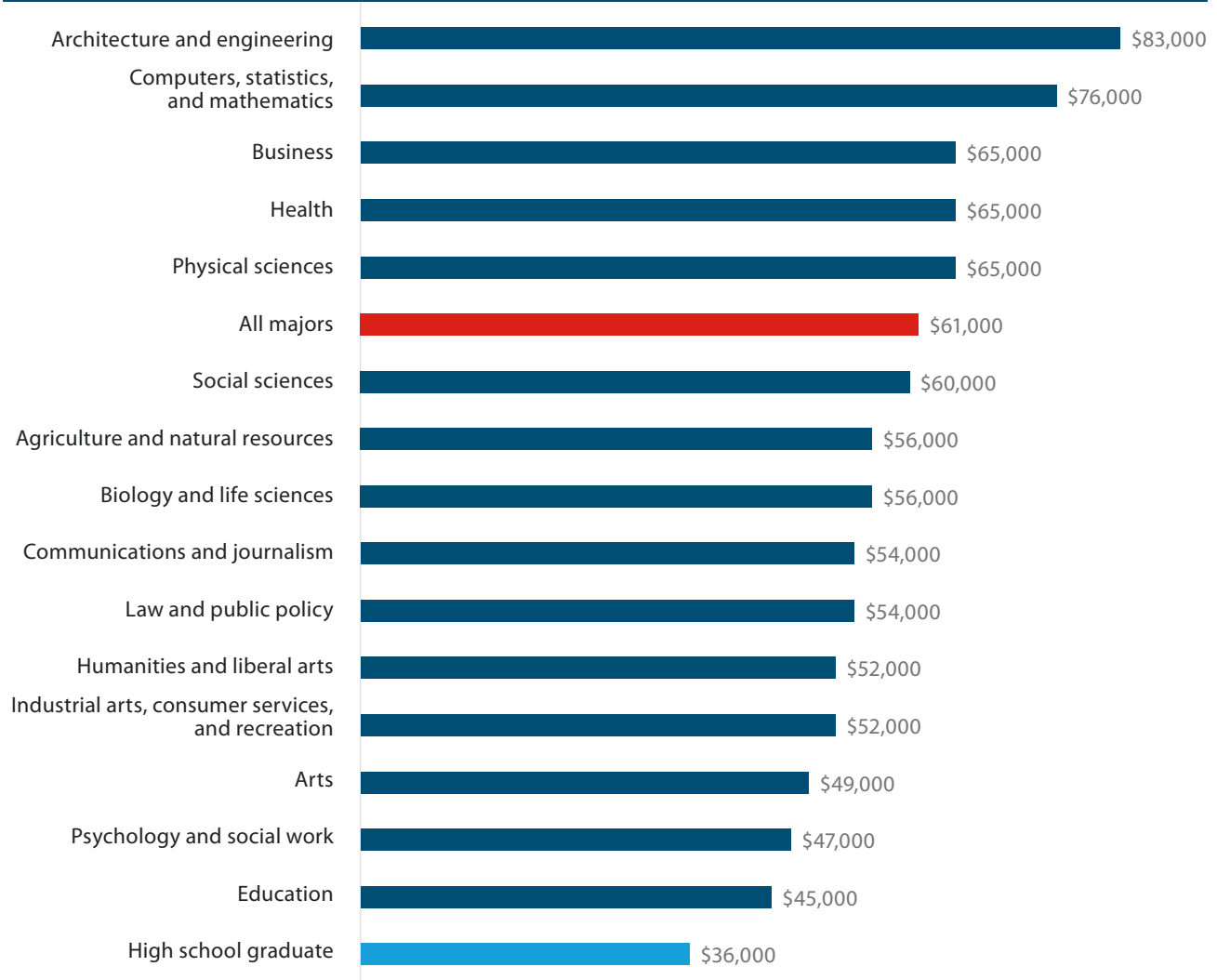
4 See Appendix 2 for a detailed classification of the 15 major groups and their related subgroups.

Business and health majors are the two non-STEM majors that lead to above average wages.

The average wages of college-educated workers between the ages of 25 and 59 vary from \$45,000 to \$83,000 depending on their major (Figure 2.2). Architecture and engineering majors and computers, statistics, and mathematics majors are the only majors that lead to annual wages above \$70,000. Business and health majors are the two non-STEM majors that lead to above average wages. College graduates who majored in education; psychology and social work; or arts earn less than \$50,000 annually. Together, these three major groups comprise 20 percent of college-educated workers.

FIGURE 2.2 | On average, college graduates who majored in architecture or engineering earn \$83,000 annually, while those who majored in education earn \$45,000.

Median annual wages of college-educated workers (ages 25-59) by major supergroup (2013\$)



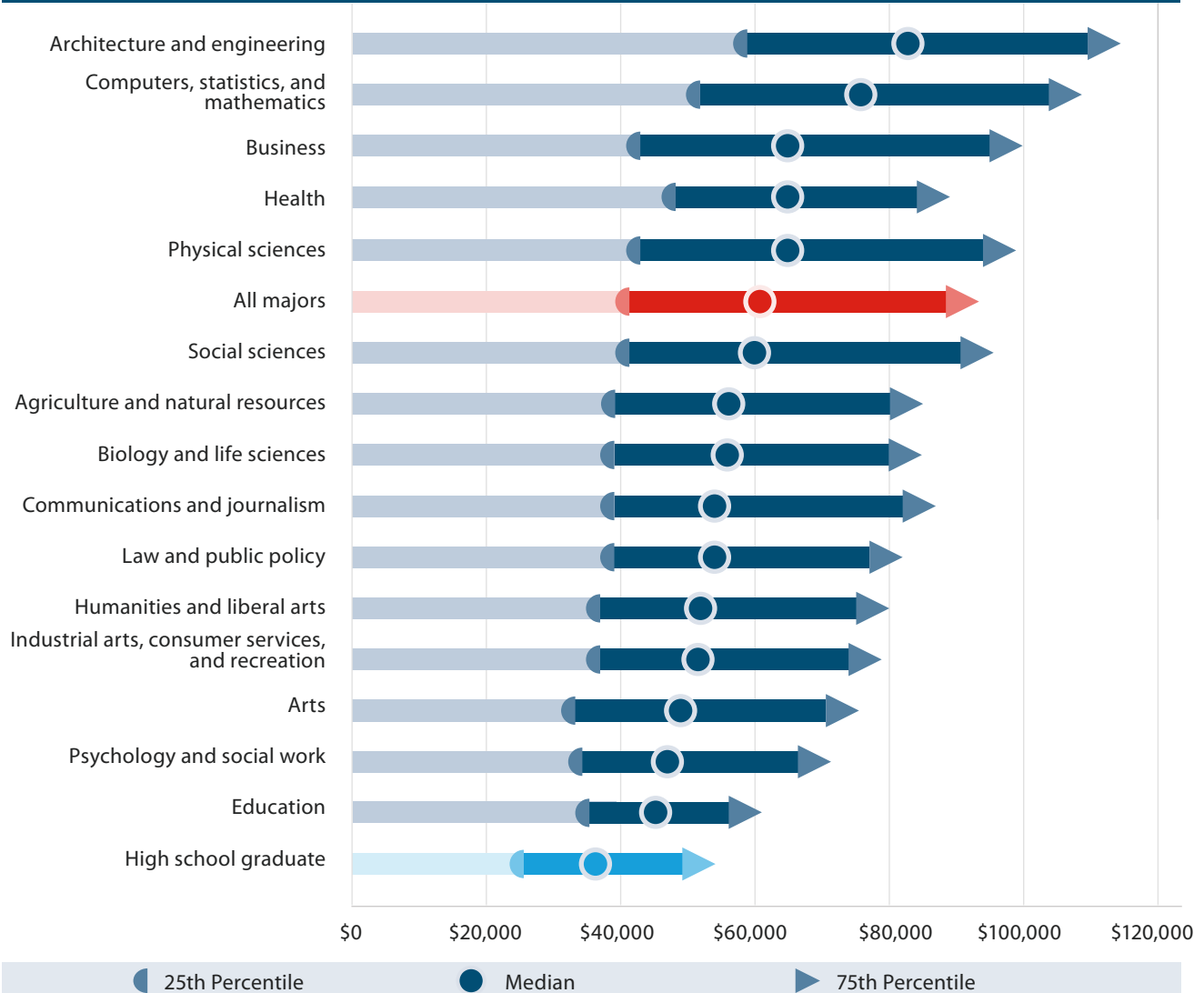
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

No matter what a student's major, he or she is likely to earn more than high school graduates. The average education major earns \$45,000 annually, while the average high school graduate earns \$36,000.

Bachelor's degree holders are not destined to earn the median wage. Within each of the 15 major groups, there is wide variation around the median (Figure 2.3).⁵ This variation is due to differences in pay by

FIGURE 2.3 | The median wage of college graduates who majored in business is \$65,000 annually, though as with many of the high-paying major groups, there is a wide variation in the range of annual wages, such that the lowest 25 percent of business majors earn less than the median wage of all major groups.

Median annual wages of college-educated workers (ages 25-59) by major supergroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

⁵ Wage differences tend to vary at three levels of analysis: (1) among the traditional 15 Bachelor's degree groups; (2) among the detailed majors that represent specialties within the major groups – between accounting and marketing within the business major group, for example; and (3) in the distribution of wages among people in the same majors or specialties within majors.

industry, occupation, and for-profit or not for-profit sector, as well as differences in skills development over time on the job. Moreover, in a fast-changing economy, degrees are only as valuable as the circumstances in which they are employed and the ability of individuals to keep up with that evolution.

The median wage reflects the wages of a typical worker in that field, but there is always variation in individual workers' wages. For example, within the 15 major groups, workers with a Bachelor's degree in the humanities and liberal arts have a:

- ♦ 75 percent chance of earning at least \$36,000;
- ♦ 50 percent chance of earning at least \$52,000; and a
- ♦ 25 percent chance of earning at least \$78,000.

By comparison, workers with Bachelor's degrees in architecture and engineering have a:

- ♦ 75 percent chance of earning at least \$59,000;
- ♦ 50 percent chance of earning at least \$83,000; and a
- ♦ 25 percent chance of earning at least \$113,000.

As a result, some college graduates with low-paying majors earn more than college graduates with high-paying majors. For example, one in four college graduates who majored in the humanities or liberal arts earns more than a quarter of college graduates who majored in architecture or engineering. Conversely, the quarter of architecture and engineering majors with the lowest wages earn less than the average college graduate who majored in business or health.

The majors with the highest median wages also tend to have the greatest variation in wages (Figure 2.3). The wide range of earnings implies that there is a wide range of skills for the highest

earnings majors. Conversely, education majors – the major group with the lowest wages – also have the narrowest interquartile range⁶ at \$24,000. The two major groups with the widest range of wages – business and computers, mathematics, and statistics – are also high-wage majors. On the other hand, health, which has relatively high median earnings of \$65,000, has a narrow interquartile range of \$39,000, about the same as arts majors.⁷

Prevalence of major groups

Business is the most common major among college graduates (Figure 2.4). Business majors represent 26 percent of college graduates. While each of the five STEM majors is relatively small, the STEM majors combined represent almost 20 percent of all college degrees. After business and STEM, education and humanities and liberal arts majors are the most common: education majors comprise 10 percent of college graduates, while humanities and liberal arts majors comprise 9 percent of college graduates.

Most students major in a field that is at least tangentially career-related. The major groups with the weakest ties to a career track—humanities and liberal arts; arts; and social sciences—together comprise less than 20 percent of college graduates. Despite the fact that most majors are career-focused, college students are now required to complete academic courses in the humanities and liberal arts in order to fulfill their graduation requirements. On average, Bachelor's degree programs require that about half of coursework must be in general education and one-third to be in major-related coursework.

STEM majors are closely aligned with particular occupations and industries. Among STEM fields, architecture and engineering majors are the most common, followed by computers, statistics, and mathematics majors; biology and life sciences majors; and physical sciences majors.

6 An interquartile range is a measure of dispersion, or how spread out the data are. It is the difference between the 75th and 25th percentiles.

7 Economists sometimes use wages as a proxy for skill as well as the economic value of skill. See David Autor, Lawrence Katz, and Melissa Kearney, *The Polarization of the U.S. Labor Market*, NBER Working Paper No. 11986 (Boston: National Bureau of Economic Research, 2006).

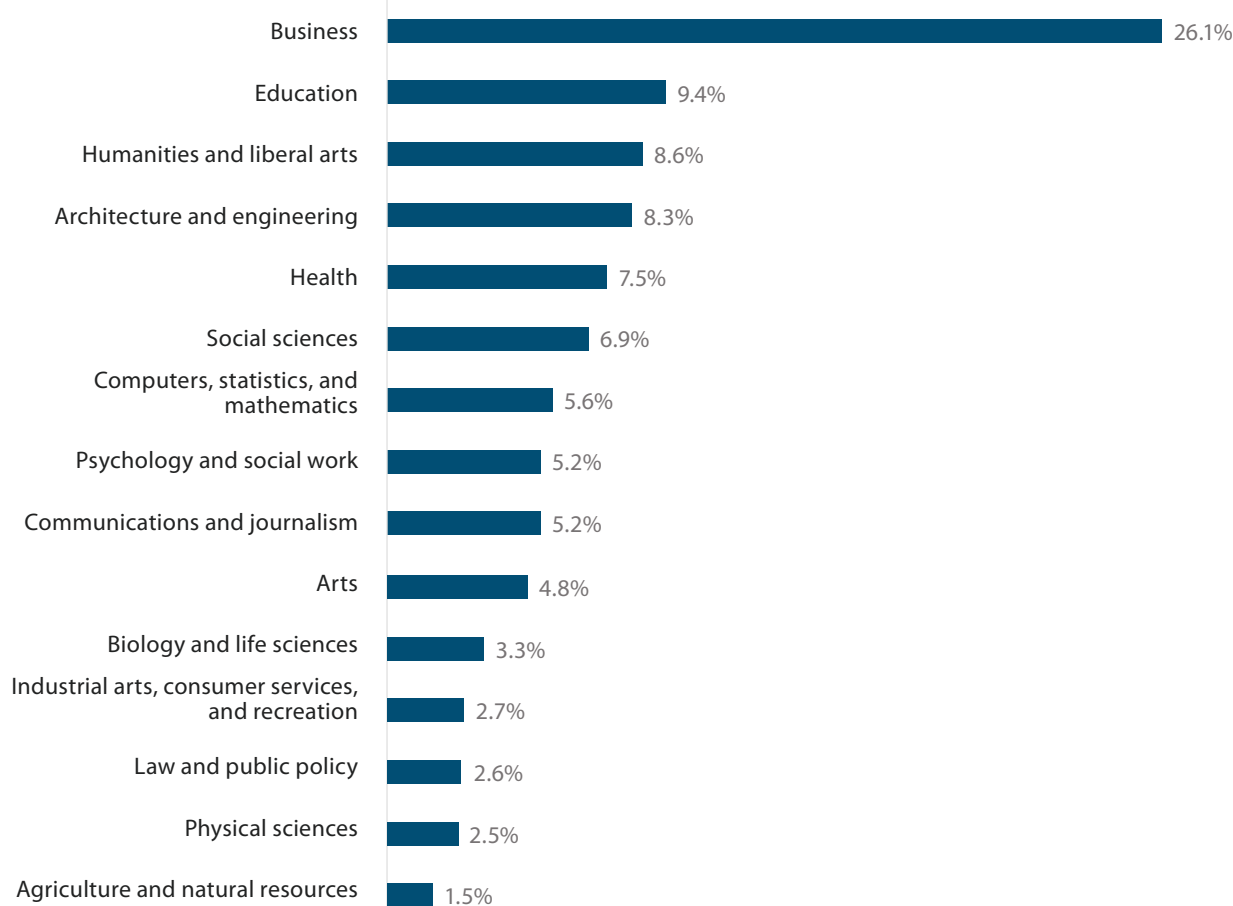
An additional one-fifth of college graduates majored in a career-focused field that prepares one for a career in the teaching, public service, or healthcare professions. These are education majors; psychology and social work majors; and health majors.

Choosing majors is not just about dollars and cents. It also involves interests, values, preparation, and

developed abilities. The most lucrative majors are not necessarily the most common and vice-versa. For example, education, arts, and psychology and social work majors pay the least and still attract more than 20 percent of students. Altogether, though, more than half of all college students are majoring in the three most lucrative areas: business, STEM, and healthcare.

FIGURE 2.4 | Business majors are the most popular, with 26 percent of college graduates majoring in business fields.

Share of college graduates (ages 25-59) by major group, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Graduate degree attainment

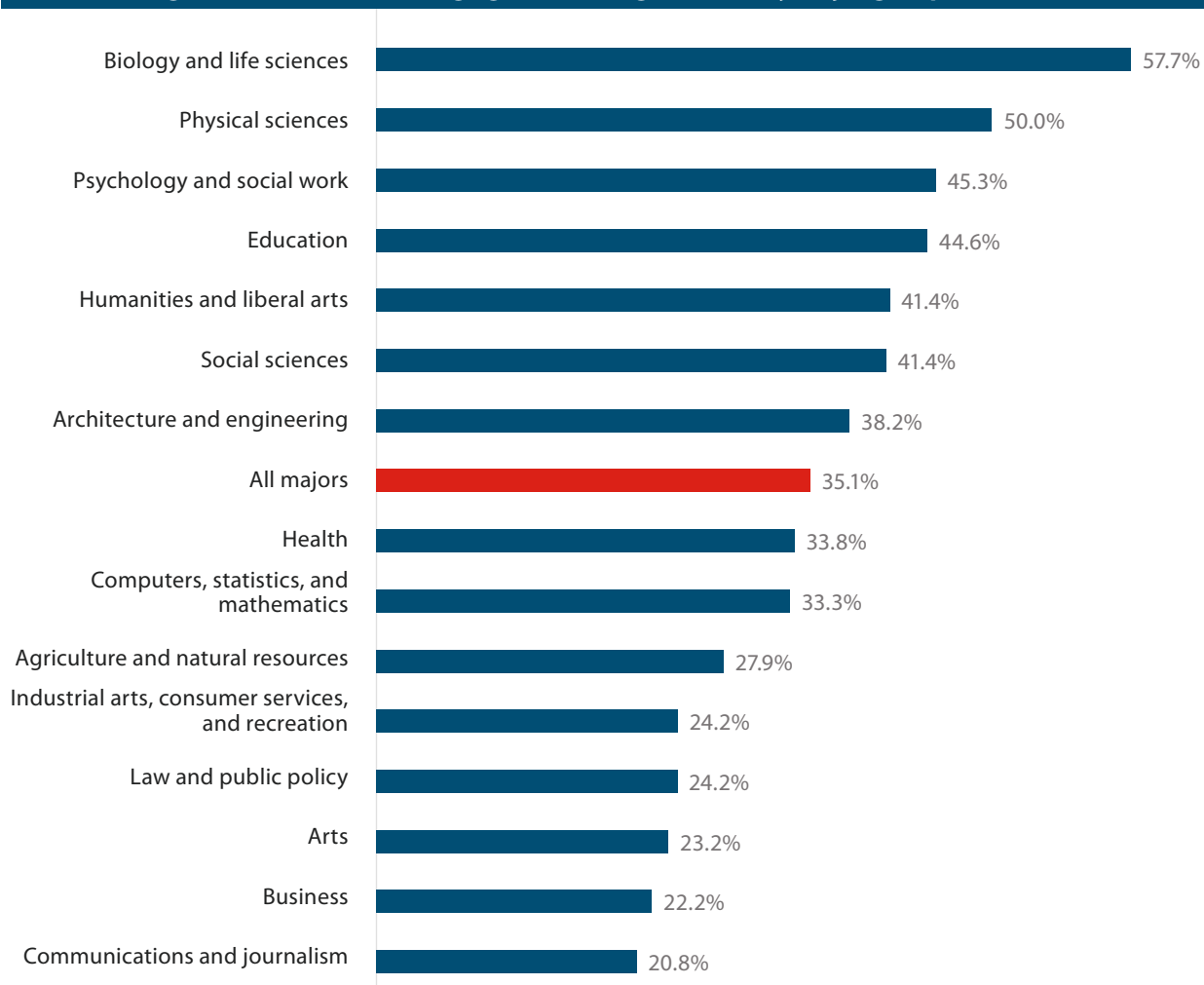
Overall, one-third of college graduates complete a graduate degree, but the likelihood of completing a graduate degree varies by major (Figure 2.5). Among college graduates who majored in biology or life sciences, 58 percent complete a graduate degree. By contrast, only 21 percent of communications and journalism majors complete a graduate degree, the lowest attainment rate among the 15 major groups. Many biology and life sciences majors prepare for medical school, a primary reason for their high rate of graduate degree attainment.



STEM majors are closely aligned with particular occupations and industries.

FIGURE 2.5 | College graduates who majored in biology or life sciences are the most likely to earn a graduate degree, while those who majored in communications or journalism are the least likely.

Graduate degree attainment of college graduates (ages 25-59) by major group, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

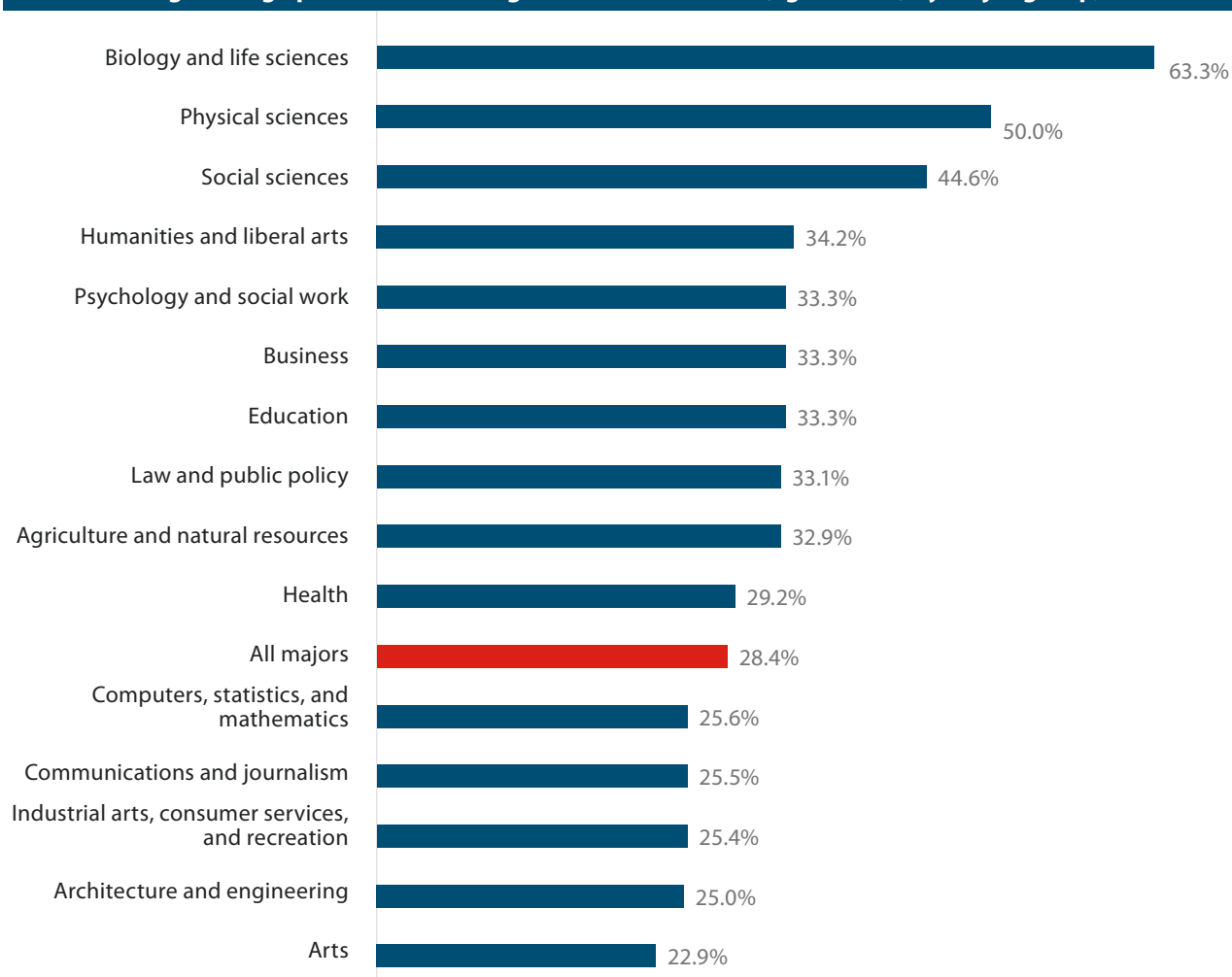
Graduate degree wage premium

The benefit of a graduate degree also depends on a person's major (Figure 2.6). Not only are biology and life sciences majors the most likely to *earn* graduate degrees, they also receive the largest wage premium from graduate degrees. Among college graduates

who majored in biology and life sciences, graduate degree holders earn 63 percent more than Bachelor's degree holders. By comparison, arts majors with graduate degrees earn 23 percent more than those with Bachelor's degrees alone, the lowest graduate degree wage premium among college majors.

FIGURE 2.6 | Graduate degree holders who majored in biology or life sciences have the highest wage premium, earning 63 percent more than Bachelor's degree holders with other major groups.

Graduate degree wage premium for college-educated workers (ages 25-59) by major group, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Top 25 detailed major subgroups ranked by earnings

TABLE 2.1 | Economics and business economics are the only two non-STEM majors in the top 25 majors ranked by wages.

Rank	Major subgroup	Median annual wages of college-educated workers (ages 25-59) (2013\$)
1	Petroleum engineering	136,000
2	Pharmacy, pharmaceutical sciences, and administration	113,000
3	Metallurgical engineering	98,000
4	Mining and mineral engineering	97,000
5	Chemical engineering	96,000
6	Electrical engineering	93,000
7	Aerospace engineering	90,000
8	Mechanical engineering	87,000
9	Computer engineering	87,000
10	Geological and geophysical engineering	87,000
11	Computer science	83,000
12	Civil engineering	83,000
13	Applied mathematics	83,000
14	Industrial and manufacturing engineering	81,000
15	Physics	81,000
16	General engineering	81,000
17	Engineering mechanics, physics, and science	81,000
18	Architectural engineering	80,000
19	Engineering and industrial management	78,000
20	Statistics and decision science	78,000
21	Management information systems and statistics	77,000
22	Environmental engineering	76,000
23	Miscellaneous engineering	76,000
24	Economics	76,000
25	Business economics	75,000

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Bottom 25 detailed major subgroups ranked by earnings

TABLE 2.2 | The lowest-earning majors are concentrated in arts, education, consumer services, psychology, and social work.

Rank	Major subgroup	Median annual wages of college-educated workers (ages 25-59) (2013\$)
1	Early childhood education	39,000
2	Human services and community organization	41,000
3	Studio arts	42,000
4	Social work	42,000
5	Teacher education: multiple levels	42,000
6	Visual and performing arts	42,000
7	Theology and religious vocations	43,000
8	Elementary education	43,000
9	Drama and theater arts	45,000
10	Family and consumer sciences	45,000
11	Language and drama education	45,000
12	Special needs education	45,000
13	General education	46,000
14	Multi/interdisciplinary studies	46,000
15	Art and music education	46,000
16	Communication disorders sciences and services	46,000
17	Composition and speech	47,000
18	Social sciences or history teacher education	47,000
19	Science and computer teacher education	48,000
20	Secondary teacher education	48,000
21	Neuroscience	48,000
22	Mathematics teacher education	49,000
23	Anthropology and archeology	49,000
24	Interdisciplinary social sciences	49,000
25	Music*	49,000

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

*Psychology; physical fitness; parks, recreation, and leisure; humanities; art history and criticism; fine arts; and animal sciences also have median earnings of \$49,000.

PART 3: 137 MAJOR SUBGROUPS

In Part Three, we continue analyzing college graduates' education and labor market outcomes by major. But instead of using 15 major groups, we disaggregate the major groups into 137 major subgroups to get a more detailed understanding of the value of specific college majors.⁸

AGRICULTURE AND NATURAL RESOURCES

SHARE OF ALL MAJORS

1.5%

GRADUATE DEGREE ATTAINMENT

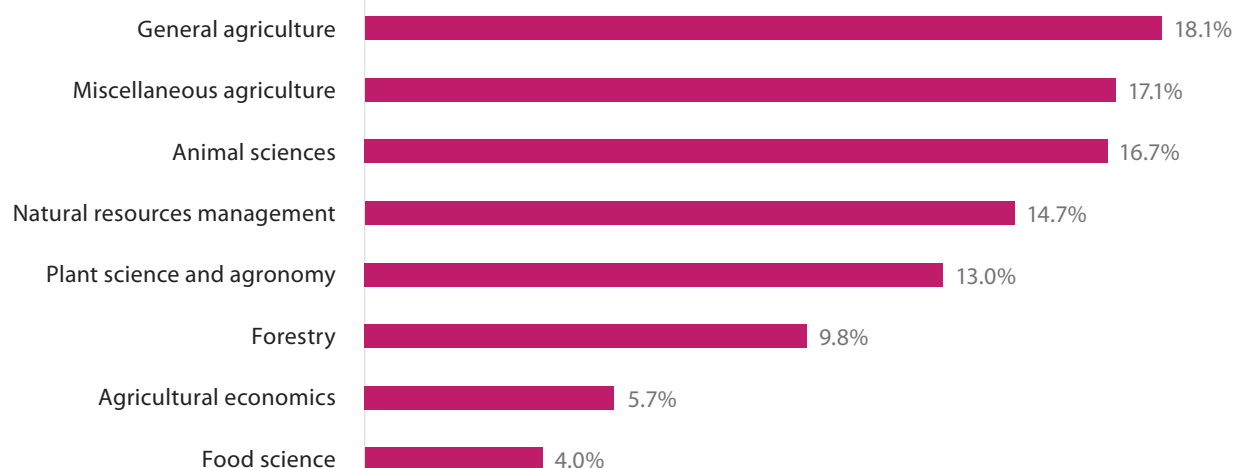
27.9%

⁸ See Appendix 2 for a detailed classification of the 15 major groups and their related subgroups.

Prevalence of major subgroups in the fields of agriculture and natural resources

FIGURE 3.1 | General agriculture and animal sciences are the most common agriculture and natural resources majors.

Share of college graduates with agriculture and natural resources majors (ages 25-59) by major subgroup, 2013

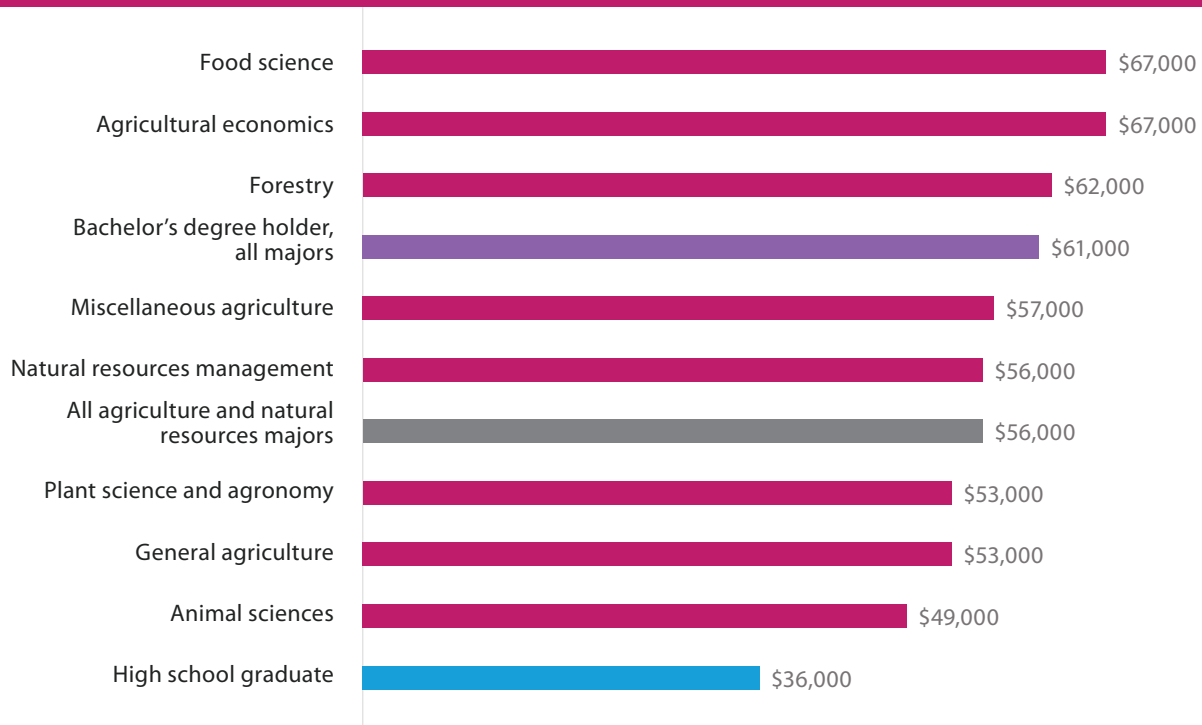


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, American Community Survey micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.2 | Among agriculture and natural resources majors, agricultural economics and food science majors earn the most, and animal sciences majors earn the least.

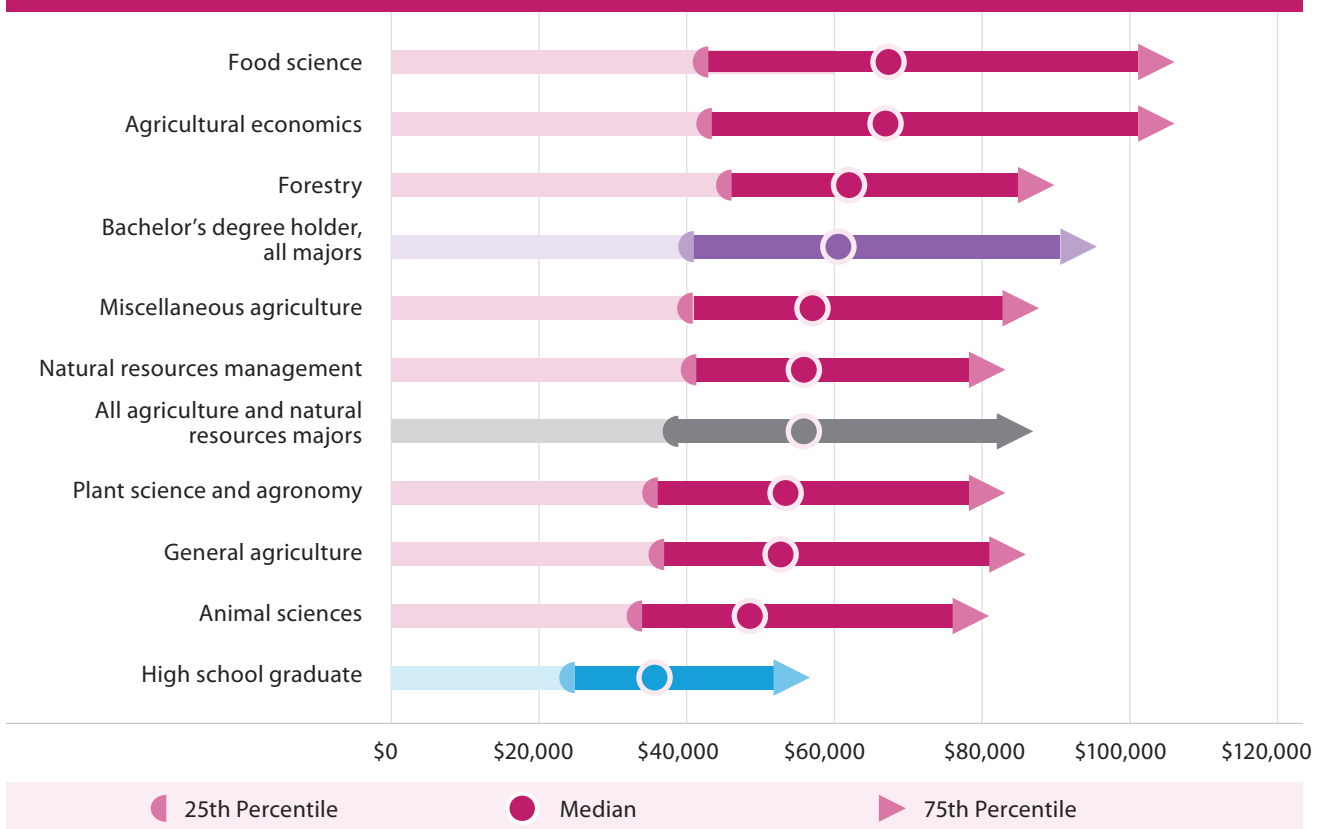
Median annual wages of college-educated workers with agriculture and natural resources majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.3 | Food science and agricultural economics majors have a 25 percent chance of earning at least \$100,000 annually.

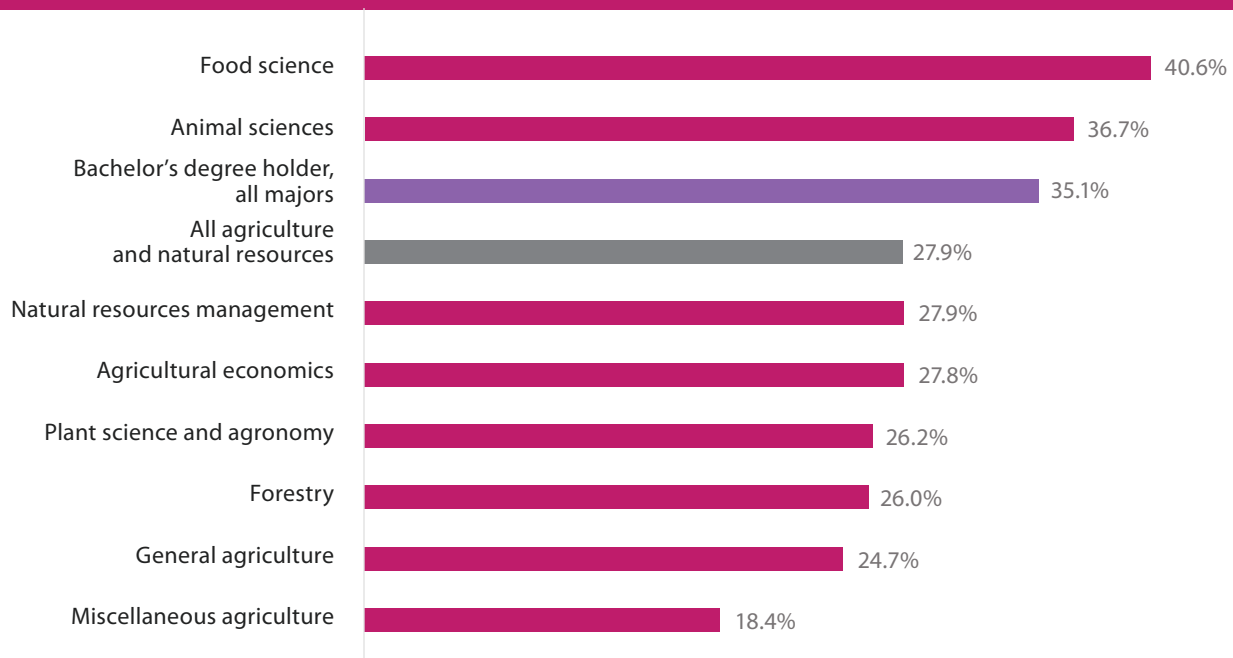
Interquartile range of annual wages of college-educated workers with agriculture and natural resources majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.4 | Among agriculture and natural resources majors, food science majors are the most likely to earn graduate degrees.

Graduate degree attainment of college graduates with agriculture and natural resources majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013

Outcomes for graduate degree holders in the fields of agriculture and natural resources

FIGURE 3.5 | Among graduate degree holders with agriculture or natural resources majors, those who majored in agricultural economics have the highest average wages.

Median annual wages of college-educated workers with agriculture and natural resources majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.6 | The top 25 percent of graduate degree holders with agricultural economics majors earn more than \$120,000 annually, while the bottom 25 percent of graduate degree holders with general agriculture majors earn less than \$50,000 annually.

Interquartile range of annual wages of graduate degree holders with agriculture and natural resources majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.1 | Among agriculture and natural resources majors, animal sciences majors receive the largest wage premium from a graduate degree (55%), while food science majors receive the smallest (15%).

Major group	Median annual wages of college-educated workers (ages 25-59) with agriculture and natural resources majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All agriculture and natural resources majors	56,000	74,000	18,000	32
Major subgroup				
Animal sciences	49,000	76,000	27,000	55
Plant science and agronomy	53,000	70,000	17,000	32
Forestry	62,000	80,000	18,000	29
General agriculture	53,000	68,000	15,000	28
Natural resources management	56,000	71,000	15,000	27
Agricultural economics	67,000	83,000	16,000	24
Miscellaneous agriculture	57,000	70,000	13,000	23
Food science	67,000	77,000	10,000	15

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

ARCHITECTURE AND ENGINEERING

SHARE OF ALL MAJORS

8.3%

GRADUATE DEGREE ATTAINMENT

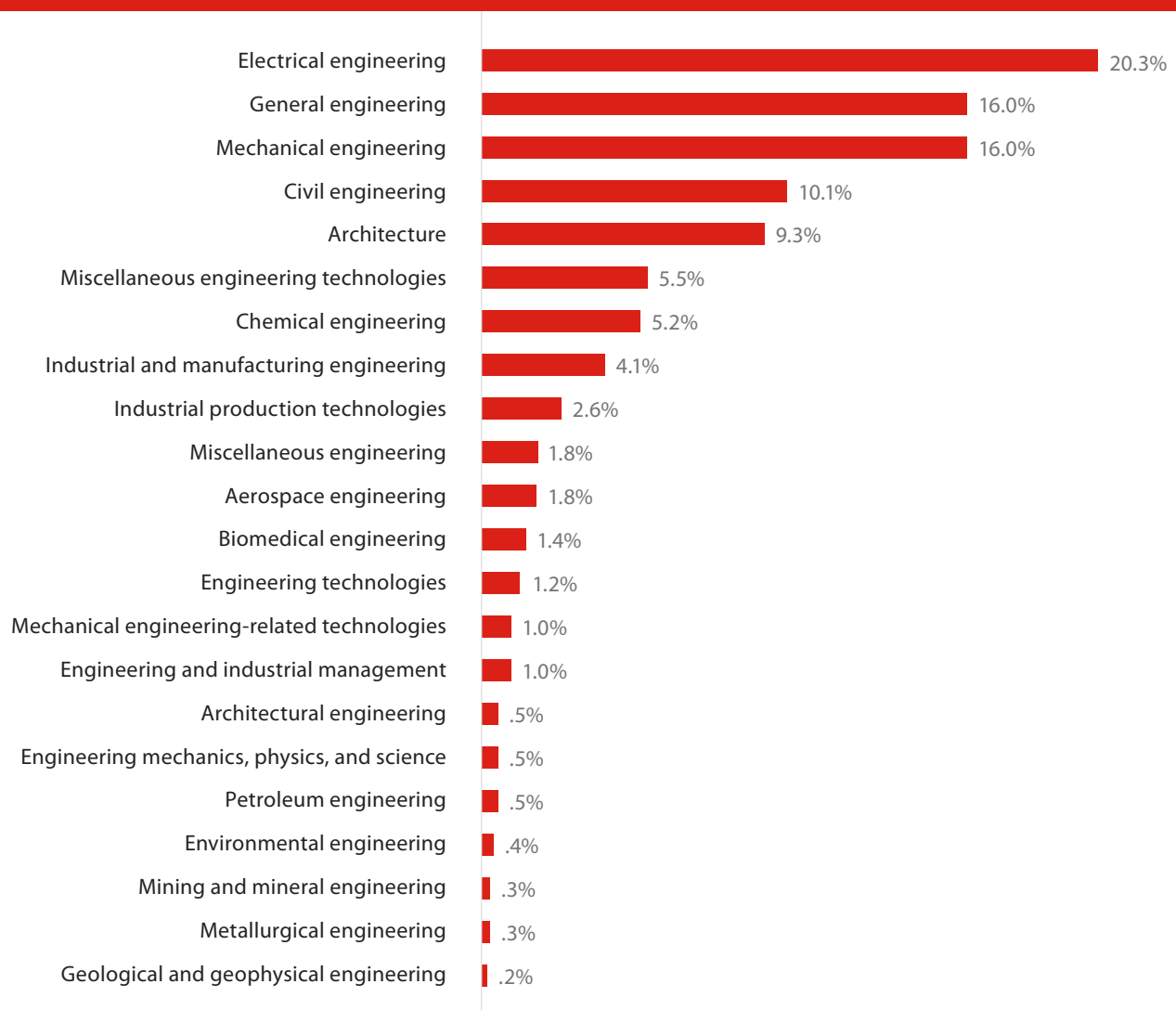
28.2%



Prevalence of major subgroups in the fields of architecture and engineering

FIGURE 3.7 | Among architecture and engineering majors, petroleum engineering majors have the highest wages, earning \$136,000 annually — \$40,000 more than chemical engineering majors.

Share of college graduates with architecture and engineering majors (ages 25-59) by major subgroup, 2013

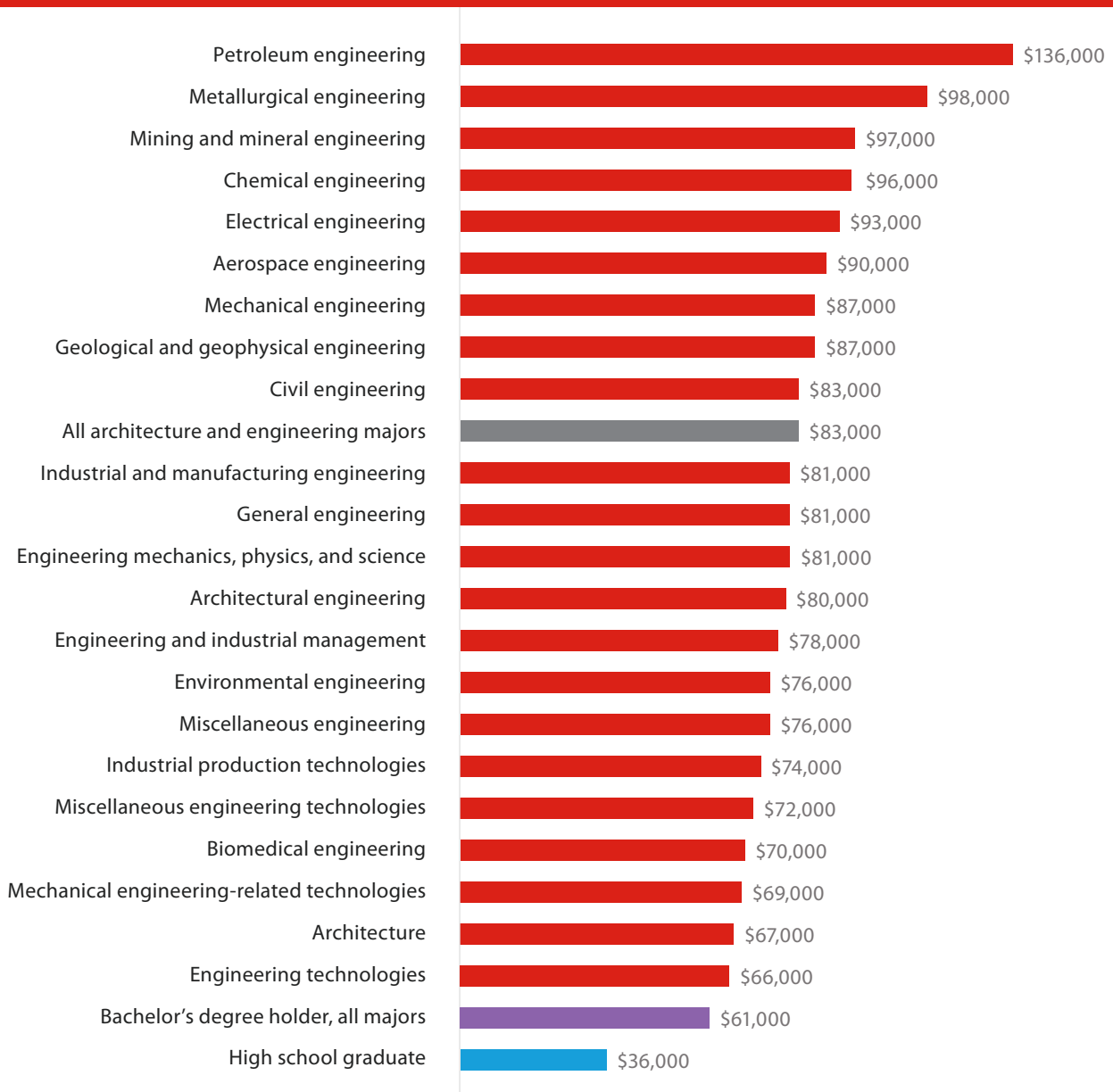


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.8 | Among architecture and engineering majors, petroleum engineering majors have the highest wages, earning \$136,000 annually — \$40,000 more than chemical engineering majors.

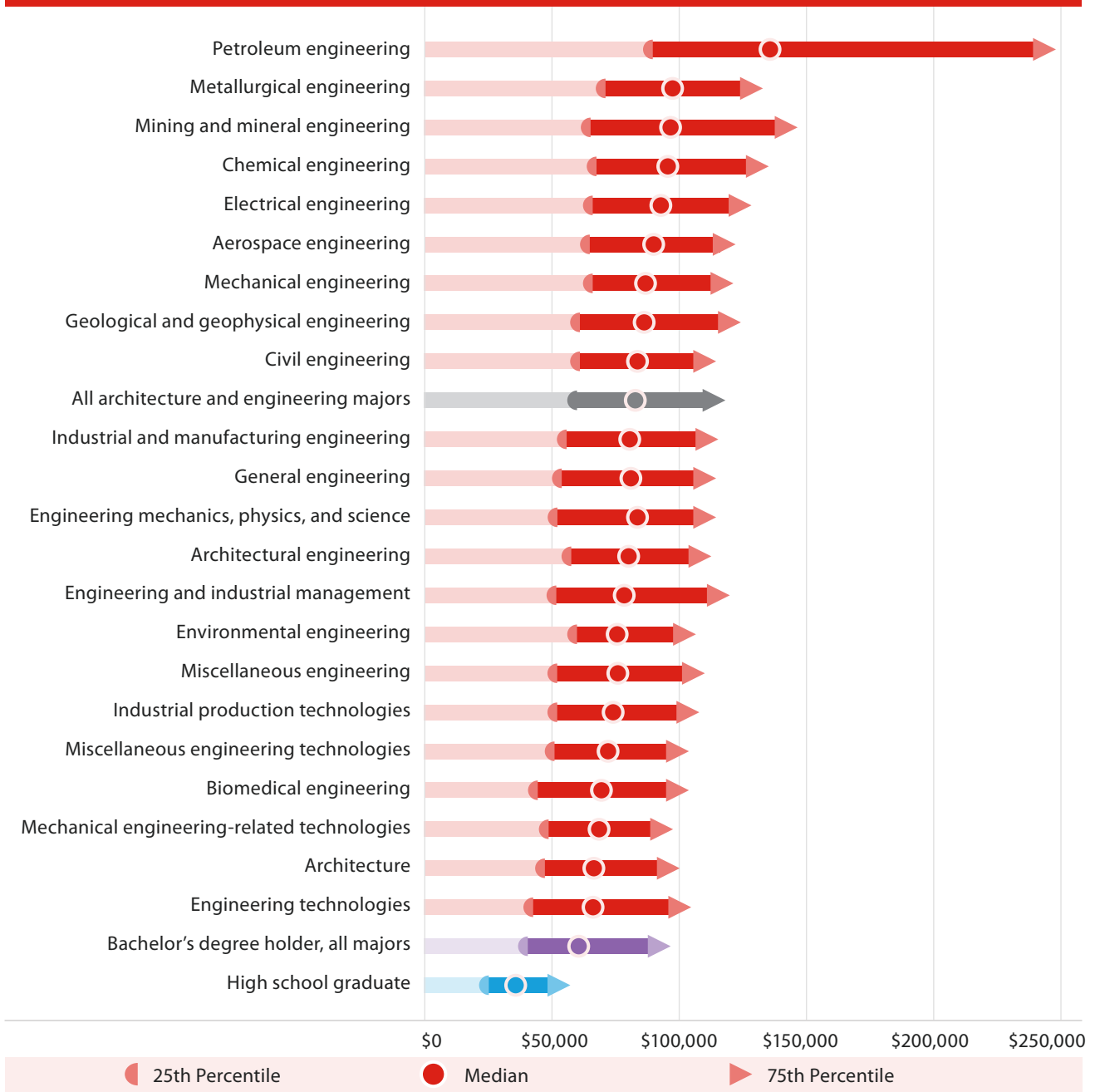
Median annual wages of college-educated workers with architecture and engineering majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.9 | Among architecture and engineering majors, petroleum engineering majors have the highest wages, earning \$136,000 annually — \$40,000 more than chemical engineering majors.

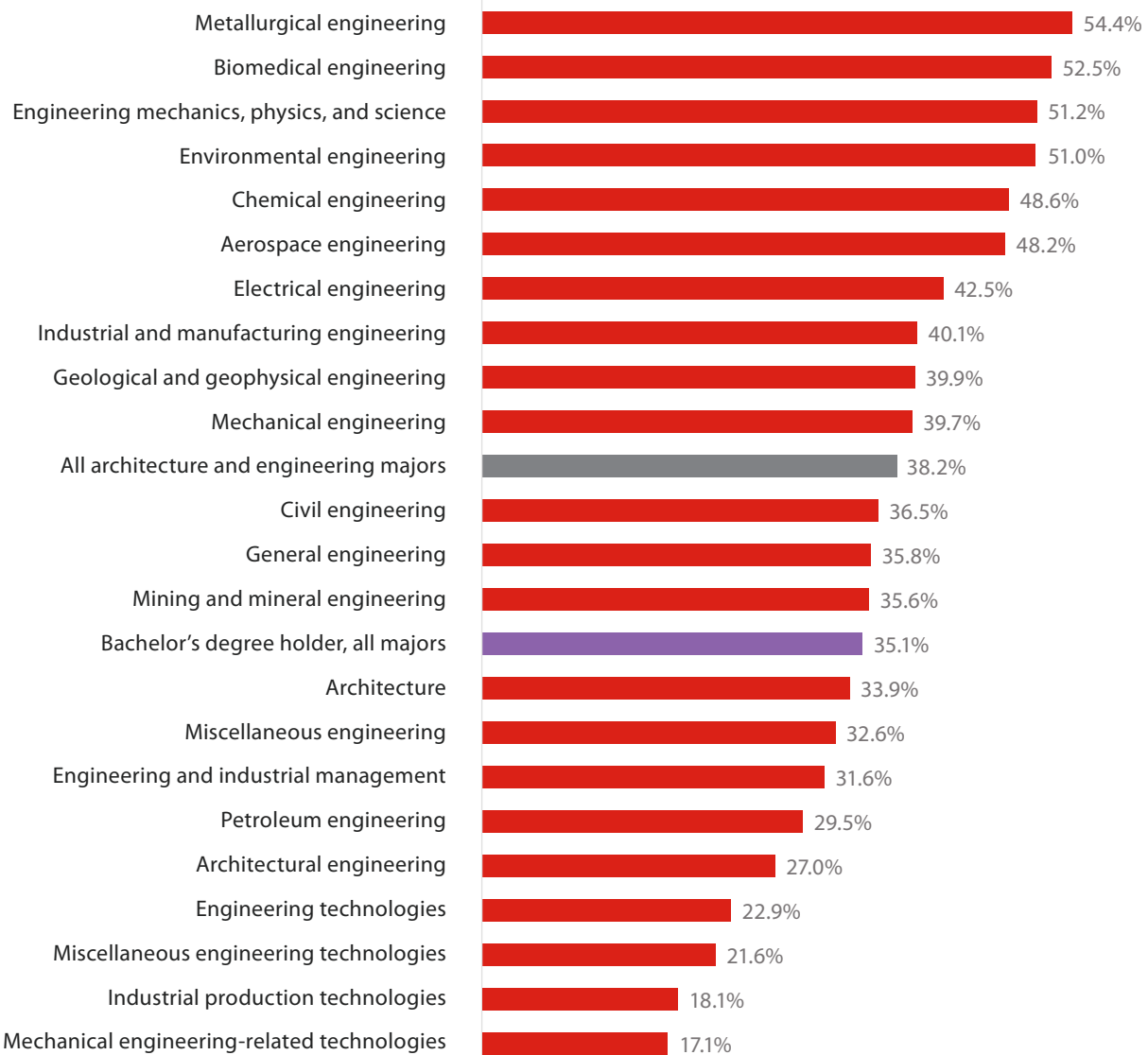
Interquartile range of annual wages of graduate degree holders with agriculture and natural resources majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.10 | Among architecture and engineering majors, metallurgical engineering majors are the most likely to earn a graduate degree, while mechanical engineering and related technologies majors are the least likely to earn a graduate degree.

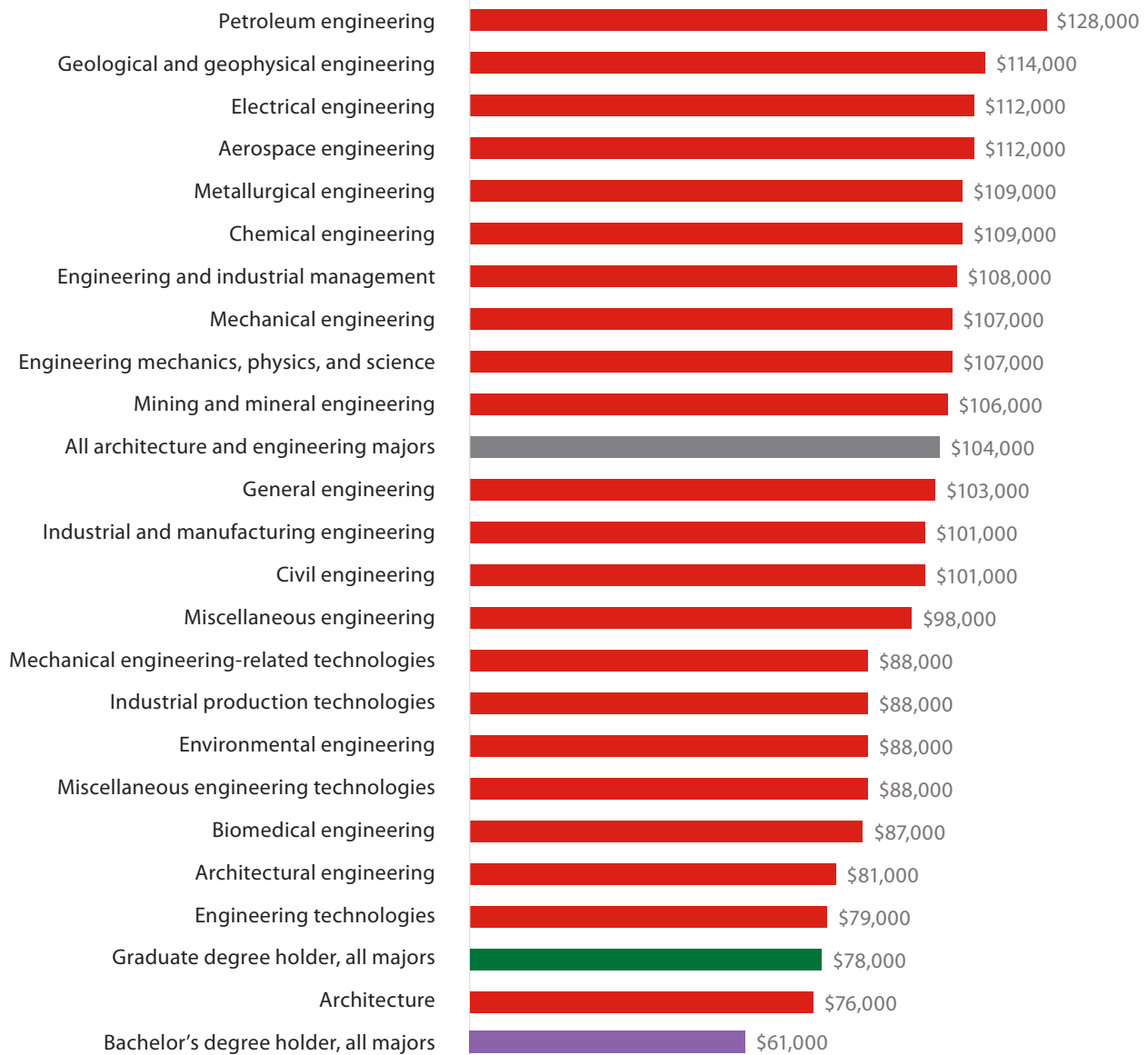
Graduate degree attainment of college graduates with architecture and engineering majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.11 | Among graduate degree holders with architecture or engineering majors, petroleum engineering majors earn \$128,000 annually, while architecture majors earn \$76,000 annually.

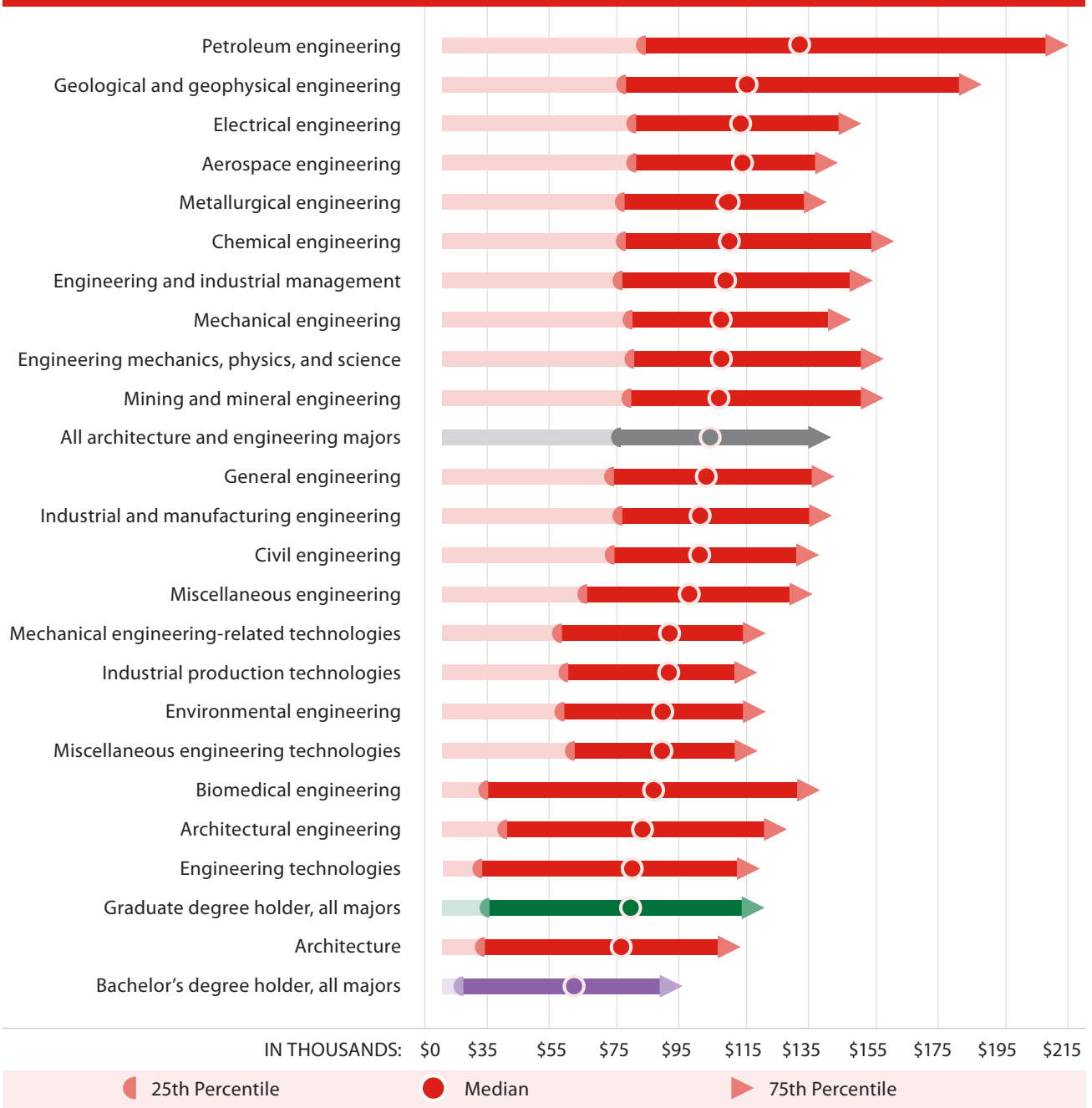
Median annual wages of college-educated workers with architecture and engineering majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.12 | The top 25 percent of graduate degree holders who majored in petroleum engineering earn more than \$200,000 annually, while the bottom 25 percent of graduate degree holders who majored in architecture earn less than \$55,000.

Interquartile range of annual wages of college-educated workers with architecture and engineering majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.2 | On average, architecture and engineering majors with graduate degrees earn 25 percent more than those with a Bachelor's degree.

Major group	Median annual wages of college-educated workers (ages 25-59) with architecture and engineering majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All architecture and engineering majors	83,000	104,000	21,000	25
Major subgroup				
Engineering and industrial management	78,000	108,000	30,000	38
Engineering mechanics, physics, and science	81,000	107,000	26,000	32
Geological and geophysical engineering	87,000	114,000	27,000	31
Miscellaneous engineering	76,000	98,000	22,000	29
Mechanical engineering-related technologies	69,000	88,000	19,000	28
General engineering	81,000	103,000	22,000	27
Industrial and manufacturing engineering	81,000	101,000	20,000	25
Aerospace engineering	90,000	112,000	22,000	24
Biomedical engineering	70,000	87,000	17,000	24
Mechanical engineering	87,000	107,000	20,000	23
Miscellaneous engineering technologies	72,000	88,000	16,000	22
Civil engineering	83,000	101,000	18,000	22
Electrical engineering	93,000	112,000	19,000	20
Engineering technologies	66,000	79,000	13,000	20
Industrial production technologies	74,000	88,000	14,000	19
Environmental engineering	76,000	88,000	12,000	16
Chemical engineering	96,000	109,000	13,000	14
Architecture	67,000	76,000	9,000	13
Metallurgical engineering	98,000	109,000	11,000	11
Mining and mineral engineering	97,000	106,000	9,000	9
Architectural engineering	80,000	81,000	1,000	1
Petroleum engineering	136,000	128,000	-8,000	-6

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, American Community Survey micro data, 2009-2013.

ARTS

SHARE OF ALL MAJORS

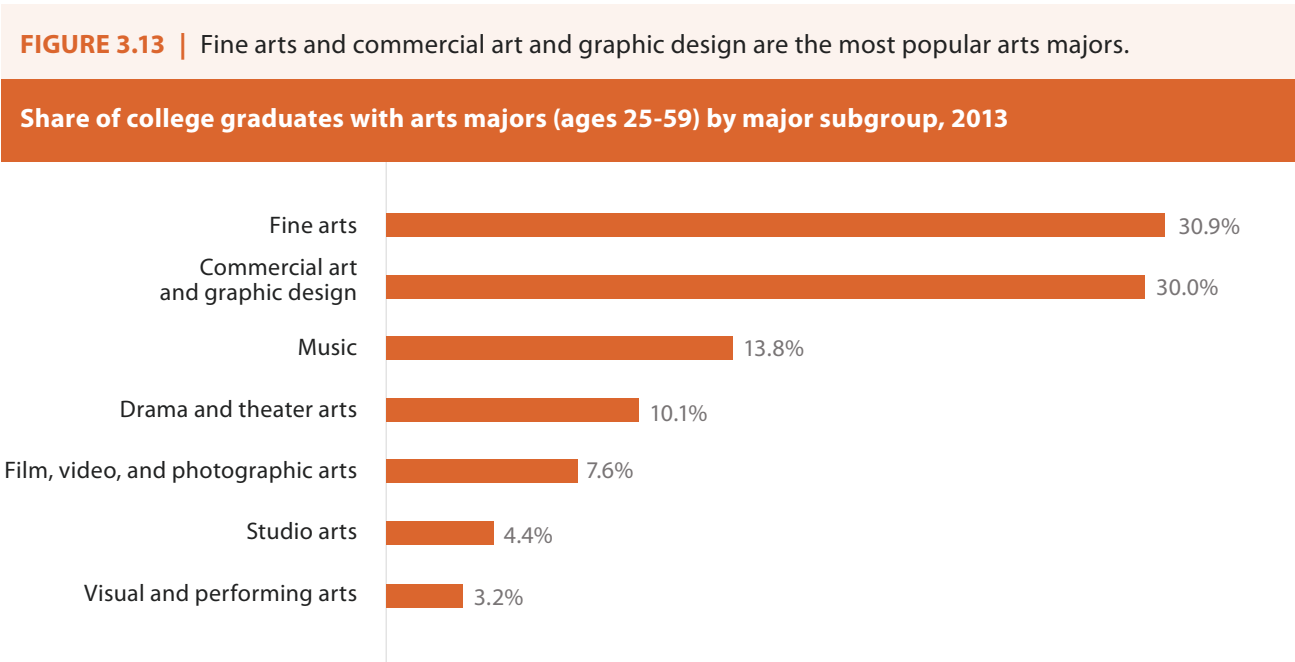
4.8%

GRADUATE DEGREE ATTAINMENT

23.2%



Prevalence of major subgroups in the field of arts



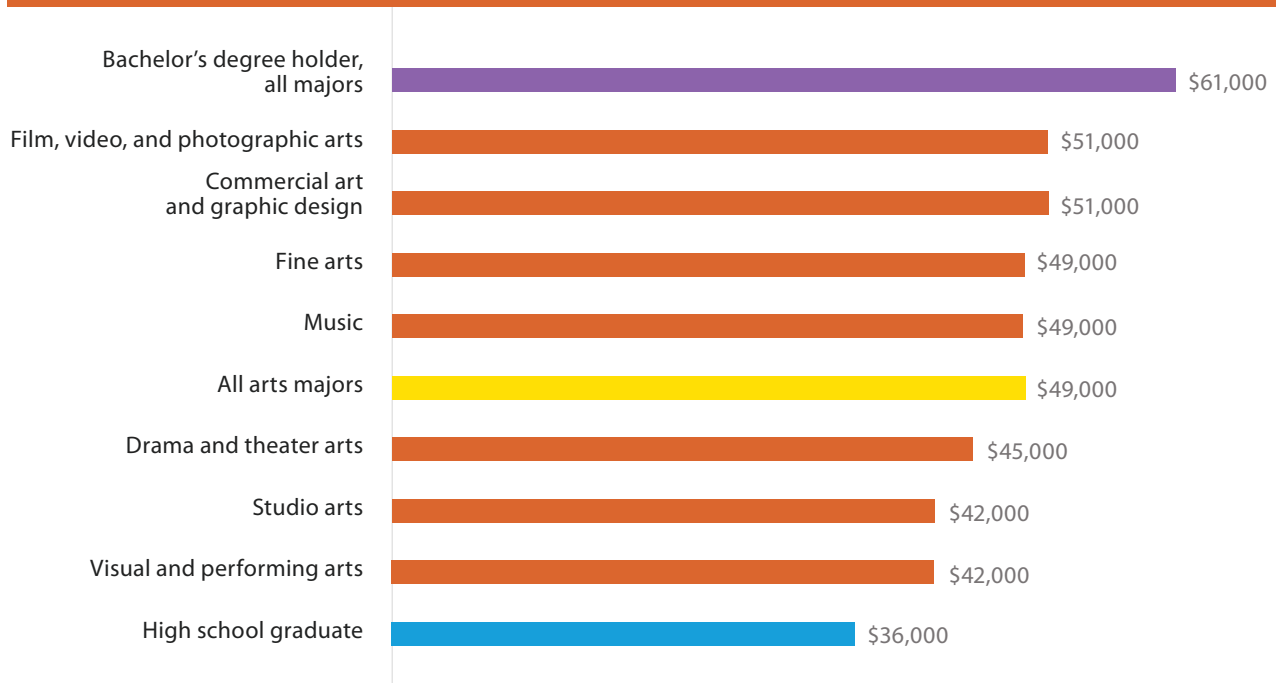
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

Outcomes for Bachelor's degree holders in the field of arts

FIGURE 3.14 | Arts majors earn less than the average college graduate.

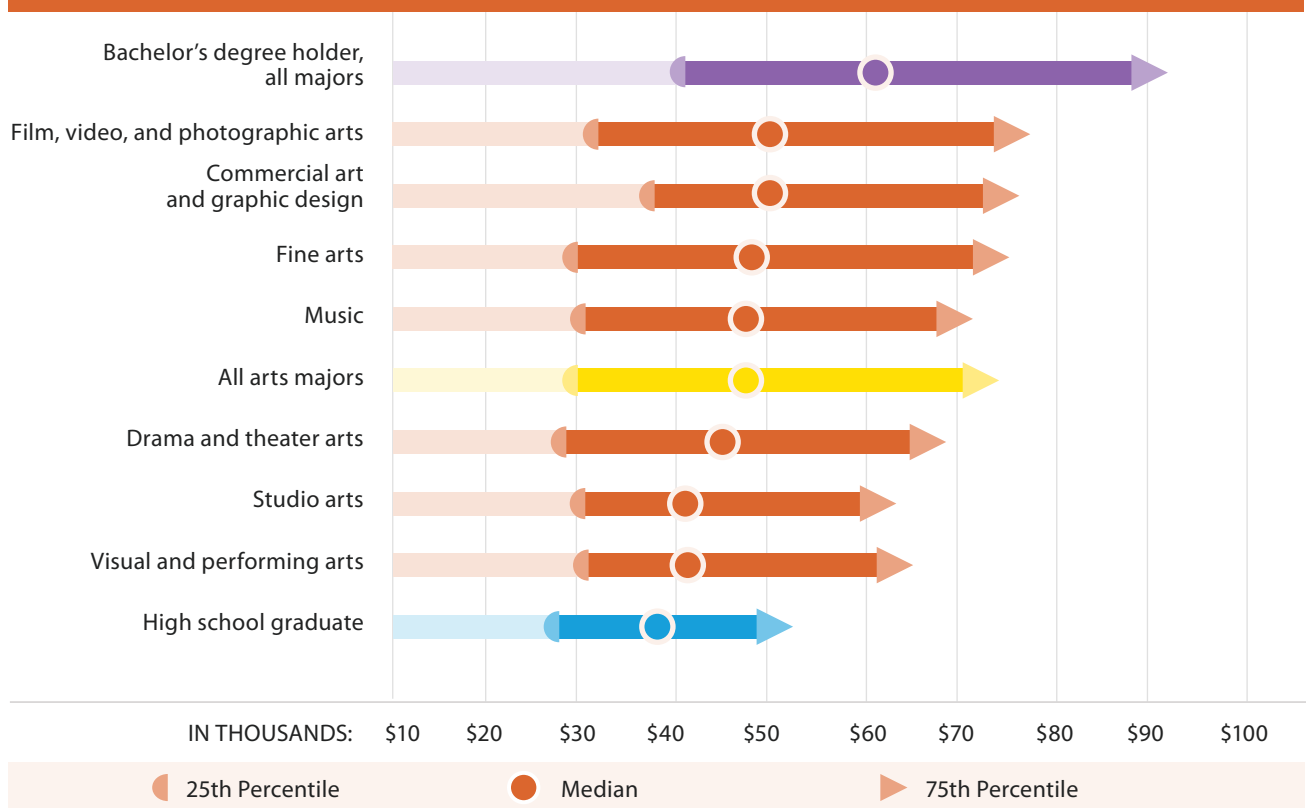
Median annual wages of college-educated workers with arts majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.15 | Some college graduates with arts majors earn \$70,000 annually, but others earn only \$30,000 annually.

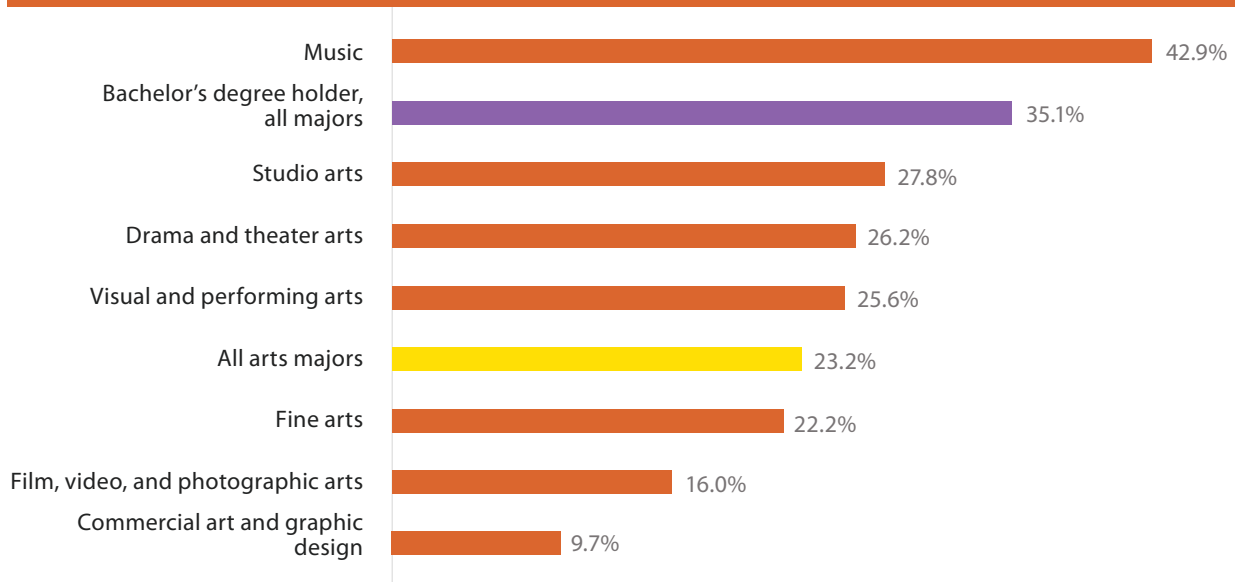
Interquartile range of annual wages of college-educated workers with agriculture and natural resources majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.16 | Music majors are the only arts majors who are more likely to complete a graduate degree than the average college graduate.

Graduate degree attainment of college graduates with arts majors (ages 25-59) by major subgroup, 2013

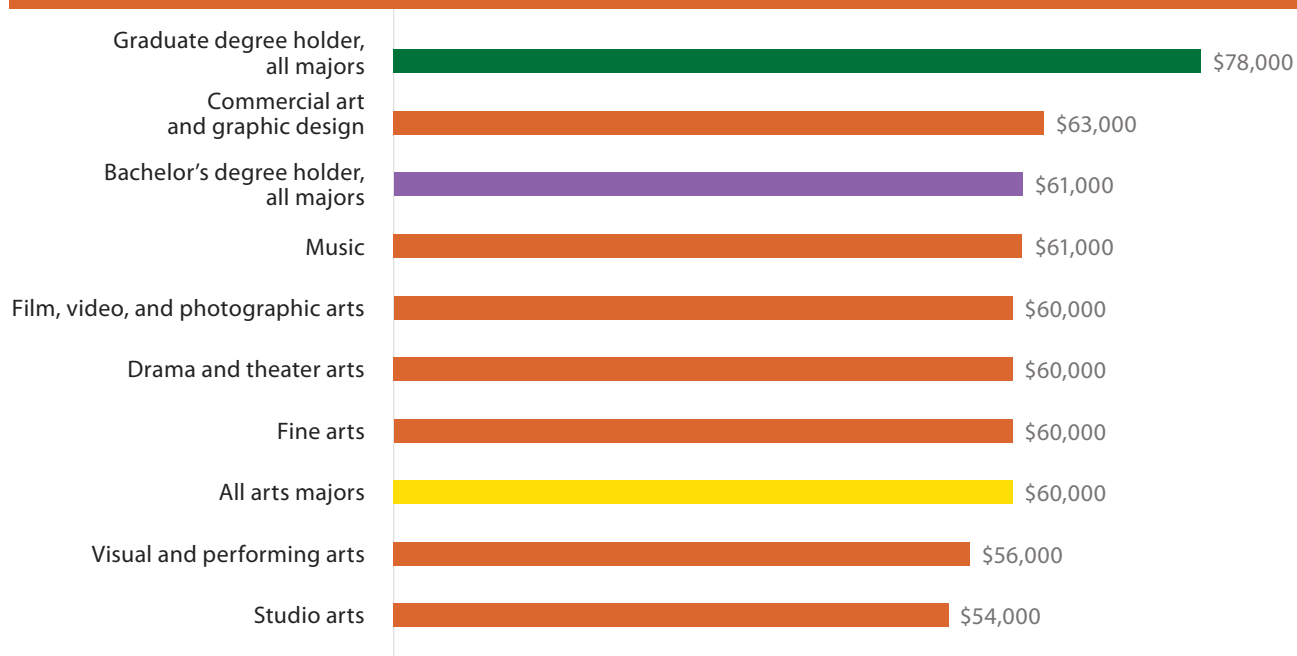


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, American Community Survey micro data, 2009-2013.

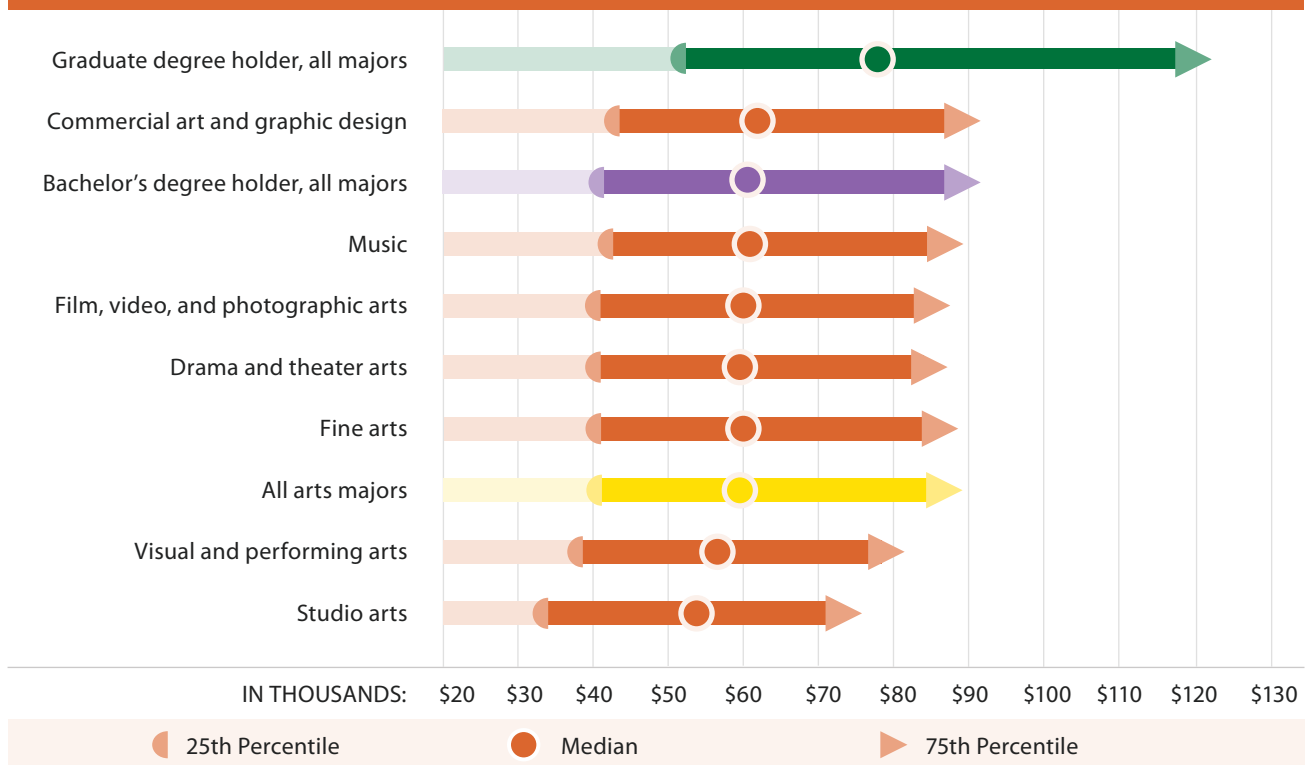
Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.17 | Arts majors with graduate degrees earn less than the average graduate degree holder, and many earn less than the average college graduate.

**Median annual wages of graduate degree holders with arts majors (ages 25-59)
by major subgroup (2013\$)**



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.18 | Graduate degree-holders who majored in arts earn less than the average graduate-degree holder.**Interquartile range of annual wages of college-educated workers with arts majors (ages 25-59) by major subgroup (2013\$)**

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.3 | Among arts majors, drama and theater arts majors and visual and performing arts majors receive the largest wage premium from a graduate degree, while film, video, and photographic arts majors receive the smallest wage premium.

Major group	Median annual wages of college-educated workers (ages 25-59) with arts majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All arts majors	49,000	60,000	11,000	22
Major subgroups				
Drama and theater arts	45,000	60,000	15,000	33
Visual and performing arts	42,000	56,000	14,000	33
Studio arts	42,000	54,000	12,000	29
Music	49,000	61,000	12,000	24
Commercial art and graphic design	51,000	63,000	12,000	24
Fine arts	49,000	60,000	11,000	22
Film, video, and photographic arts	51,000	60,000	9,000	18

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, American Community Survey micro data, 2009-2013.

BIOLOGY AND LIFE SCIENCES

SHARE OF ALL MAJORS

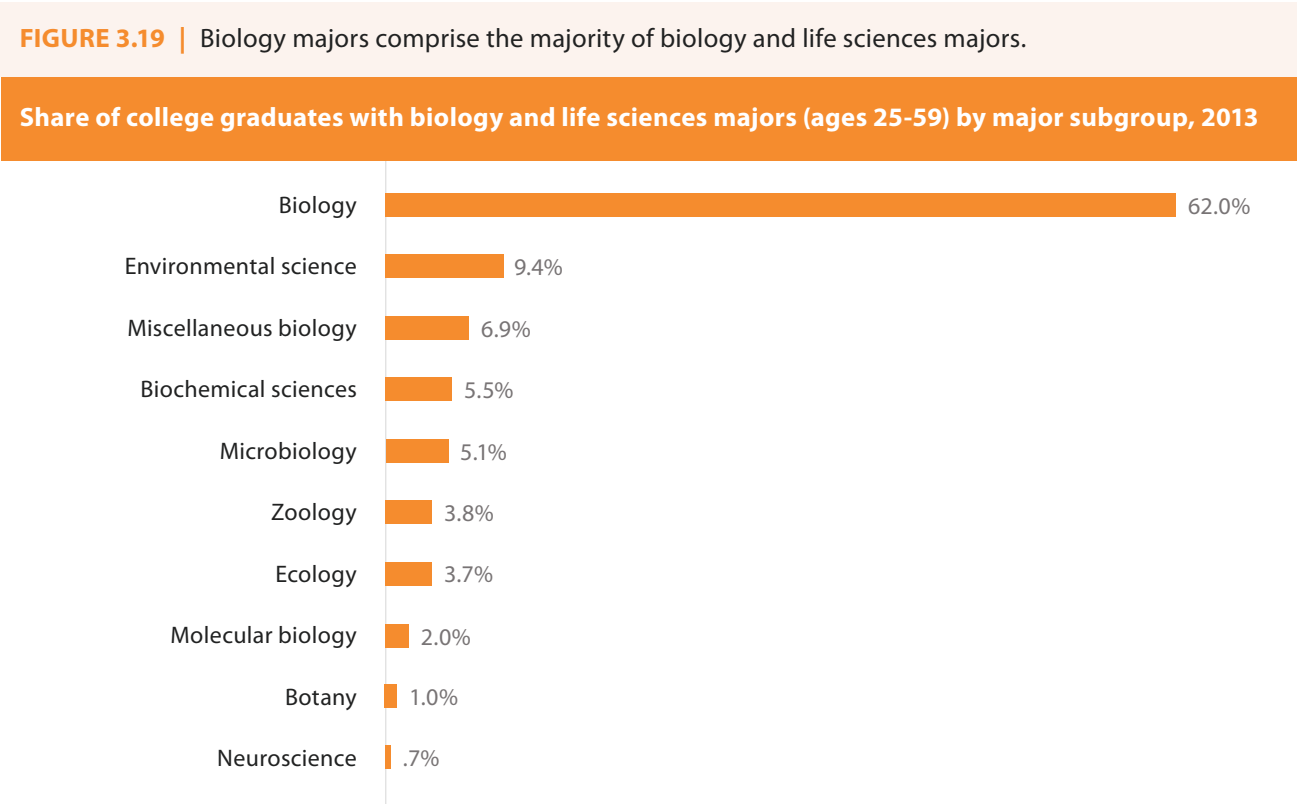
3.3%

GRADUATE DEGREE ATTAINMENT

57.7%



Prevalence of major subgroups in the fields of biology and life sciences

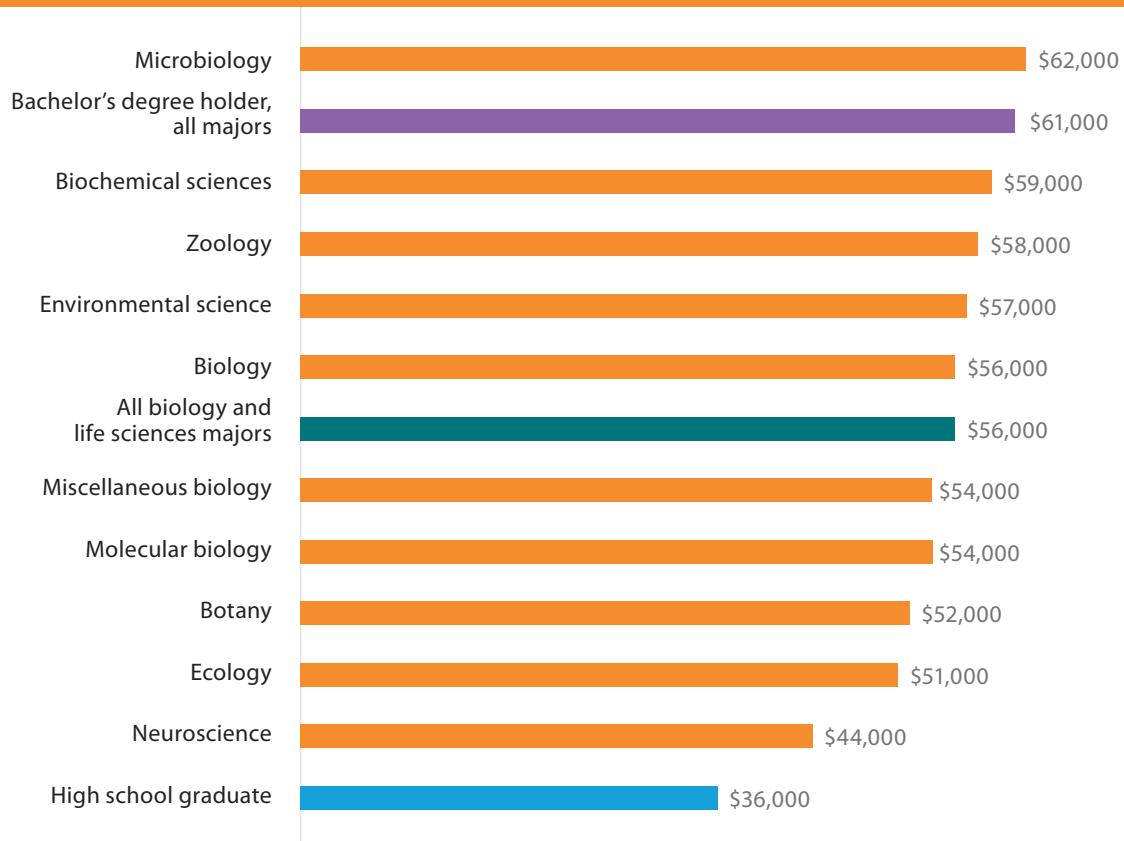


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, American Community Survey micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.20 | Among biology and life sciences majors, microbiology majors have the highest wages, while neuroscience majors have the lowest wages.

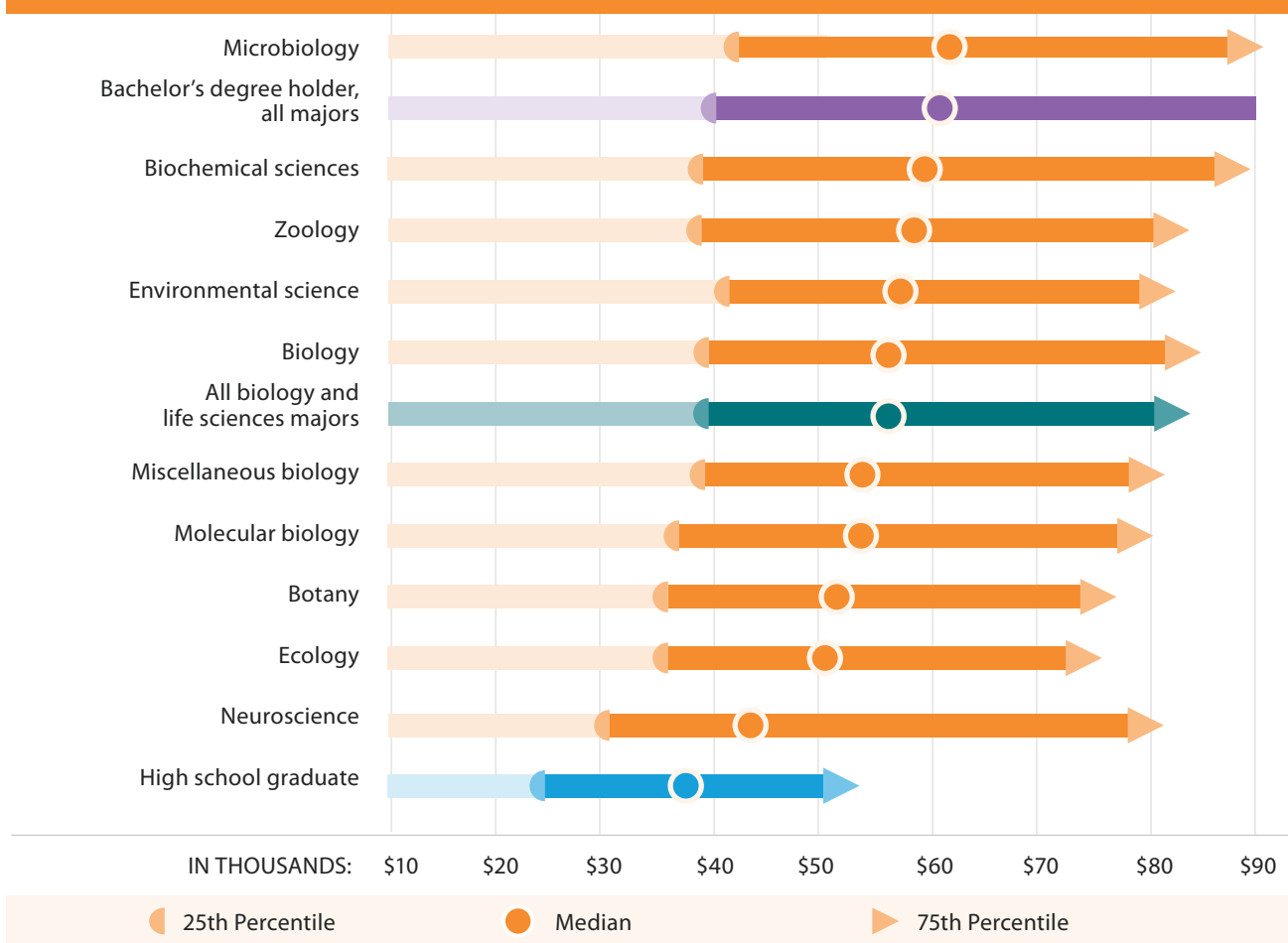
Median annual wages of college-educated workers with biology and life sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.21 | Among arts majors, drama and theater arts majors and visual and performing arts majors receive the largest wage premium from a graduate degree, while film, video, and photographic arts majors receive the smallest wage premium.

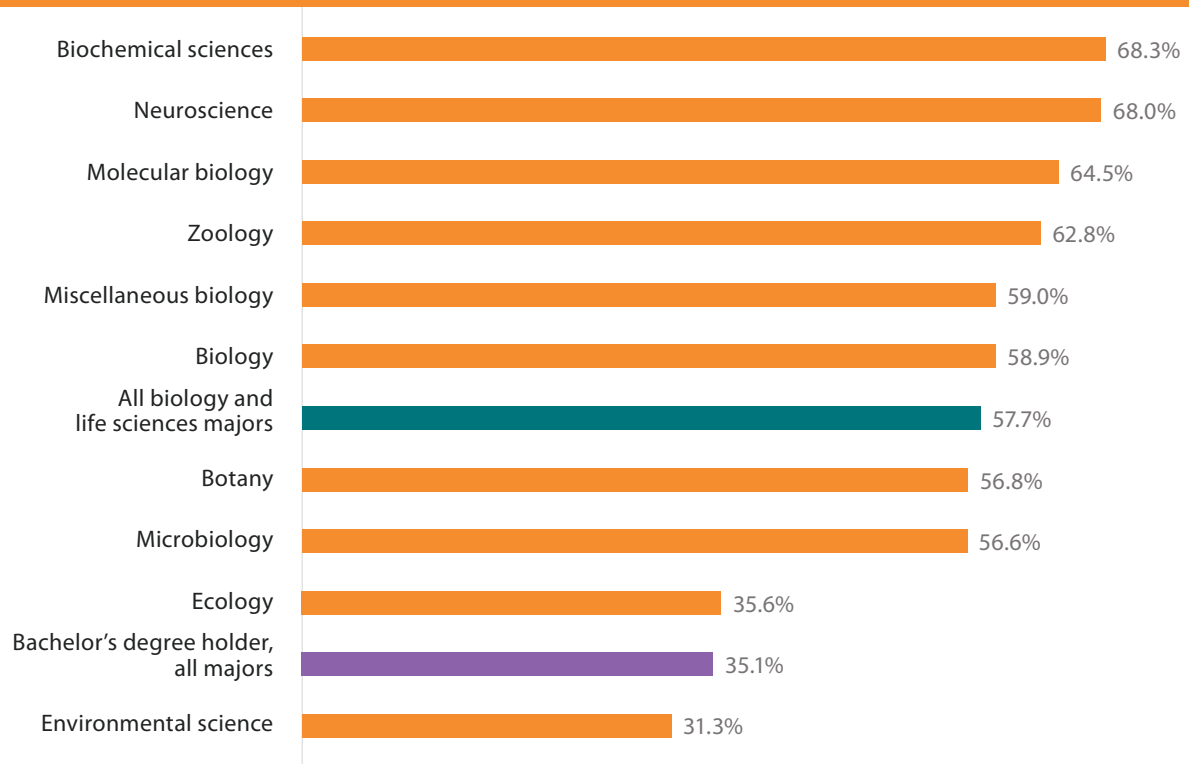
Interquartile range of annual wages of college-educated workers with agriculture and natural resources majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.22 | Among biology and life sciences majors, those who majored in biochemical sciences and neuroscience are the most likely to complete a graduate degree.

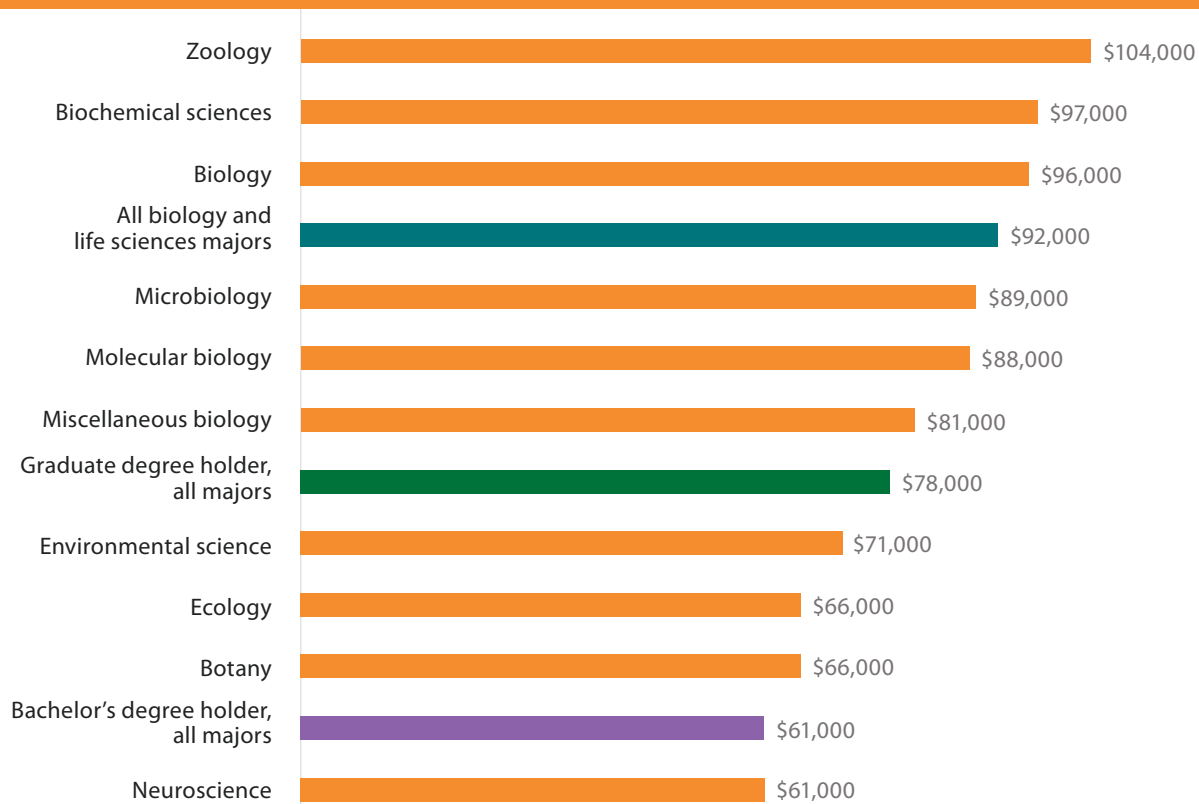
Graduate degree attainment of college graduates with biology and life sciences majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.23 | Among graduate degree holders with biology or life sciences majors, zoology majors earn \$104,000 annually, while neuroscience majors earn \$61,000 annually.

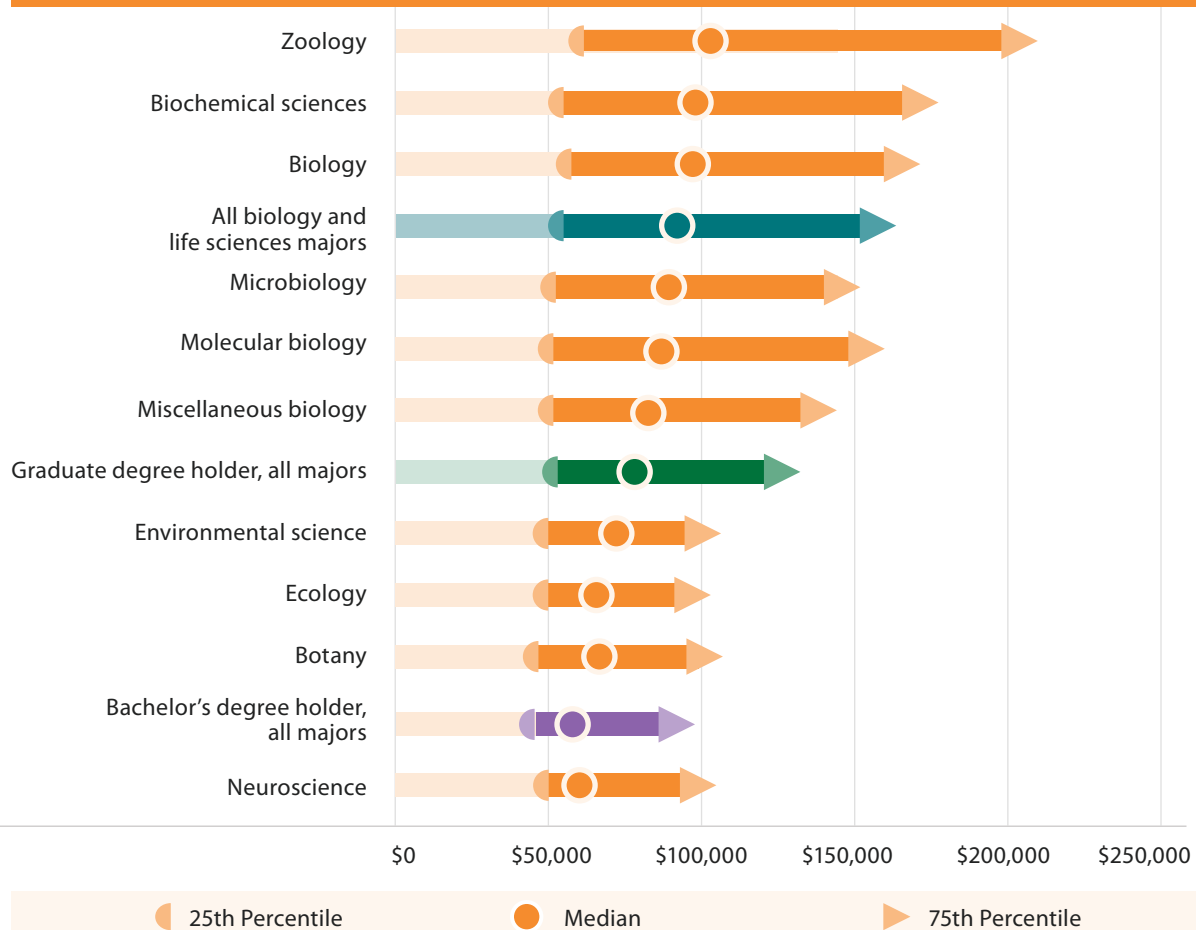
Median annual wages of graduate degree holders with biology and life sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.24 | Among graduate degree holders with biology or life sciences majors, the top 25 percent of zoology majors earn more than \$200,000 annually, while the bottom 25 percent of neuroscience majors earn less than \$50,000 annually.

Interquartile range of annual wages of graduate degree holders with biology and life sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.4 | Zoology majors with graduate degrees earn 79 percent more than those with Bachelor's degrees, the largest wage premium among biology and life sciences majors.

Major group	Median annual wages of college-educated workers (ages 25-59) with biology and life sciences majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All biology and life sciences majors	56,000	92,000	36,000	64
Major subgroups				
Zoology	58,000	104,000	46,000	79
Biology	56,000	96,000	40,000	71
Biochemical sciences	59,000	97,000	38,000	64
Molecular biology	54,000	88,000	34,000	63
Miscellaneous biology	54,000	81,000	27,000	50
Microbiology	62,000	89,000	27,000	44
Ecology	51,000	66,000	15,000	29
Neuroscience	48,000	61,000	13,000	27
Botany	52,000	66,000	14,000	27
Environmental science	57,000	71,000	14,000	25

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

BUSINESS

SHARE OF ALL MAJORS

26.1%

GRADUATE DEGREE ATTAINMENT

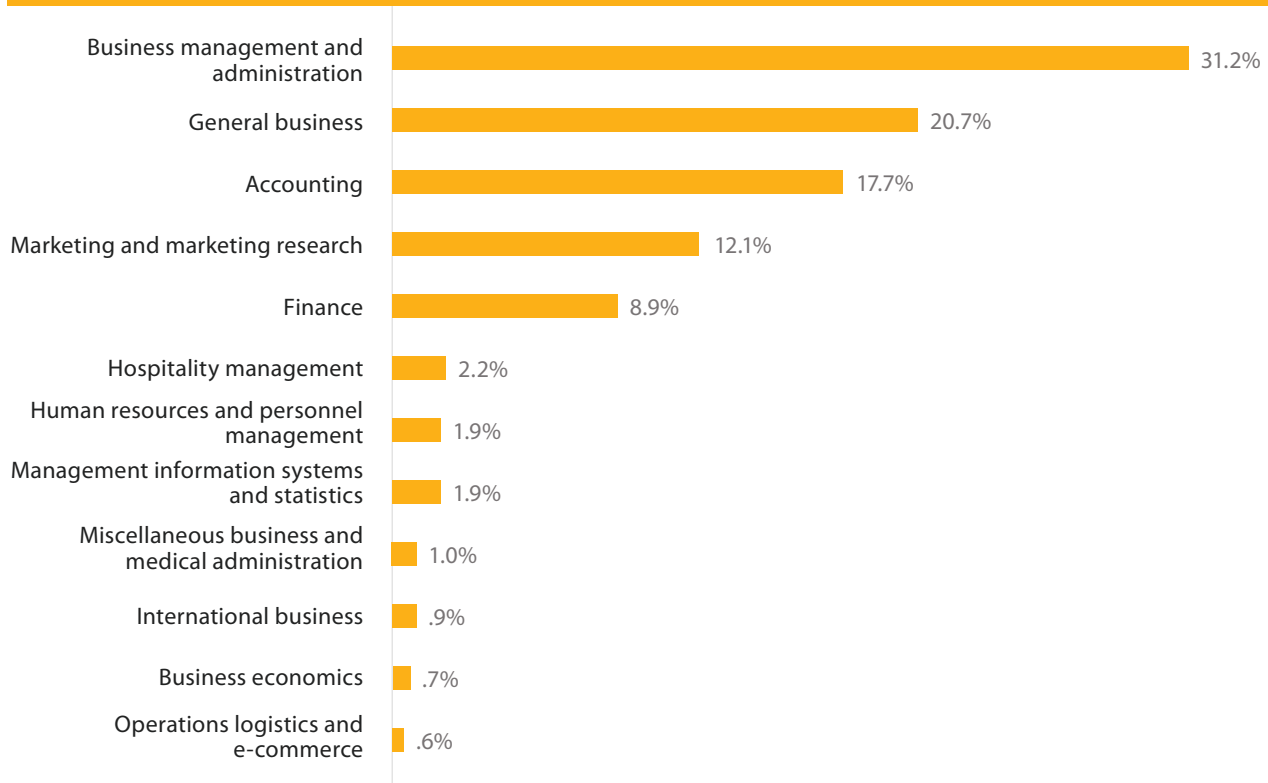
22.2%



Prevalence of major subgroups in the field of business

FIGURE 3.25 | Business management and administration majors comprise one out of three of business majors.

Share of college graduates with business majors (ages 25-59) by major subgroup, 2013



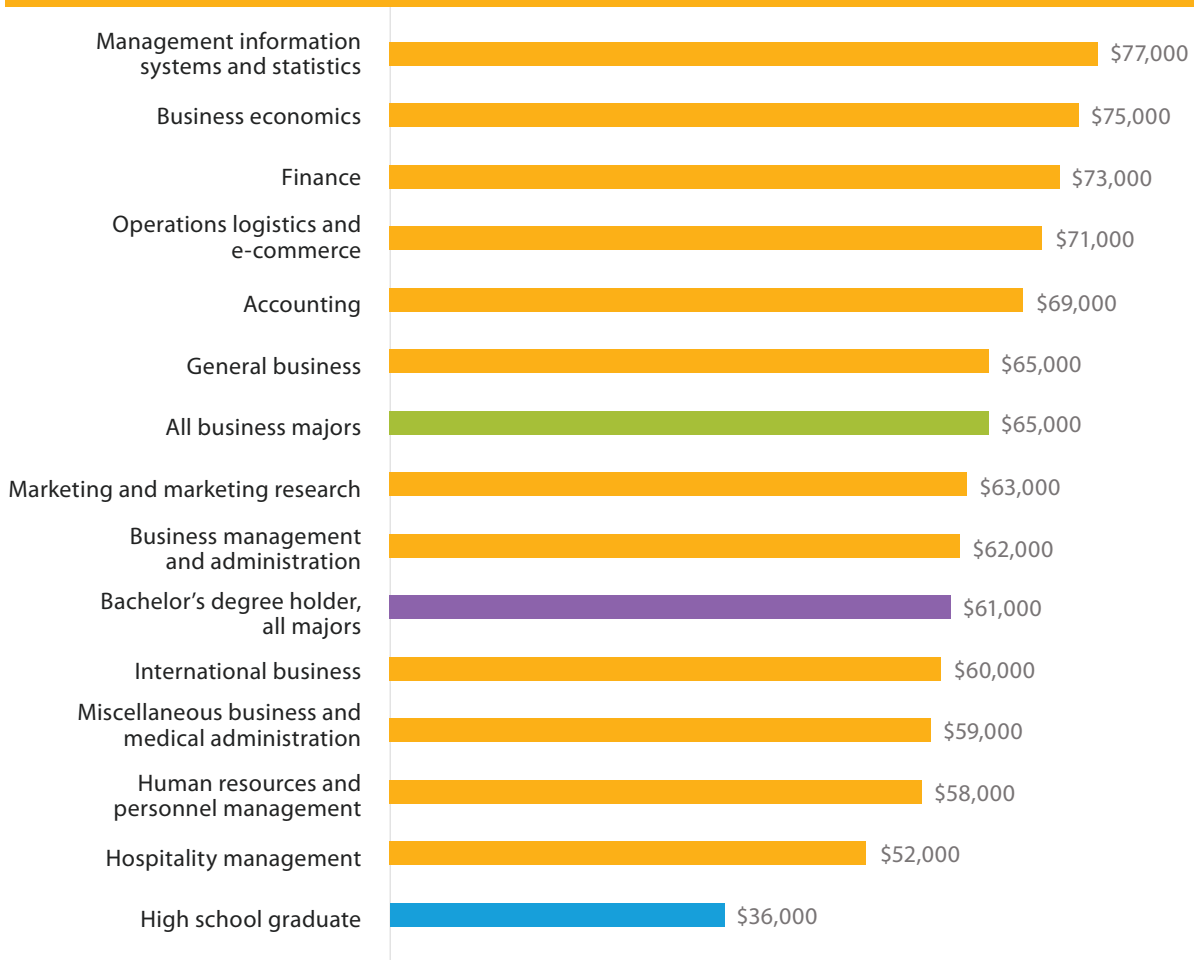
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

Outcomes for Bachelor's degree holders in the field of business

FIGURE 3.26 | Among graduate degree holders with biology or life sciences majors, zoology majors earn \$104,000 annually, while neuroscience majors earn \$61,000 annually.

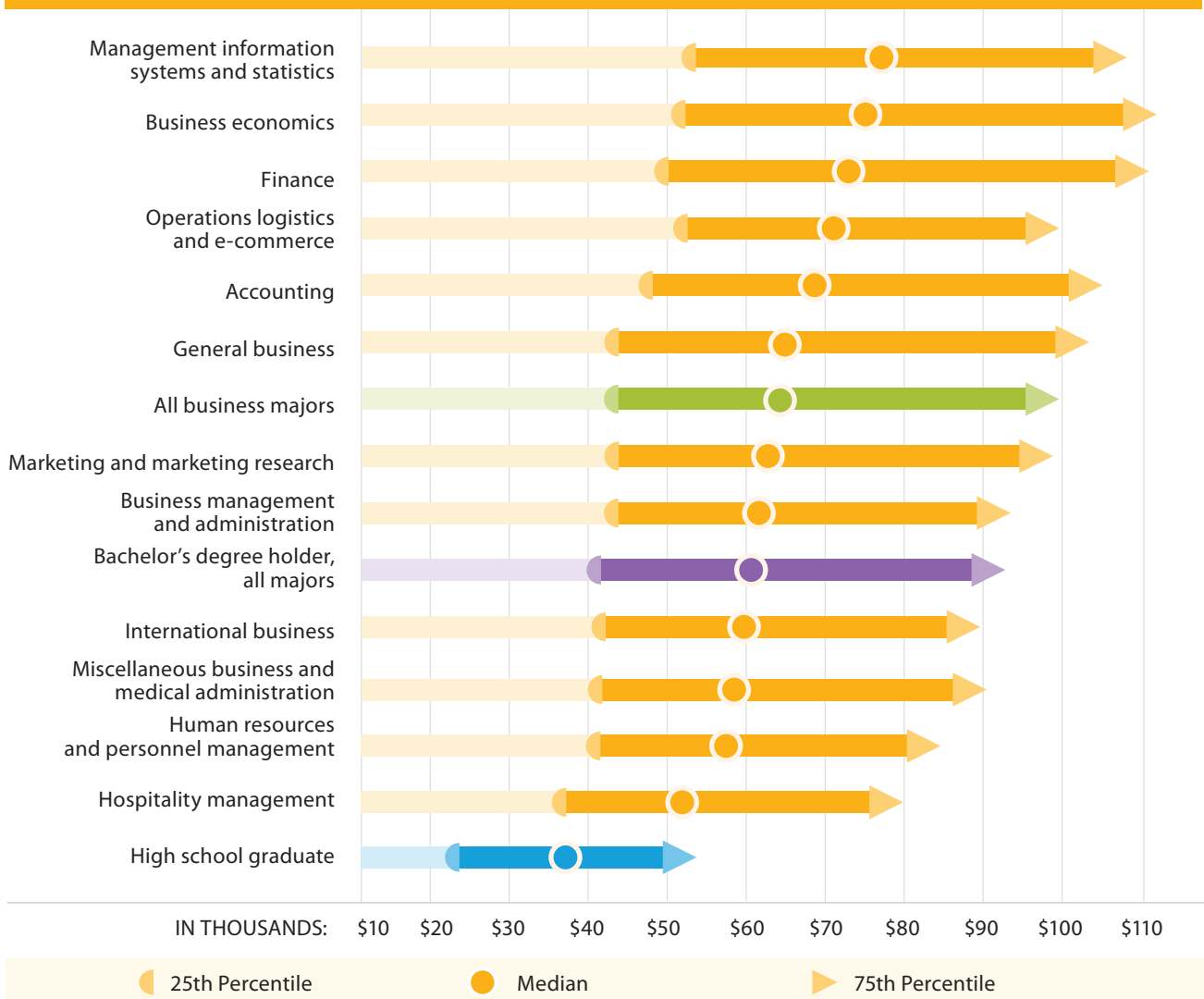
Median annual wages of graduate degree holders with biology and life sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.27 | Some business majors earn more than \$100,000 annually, while others earn less than \$50,000.

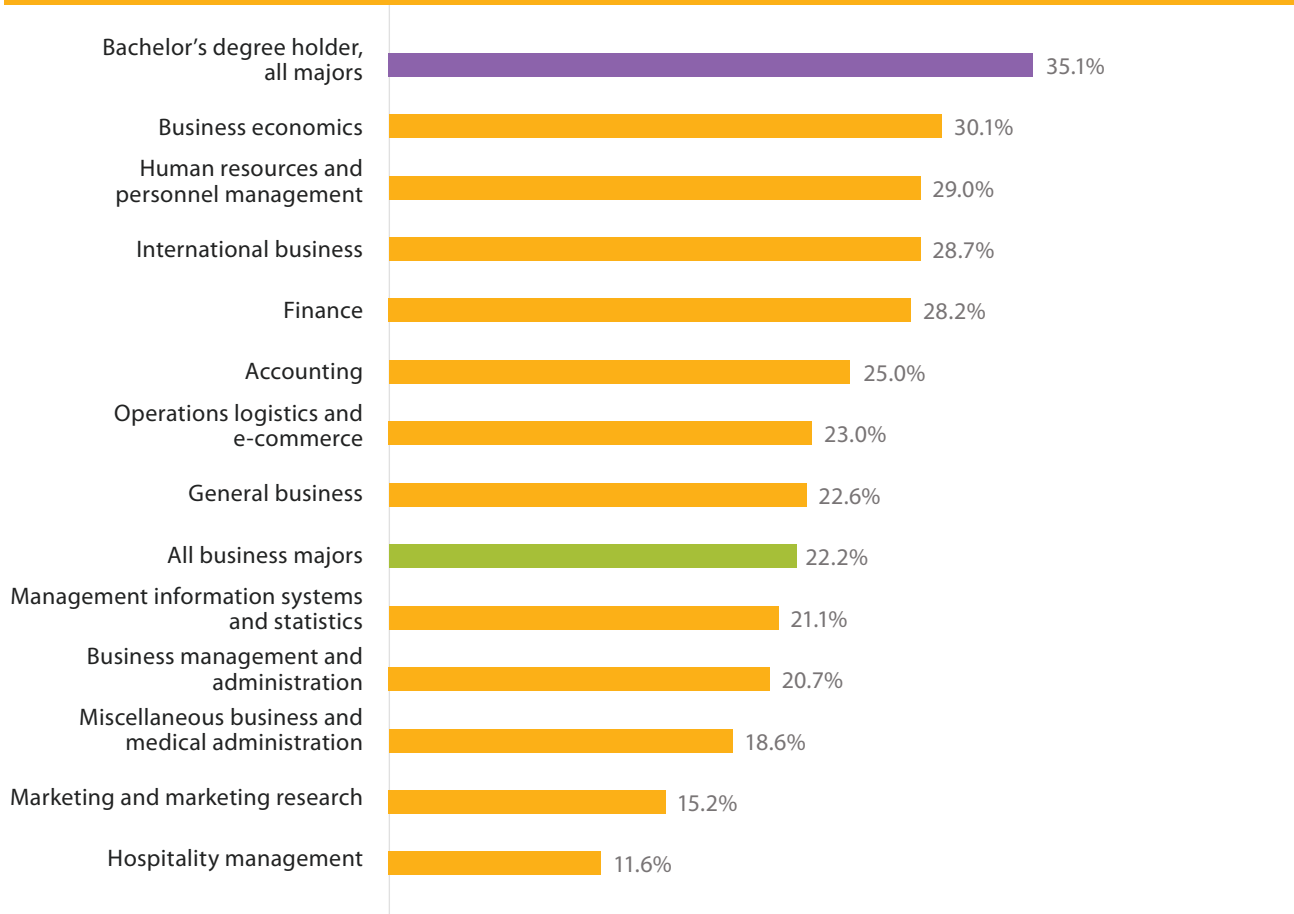
Interquartile range of annual wages of college-educated workers with business majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.28 | Among business majors, business economics majors are the most likely to complete a graduate degree, while hospitality management majors are the least likely.

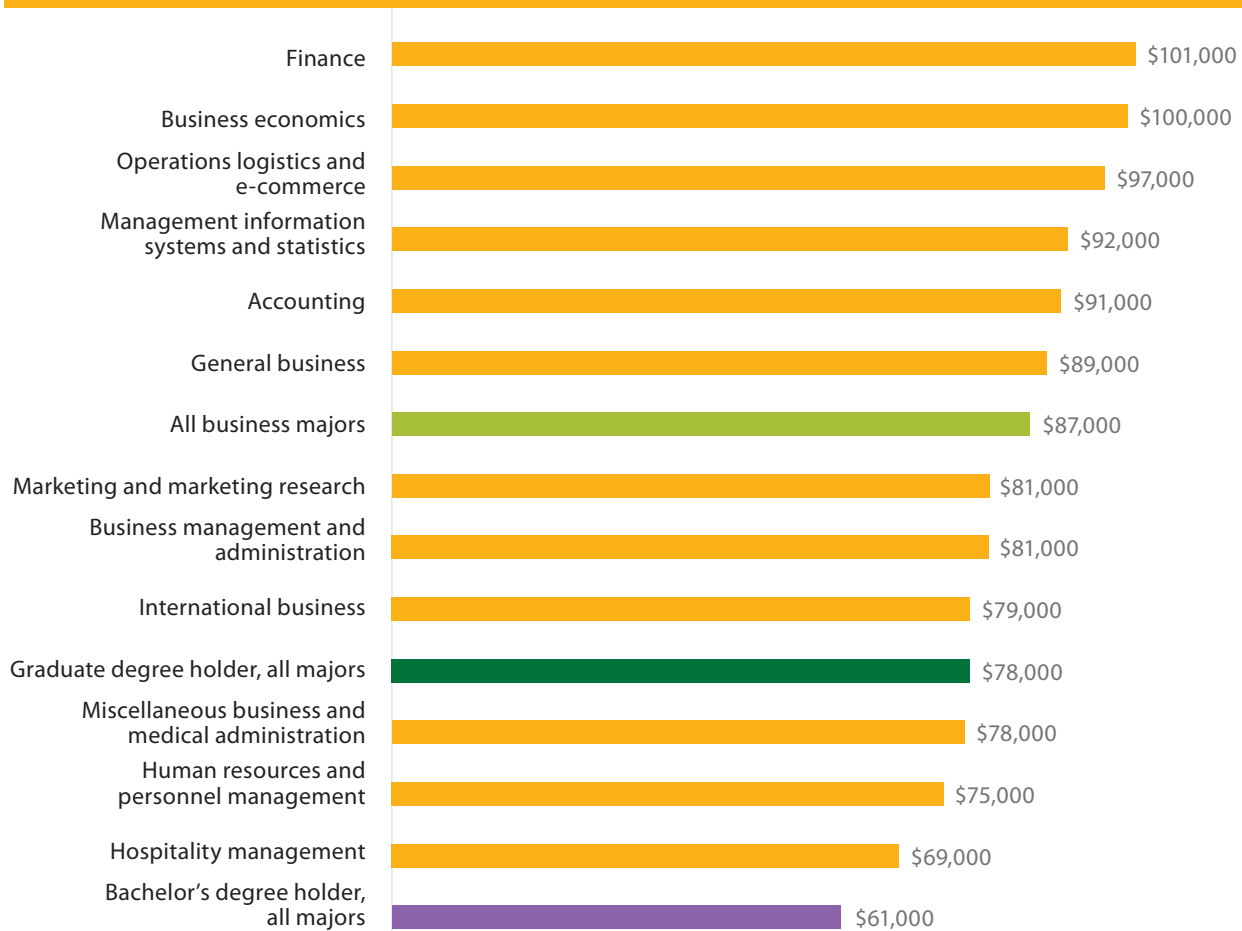
Graduate degree attainment of college graduates with business majors by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.29 | Among graduate degree holders with a business major, finance majors earn \$101,000 annually, while hospitality majors earn \$69,000.

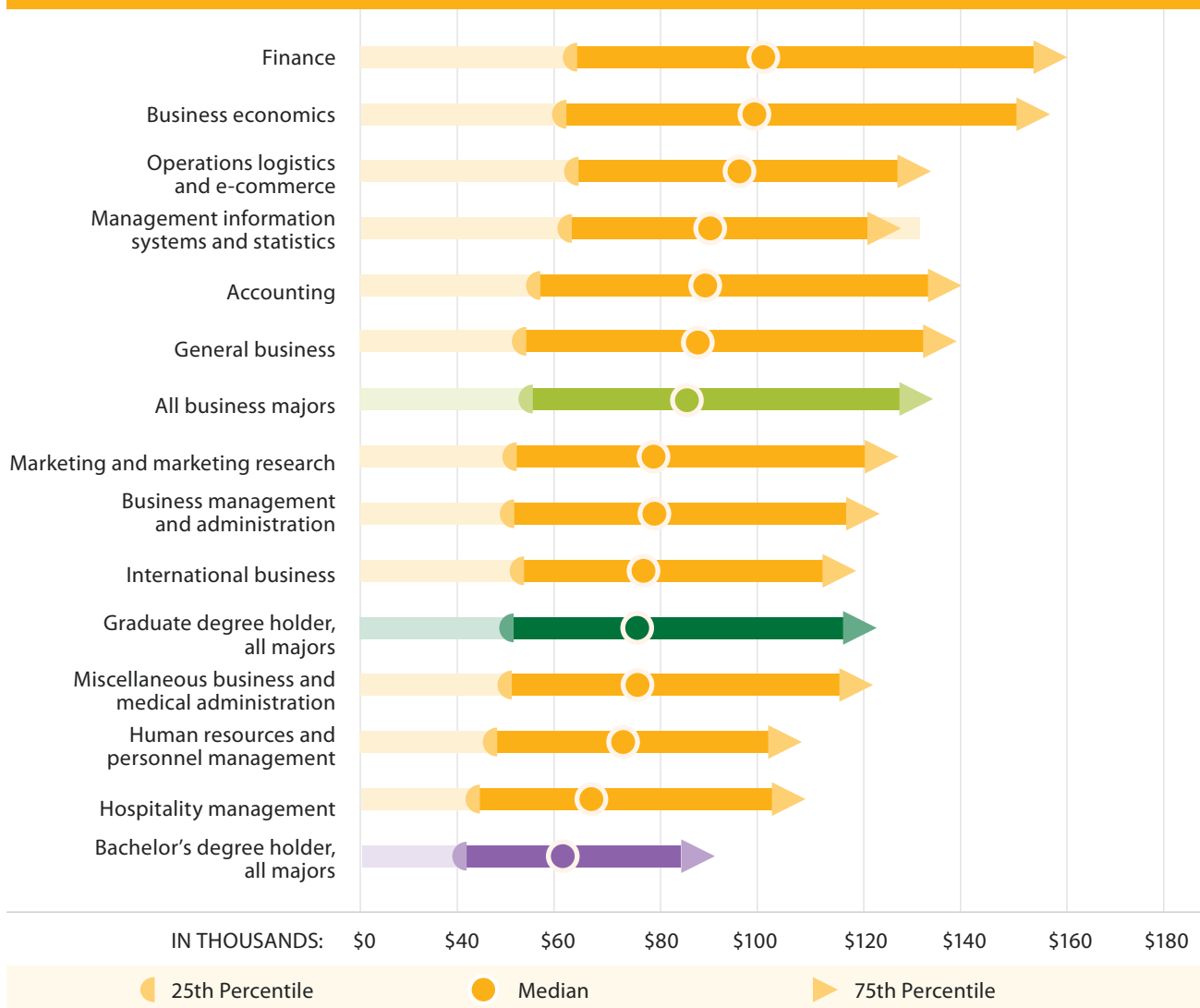
**Median annual wages of graduate degree holders with business majors (ages 25-59)
by major subgroup (2013\$)**



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.30 | The top 25 percent of finance majors with graduate degrees earn more than \$150,000 annually; the bottom 25 percent of hospitality management majors with graduate degrees earn less than \$50,000 annually.

Interquartile range of annual wages of graduate degree holders with business majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.5 | Finance majors receive the largest wage premium from a graduate degree at 38 percent.

Major group	Median annual wages of college-educated workers (ages 25-59) with business majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All business majors	65,000	87,000	22,000	34
Major subgroups				
Finance	73,000	101,000	28,000	38
General business	65,000	89,000	24,000	37
Operations logistics and e-commerce	71,000	97,000	26,000	37
Business economics	75,000	100,000	25,000	33
Hospitality management	52,000	69,000	17,000	33
Miscellaneous business and medical administration	59,000	78,000	19,000	32
Accounting	69,000	91,000	22,000	32
International business	60,000	79,000	19,000	32
Business management and administration	62,000	81,000	19,000	31
Human resources and personnel management	58,000	75,000	17,000	29
Marketing and marketing research	63,000	81,000	18,000	29
Management information systems and statistics	77,000	92,000	15,000	19

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

COMMUNICATIONS AND JOURNALISM

SHARE OF ALL MAJORS

5.2%

GRADUATE DEGREE ATTAINMENT

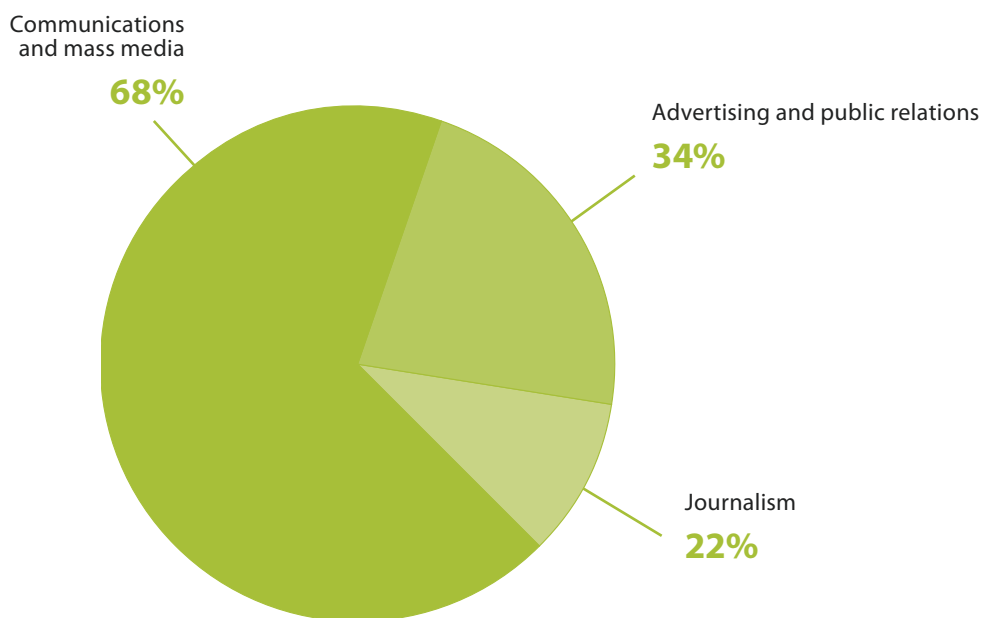
21%



Prevalence of major subgroups in the fields of communications and journalism

FIGURE 3.31 | Communications and mass media majors comprise two out of every three communications and journalism majors.

Share of college graduates with communications and journalism majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.32 | Communications and journalism majors earn less than the average college graduate.

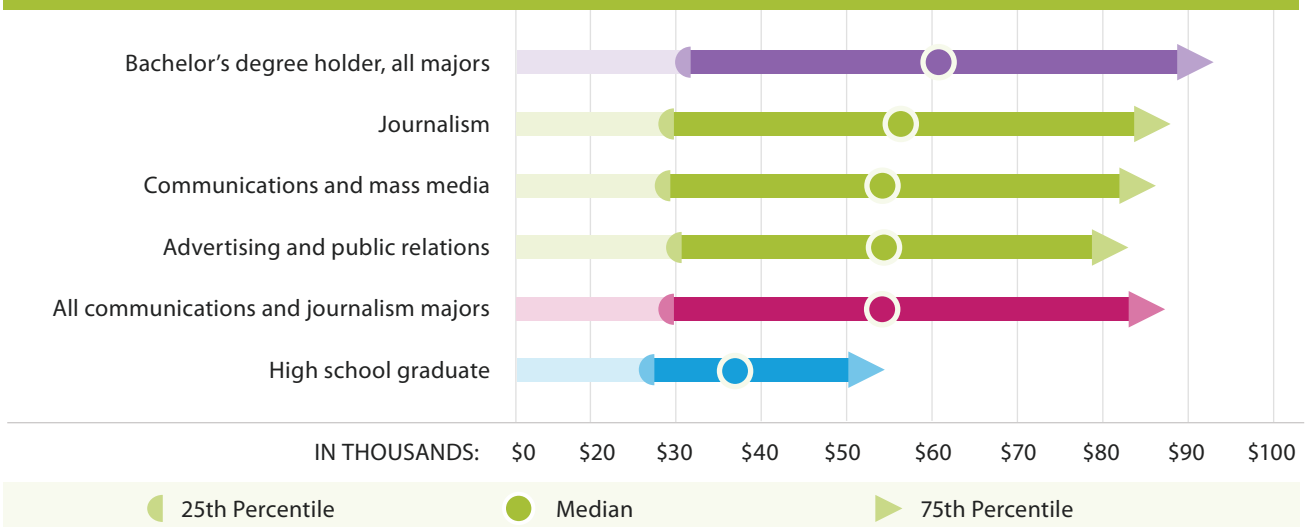
Median annual wages of college-educated workers with communications and journalism majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.33 | The top 25 percent of communications and journalism majors earn more than \$80,000 annually, while the bottom 25 percent earn less than \$40,000.

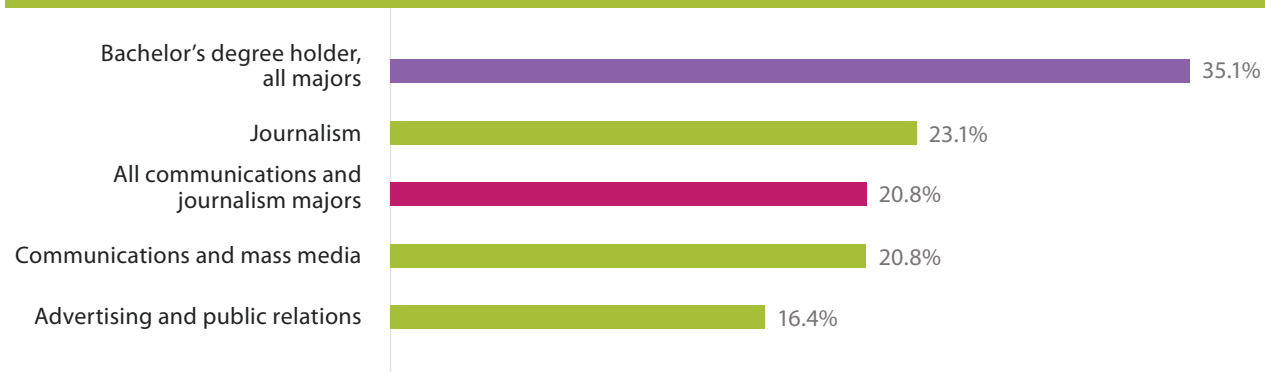
Interquartile range of annual wages of graduate degree holders with business majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.34 | Communications and journalism majors are less likely than average college graduates to complete graduate degrees.

Graduate degree attainment of college graduates with communications and journalism majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.35 | Communications and journalism majors with graduate degrees earn less than the average graduate degree holder.

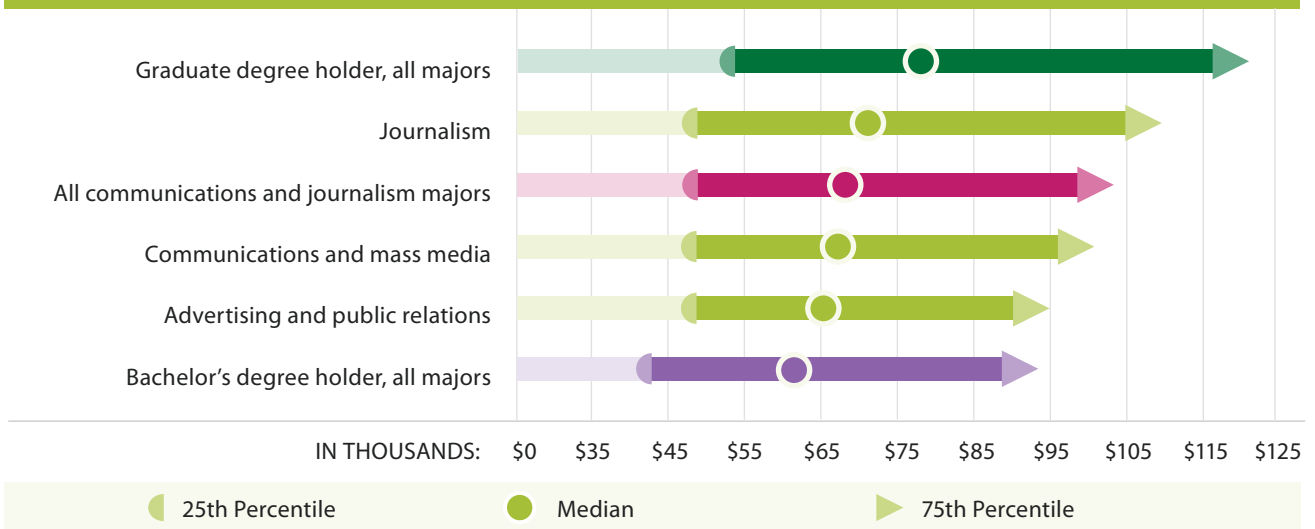
Median annual wages of graduate degree holders with communications and journalism majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.36 | The top 25 percent of journalism majors with graduate degrees earn more than \$95,000 annually, while the bottom 25 percent of communications and journalism majors with graduate degrees earn less than \$55,000 annually.

Interquartile range of annual wages of graduate degree holders with communications and journalism majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.6 | Journalism majors receive a 27 percent wage premium from a graduate degree, the largest among communications and journalism majors.

Major group	Median annual wages of college-educated workers (ages 25-59) with majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All communications and journalism majors	54,000	68,000	14,000	26
Major subgroups				
Journalism	56,000	71,000	15,000	27
Communications and mass media	54,000	67,000	13,000	24
Advertising and public relations	54,000	65,000	11,000	20

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

COMPUTERS, STATISTICS, AND MATHEMATICS

SHARE OF ALL MAJORS

5.6%

GRADUATE DEGREE ATTAINMENT

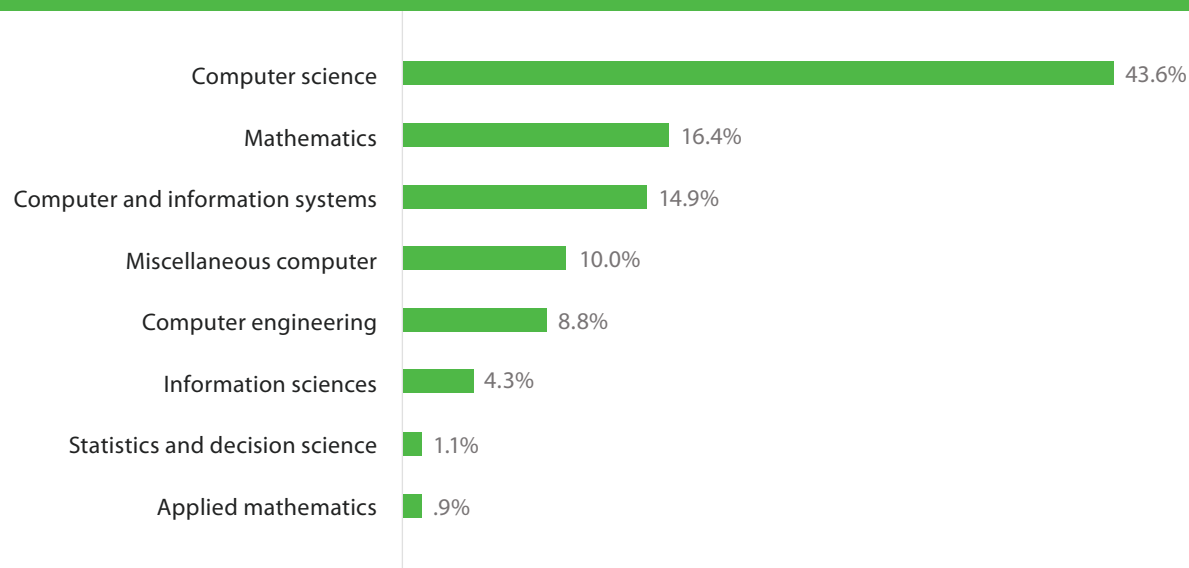
33.3%



Prevalence of major subgroups in the fields of computers, statistics, and mathematics

FIGURE 3.37 | Computer science majors comprise the plurality of computers, statistics, and mathematics majors.

Share of college graduates with computers, statistics, and mathematics majors (ages 25-59) by major subgroup, 2013

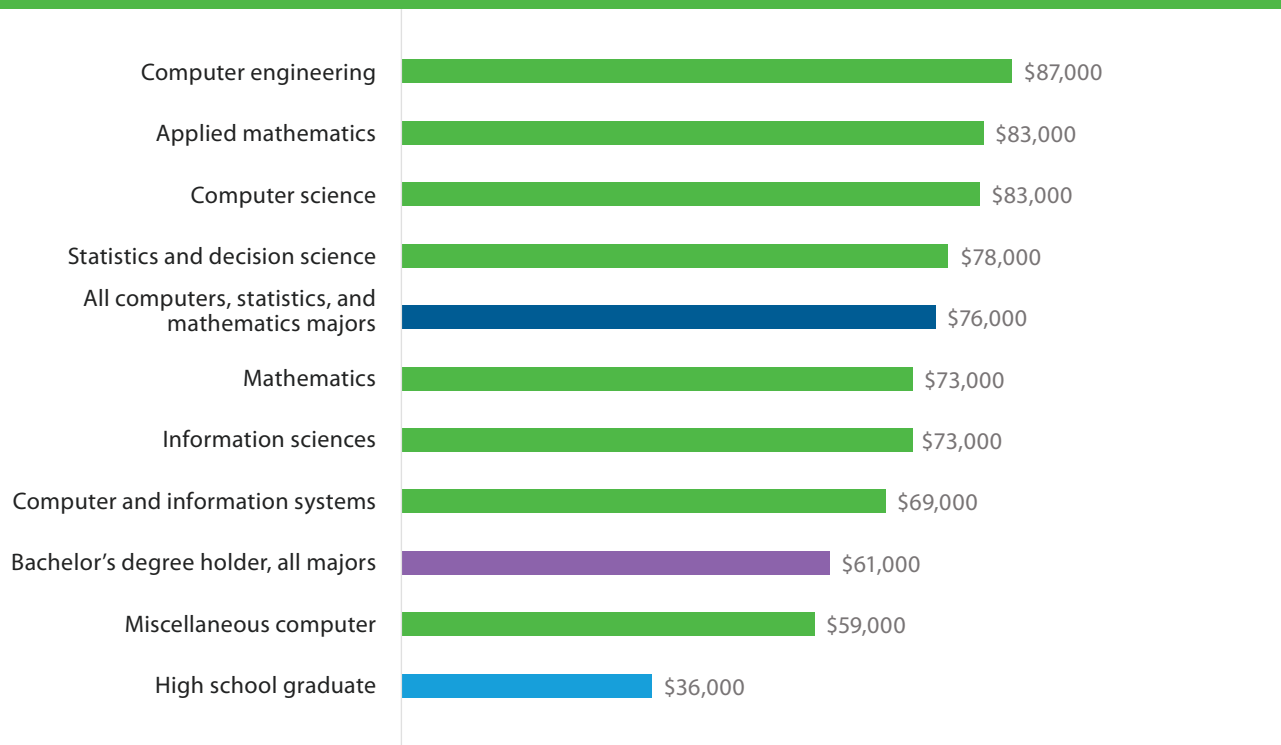


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.38 | Computer engineering majors earn \$87,000 annually, the highest among computers, statistics, and mathematics majors.

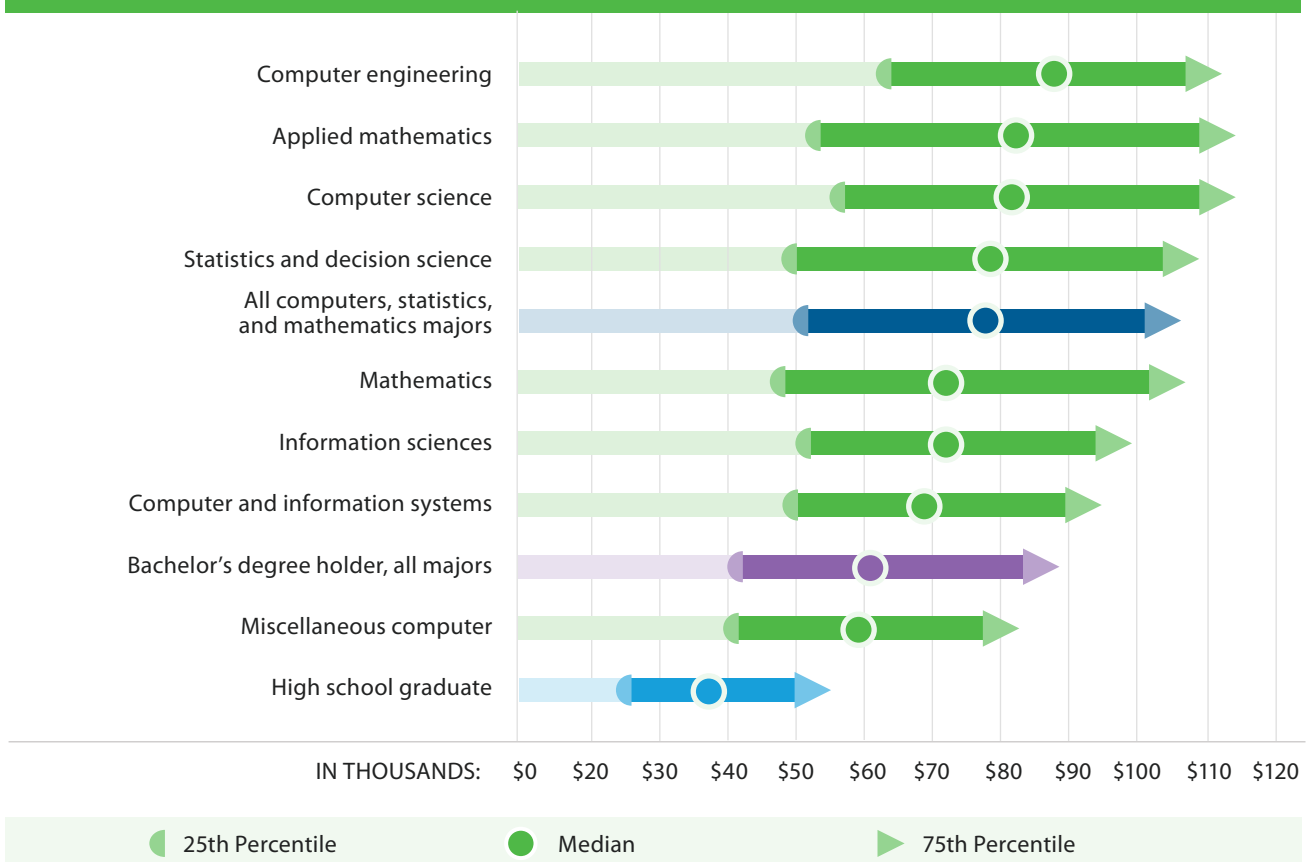
Median annual wages of college-educated workers with computers, statistics, and mathematics majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.39 | The top 25 percent of computer engineering, applied mathematics, and computer science majors earn more than \$110,000 annually.

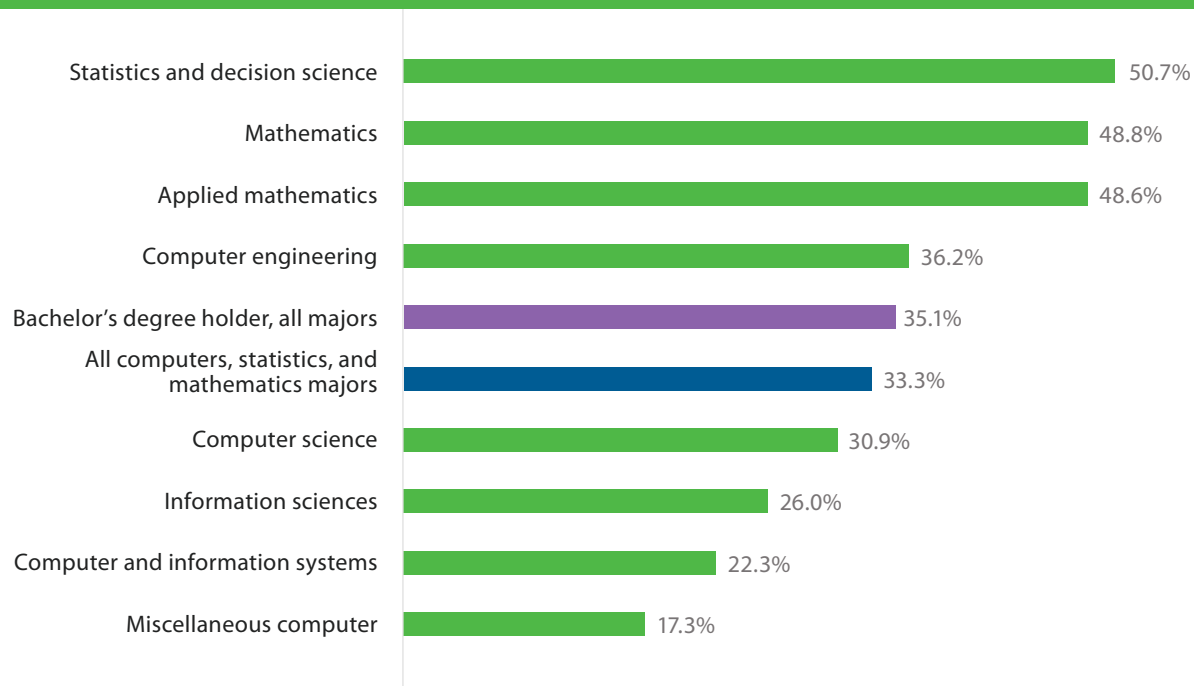
Interquartile range of annual wages of college-educated workers with computers, statistics, and mathematics majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.40 | More than half of college graduates who major in statistics and decision science earn a graduate degree, the highest among computers, statistics, and mathematics majors.

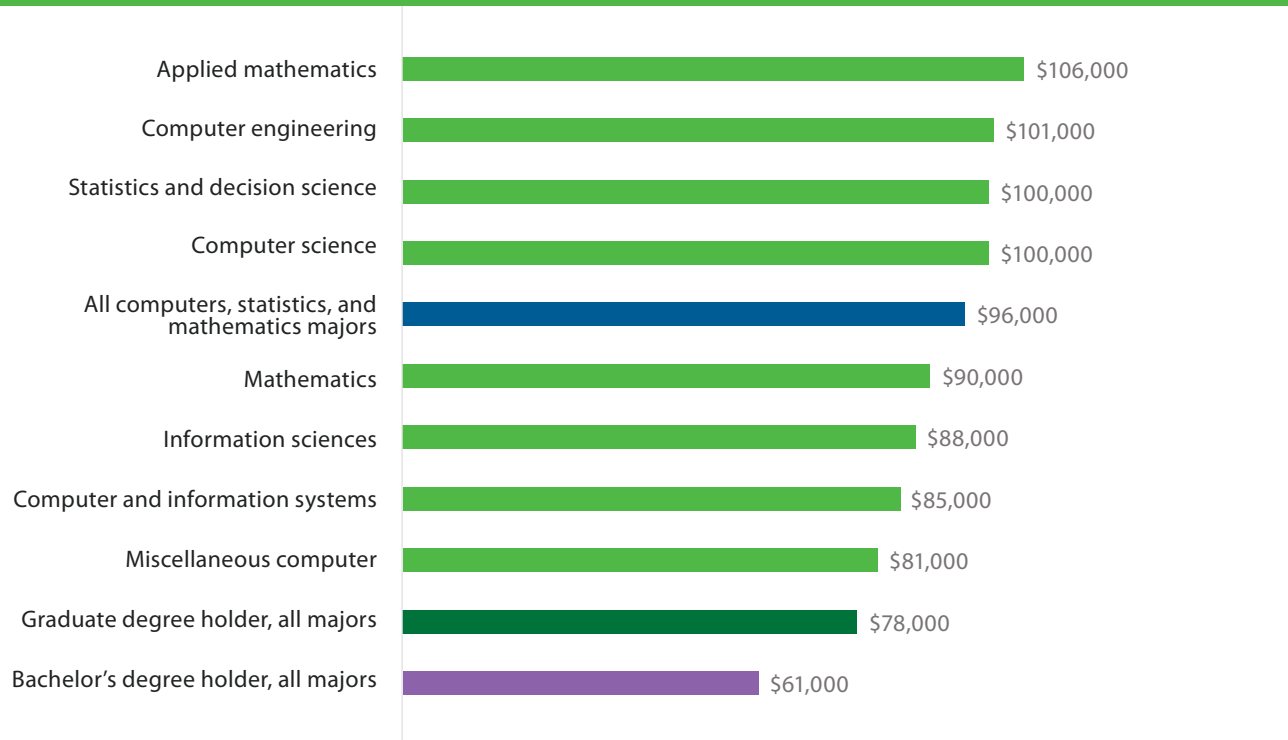
Graduate degree attainment of college graduates with computers, statistics, and mathematics majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.41 | Graduate degree holders who majored in applied mathematics earn \$106,000 annually, the highest among graduate degree holders who majored in computers, statistics, or mathematics.

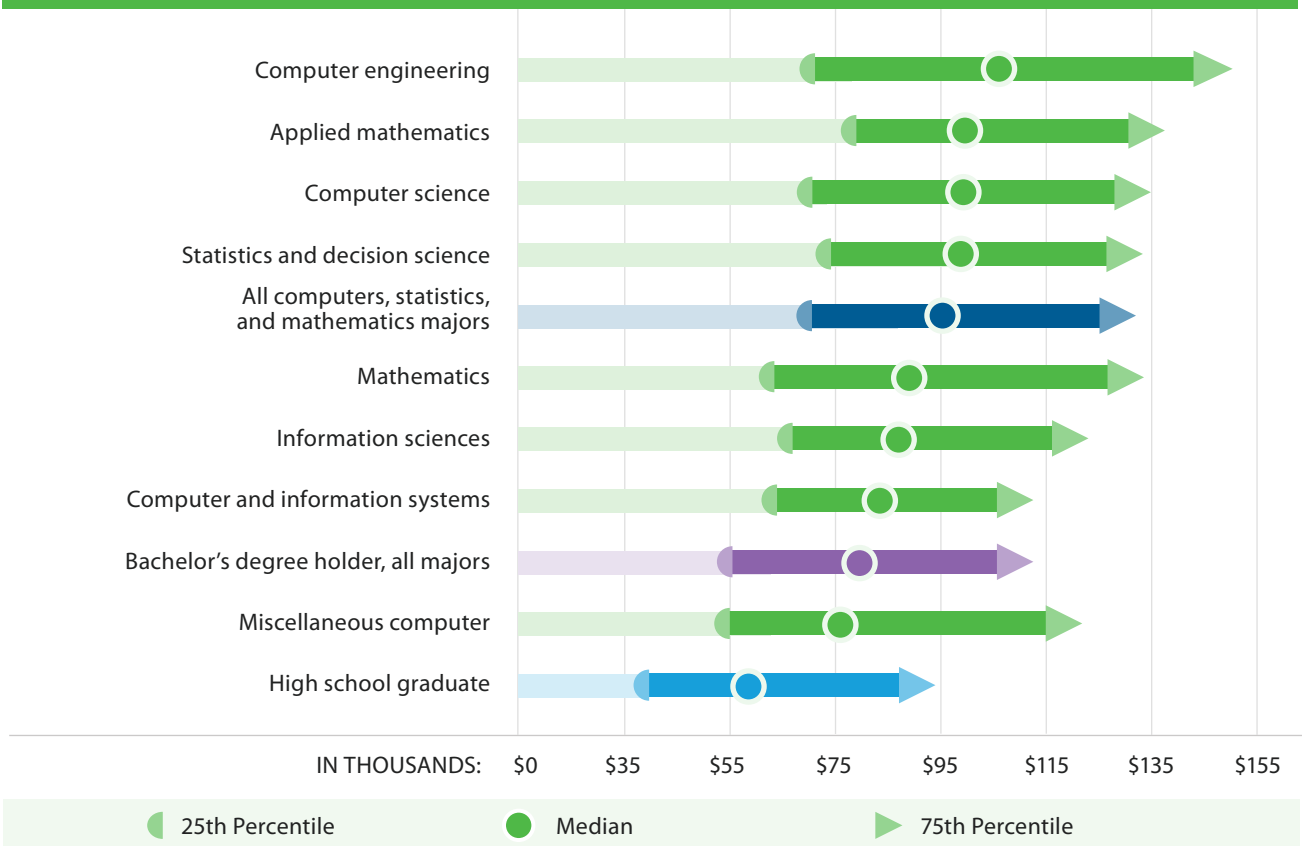
Median annual wages of graduate degree holders with computers, statistics, and mathematics majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.42 | The top 25 percent of graduate degree holders who majored in applied mathematics earn more than \$135,000 annually.

Interquartile range of annual wages of graduate degree holders with computers, statistics, and mathematics majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.7 | Applied mathematics majors and statistics and decision science majors with graduate degrees earn a premium of 28 percent, while computer engineering majors with graduate degrees earn a 16 percent premium.

Major group	Median annual wages of college-educated workers (ages 25-59) with computers, statistics, and mathematics majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All computers, statistics, and mathematics majors	76,000	96,000	20,000	26
Major subgroups				
Miscellaneous computer	59,000	81,000	22,000	37
Statistics and decision science	78,000	100,000	22,000	28
Applied mathematics	83,000	106,000	23,000	28
Mathematics	73,000	90,000	17,000	23
Computer and information systems	69,000	85,000	16,000	23
Information sciences	73,000	88,000	15,000	21
Computer science	83,000	100,000	17,000	20

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

EDUCATION

SHARE OF ALL MAJORS

9.4%

GRADUATE DEGREE ATTAINMENT

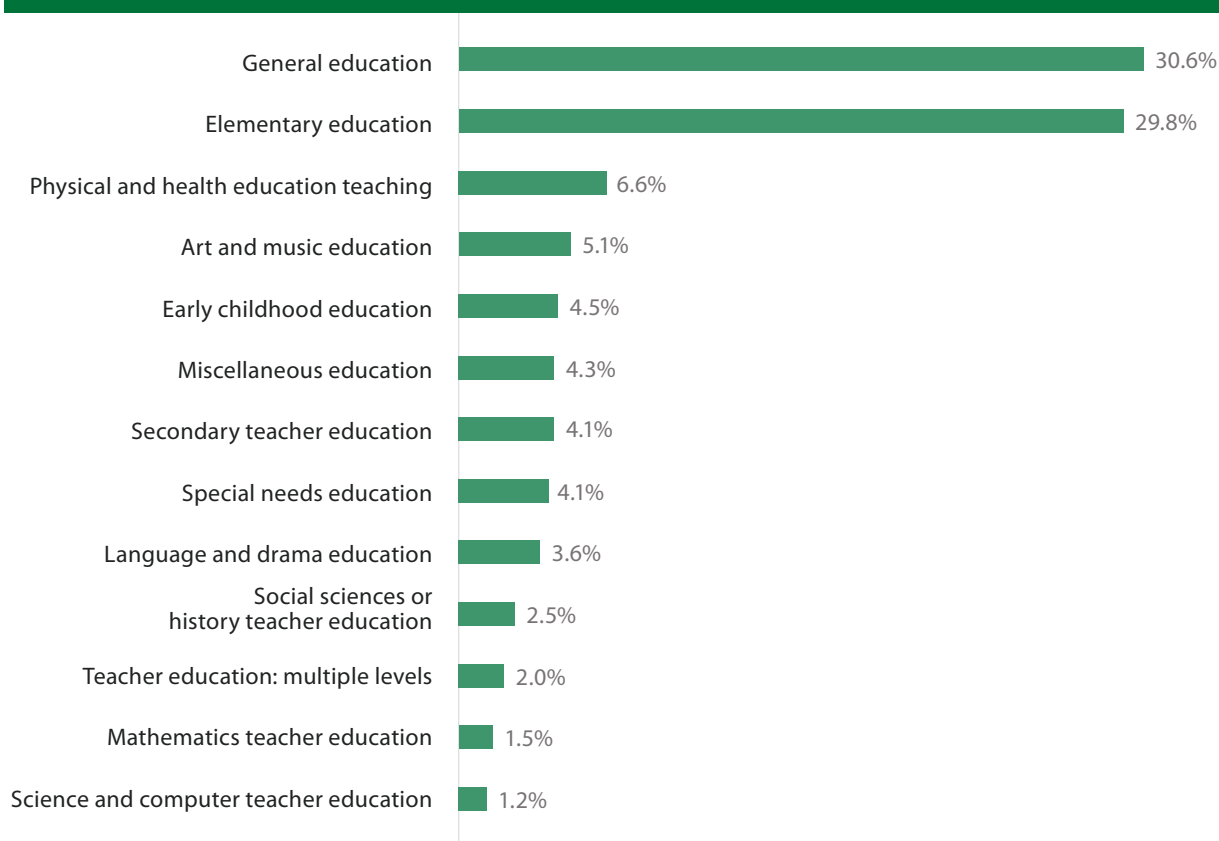
44.6%



Prevalence of major subgroups in the field of education

FIGURE 3.43 | Together, general education and elementary education majors comprise three out of every five education majors.

Share of college graduates with education majors (ages 25-59) by major subgroup, 2013

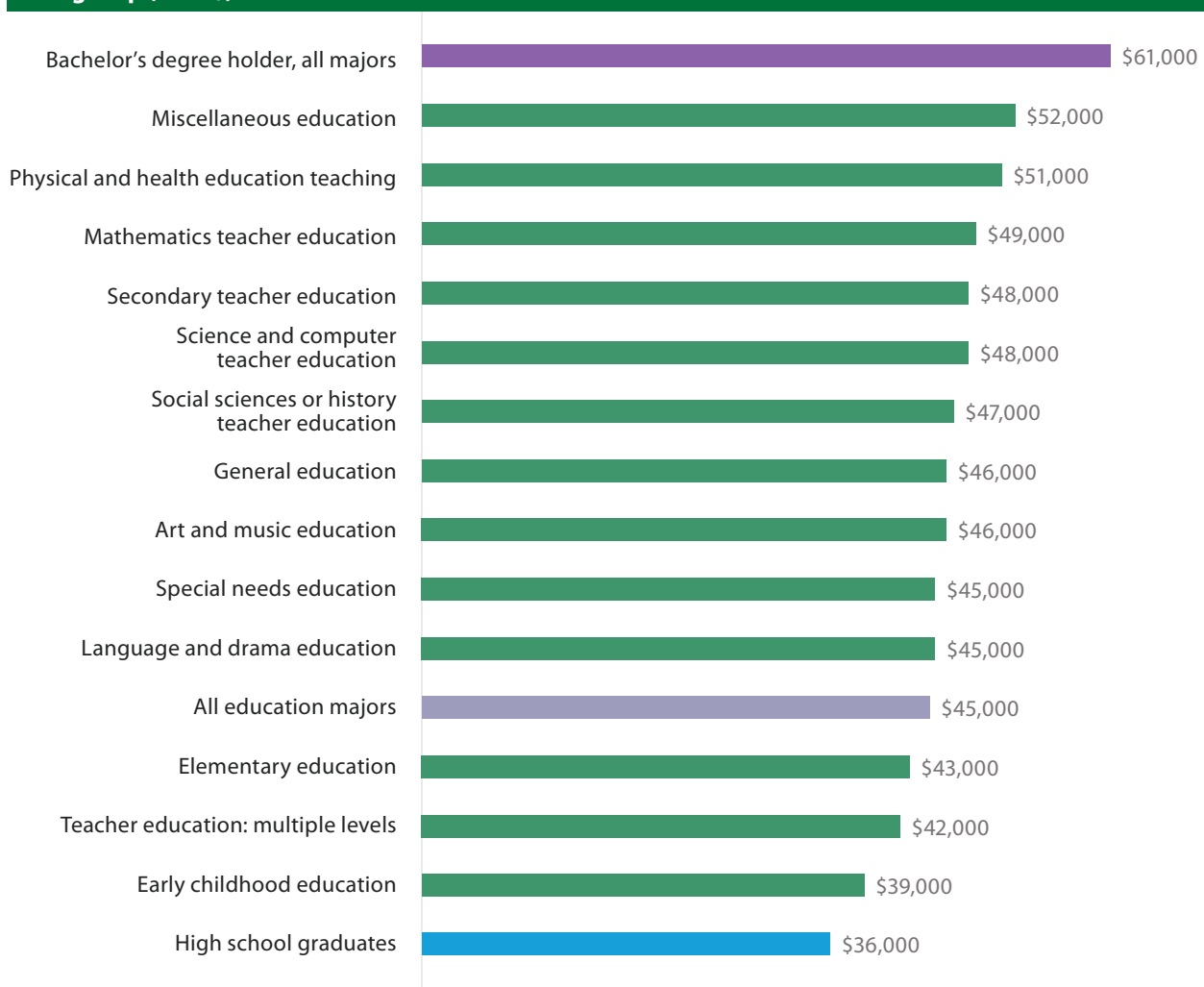


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.44 | Early childhood education majors earn \$39,000 annually, slightly more than the average high school graduate and the lowest among education majors.

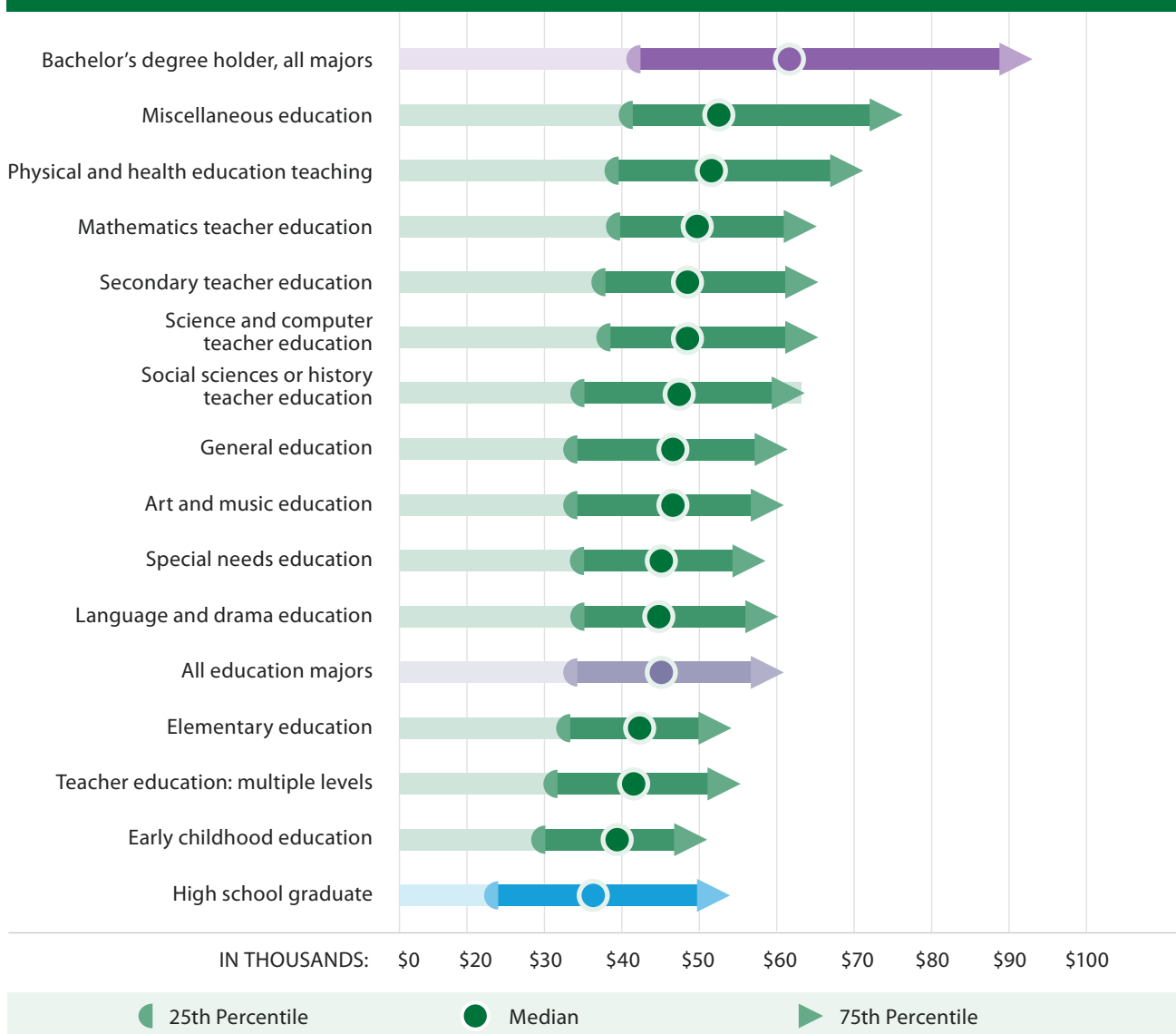
Median annual wages of college-educated workers with education majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.45 | Physical and health education majors' earnings typically range between \$40,000 and \$70,000 annually.

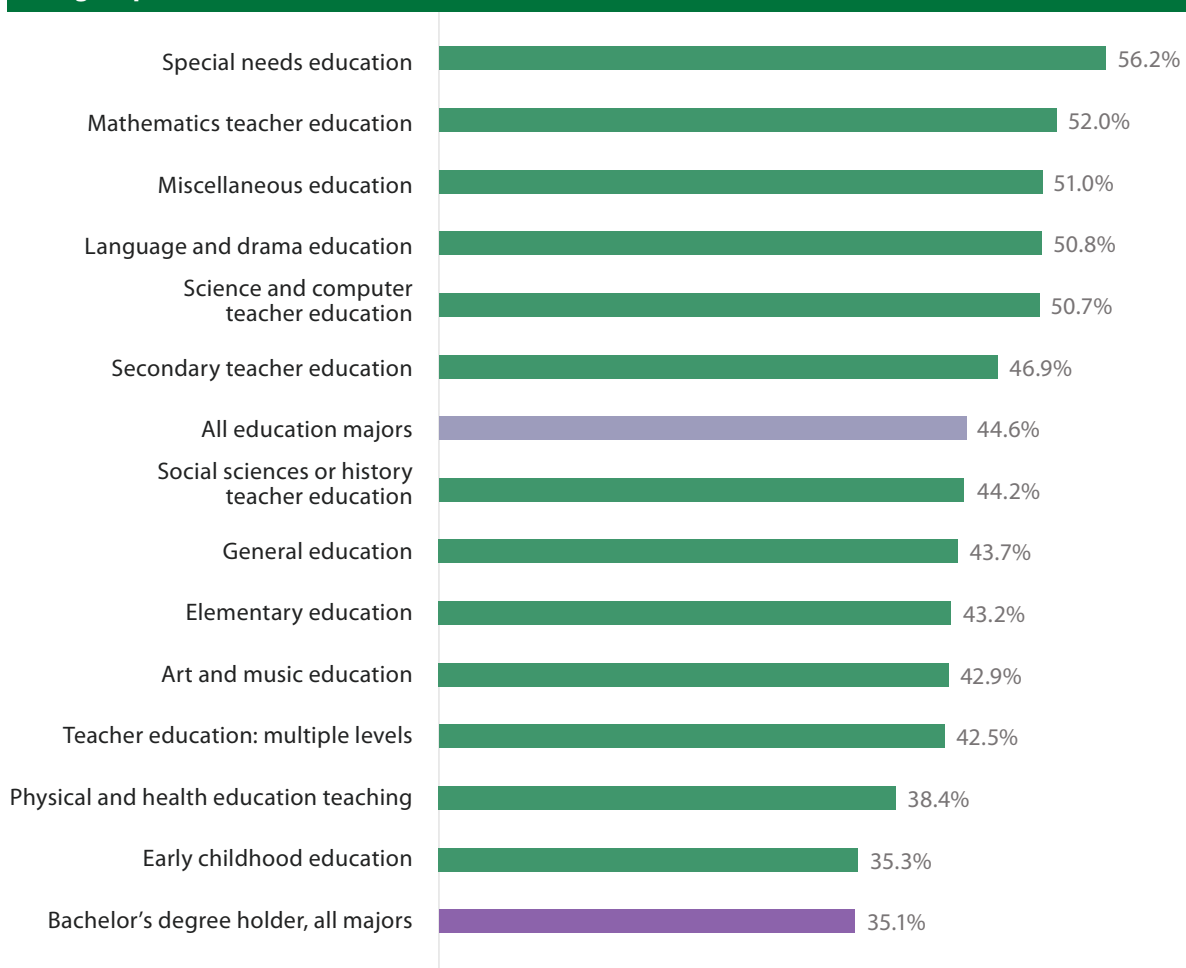
Interquartile range of annual wages of graduate degree holders with business majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.46 | Education majors are more likely than the average college graduate to complete a graduate degree.

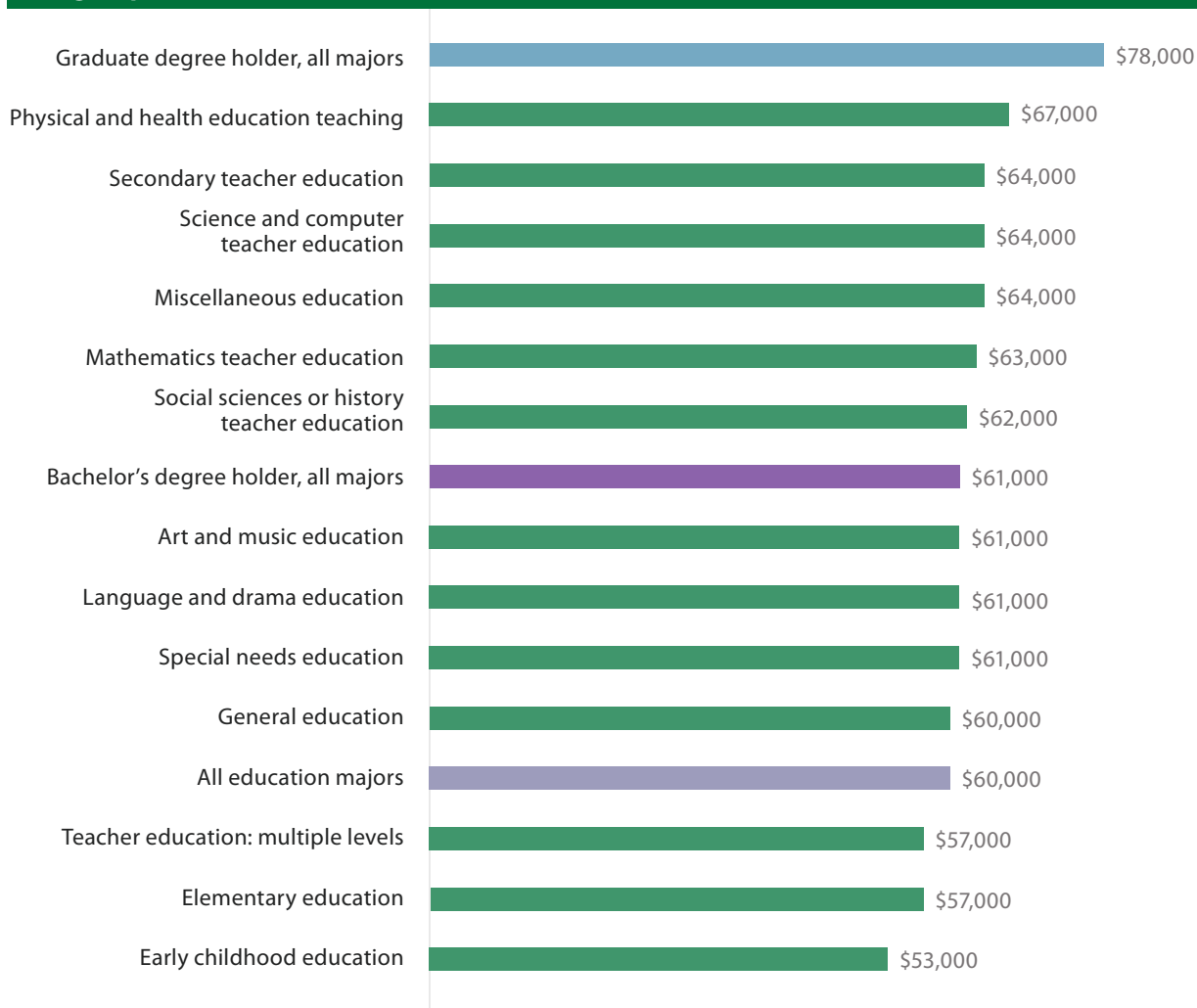
Graduate degree attainment of college graduates with education majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.47 | No matter their specialty, graduate degree holders who majored in education fields earn less than the average graduate degree holder.

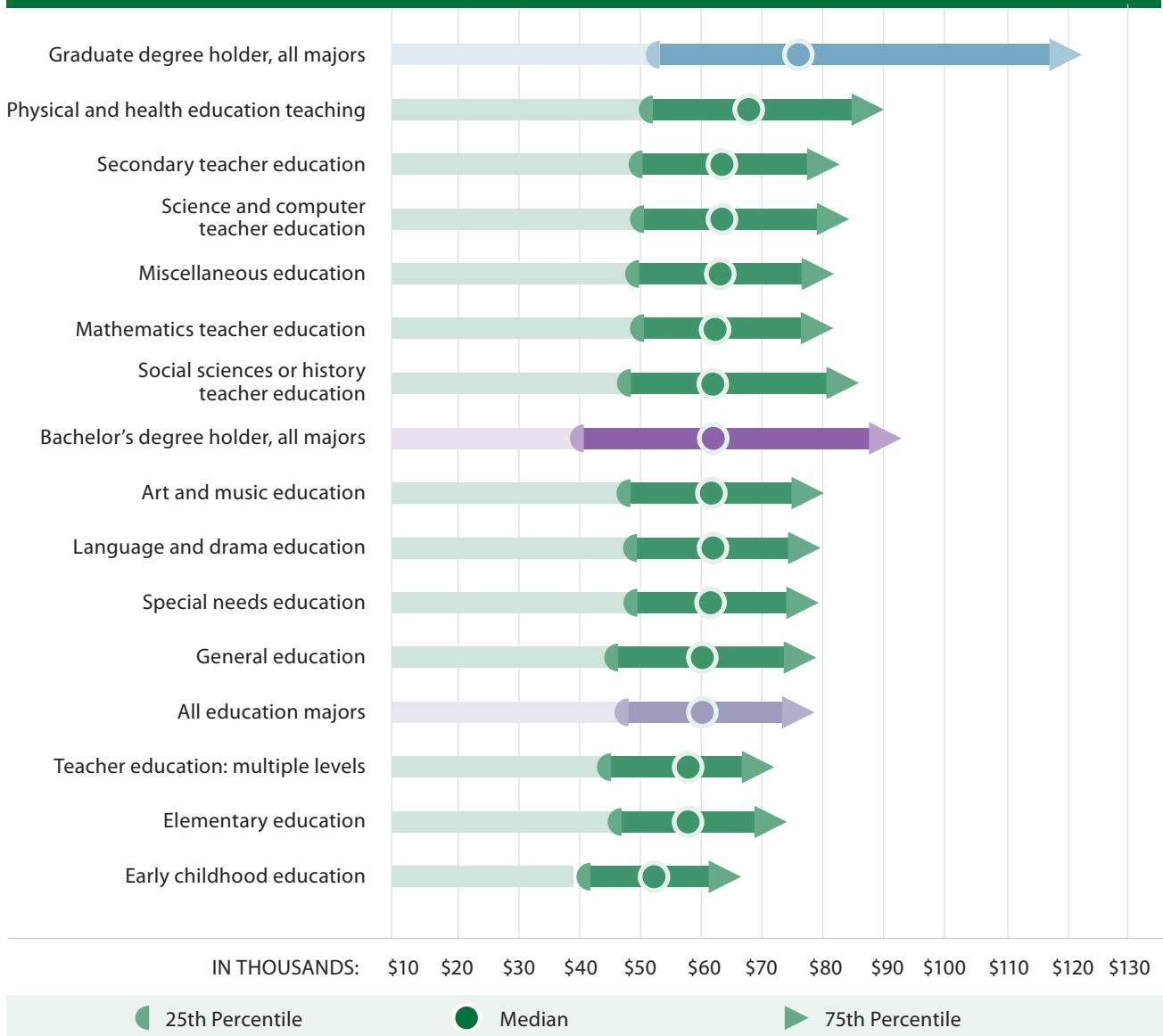
Median annual wages of graduate degree holders with education majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.48 | The top 25 percent of most education majors with graduate degrees earn \$75,000 or more annually; the bottom 25 percent typically earn \$50,000 or less annually.

Interquartile range of annual wages of graduate degree-holders with education majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.8 | The average wage premium received by education majors from a graduate degree is 33 percent, an amount that does not vary much across specialties.

Major group	Median annual wages of college-educated workers (ages 25-59) with education majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All education majors	45,000	60,000	15,000	33
Major subgroups				
Early childhood education	39,000	53,000	14,000	36
Teacher education: multiple levels	42,000	57,000	15,000	36
Language and drama education	45,000	61,000	16,000	36
Special needs education	45,000	61,000	16,000	36
Science and computer teacher education	48,000	64,000	16,000	33
Secondary teacher education	48,000	64,000	16,000	33
Art and music education	46,000	61,000	15,000	33
Elementary education	43,000	57,000	14,000	33
Social sciences or history teacher education	47,000	62,000	15,000	32
Physical and health education teaching	51,000	67,000	16,000	31
General education	46,000	60,000	14,000	30
Mathematics teacher education	49,000	63,000	14,000	29
Miscellaneous education	52,000	64,000	12,000	23

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

HEALTH

SHARE OF ALL MAJORS

7.5%

GRADUATE DEGREE ATTAINMENT

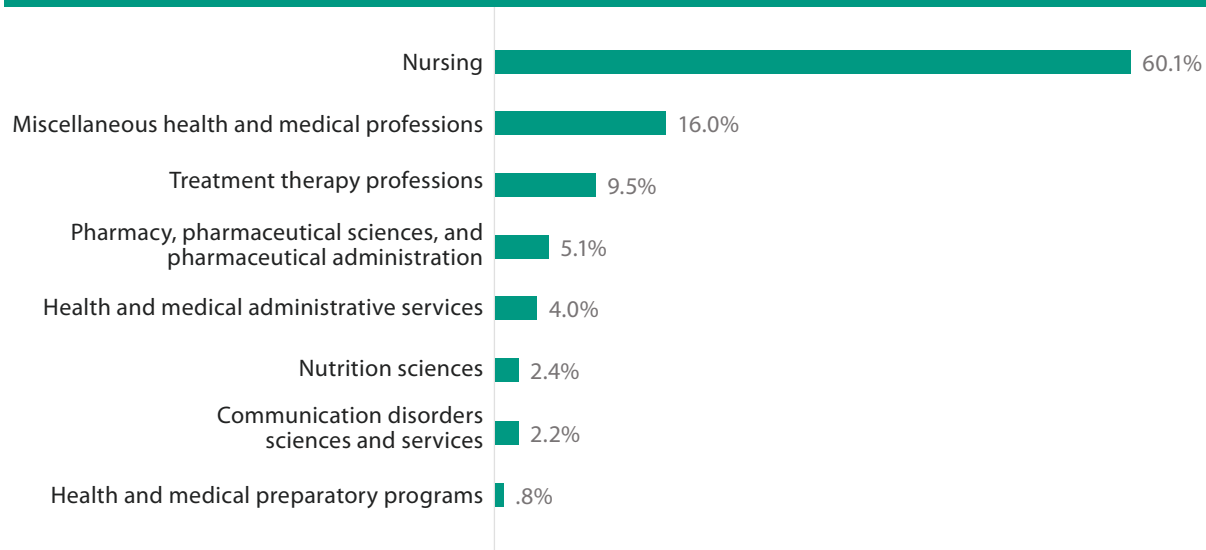
33.8%



Prevalence of major subgroups in the field of health

FIGURE 3.49 | Nursing majors comprise three out of every five health majors.

Share of college graduates with health majors (ages 25-59) by major subgroup, 2013

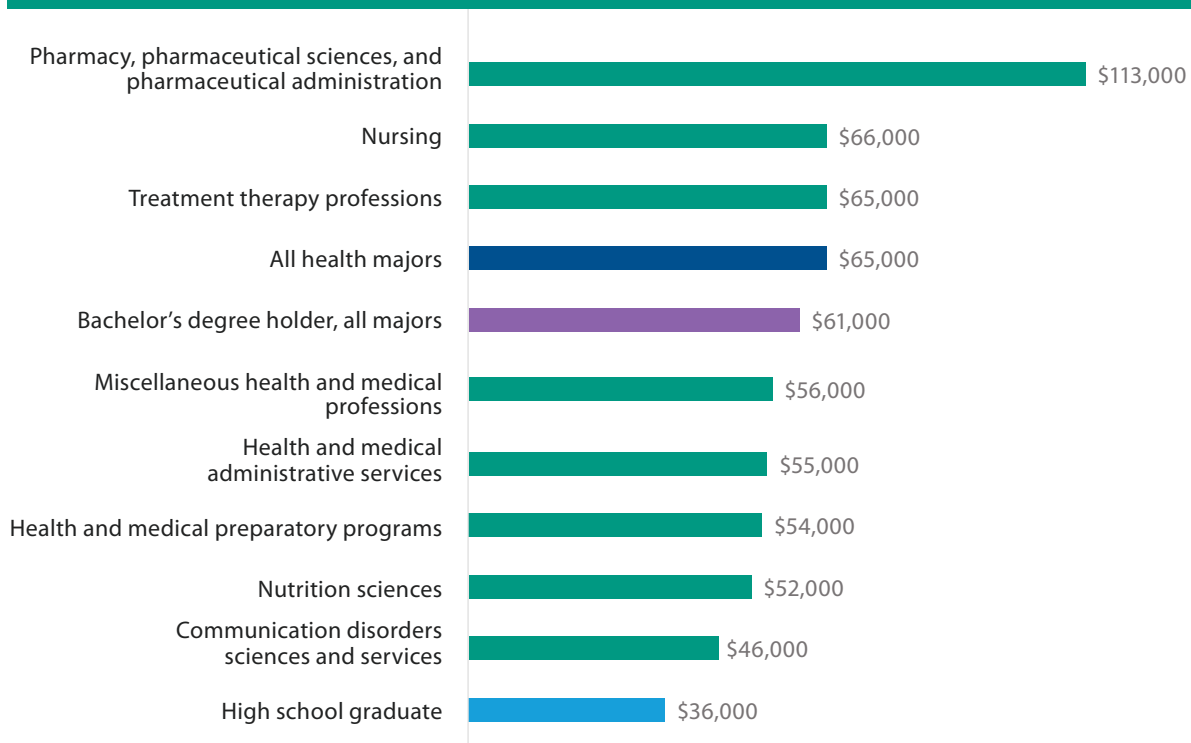


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.50 | Pharmacy, pharmaceutical sciences, and administration majors earn \$113,000 annually, the highest among health majors.

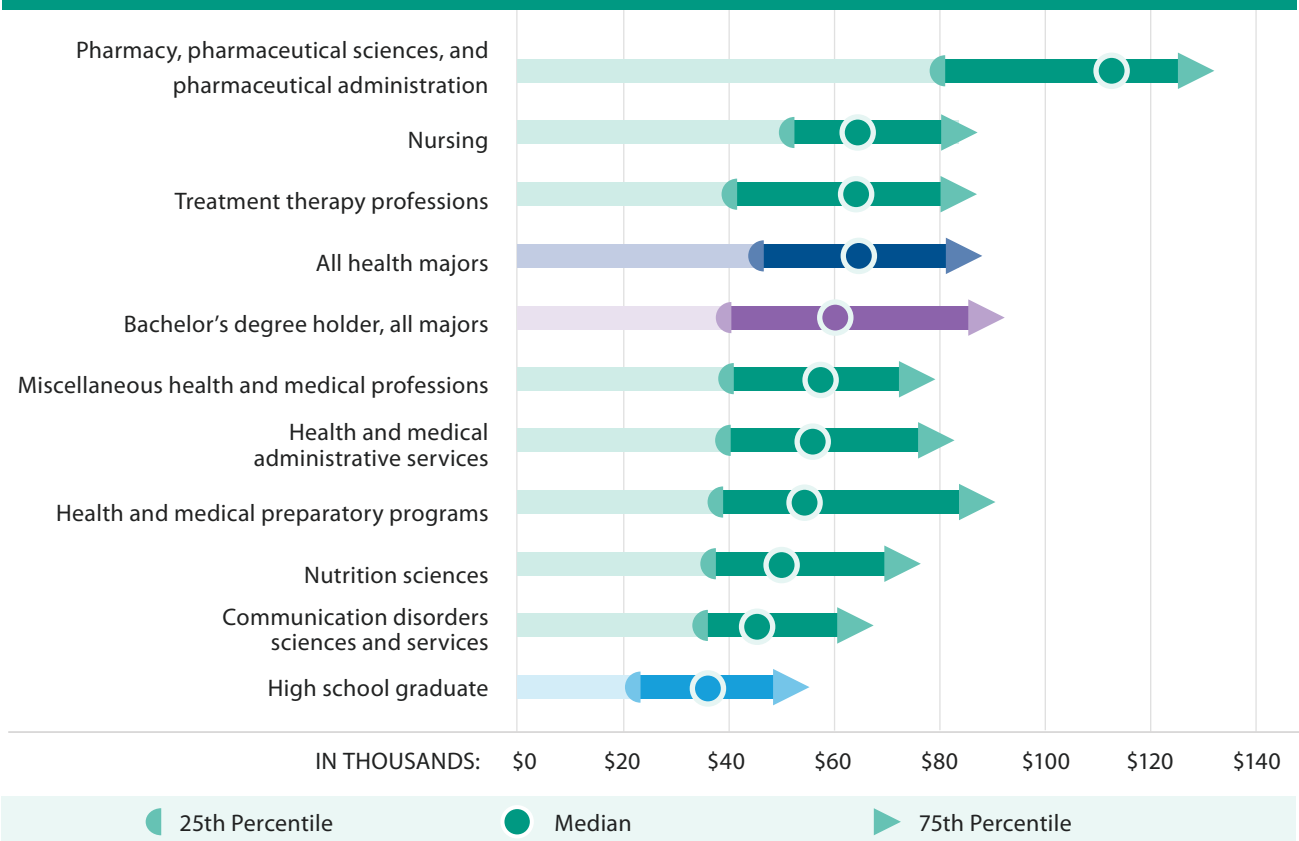
Median annual wages of college-educated workers with health majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.51 | The top 25 percent of pharmacy, pharmaceutical sciences, and pharmaceutical administration majors earn more than \$120,000 annually, and the bottom 25 percent of this major still earn more than the top earners of most other health majors.

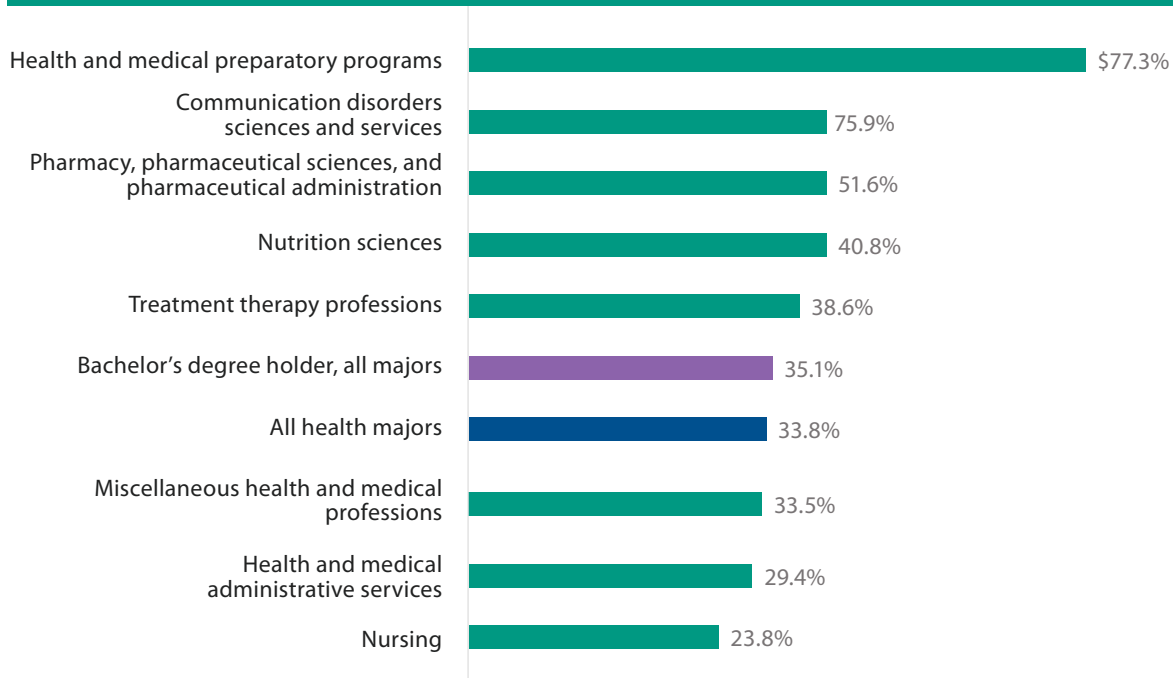
Interquartile range of annual wages of college-educated workers with health majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.52 | Among health majors, health and medical preparatory programs and communications disorders sciences and services majors are substantially more likely to lead to graduate degrees than the other specialties.

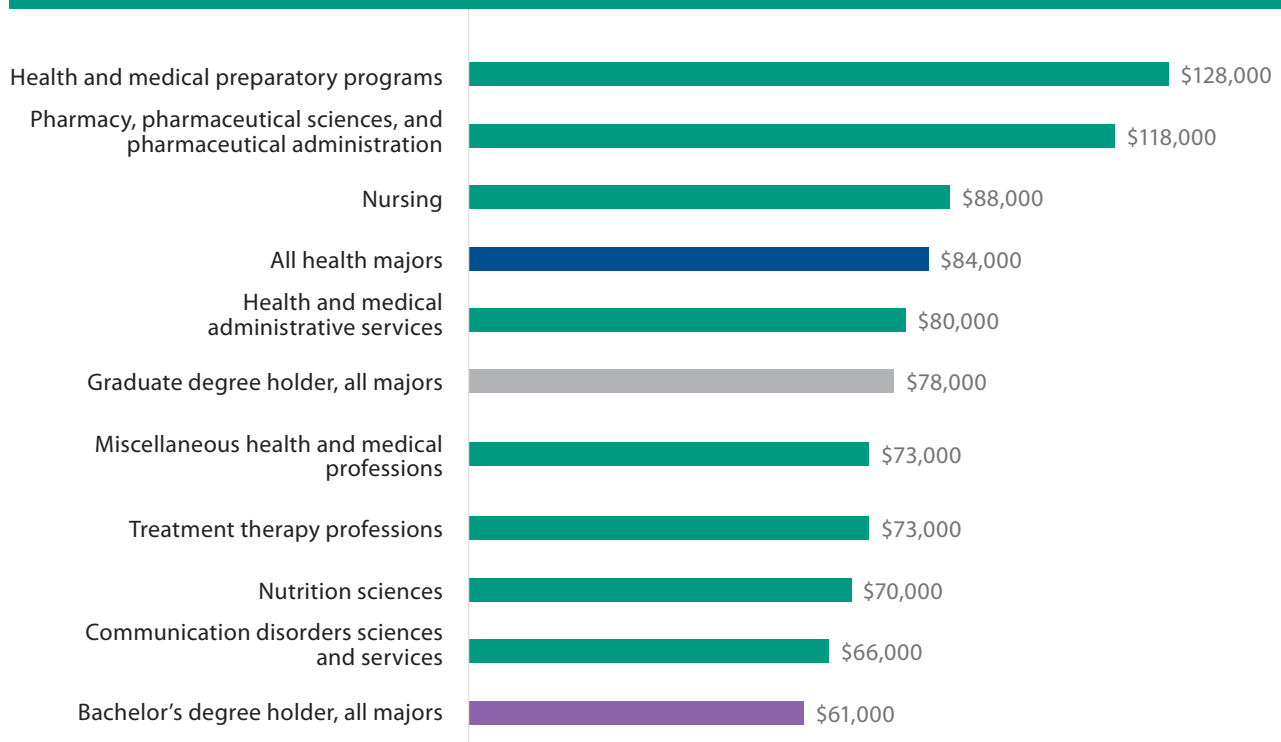
Graduate degree attainment of college graduates with health majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.53 | Graduate degree holders with a health and medical preparatory programs major earn \$128,000 annually, the highest among graduate degree holders who majored in health fields.

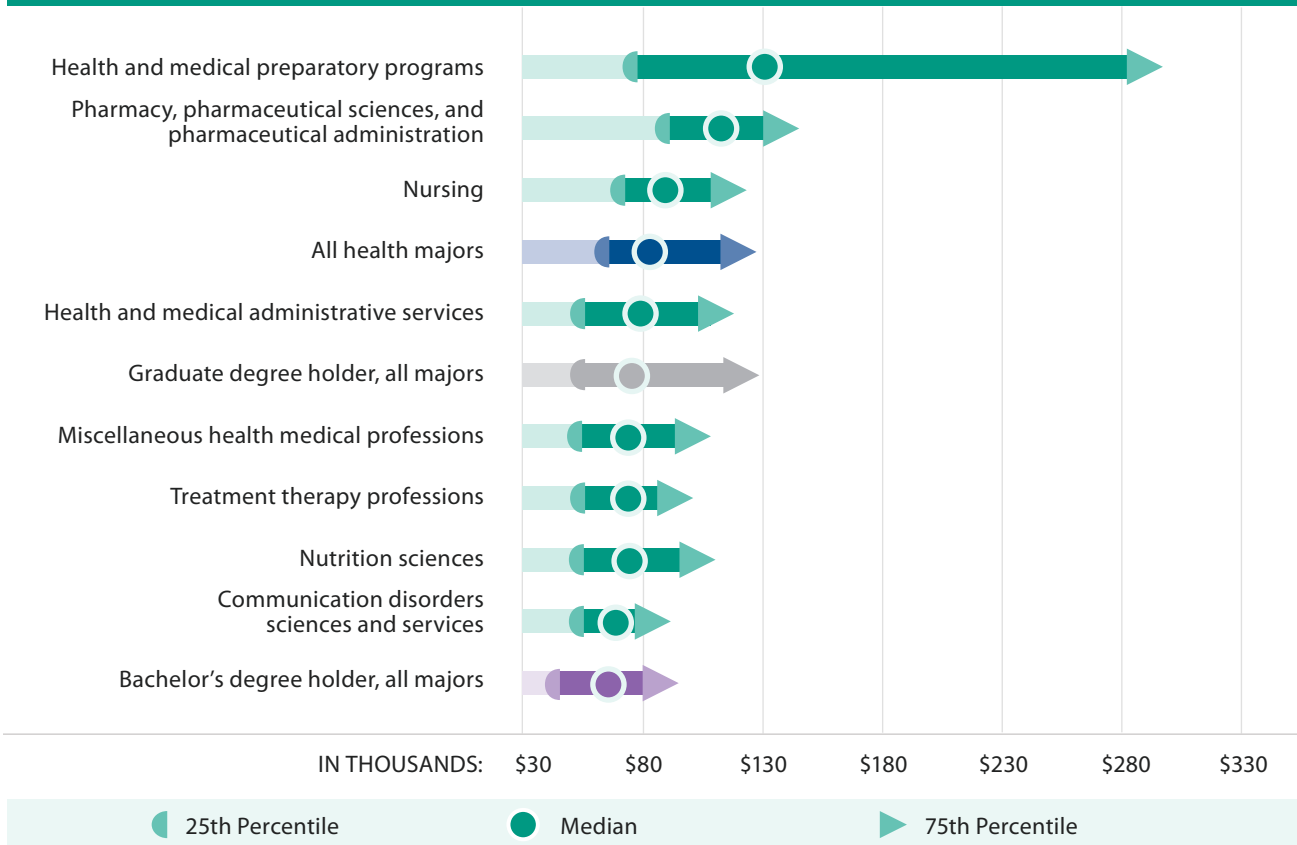
Median annual wages of graduate degree holders with health majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.54 | The top 25 percent of pharmacy, pharmaceutical sciences, and pharmaceutical administration majors earn more than \$120,000 annually, and the bottom 25 percent of this major still earn more than the top earners of most other health majors.

Interquartile range of annual wages of college-educated workers with health majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.9 | Graduate degree holders with a health and medical preparatory programs major earn a 137 percent wage premium.

Major group	Median annual wages of college-educated workers (ages 25-59) with health majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All health majors	65,000	84,000	19,000	29
Major subgroups				
Health and medical preparatory programs	54,000	128,000	74,000	137
Health and medical administrative services	55,000	80,000	25,000	45
Communication disorders sciences and services	46,000	66,000	20,000	43
Nutrition sciences	52,000	70,000	18,000	35
Nursing	66,000	88,000	22,000	33
Miscellaneous health and medical professions	56,000	73,000	17,000	30
Treatment therapy professions	65,000	73,000	8,000	12
Pharmacy and pharmaceutical sciences and administration	110,000	115,000	5,000	5

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

HUMANITIES AND LIBERAL ARTS

SHARE OF ALL MAJORS

8.6%

GRADUATE DEGREE ATTAINMENT

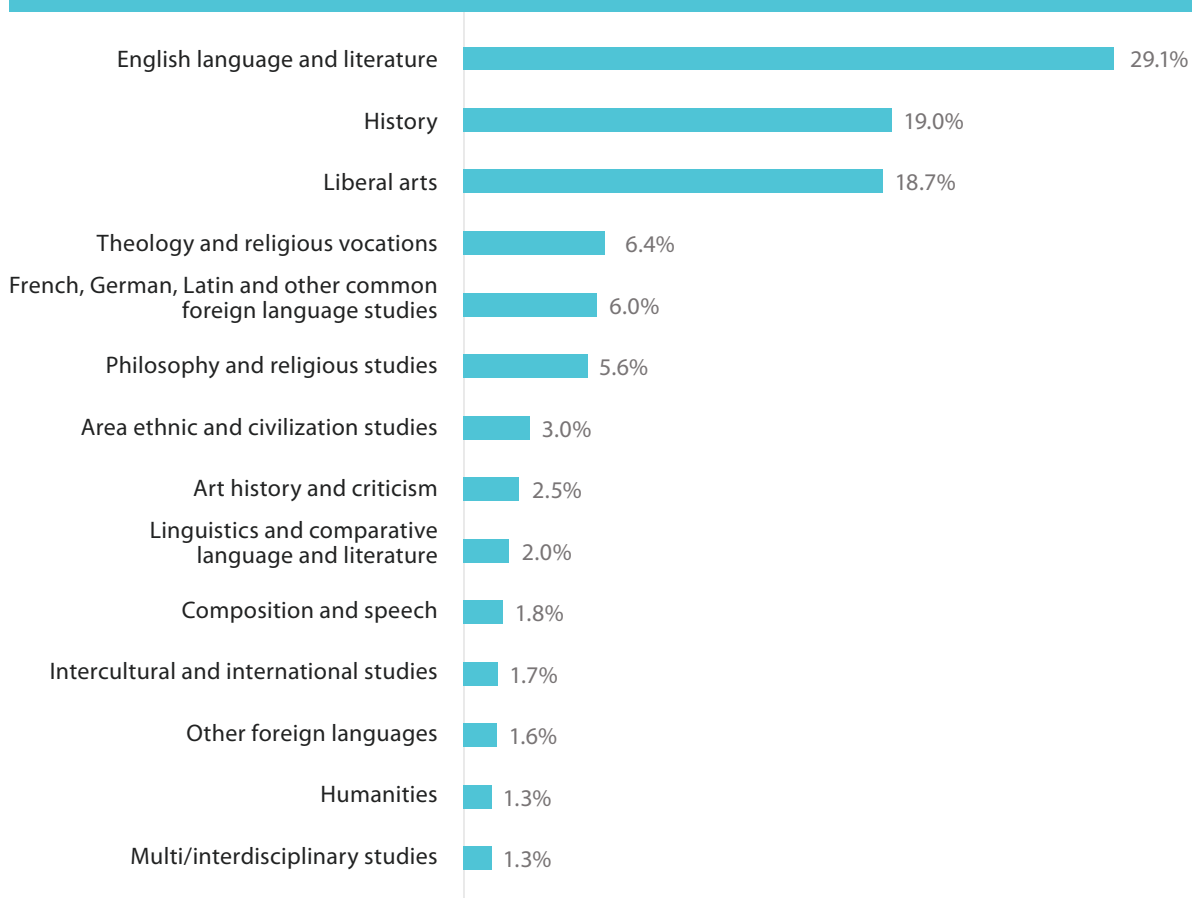
41.4%



Prevalence of major subgroups in the fields of humanities and liberal arts

FIGURE 3.55 | English majors comprise the largest share of humanities and liberal arts majors at 29 percent.

Share of college graduates with education majors (ages 25-59) by major subgroup, 2013

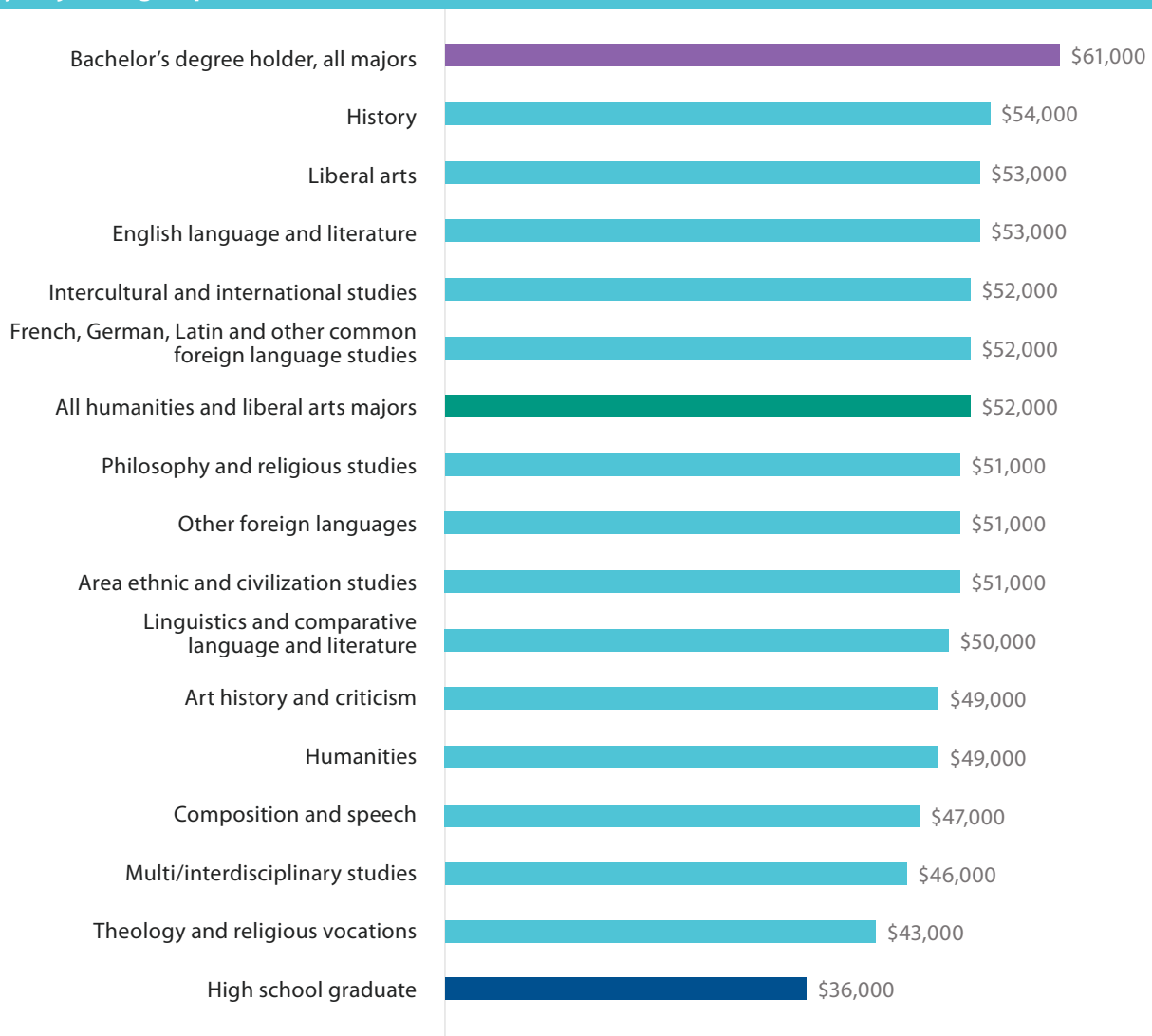


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.56 | Among humanities and liberal arts majors, history majors have the highest annual wage at \$54,000, while theology and religious vocations have the lowest annual wage at \$43,000.

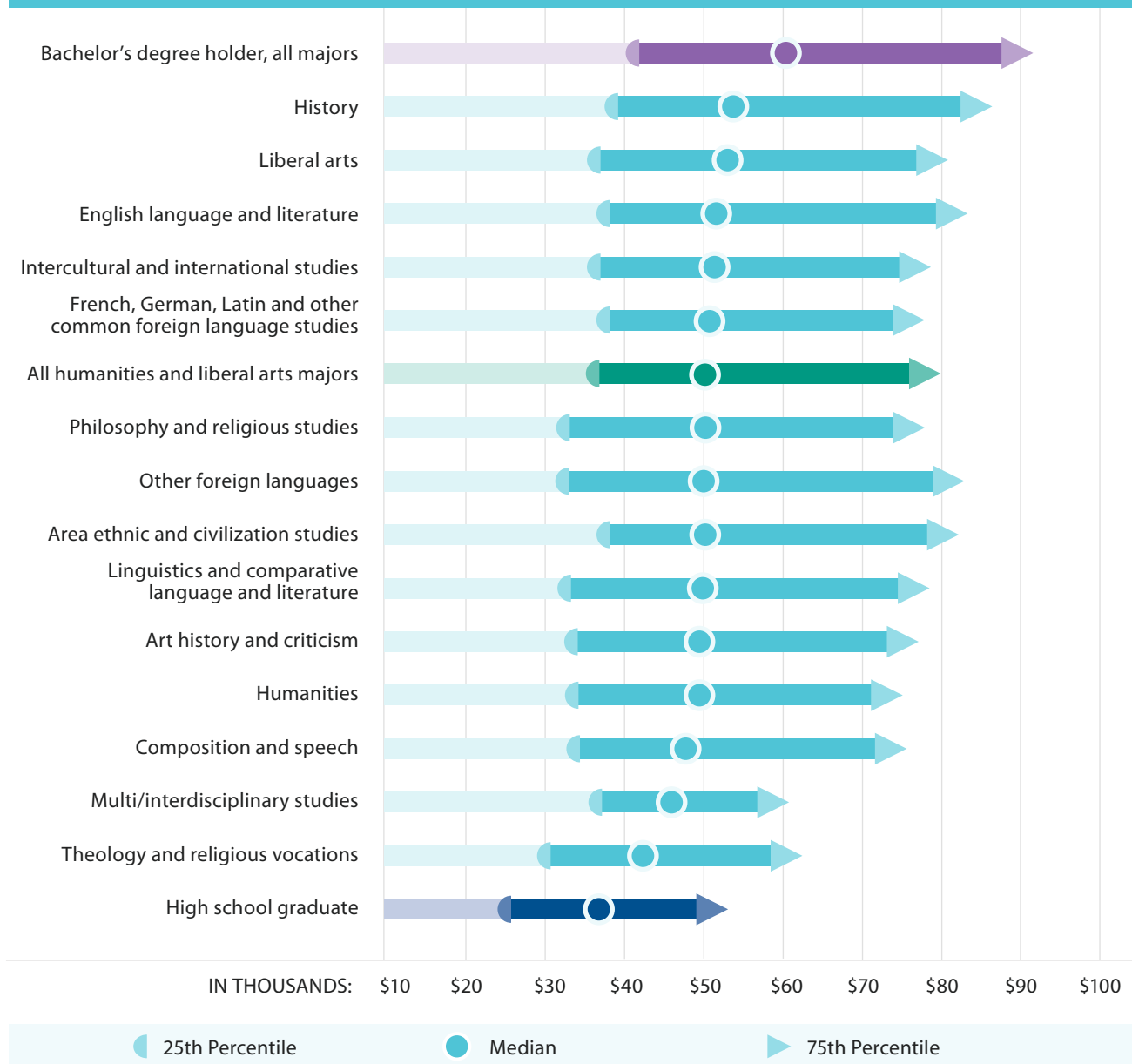
Median annual wages of college-educated workers with humanities and liberal arts majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.57 | The top 25 percent of history majors earn \$85,000 or more annually, while the bottom 25 percent of theology and religious vocations majors earn \$30,000 or less annually, which is less than the average high school graduate.

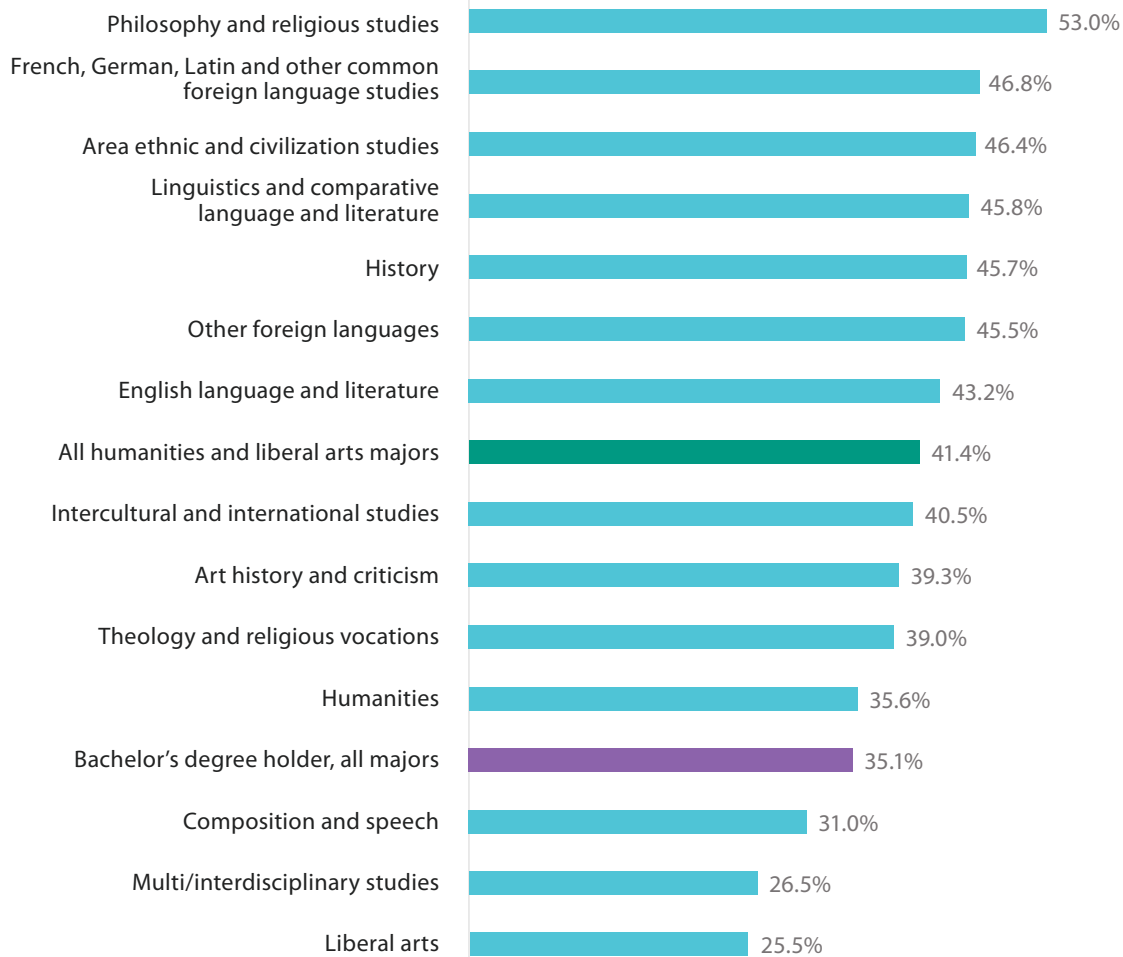
Interquartile range of annual wages of college-educated workers with humanities and liberal arts majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.58 | Graduate degree-holders who majored in history earn \$80,000 annually, the only humanities and liberal arts major that leads to wages that are higher than the average graduate degree-holder.

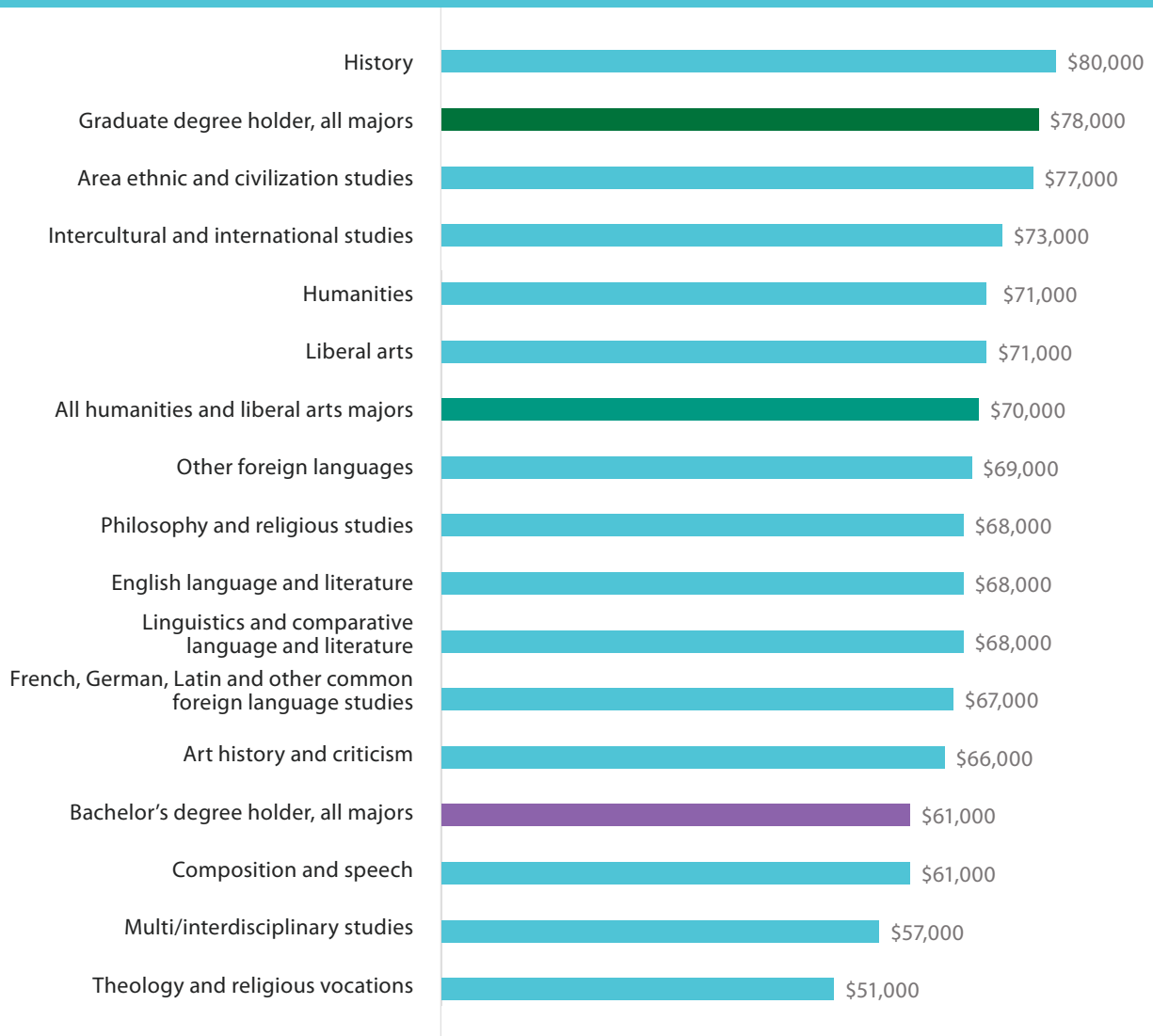
Median annual wages of graduate degree-holders with humanities and liberal arts majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.59 | Graduate degree-holders who majored in history earn \$80,000 annually, the only humanities and liberal arts major that leads to wages that are higher than the average graduate degree-holder.

Median annual wages of graduate degree-holders with humanities and liberal arts majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.60 | The top 25 percent of graduate degree holders who majored in history or area ethnic and civilization studies earn more than \$120,000 annually, while the bottom 25 percent of those who majored in theology and religious vocations earn less than \$35,000 annually.

Interquartile range of annual wages of graduate degree holders with humanities and liberal arts majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.10 | Area ethnic and civilization studies majors receive a 51 percent wage premium from a graduate degree, the highest premium among humanities and liberal arts majors.

Major group	Median annual wages of college-educated workers (ages 25-59) with humanities and liberal arts majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All humanities and liberal arts majors	52,000	70,000	18,000	35
Major subgroups				
Area ethnic and civilization studies	51,000	77,000	26,000	51
History	54,000	80,000	26,000	48
Humanities	49,000	71,000	22,000	45
Intercultural and international studies	52,000	73,000	21,000	40
Linguistics and comparative language and literature	50,000	68,000	18,000	36
Other foreign languages	51,000	69,000	18,000	35
Art history and criticism	49,000	66,000	17,000	35
Liberal arts	53,000	71,000	18,000	34
Philosophy and religious studies	51,000	68,000	17,000	33
Composition and speech	47,000	61,000	14,000	30
French, German, Latin, and other common foreign language studies	52,000	67,000	15,000	29
English language and literature	53,000	68,000	15,000	28
Multi/interdisciplinary studies	46,000	57,000	11,000	24
Theology and religious vocations	41,000	50,000	9,000	22

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

INDUSTRIAL ARTS, CONSUMER SERVICES, AND RECREATION

SHARE OF ALL MAJORS

2.7%

GRADUATE DEGREE ATTAINMENT

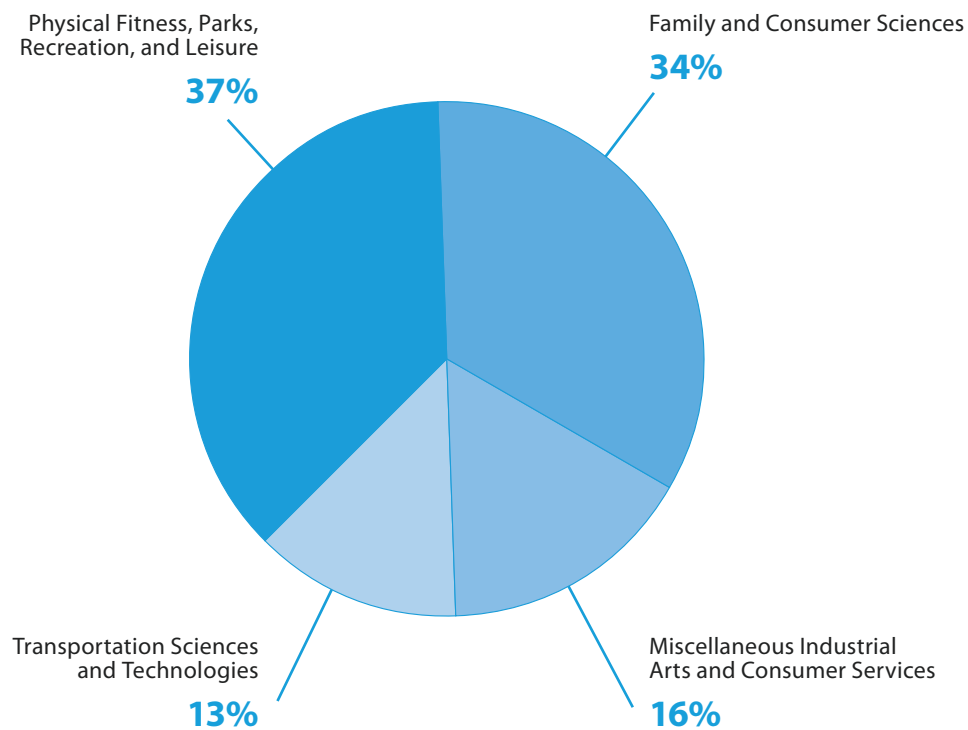
24.6%



Prevalence of major subgroups in the fields of industrial arts, consumer services, and recreation

FIGURE 3.61 | Physical fitness, parks, recreation, and leisure majors and family and consumer sciences majors comprise more than 70 percent of industrial arts, consumer services, and recreation majors.

Share of college graduates with industrial arts, consumer services, and recreation majors (ages 25-59) by major subgroup, 2013

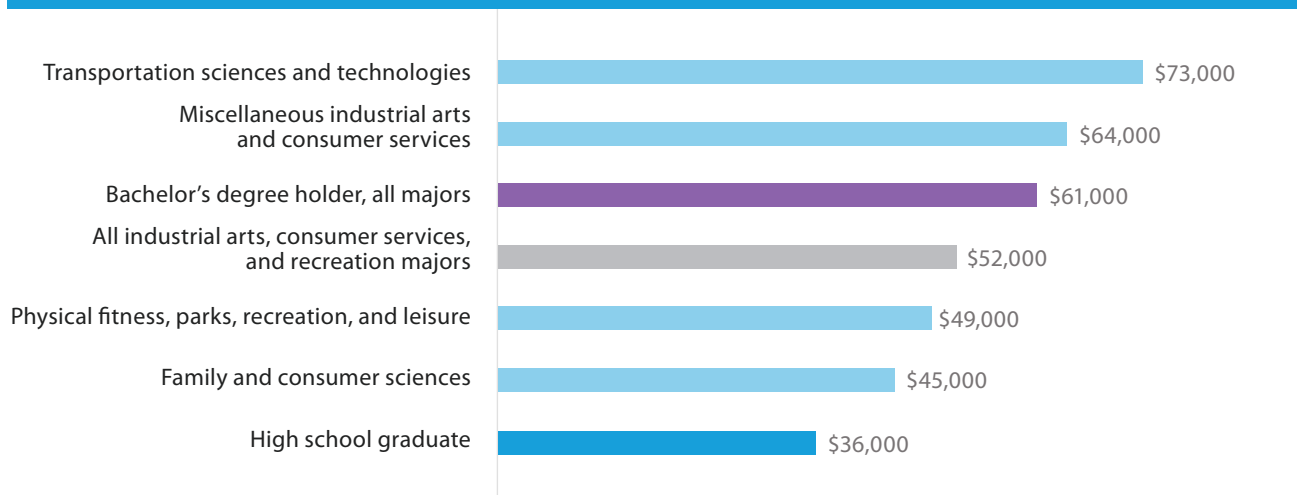


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.62 | Transportation sciences and technologies majors earn \$73,000 annually, the highest among industrial arts, consumer services, and recreation majors.

Median annual wages of college-educated workers with industrial arts, consumer services, and recreation majors (ages 25-59) by major subgroup (2013\$)

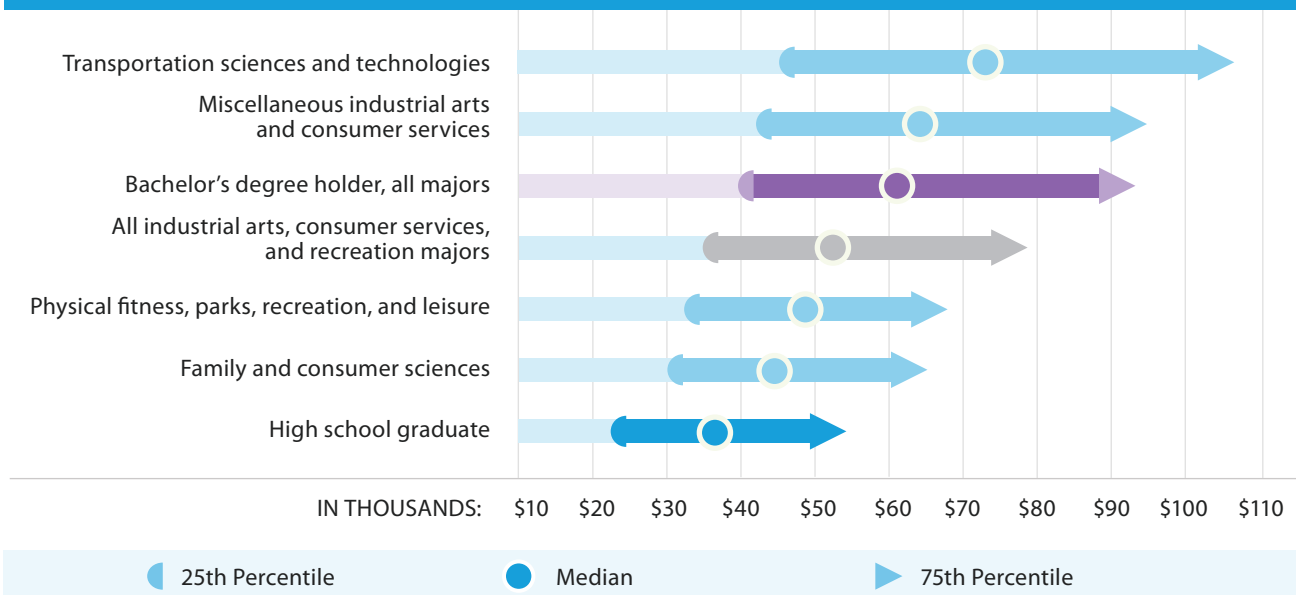


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.63 | The top 25 percent of transportation sciences and technologies majors earn more than \$100,000 annually, while the bottom 25 percent of family and consumer sciences majors earn less than \$35,000 annually.

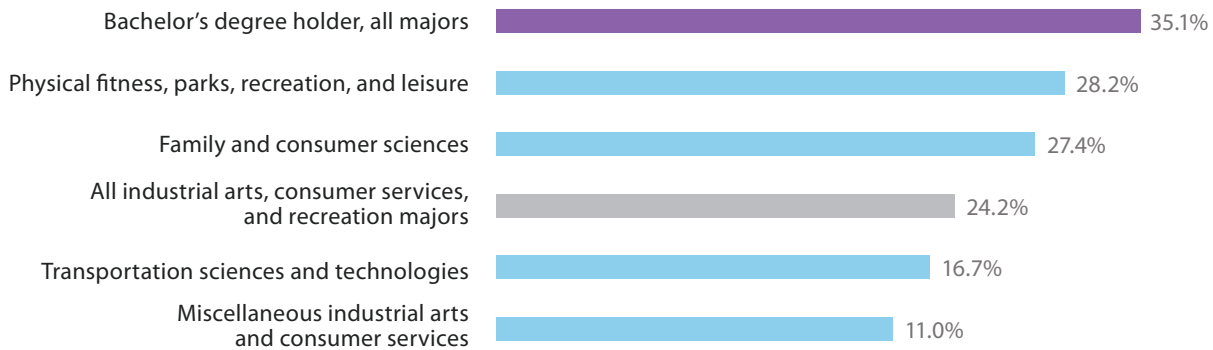
Interquartile range of annual wages of college-educated workers with industrial arts, consumer services, and recreation majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.64 | Industrial arts, consumer services, and recreation majors are less likely to earn a graduate degree than the average college graduate.

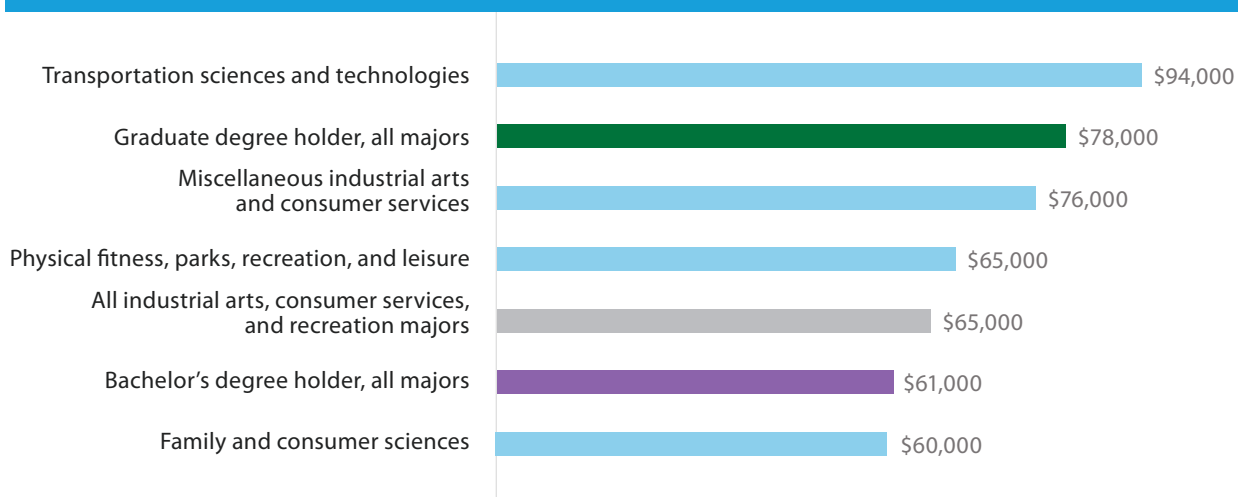
Graduate degree attainment of college graduates with industrial arts, consumer services, and recreation majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.65 | Graduate degree-holders who majored in transportation sciences and technologies earn \$94,000 annually, the highest among graduate degree-holders with industrial arts, consumer services, or recreation majors.

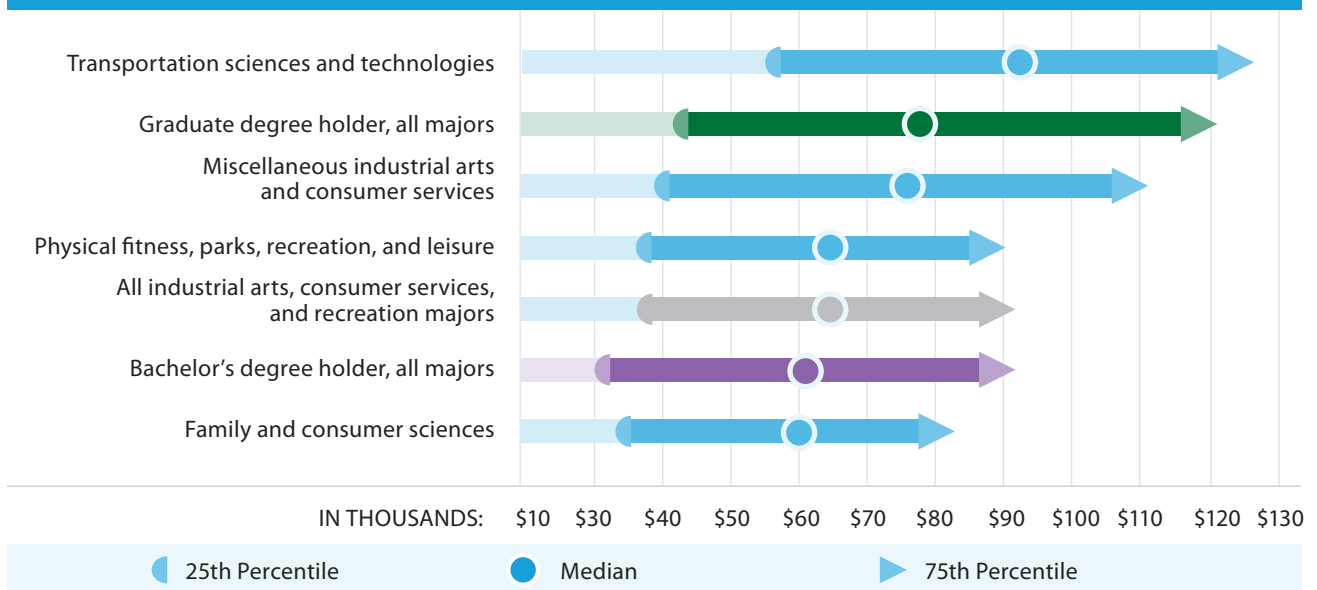
Median annual wages of graduate degree-holders with industrial arts, consumer services, and recreation majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.66 | The top 25 percent of graduate degree holders who majored in transportation sciences and technologies earn more than \$120,000 annually, while the bottom 25 percent of graduate degree holders who majored in family or consumer sciences earn less than \$45,000 annually.

Interquartile range of annual wages of graduate degree holders with industrial arts, consumer services, and recreation majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.11 | Industrial arts, consumer services, and recreation majors receive, on average, a 25 percent wage premium from a graduate degree.

Major group	Median annual wages of college-educated workers (ages 25-59) with industrial arts, consumer services, and recreation majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All industrial arts, consumer services, and recreation majors	52,000	65,000	13,000	25
Major subgroups				
Family and consumer sciences	45,000	60,000	15,000	33
Physical fitness, parks, recreation, and leisure	49,000	65,000	16,000	33
Transportation sciences and technologies	73,000	94,000	21,000	29
Miscellaneous industrial arts and consumer services	64,000	76,000	12,000	19

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

LAW AND PUBLIC POLICY

SHARE OF ALL MAJORS

2.6%

GRADUATE DEGREE ATTAINMENT

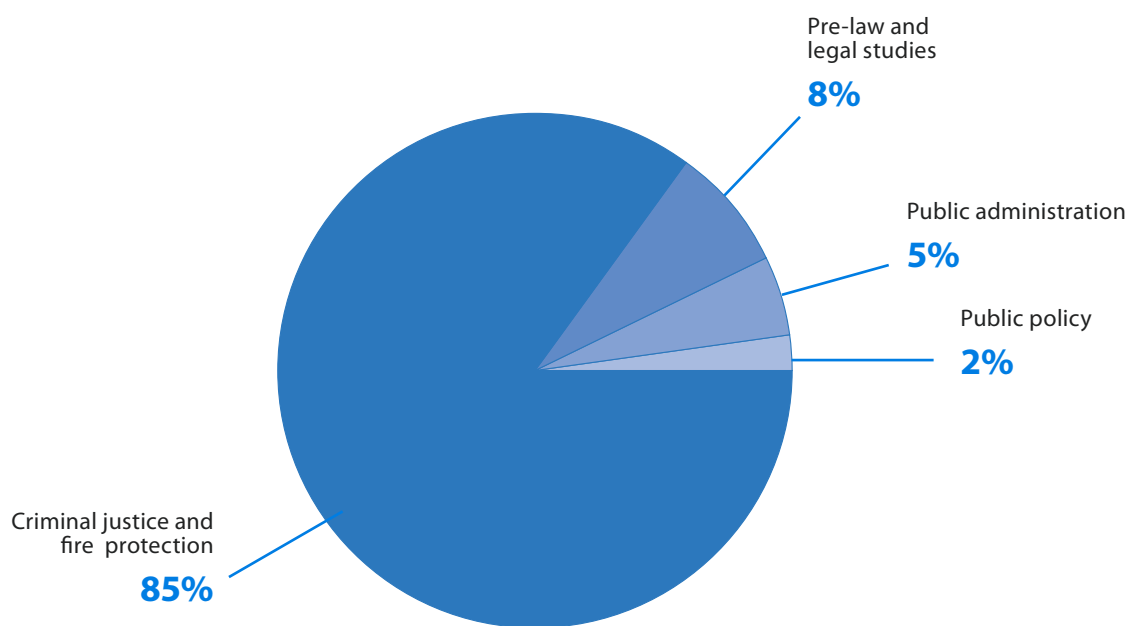
24.2%



Prevalence of major subgroups in the fields of law and public policy

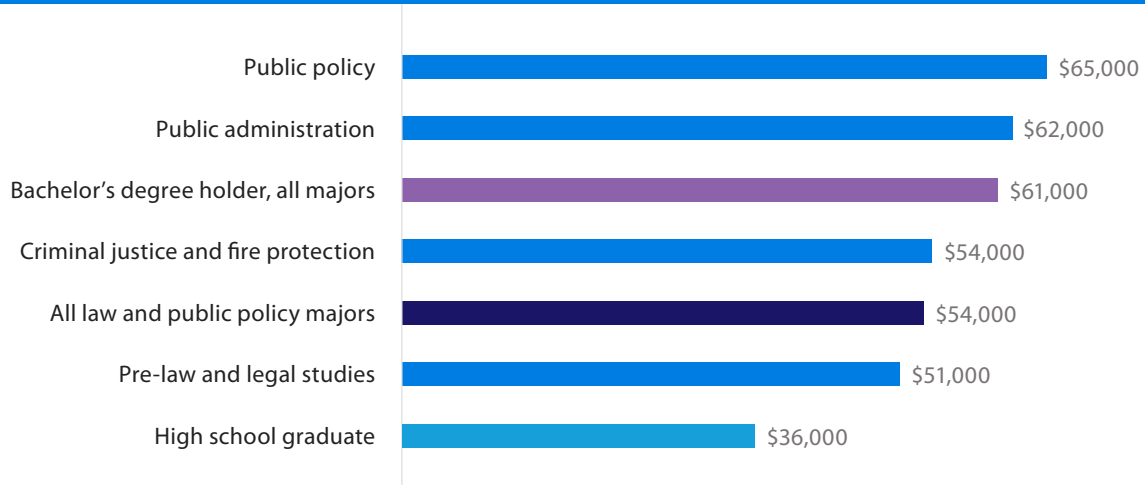
FIGURE 3.67 | Criminal justice and fire protection majors comprise the vast majority of law and public policy majors.

Share of college graduates with law and public policy majors (ages 25-59) by major subgroup, 2013

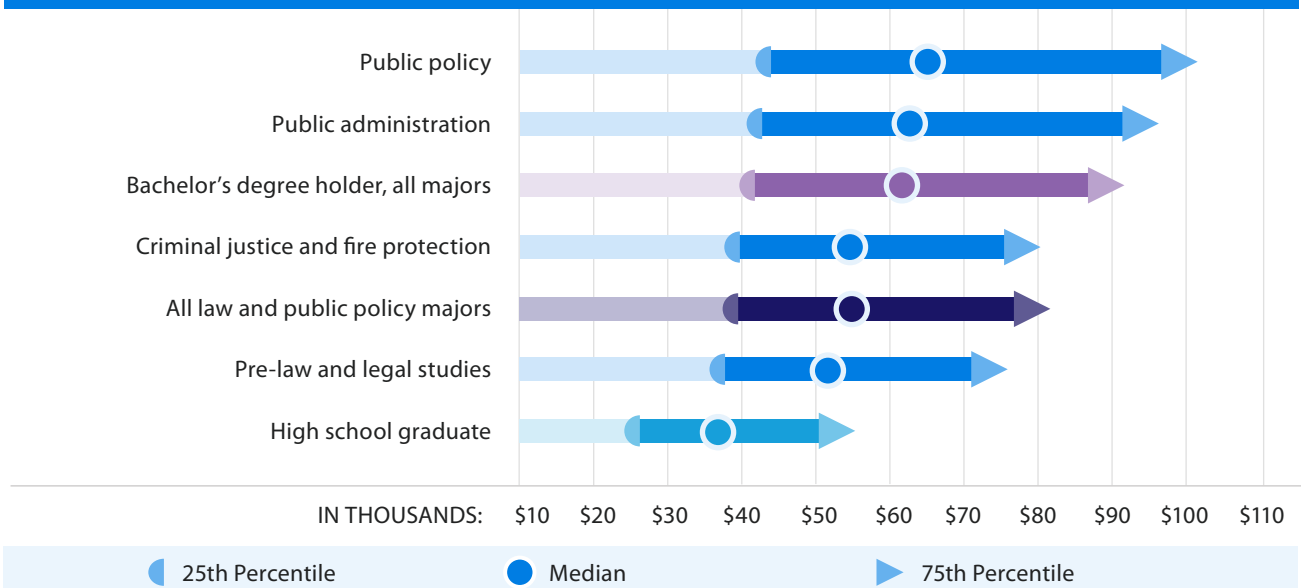


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.68 | Public policy majors earn \$65,000 annually, the highest among law and public policy majors.**Median annual wages of college-educated workers with law and public policy majors (ages 25-59) by major subgroup (2013\$)**

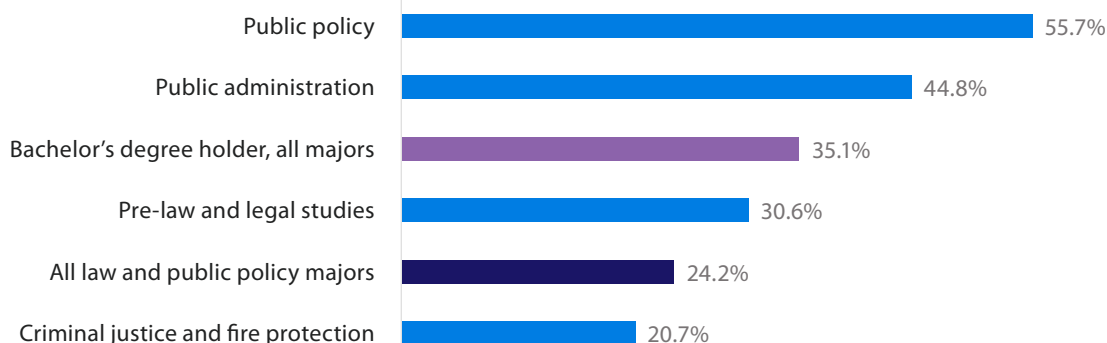
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.69 | The top 25 percent of public policy majors earn \$100,000 or more annually, while the bottom 25 percent earn less than \$45,000.**Interquartile range of annual wages of graduate degree holders with law and public policy majors (ages 25-59) by major subgroup (2013\$)**

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.70 | More than half of public policy majors earn a graduate degree, the highest attainment rate among law and public policy majors.

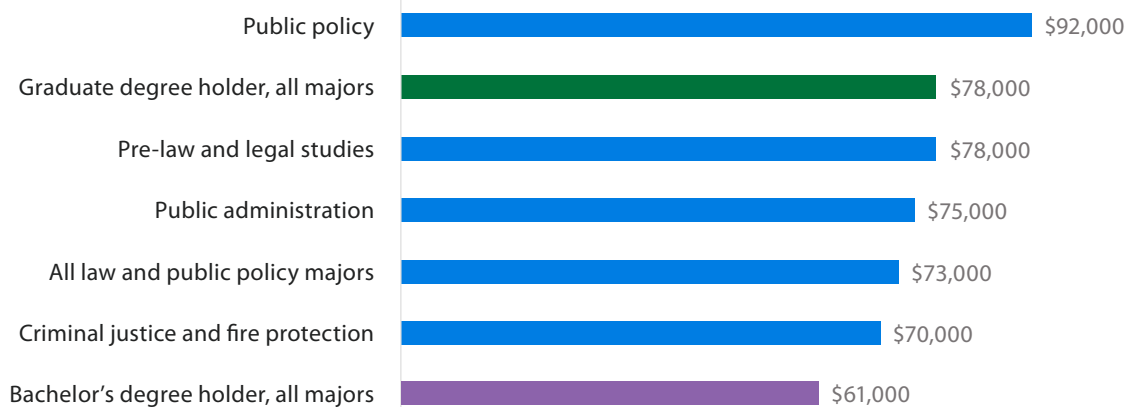
Graduate degree attainment of college graduates with law and public policy majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.71 | Graduate degree holders who majored in public policy earn \$92,000 annually, the highest among graduate degree holders who majored in law and public policy fields.

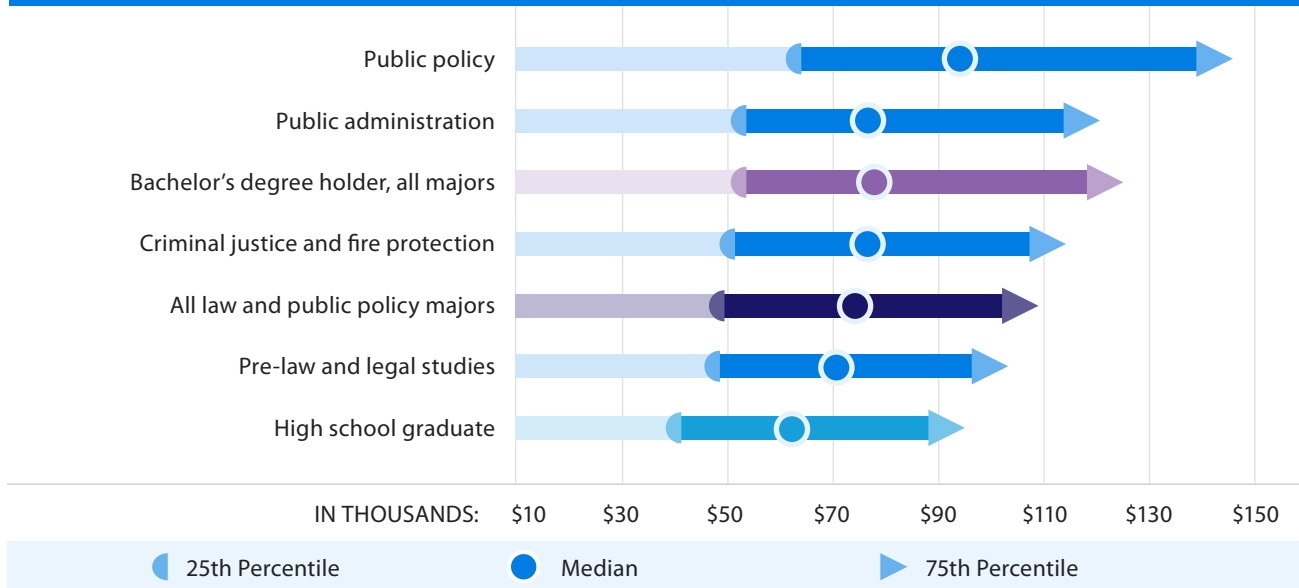
Median annual wages of graduate degree holders with law and public policy majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.72 | The top 25 percent of graduate degree holders with a public policy major earn more than \$140,000 annually, while the bottom 25 percent of graduate degree holders with a criminal justice and fire protection major earn less than \$50,000 annually.

Interquartile range of annual wages of graduate degree holders with law and public policy majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.12 | Graduate degree holders with law or public policy majors, on average, earn a 35 percent wage premium.

Major group	Median annual wages of college-educated workers (ages 25-59) with law or public policy majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All law or public policy majors	54,000	73,000	19,000	35
Major subgroups				
Pre-law and legal studies	51,000	78,000	27,000	53
Public policy	65,000	92,000	27,000	42
Criminal justice and fire protection	54,000	70,000	16,000	30
Public administration	62,000	75,000	13,000	21

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

PHYSICAL SCIENCES

SHARE OF ALL MAJORS

2.5%

GRADUATE DEGREE ATTAINMENT

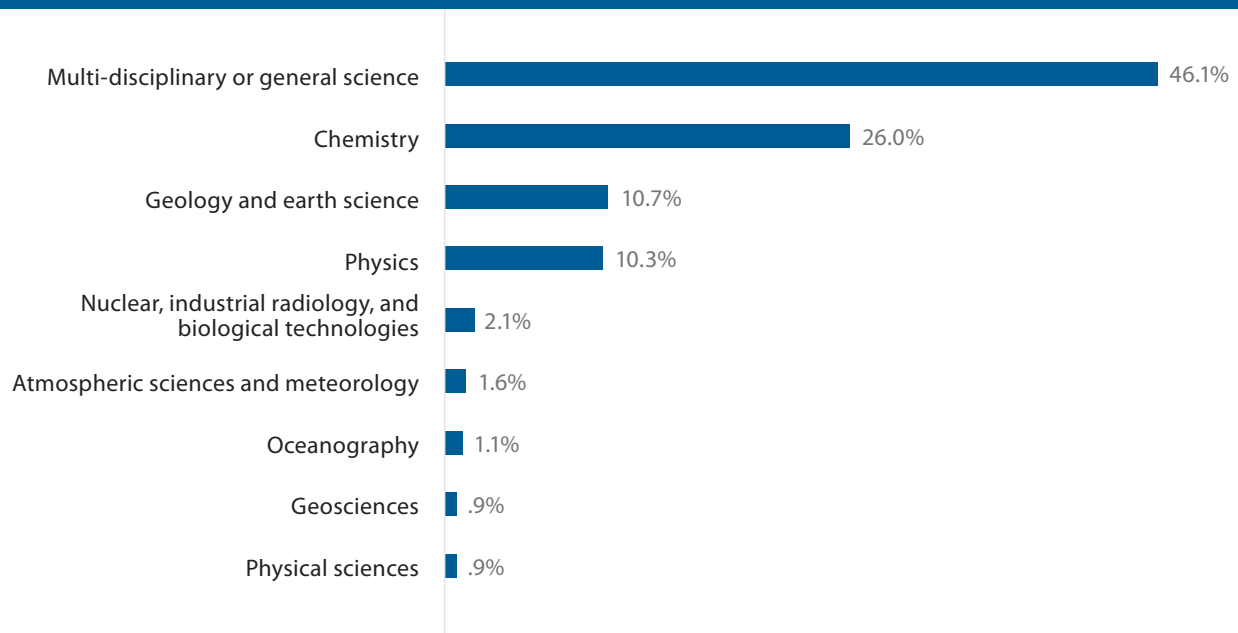
50%



Prevalence of major subgroups in the field of physical sciences

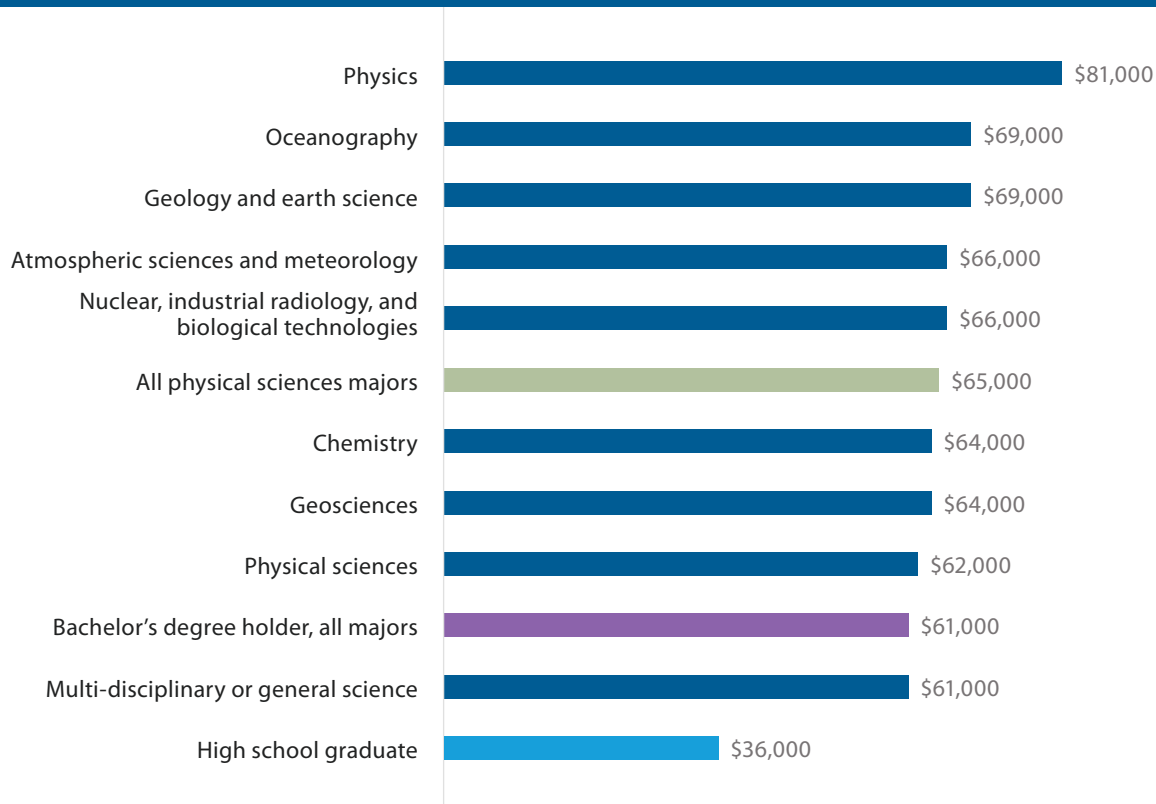
FIGURE 3.73 | Multi-disciplinary or general science majors comprise nearly half of all physical sciences majors.

Share of college graduates with physical sciences majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

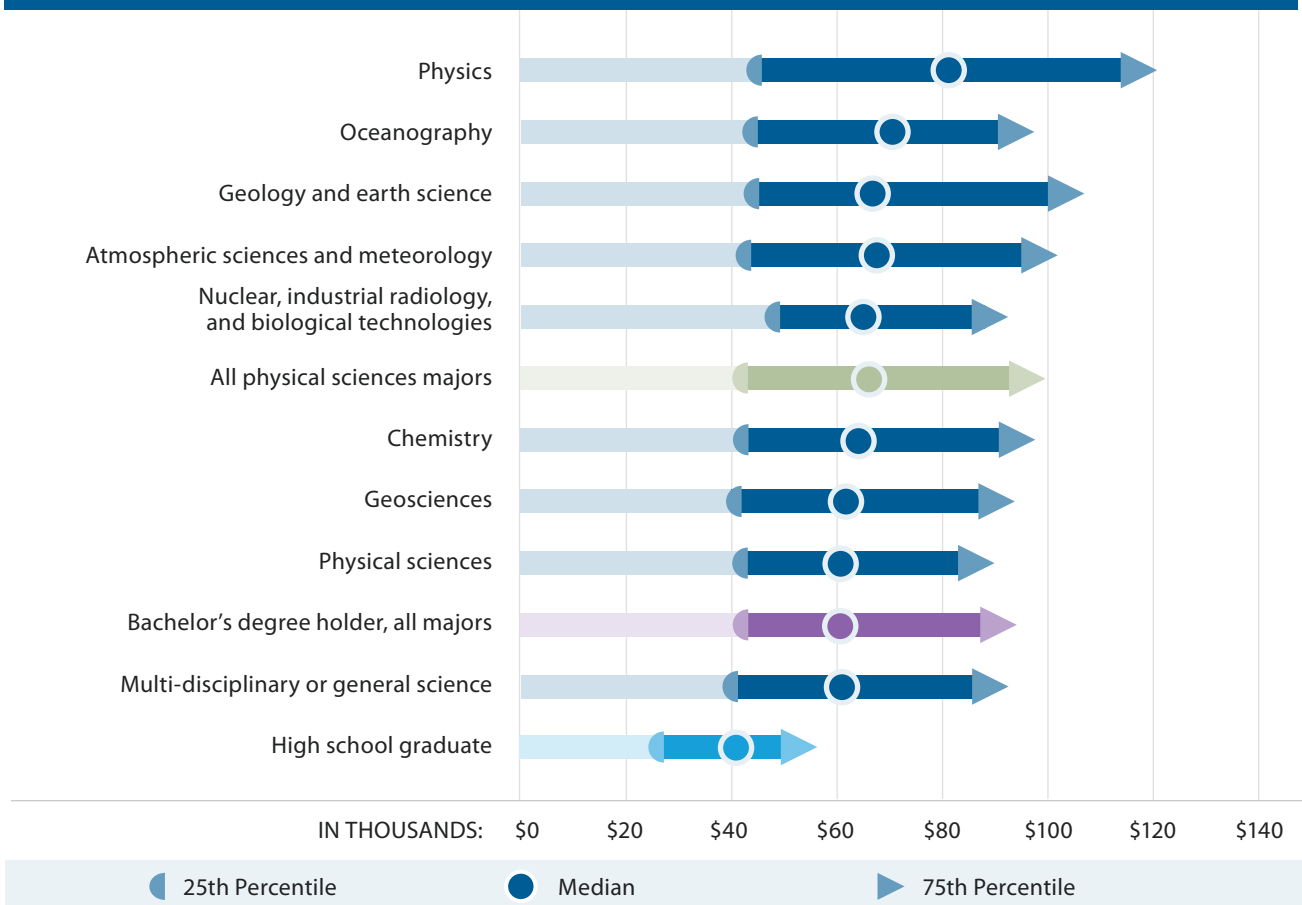
Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.74 | Physics majors earn \$81,000 annually, the highest among physical sciences majors.**Median annual wages of college-educated workers with physical sciences majors (ages 25-59) by major subgroup (2013\$)**

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.75 | The top 25 percent of physics majors earn more than \$115,000 annually.

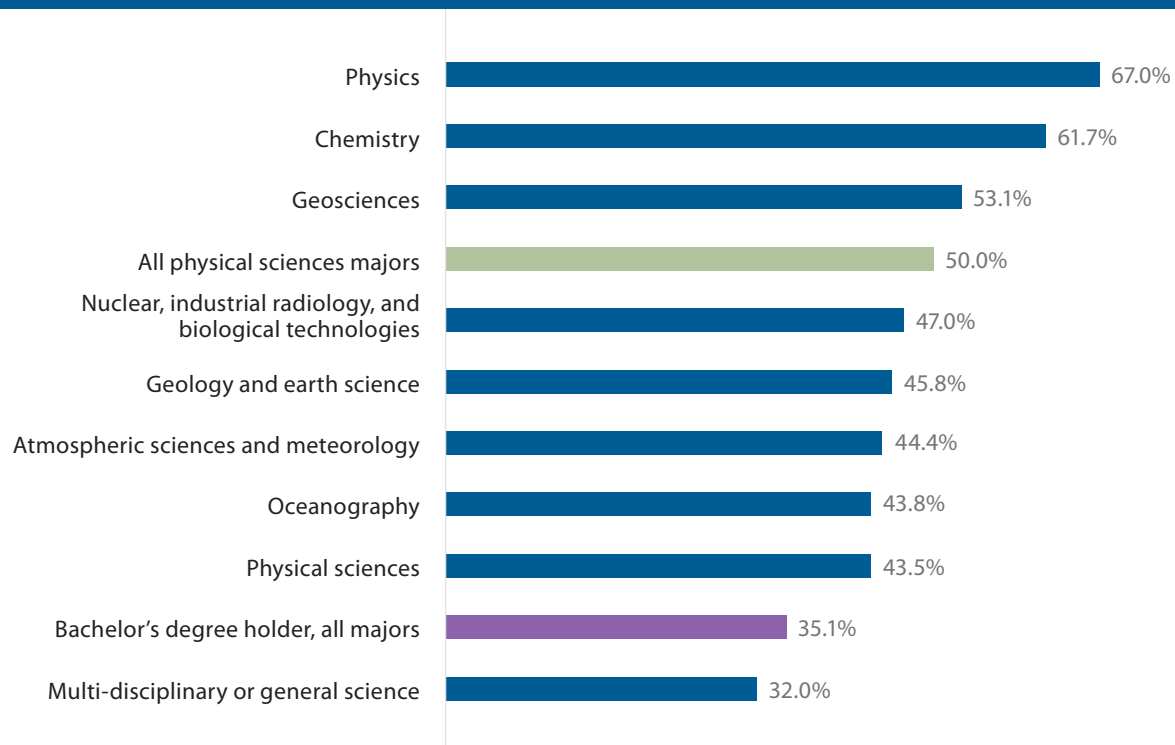
Interquartile range of annual wages of college-educated workers with physical sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.76 | Physics majors are nearly twice as likely to earn a graduate degree as the average college graduate.

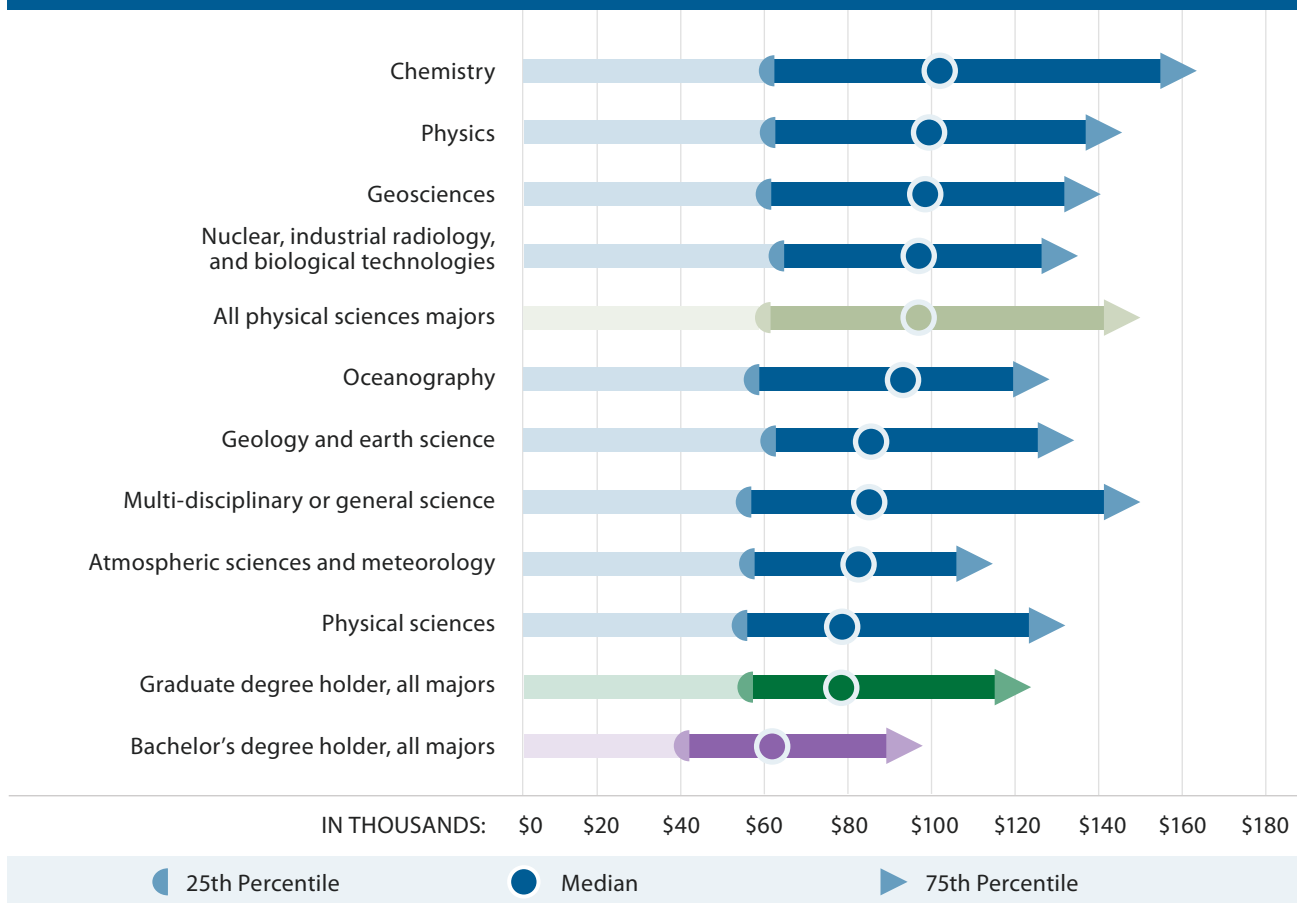
Graduate degree attainment of college graduates with physical sciences majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.78 | The top 25 percent of graduate degree holders who majored in chemistry earn more than \$150,000 annually, while the bottom 25 percent of graduate degree holders with atmospheric sciences and meteorology majors earn less than \$60,000 annually.

Interquartile range of annual wages of graduate degree holders with physical sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.13 | Graduate degree holders with physical sciences, on average, earn a 35 percent wage premium.

Major group	Median annual wages of college-educated workers (ages 25-59) with physical sciences majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All physical sciences majors	65,000	97,000	32,000	49
Major subgroups				
Chemistry	64,000	104,000	40,000	63
Geosciences	64,000	98,000	34,000	53
Nuclear, industrial radiology, and biological technologies	66,000	97,000	31,000	47
Multi-disciplinary or general science	61,000	87,000	26,000	43
Oceanography	69,000	91,000	22,000	32
Physical sciences	62,000	79,000	17,000	27
Atmospheric sciences and meteorology	66,000	84,000	18,000	27
Geology and earth science	69,000	87,000	18,000	26
Physics	81,000	101,000	20,000	25

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

PSYCHOLOGY AND SOCIAL WORK

SHARE OF ALL MAJORS

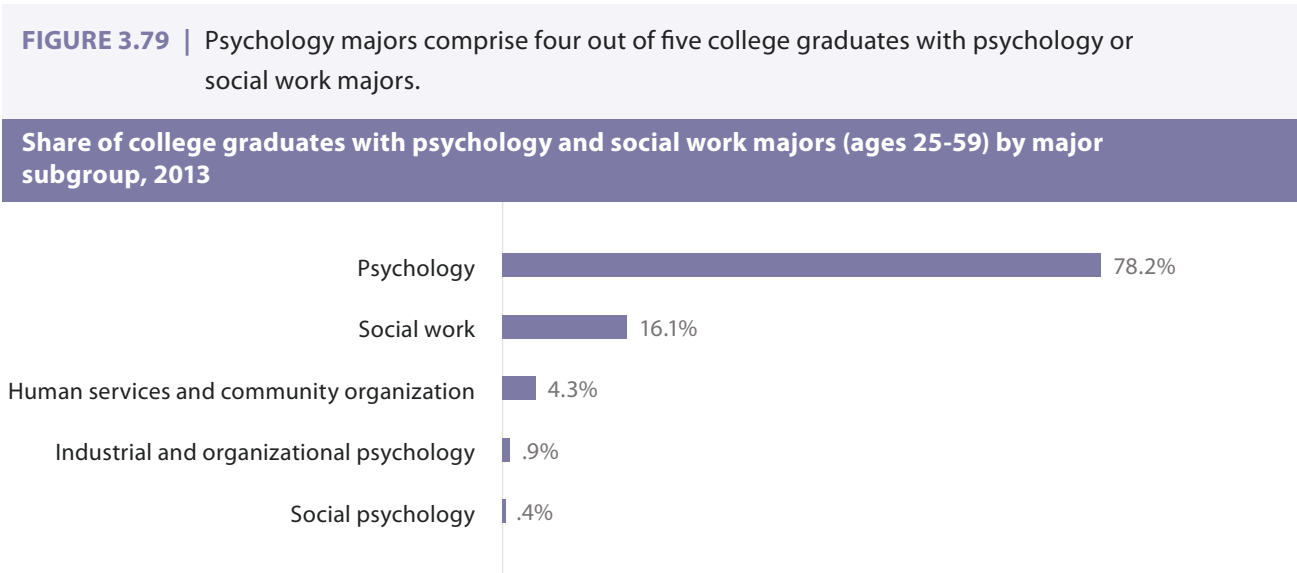
5.2%

GRADUATE DEGREE ATTAINMENT

45.3%



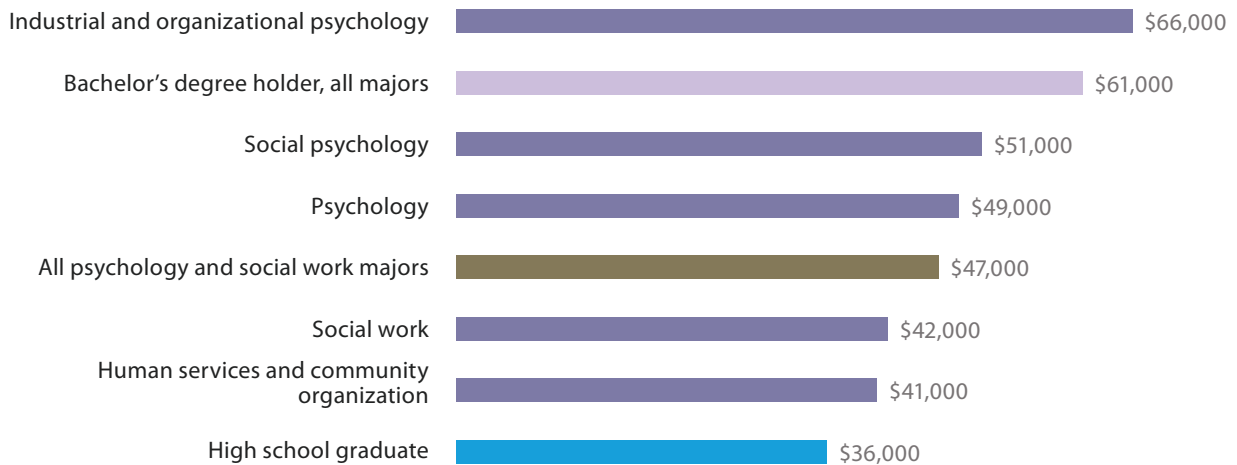
Prevalence of major subgroups in the fields of psychology and social work



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.80 | Industrial and organizational psychology majors earn \$66,000 annually, the highest among psychology and social work majors.

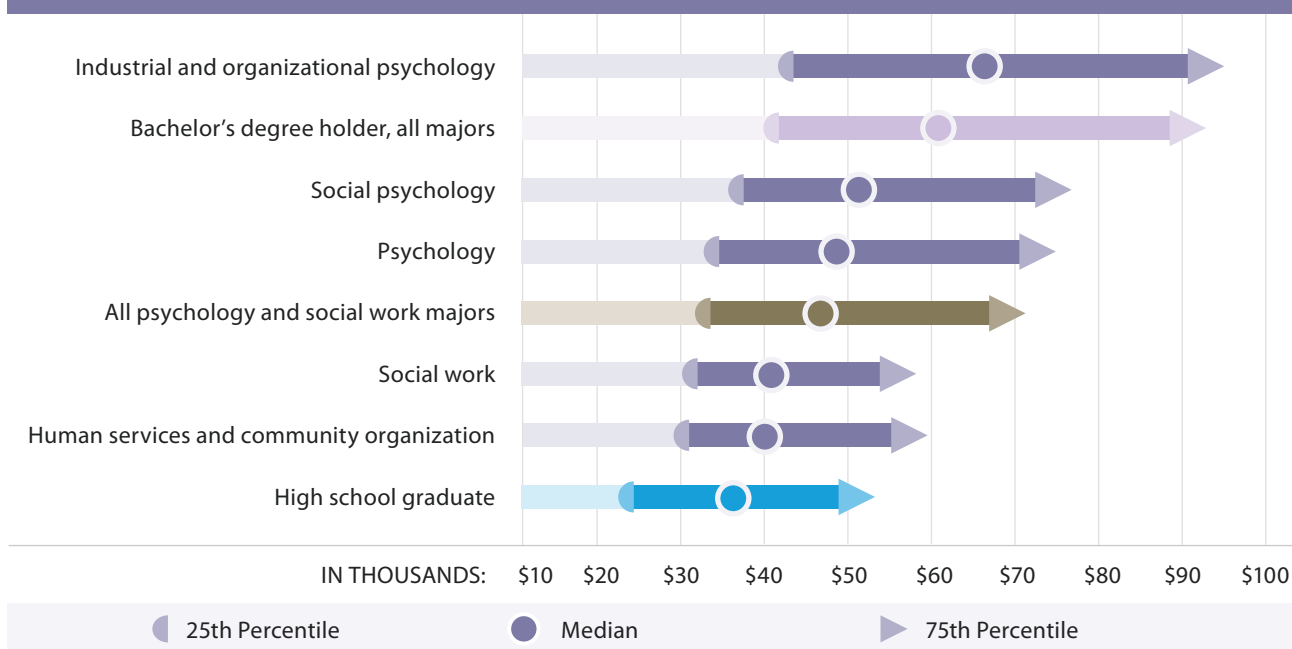
Median annual wages of college-educated workers with psychology and social work majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.81 | The top 25 percent of industrial and organizational psychology majors earn more than \$90,000 annually, while the bottom 25 percent of human services and community organization majors earn less than \$35,000 annually.

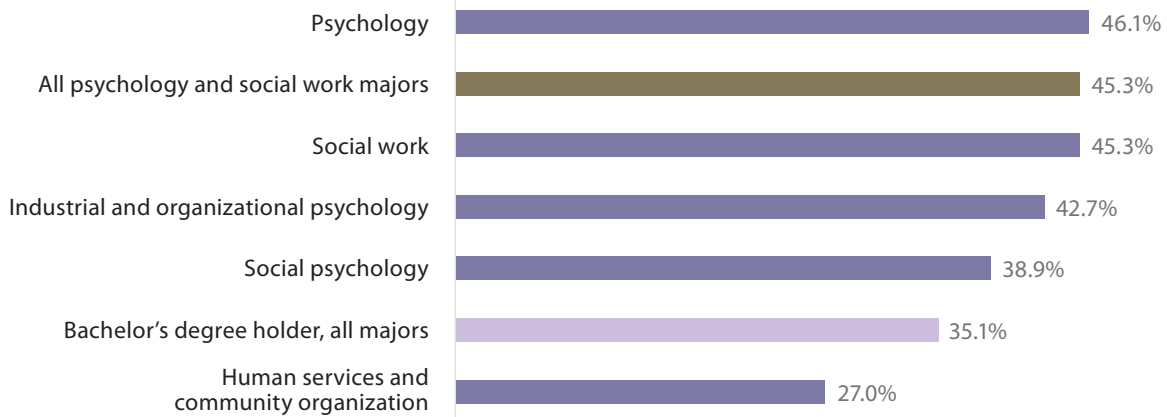
Interquartile range of annual wages of college-educated workers with psychology and social work majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.82 | Among psychology and social work majors, psychology majors are the most likely to earn a graduate degree, while human services and community organization majors are the least likely.

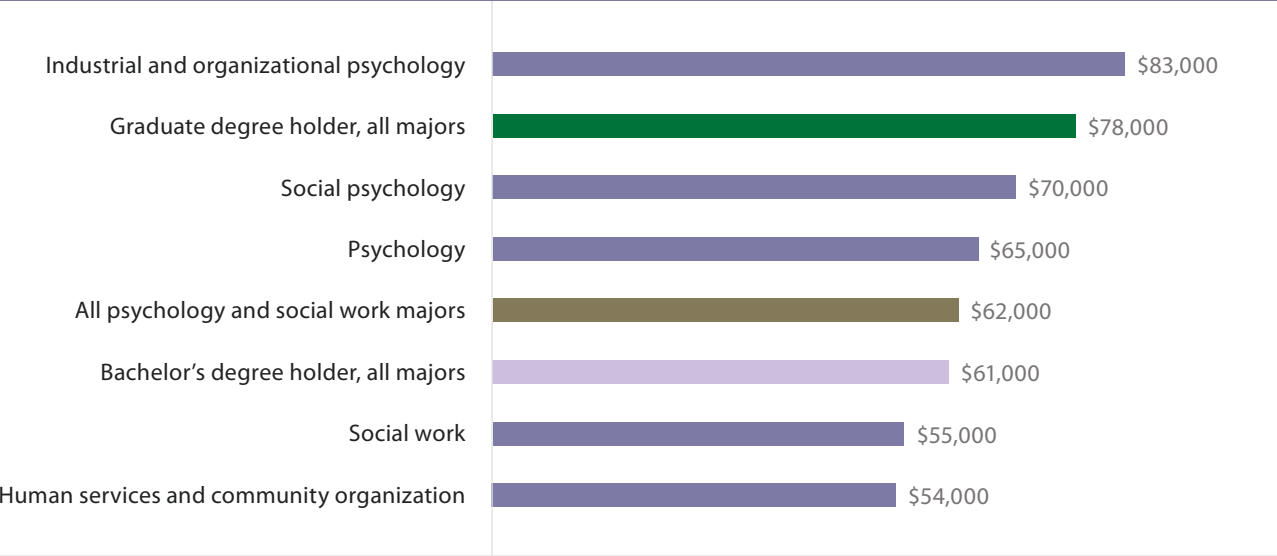
Graduate degree attainment of college graduates with psychology and social work majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.83 | Graduate degree holders who majored in industrial and organizational psychology earn \$83,000 annually, while those who majored in human services and community organization earn \$54,000 annually.

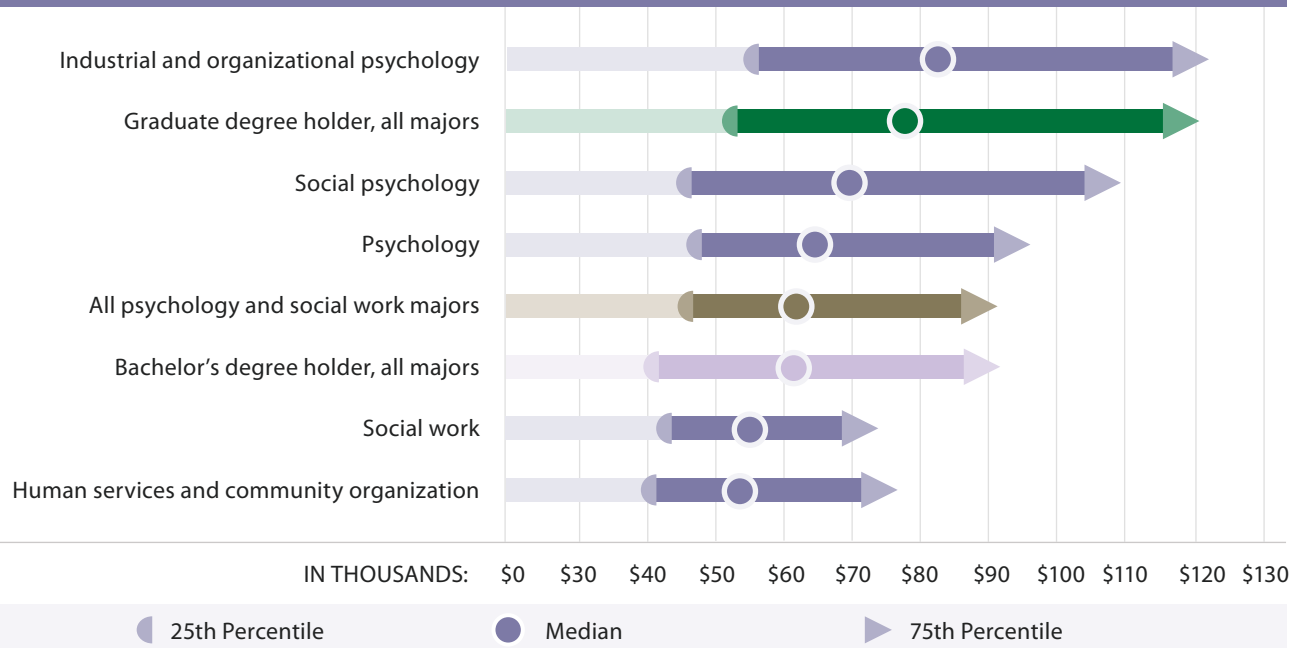
Median annual wages of graduate degree holders with psychology and social work majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.84 | The top 25 percent of graduate degree holders who majored in industrial and organizational psychology earn \$110,000 or more annually, while the bottom 25 percent of graduate degree holders who majored in social work earn less than \$45,000 annually.

Interquartile range of annual wages of graduate degree holders with psychology and social work majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.14 | Social psychology majors receive a 37 percent wage premium from a graduate degree, the largest among psychology and social work majors.

Major group	Median annual wages of college-educated workers (ages 25-59) with psychology and social work majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All psychology and social work majors	47,000	62,000	15,000	32
Major subgroups				
Social psychology	51,000	70,000	19,000	37
Psychology	49,000	65,000	16,000	33
Human services and community organization	41,000	54,000	13,000	32
Social work	42,000	55,000	13,000	31
Industrial and organizational psychology	65,000	79,000	14,000	22

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, American Community Survey micro data, 2009-2013.

SOCIAL SCIENCES

SHARE OF ALL MAJORS

6.9%

GRADUATE DEGREE ATTAINMENT

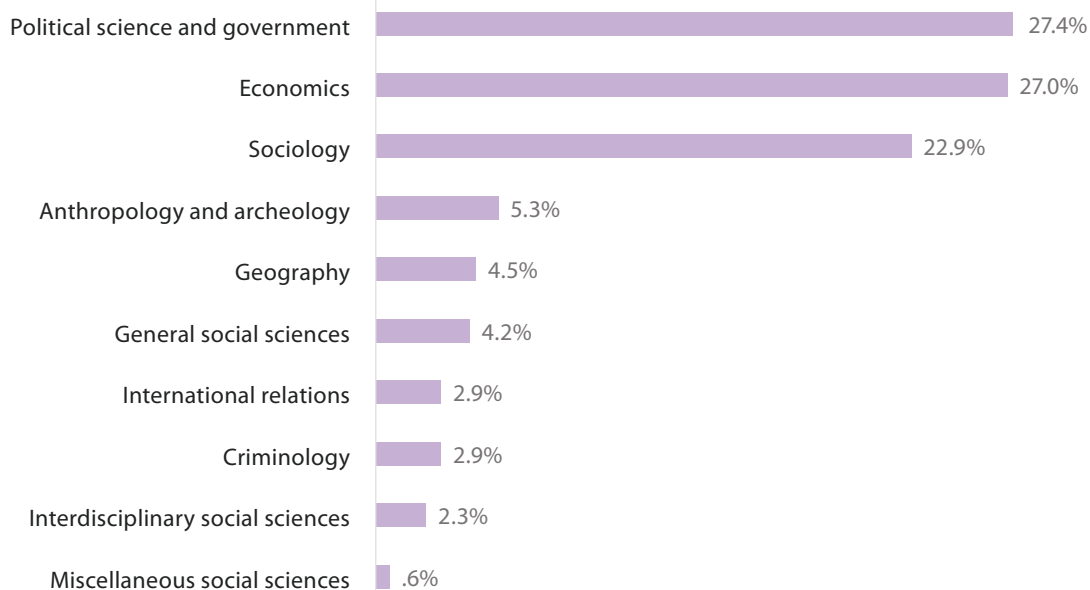
41.2%



Prevalence of major subgroups in the field of social sciences

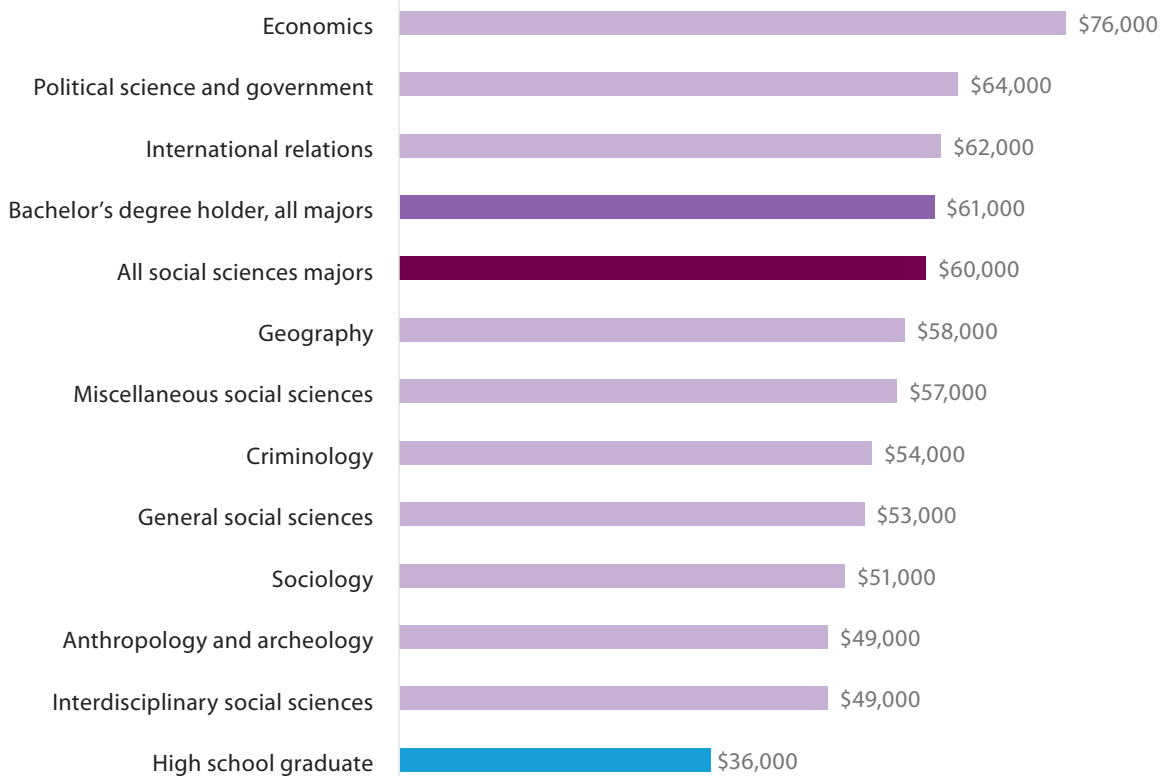
FIGURE 3.85 | Three major subgroups – political science and government, economics, and sociology– comprise 77 percent of social sciences majors.

Share of college graduates with social sciences majors (ages 25-59) by major subgroup, 2013



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

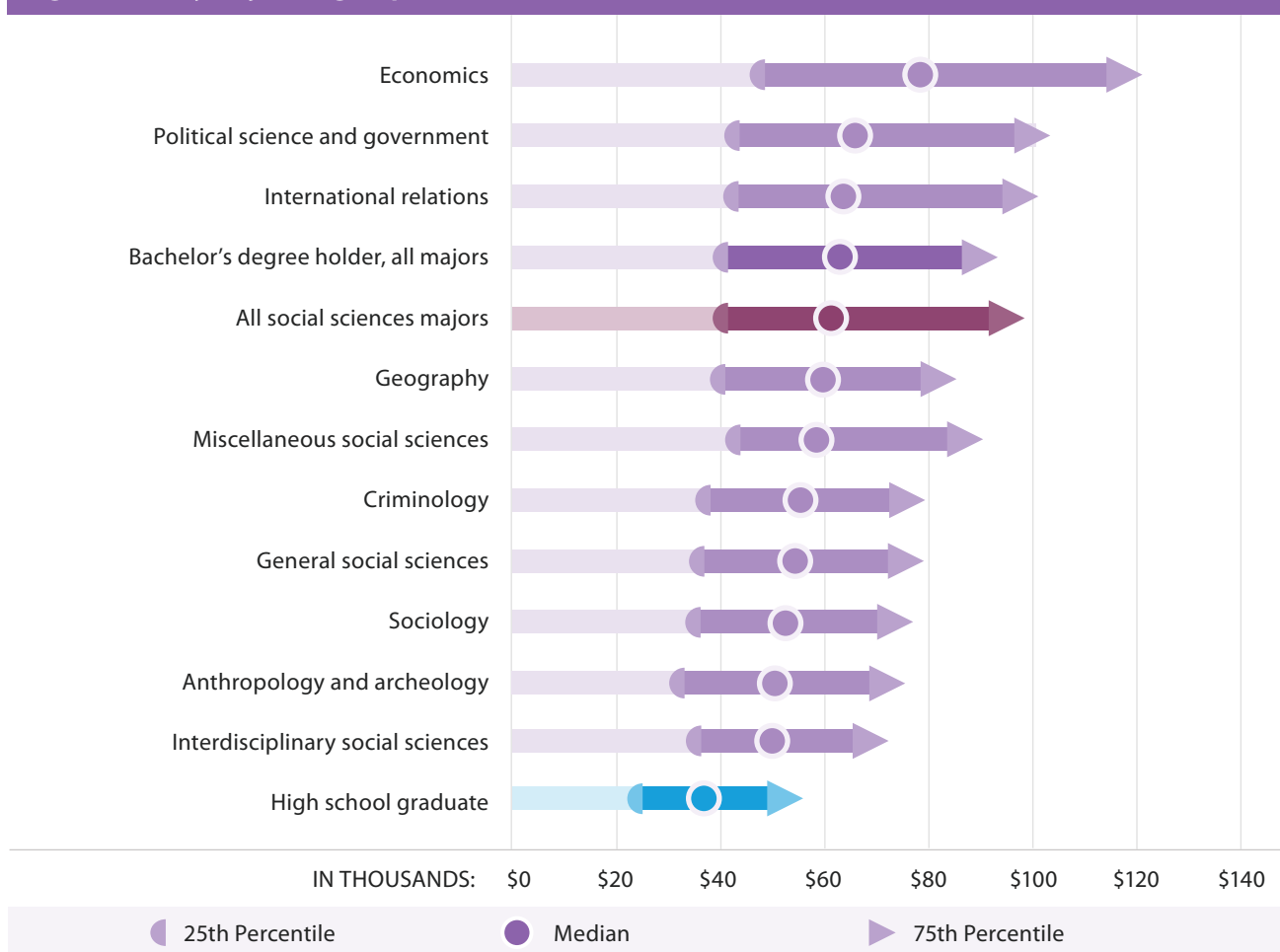
Note: Percentages may not sum to 100 percent due to rounding.

FIGURE 3.86 | Economics majors earn \$76,000 annually, the highest among social sciences majors.**Median annual wages of college-educated workers with social sciences majors (ages 25-59) by major subgroup (2013\$)**

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.87 | The top 25 percent of economics majors earn more than \$115,000 annually, while the bottom 25 percent of anthropology and archaeology majors earn less than \$35,000.

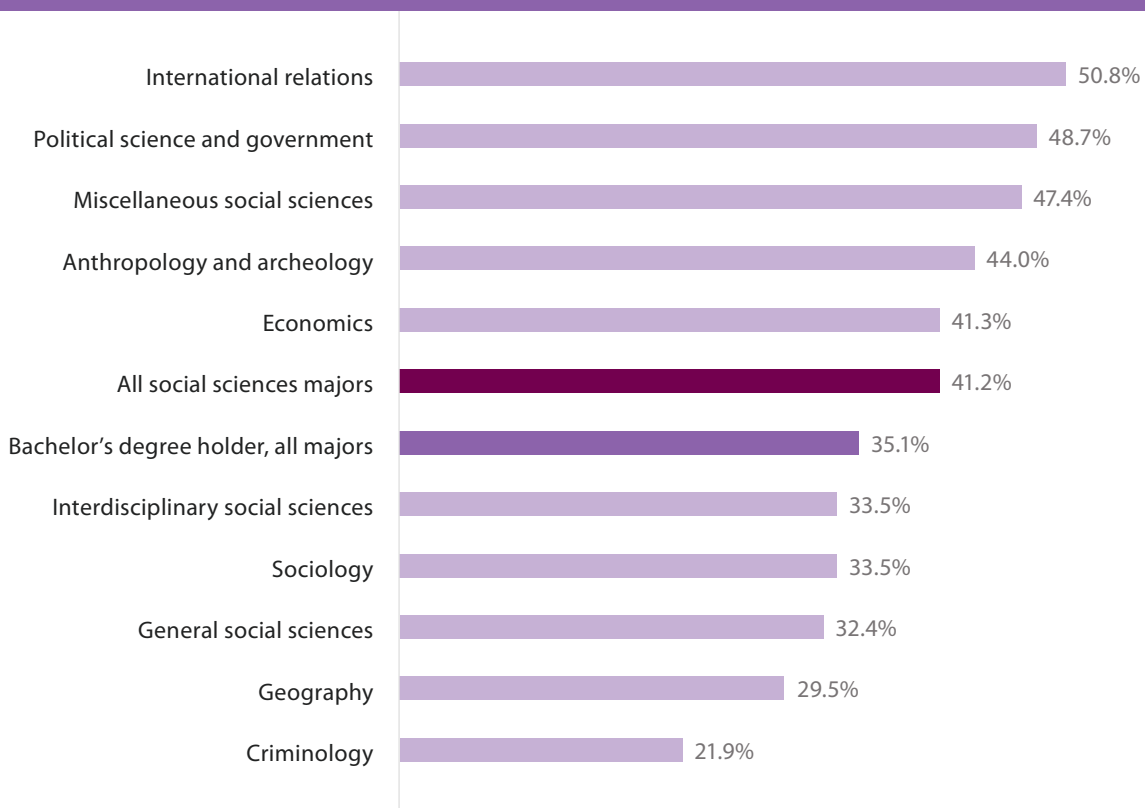
Interquartile range of annual wages of graduate degree holders with physical sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.88 | More than half of international relations majors earn a graduate degree, the highest among social sciences majors. social sciences majors.

Graduate degree attainment of college graduates with social sciences majors (ages 25-59) by major subgroup, 2013

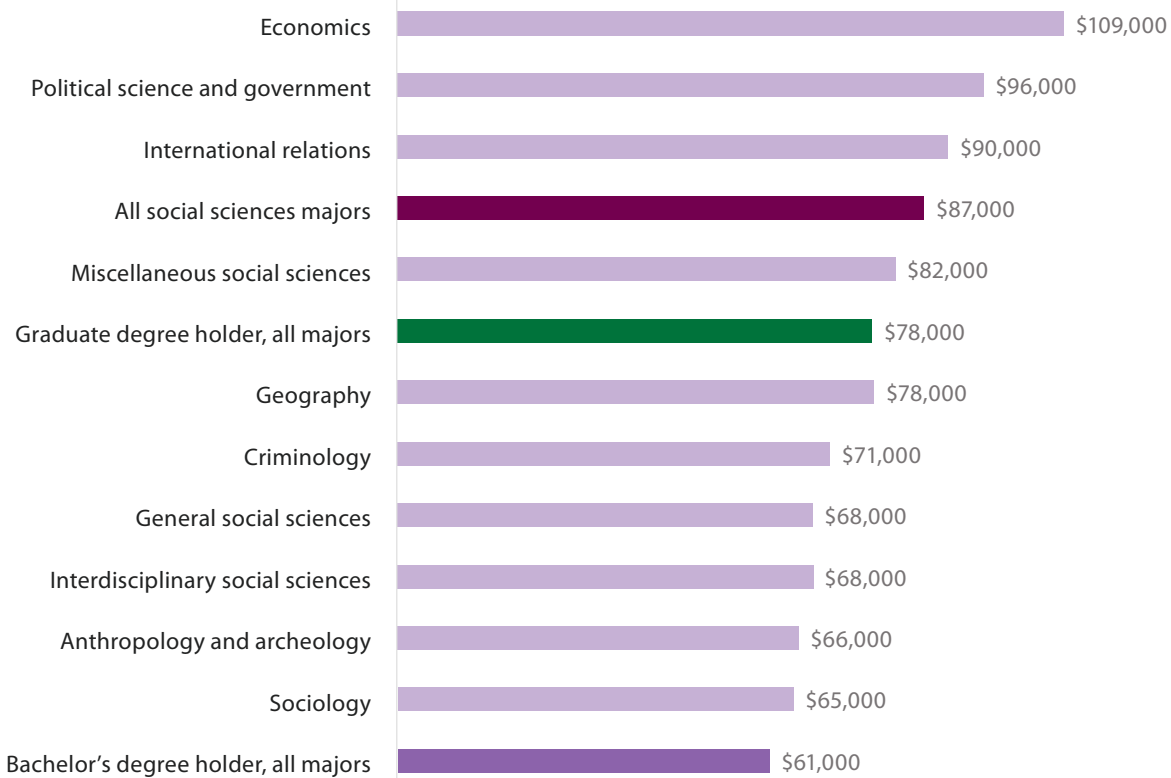


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

Outcomes for graduate degree holders in the field of social sciences

FIGURE 3.89 | Graduate degree holders who majored in economics earn \$109,000 annually, the highest among graduate degree holders who majored in social sciences fields.

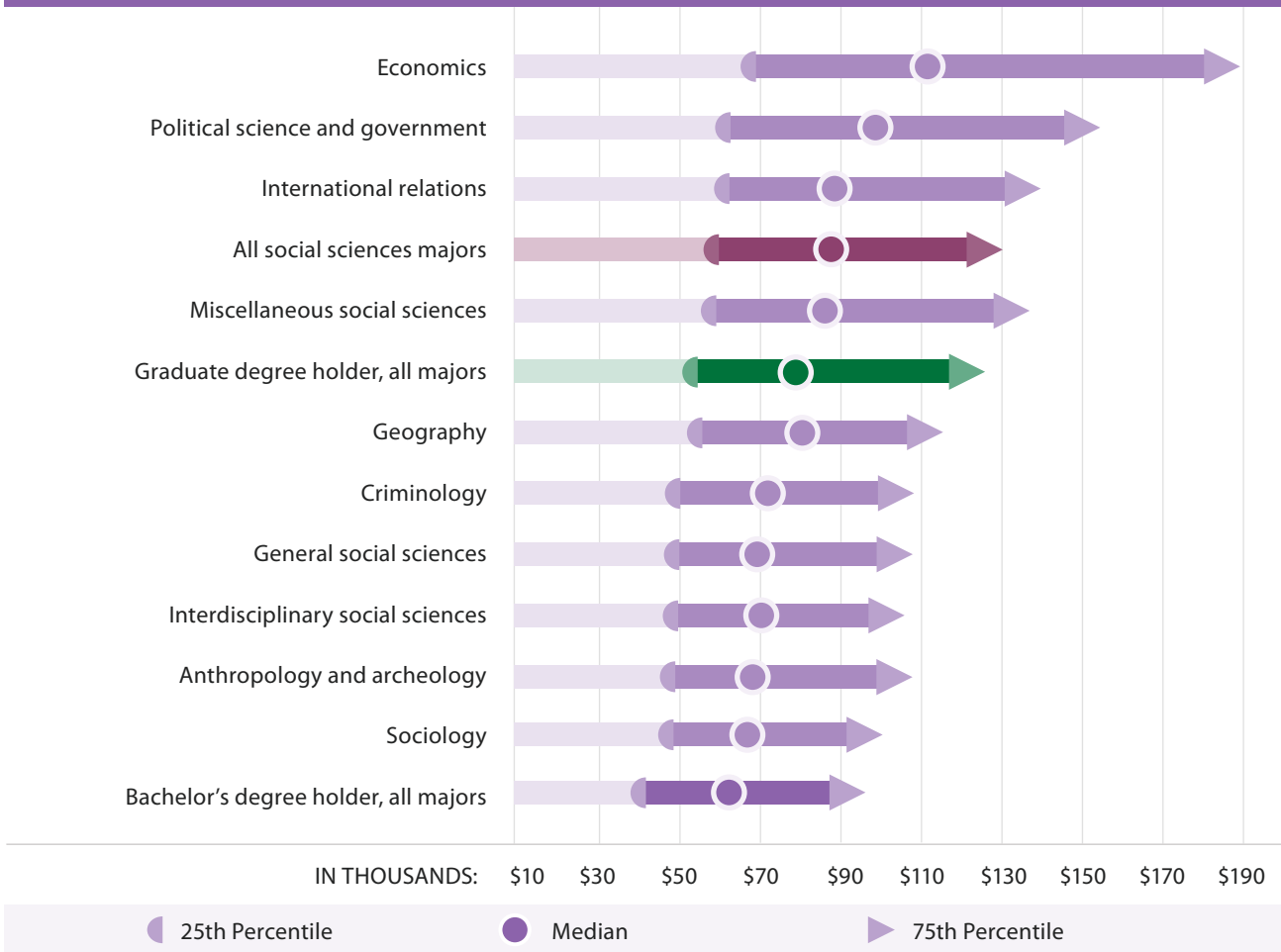
Median annual wages of graduate degree holders with social sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

FIGURE 3.90 | The top 25 percent of graduate-degree holders who majored in economics earn more than \$175,000 annually, while the bottom 25 percent of graduate degree holders who majored in sociology earn less than \$50,000 annually.

Interquartile range of annual wages of graduate degree holders with social sciences majors (ages 25-59) by major subgroup (2013\$)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

TABLE 3.15 | Graduate degree holders with social sciences majors, on average, earn a 35 percent wage premium.

Major group	Median annual wages of college-educated workers (ages 25-59) with social sciences majors (2013\$)		Graduate degree wage premium (2013\$)	
	Bachelor's	Graduate	\$	%
All majors	61,000	78,000	17,000	28
All social sciences majors	60,000	87,000	27,000	45
Major subgroups				
Political science and government	64,000	96,000	32,000	50
International relations	62,000	90,000	28,000	45
Miscellaneous social sciences	57,000	82,000	25,000	44
Economics	76,000	109,000	33,000	43
Interdisciplinary social sciences	49,000	68,000	19,000	39
Anthropology and archeology	49,000	66,000	17,000	35
Geography	58,000	78,000	20,000	34
Criminology	54,000	71,000	17,000	31
General social sciences	53,000	68,000	15,000	28
Sociology	51,000	65,000	14,000	27

Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013.

APPENDIX ONE

References, Data Sources, and Methodology

.....



References

Autor, David, Lawrence Katz, and Melissa Kearney. *The Polarization of the U.S. Labor Market*, NBER Working Paper No. 11986. Boston: National Bureau of Economic Research, 2006.

Carnevale, Anthony P., Nicole Smith and Jeff Strohl. *Recovery: Job Growth and Education Requirements Through 2020*. Washington, D.C.: Center on Education and the Workforce, 2014, <http://cew.georgetown.edu/recovery2020>.

Jorgenson, Dale W. and Barbara M. Fraumeni. "The Output of the Education Sector." *Output Measurement In the Services Sector*, edited by Zvi Griliches. Chicago: University of Chicago Press, 1992.

U.S. Census Bureau, *American Community Survey (ACS)*: [Years]: one-year person level micro data files, available at <http://www2.census.gov/>

Data Sources and Methodology

Data source: *American Community Survey* (one-year files) micro data 2009-2013.⁹ The sample consists of full-time full-year workers between the ages of 21 and 59. Data from four years is pooled for all analyses except those showing yearly changes. Results on earnings are restricted to full-time full-year workers with positive earnings. Earnings are adjusted to 2013 levels using the Consumer Price Index Research Series (CPI-U-RS).¹⁰

The data on major field of study are part of the *American Community Survey* long form and is coded by the Census Bureau.¹¹ This list can be downloaded from the Census Bureau website. The majors that are listed in the report appear on the College Board website¹² as “This major often leads to the Bachelor’s degree.” Majors that are listed as “This program most often leads to a graduate degree” or “This major is most often offered at the certificate and Associate’s degree levels” are collapsed as detailed below. Majors that are not listed on the College Board website are also collapsed.

In some cases, the Census Bureau has combined majors at the data collection level, which does not allow us separately to identify the earnings for each major. These include but are not limited to philosophy and religious studies, pharmacy and pharmaceutical sciences and administration, and French, German, Latin and other common foreign languages. In some cases, majors that are combined are usually offered at different levels such as cosmetology services and culinary arts. Cosmetology is usually offered at the Associate’s degree level while culinary arts is also available at the Bachelor’s degree level. Unfortunately, the earnings of each major cannot be separately identified. In this report, the following aggregations are used:

- ♦ Miscellaneous agriculture includes agriculture production and management;
- ♦ Biomedical engineering includes biological engineering;
- ♦ General engineering includes materials engineering and materials science, naval architecture, and nuclear engineering;
- ♦ Miscellaneous engineering technologies includes electrical engineering technologies;
- ♦ Fine arts includes miscellaneous fine arts;

⁹ http://www.census.gov/acs/www/data_documentation/pums_data/

¹⁰ <http://www.bls.gov/cpi/cpiurs.htm>

¹¹ http://www.census.gov/acs/www/data_documentation/pums_documentation/

¹² <https://bigfuture.collegeboard.org/explore-careers/college-majors>

- ♦ Miscellaneous biology includes genetics, pharmacology, and physiology;
- ♦ Mass media is combined with communications;
- ♦ Communication technologies, computer administration management and security, and computer networking and telecommunications are combined into miscellaneous computer;
- ♦ Miscellaneous education includes educational administration and supervision, school student counseling, and library science (these are presented for completeness) ;
- ♦ Miscellaneous health includes community and public health, general medical and health services, medical assisting services, and medical technologies technician;
- ♦ History includes United States history;
- ♦ Miscellaneous industrial arts and consumer services includes cosmetology services and culinary arts, construction services, electrical and mechanical repairs and technologies, precision production, and industrial arts;
- ♦ Nuclear, industrial radiology, and biological technologies includes materials science; and
- ♦ Educational psychology, clinical psychology, counseling psychology, cognitive psychology, and miscellaneous psychology are included in psychology.

Sample size and representativeness

The minimum sample size to be considered for inclusion is 100. This corresponds roughly to a ratio of the estimated standard error to the cell percentage of 15 percent. While the *American Community Survey* can be considered a representative sample of individuals in the United States, the sample is not necessarily representative of those who chose those majors in their undergraduate education.

Educational attainment for Bachelor's degree holders is not further differentiated among those who received a Bachelor of Science, Bachelor of Arts or other specialized Bachelor's degrees.

APPENDIX TWO

Classification of Major Groups and Subgroups

.....



Classification of Major Groups and Subgroups

	15 MAJOR GROUPS	137 MAJOR SUBGROUPS
	Agriculture and natural resources	Agricultural economics
		Animal sciences
		Food science
		Forestry
		General agriculture
		Miscellaneous agriculture
		Natural resources management
		Plant science and agronomy
	Architecture and engineering	Aerospace engineering
		Architectural engineering
		Architecture
		Biomedical engineering
		Chemical engineering
		Civil engineering
		Electrical engineering
		Engineering and industrial management
		Engineering mechanics, physics, and science
		Engineering technologies
		Environmental engineering
		General engineering
		Geological and geophysical engineering
		Industrial and manufacturing engineering
		Industrial production technologies
		Mechanical engineering
		Mechanical engineering-related technologies
		Metallurgical engineering
		Mining and mineral engineering
		Miscellaneous engineering
		Miscellaneous engineering technologies
		Petroleum engineering



Arts

Commercial art and graphic design

Drama and theater arts

Film, video, and photographic arts

Fine arts

Music

Studio arts

Visual and performing arts



Biology and life sciences

Biochemical sciences

Biology

Botany

Ecology

Environmental science

Microbiology

Miscellaneous biology

Molecular biology

Neuroscience

Zoology



Business

Accounting

Business economics

Business management and administration

Finance

General business

Hospitality management

Human resources and personnel management

International business

Management information systems and statistics




Marketing and marketing research

Miscellaneous business and
medical administration

Operations logistics and e-commerce

APPENDIX TWO

CLASSIFICATION OF MAJOR GROUPS AND SUBGROUPS

	Communications and journalism	Advertising and public relations
		Communications and mass media
		Journalism
	Computers, statistics, and mathematics	Applied mathematics
		Computer and information systems
		Computer engineering
		Computer science
		Information sciences
		Mathematics
		Miscellaneous computer
		Statistics and decision science
	Education	Art and music education
		Early childhood education
		Elementary education
		General education
		Language and drama education
		Mathematics teacher education
		Miscellaneous education
		Physical and health education teaching
		Science and computer teacher education
		Secondary teacher education
		Social sciences or history teacher education
		Special needs education
		Teacher education: multiple levels



Health

Communication disorders sciences and services
Health and medical administrative services
Health and medical preparatory programs
Miscellaneous health medical professions
Nursing
Nutrition sciences
Pharmacy pharmaceutical sciences, and administration
Treatment therapy professions



Humanities and liberal arts

Area ethnic and civilization studies
Art history and criticism
Composition and speech
English language and literature
French, German, Latin, and other common foreign language studies
History
Humanities
Intercultural and international studies
Liberal arts
Linguistics and comparative language and literature
Multi/interdisciplinary studies
Other foreign languages
Philosophy and religious studies
Theology and religious vocations







Industrial arts, consumer services, and recreation

Family and consumer sciences
Miscellaneous industrial arts and consumer services
Physical fitness parks recreation and leisure
Transportation sciences and technologies

APPENDIX TWO

CLASSIFICATION OF MAJOR GROUPS AND SUBGROUPS

	Law and public policy	Criminal justice and fire protection
		Pre-law and legal studies
		Public administration
		Public policy
	Physical sciences	Atmospheric sciences and meteorology
		Chemistry
		Geology and earth science
		Geosciences
		Multi-disciplinary or general science
		Nuclear, industrial radiology, and biological technologies
		Oceanography
		Physical sciences
		Physics
	Psychology and social work	Human services and community organization
		Industrial and organizational psychology
		Psychology
		Social psychology
		Social work
	Social sciences	Anthropology and archaeology
		Criminology
		Economics
		General social sciences
		Geography
		Interdisciplinary social sciences
		International relations
		Miscellaneous social sciences
		Political science and government
		Sociology

APPENDIX THREE

Major subgroups ranked by median annual wages



Major subgroups ranked by median annual wages

RANK	MAJOR SUBGROUP	MEDIAN ANNUAL WAGES OF COLLEGE-EDUCATED WORKERS (AGES 25-59) (2013\$)
1	Petroleum engineering	136,000
2	Pharmacy, pharmaceutical sciences, and pharmaceutical administration	113,000
3	Metallurgical engineering	98,000
4	Mining and mineral engineering	97,000
5	Chemical engineering	96,000
6	Electrical engineering	93,000
7	Aerospace engineering	90,000
8	Mechanical engineering	87,000
9	Computer engineering	87,000
10	Geological and geophysical engineering	87,000
11	Computer science	83,000
12	Civil engineering	83,000
13	Applied mathematics	83,000
14	Industrial and manufacturing engineering	81,000
15	Physics	81,000
16	General engineering	81,000
17	Engineering mechanics, physics, and science	81,000
18	Architectural engineering	80,000
19	Engineering and industrial management	78,000
20	Statistics and decision science	78,000
21	Management information systems and statistics	77,000
22	Environmental engineering	76,000
23	Miscellaneous engineering	76,000
24	Economics	76,000
25	Business economics	75,000
26	Industrial production technologies	74,000
27	Information sciences	73,000

28	Transportation sciences and technologies	73,000
29	Mathematics	73,000
30	Finance	73,000
31	Miscellaneous engineering technologies	72,000
32	Operations logistics and e-commerce	71,000
33	Biomedical engineering	70,000
34	Computer and information systems	69,000
35	Geology and earth science	69,000
36	Oceanography	69,000
37	Mechanical engineering-related technologies	69,000
38	Accounting	69,000
39	Agricultural economics	67,000
40	Food science	67,000
41	Architecture	67,000
42	Atmospheric sciences and meteorology	66,000
43	Engineering technologies	66,000
44	Nuclear, industrial radiology, and biological technologies	66,000
45	Industrial and organizational psychology	66,000
46	Nursing	66,000
47	Public policy	65,000
48	Treatment therapy professions	65,000
49	General business	65,000
50	Chemistry	64,000
51	Geosciences	64,000
52	Political science and government	64,000
53	Miscellaneous industrial arts and consumer services	64,000
54	Marketing and marketing research	63,000
55	Forestry	62,000
56	Microbiology	62,000

APPENDIX THREE

MAJOR SUBGROUPS RANKED BY MEDIAN ANNUAL WAGES

57	Physical sciences	62,000
58	Business management and administration	62,000
59	Public administration	62,000
60	International relations	62,000
61	Multi-disciplinary or general science	61,000
62	International business	60,000
63	Miscellaneous computer	59,000
64	Biochemical sciences	59,000
65	Miscellaneous business and medical administration	59,000
66	Human resources and personnel management	58,000
67	Geography	58,000
68	Zoology	58,000
69	Miscellaneous social sciences	57,000
70	Miscellaneous agriculture	57,000
71	Environmental science	57,000
72	Miscellaneous health medical professions	56,000
73	Journalism	56,000
74	Biology	56,000
75	Natural resources management	56,000
76	Health and medical administrative services	55,000
77	Communications and mass media	54,000
78	Advertising and public relations	54,000
79	Miscellaneous biology	54,000
80	Criminal justice and fire protection	54,000
81	Health and medical preparatory programs	54,000
82	History	54,000
83	Molecular biology	54,000
84	Criminology	54,000
85	General agriculture	53,000
86	Plant science and agronomy	53,000

87	Liberal arts	53,000
88	General social sciences	53,000
89	English language and literature	53,000
90	Miscellaneous education	52,000
91	Hospitality management	52,000
92	French, German, Latin, and other common foreign language studies	52,000
93	Botany	52,000
94	Intercultural and international studies	52,000
95	Nutrition sciences	52,000
96	Area ethnic and civilization studies	51,000
97	Pre-law and legal studies	51,000
98	Film, video, and photographic arts	51,000
99	Social psychology	51,000
100	Ecology	51,000
101	Physical and health education teaching	51,000
102	Other foreign languages	51,000
103	Philosophy and religious studies	51,000
104	Sociology	51,000
105	Commercial art and graphic design	51,000
106	Linguistics and comparative language and literature	50,000
107	Animal sciences	49,000
108	Fine arts	49,000
109	Art history and criticism	49,000
110	Humanities	49,000
111	Physical fitness, parks, recreation, and leisure	49,000
112	Psychology	49,000
113	Music	49,000
114	Interdisciplinary social sciences	49,000
115	Anthropology and archeology	49,000

APPENDIX THREE**MAJOR SUBGROUPS RANKED BY MEDIAN ANNUAL WAGES**

116	Mathematics teacher education	49,000
117	Neuroscience	48,000
118	Secondary teacher education	48,000
119	Science and computer teacher education	48,000
120	Social sciences or history teacher education	47,000
121	Composition and speech	47,000
122	Communication disorders sciences and services	46,000
123	Art and music education	46,000
124	Multi/interdisciplinary studies	46,000
125	General education	46,000
126	Special needs education	45,000
127	Language and drama education	45,000
128	Family and consumer sciences	45,000
129	Drama and theater arts	45,000
130	Elementary education	43,000
131	Theology and religious vocations	43,000
132	Visual and performing arts	42,000
133	Teacher education: multiple levels	42,000
134	Social work	42,000
135	Studio arts	42,000
136	Human services and community organization	41,000
137	Early childhood education	39,000

APPENDIX FOUR

Major subgroups ranked by prevalence



Major subgroups ranked by prevalence

RANK	MAJOR SUBGROUP	MAJORS PER 10,000 COLLEGE GRADUATES (AGES 25-59)
1	Business management and administration	814
2	General business	539
3	Accounting	463
4	Nursing	448
5	Psychology	404
6	Communications and mass media	352
7	Marketing and marketing research	315
8	General education	287
9	Elementary education	279
10	English language and literature	251
11	Computer science	243
12	Finance	233
13	Criminal justice and fire protection	219
14	Biology	206
15	Political science and government	189
16	Economics	186
17	Electrical engineering	168
18	History	164
19	Liberal arts	162
20	Sociology	158
21	Fine arts	148
22	Commercial art and graphic design	144
23	General engineering	132
24	Mechanical engineering	132
25	Miscellaneous health medical professions	120
26	Multi-disciplinary or general science	114
27	Journalism	111
28	Physical fitness, parks, recreation, and leisure	98
29	Family and consumer sciences	92

30	Mathematics	91
31	Civil engineering	83
32	Social work	83
33	Computer and information systems	83
34	Architecture	77
35	Treatment therapy professions	71
36	Music	66
37	Chemistry	64
38	Physical and health education teaching	62
39	Hospitality management	57
40	Miscellaneous computer	56
41	Theology and religious vocations	55
42	Advertising and public relations	53
43	French, German, Latin, and other common foreign language studies	52
44	Human resources and personnel management	50
45	Management information systems and statistics	50
46	Computer engineering	49
47	Drama and theater arts	48
48	Philosophy and religious studies	48
49	Art and music education	47
50	Miscellaneous engineering technologies	45
51	Chemical engineering	43
52	Miscellaneous industrial arts and consumer services	42
53	Early childhood education	42
54	Miscellaneous education	40
55	Secondary teacher education	39
56	Special needs education	39
57	Pharmacy, pharmaceutical sciences, and administration	38

APPENDIX FOUR

MAJOR SUBGROUPS RANKED BY PREVALENCE

58	Film, video, and photographic arts	36
59	Anthropology and archeology	36
60	Transportation sciences and technologies	35
61	Language and drama education	34
62	Industrial and manufacturing engineering	34
63	Environmental science	31
64	Geography	31
65	Health and medical administrative services	30
66	General social sciences	29
67	General agriculture	28
68	Miscellaneous business and medical administration	27
69	Geology and earth science	26
70	Miscellaneous agriculture	26
71	Area ethnic and civilization studies	26
72	Animal sciences	26
73	Physics	25
74	International business	25
75	Information sciences	24
76	Social sciences or history teacher education	24
77	Miscellaneous biology	23
78	Natural resources management	23
79	Human services and community organization	22
80	Art history and criticism	22
81	Industrial production technologies	21
82	Studio arts	21
83	Pre-law and legal studies	21
84	International relations	20
85	Criminology	20
86	Plant science and agronomy	20
87	Business economics	19

88	Teacher education: multiple levels	18
89	Biochemical sciences	18
90	Nutrition sciences	18
91	Linguistics and comparative language and literature	17
92	Microbiology	17
93	Communication disorders sciences and services	16
94	Operations logistics and e-commerce	16
95	Interdisciplinary social sciences	16
96	Composition and speech	16
97	Visual and performing arts	15
98	Miscellaneous engineering	15
99	Forestry	15
100	Aerospace engineering	15
101	Intercultural and international studies	15
102	Mathematics teacher education	14
103	Public administration	14
104	Other foreign languages	13
105	Zoology	12
106	Ecology	12
107	Biomedical engineering	12
108	Science and computer teacher education	11
109	Humanities	11
110	Multi/interdisciplinary studies	11
111	Engineering technologies	10
112	Agricultural economics	9
113	Mechanical engineering-related technologies	8
114	Engineering and industrial management	8
115	Molecular biology	7
116	Food science	6
117	Statistics and decision science	6

APPENDIX FOUR

MAJOR SUBGROUPS RANKED BY PREVALENCE

118	Health and medical preparatory programs	6
119	Applied mathematics	5
120	Nuclear, industrial radiology, and biological technologies	5
121	Industrial and organizational psychology	5
122	Architectural engineering	5
123	Engineering mechanics, physics, and science	4
124	Petroleum engineering	4
125	Miscellaneous social sciences	4
126	Atmospheric sciences and meteorology	4
127	Public policy	4
128	Environmental engineering	3
129	Botany	3
130	Oceanography	3
131	Mining and mineral engineering	2
132	Social psychology	2
133	Neuroscience	2
134	Geosciences	2
135	Physical sciences	2
136	Metallurgical engineering	2
137	Geological and geophysical engineering	1

APPENDIX FIVE

Major subgroups ranked by graduate degree attainment

.....



Major subgroups ranked by graduate degree attainment

RANK	MAJOR SUBGROUP	GRADUATE DEGREE ATTAINMENT OF COLLEGE GRADUATES, (AGES 25-59) (%)
1	Health and medical preparatory programs	77.3
2	Communication disorders sciences and services	75.9
3	Biochemical sciences	68.3
4	Neuroscience	68.0
5	Physics	67.0
6	Molecular biology	64.5
7	Zoology	62.8
8	Chemistry	61.7
9	Miscellaneous biology	59.0
10	Biology	58.9
11	Botany	56.8
12	Microbiology	56.6
13	Special needs education	56.2
14	Public policy	55.7
15	Metallurgical engineering	54.4
16	Geosciences	53.1
17	Philosophy and religious studies	53.0
18	Biomedical engineering	52.5
19	Mathematics teacher education	52.0
20	Pharmacy, pharmaceutical sciences, and administration	51.6
21	Engineering mechanics, physics, and science	51.2
22	Environmental engineering	51.0
23	Miscellaneous education	51.0
24	Language and drama education	50.8
25	International relations	50.8
26	Statistics and decision science	50.7
27	Science and computer teacher education	50.7

28	Mathematics	48.8
29	Political science and government	48.7
30	Applied mathematics	48.6
31	Chemical engineering	48.6
32	Aerospace engineering	48.2
33	Miscellaneous social sciences	47.4
34	Nuclear, industrial radiology, and biological technologies	47.0
35	Secondary teacher education	46.9
36	French, German, Latin, and other common foreign language studies	46.8
37	Area ethnic and civilization studies	46.4
38	Psychology	46.1
39	Linguistics and comparative language and literature	45.8
40	Geology and earth science	45.8
41	History	45.7
42	Other foreign languages	45.5
43	Social work	45.3
44	Public administration	44.8
45	Atmospheric sciences and meteorology	44.4
46	Social sciences or history teacher education	44.2
47	Anthropology and archeology	44.0
48	Oceanography	43.8
49	General education	43.7
50	Physical sciences	43.5
51	Elementary education	43.2
52	English language and literature	43.2
53	Music	42.9
54	Art and music education	42.9
55	Industrial and organizational psychology	42.7

APPENDIX FIVE

MAJOR SUBGROUPS RANKED BY GRADUATE DEGREE ATTAINMENT

56	Electrical engineering	42.5
57	Teacher education: multiple levels	42.5
58	Economics	41.3
59	Nutrition sciences	40.8
60	Food science	40.6
61	Intercultural and international studies	40.5
62	Industrial and manufacturing engineering	40.1
63	Geological and geophysical engineering	39.9
64	Mechanical engineering	39.7
65	Art history and criticism	39.3
66	Theology and religious vocations	39.0
67	Social psychology	38.9
68	Treatment therapy professions	38.6
69	Physical and health education teaching	38.4
70	Animal sciences	36.7
71	Civil engineering	36.5
72	Computer engineering	36.2
73	General engineering	35.8
74	Mining and mineral engineering	35.6
75	Humanities	35.6
76	Ecology	35.6
77	Early childhood education	35.3
78	Architecture	33.9
79	Interdisciplinary social sciences	33.5
80	Sociology	33.5
81	Miscellaneous health medical professions	33.5
82	Miscellaneous engineering	32.6
83	General social sciences	32.4
84	Multi-disciplinary or general science	32.0
85	Engineering and industrial management	31.6

86	Environmental science	31.3
87	Composition and speech	31.0
88	Computer science	30.9
89	Pre-law and legal studies	30.6
90	Business economics	30.1
91	Petroleum engineering	29.5
92	Geography	29.5
93	Health and medical administrative services	29.4
94	Human resources and personnel management	29.0
95	International business	28.7
96	Finance	28.2
97	Physical fitness, parks, recreation, and leisure	28.2
98	Natural resources management	27.9
99	Studio arts	27.8
100	Agricultural economics	27.8
101	Family and consumer sciences	27.4
102	Architectural engineering	27.0
103	Human services and community organization	27.0
104	Multi/interdisciplinary studies	26.5
105	Plant science and agronomy	26.2
106	Drama and theater arts	26.2
107	Information sciences	26.0
108	Forestry	26.0
109	Visual and performing arts	25.6
110	Liberal arts	25.5
111	Accounting	25.0
112	General agriculture	24.7
113	Nursing	23.8
114	Journalism	23.1
115	Operations logistics and e-commerce	23.0

APPENDIX FIVE

MAJOR SUBGROUPS RANKED BY GRADUATE DEGREE ATTAINMENT

116	Engineering technologies	22.9
117	General business	22.6
118	Computer and information systems	22.3
119	Fine arts	22.2
120	Criminology	21.9
121	Miscellaneous engineering technologies	21.6
122	Management information systems and statistics	21.1
123	Communications and mass media	20.8
124	Business management and administration	20.7
125	Criminal justice and fire protection	20.7
126	Miscellaneous business and medical administration	18.6
127	Miscellaneous agriculture	18.4
128	Industrial production technologies	18.1
129	Miscellaneous computer	17.3
130	Mechanical engineering related technologies	17.1
131	Transportation sciences and technologies	16.7
132	Advertising and public relations	16.4
133	Film, video, and photographic arts	16.0
134	Marketing and marketing research	15.2
135	Hospitality management	11.6
136	Miscellaneous industrial arts and consumer services	11.0
137	Commercial art and graphic design	9.7

APPENDIX FIVE

Major subgroups ranked by graduate wage premium



Major subgroups ranked by graduate degree wage premium

RANK	MAJOR SUBGROUP	GRADUATE DEGREE WAGE PREMIUM FOR COLLEGE-EDUCATED WORKERS (AGES 25-59) (%)
1	Health and medical preparatory programs	137.0
2	Zoology	79.3
3	Biology	71.4
4	Biochemical sciences	64.4
5	Molecular biology	63.0
6	Chemistry	62.5
7	Animal sciences	55.1
8	Geosciences	53.1
9	Pre-law and legal studies	52.9
10	Area ethnic and civilization studies	51.0
11	Miscellaneous biology	50.0
12	Political science and government	50.0
13	History	48.1
14	Nuclear, industrial radiology, and biological technologies	47.0
15	Health and medical administrative services	45.5
16	International relations	45.2
17	Humanities	44.9
18	Miscellaneous social sciences	43.9
19	Microbiology	43.5
20	Communication disorders sciences and services	43.5
21	Economics	43.4
22	Multi-disciplinary or general science	42.6
23	Public policy	41.5
24	Intercultural and international studies	40.4
25	Interdisciplinary social sciences	38.8
26	Engineering and industrial management	38.5
27	Finance	38.4

28	Miscellaneous computer	37.3
29	Social psychology	37.3
30	General business	36.9
31	Operations logistics and e-commerce	36.6
32	Linguistics and comparative language and literature	36.0
33	Early childhood education	35.9
34	Teacher education: multiple levels	35.7
35	Language and drama education	35.6
36	Special needs education	35.6
37	Other foreign languages	35.3
38	Art history and criticism	34.7
39	Anthropology and archeology	34.7
40	Nutrition sciences	34.6
41	Geography	34.5
42	Liberal arts	34.0
43	Drama and theater arts	33.3
44	Visual and performing arts	33.3
45	Business economics	33.3
46	Science and computer teacher education	33.3
47	Secondary teacher education	33.3
48	Nursing	33.3
49	Philosophy and religious studies	33.3
50	Family and consumer sciences	33.3
51	Hospitality management	32.7
52	Physical fitness, parks, recreation, and leisure	32.7
53	Psychology	32.7
54	Art and music education	32.6
55	Elementary education	32.6
56	Miscellaneous business and medical administration	32.2

57	Engineering mechanics, physics, and science	32.1
58	Plant science and agronomy	32.1
59	Social sciences or history teacher education	31.9
60	Accounting	31.9
61	Oceanography	31.9
62	Human services and community organization	31.7
63	International business	31.7
64	Criminology	31.5
65	Physical and health education teaching	31.4
66	Geological and geophysical engineering	31.0
67	Social work	31.0
68	Business management and administration	30.6
69	General education	30.4
70	Miscellaneous health medical professions	30.4
71	Composition and speech	29.8
72	Criminal justice and fire protection	29.6
73	Ecology	29.4
74	Human resources and personnel management	29.3
75	Forestry	29.0
76	Miscellaneous engineering	28.9
77	French, German, Latin, and other common foreign language studies	28.8
78	Transportation sciences and technologies	28.8
79	Studio arts	28.6
80	Marketing and marketing research	28.6
81	Mathematics teacher education	28.6
82	General agriculture	28.3
83	English language and literature	28.3
84	General social sciences	28.3
85	Statistics and decision science	28.2
86	Applied mathematics	27.7

87	Mechanical engineering-related technologies	27.5
88	Sociology	27.5
89	Physical sciences	27.4
90	Atmospheric sciences and meteorology	27.3
91	General engineering	27.2
92	Neuroscience	27.1
93	Botany	26.9
94	Natural resources management	26.8
95	Journalism	26.8
96	Geology and earth science	26.1
97	Industrial and organizational psychology	25.8
98	Industrial and manufacturing engineering	24.7
99	Physics	24.7
100	Environmental science	24.6
101	Music	24.5
102	Aerospace engineering	24.4
103	Biomedical engineering	24.3
104	Communications and mass media	24.1
105	Multi/interdisciplinary studies	23.9
106	Agricultural economics	23.9
107	Commercial art and graphic design	23.5
108	Mathematics	23.3
109	Computer and information systems	23.2
110	Miscellaneous education	23.1
111	Mechanical engineering	23.0
112	Miscellaneous agriculture	22.8
113	Fine arts	22.4
114	Miscellaneous engineering technologies	22.2
115	Civil engineering	21.7
116	Public administration	21.0

117	Information sciences	20.5
118	Computer science	20.5
119	Electrical engineering	20.4
120	Advertising and public relations	20.4
121	Engineering technologies	19.7
122	Management information systems and statistics	19.5
123	Industrial production technologies	18.9
124	Miscellaneous industrial arts and consumer services	18.8
125	Theology and religious vocations	18.6
126	Film, video, and photographic arts	17.6
127	Computer engineering	16.1
128	Environmental engineering	15.8
129	Food science	14.9
130	Chemical engineering	13.5
131	Architecture	13.4
132	Treatment therapy professions	12.3
133	Metallurgical engineering	11.2
134	Mining and mineral engineering	9.3
135	Pharmacy, pharmaceutical sciences, and pharmaceutical administration	4.4
136	Architectural engineering	1.3
137	Petroleum engineering	-5.9

APPENDIX FIVE

**Prevalence, wages, graduate degree attainment, and
graduate degree wage by major groups and subgroups**

.....



Prevalence, wages, graduate degree attainment, and graduate degree wage by major groups and subgroups

MAJOR GROUP/SUBGROUP	MAJORS PER 10,000 COLLEGES GRADUATES (AGES 25-59)	MEDIAN ANNUAL WAGES OF COLLEGE-EDUCATED WORKERS (AGES 25-59) (2013\$)	GRADUATE DEGREE ATTAINMENT OF COLLEGE GRADUATES (AGES 25-59) (%)	GRADUATE DEGREE WAGE PREMIUM FOR COLLEGE-EDUCATED WORKERS (AGES 25-59) (%)
Agriculture and natural resources	154	56,000	27.9	32.1
Agricultural economics	9	67,000	27.8	23.9
Animal sciences	26	49,000	36.7	55.1
Food science	6	67,000	40.6	14.9
Forestry	15	62,000	26.0	29.0
General agriculture	28	53,000	24.7	28.3
Miscellaneous agriculture	26	57,000	18.4	22.8
Natural resources management	23	56,000	27.9	26.8
Plant science and agronomy	20	53,000	26.2	32.1
Architecture and engineering	827	83,000	38.2	25.3
Aerospace engineering	15	90,000	48.2	24.4
Architectural engineering	5	80,000	27.0	1.3
Architecture	77	67,000	33.9	13.4
Biomedical engineering	12	70,000	52.5	24.3
Chemical engineering	43	96,000	48.6	13.5
Civil engineering	83	83,000	36.5	21.7
Electrical engineering	168	93,000	42.5	20.4
Engineering and industrial management	8	78,000	31.6	38.5
Engineering mechanics, physics, and science	4	81,000	51.2	32.1
Engineering technologies	10	66,000	22.9	19.7
Environmental engineering	3	76,000	51.0	15.8
General engineering	132	81,000	35.8	27.2
Geological and geophysical engineering	1	87,000	39.9	31.0
Industrial and manufacturing engineering	34	81,000	40.1	24.7

PREVALENCE, WAGES, GRADUATE DEGREE ATTAINMENT, AND GRADUATE DEGREE WAGE BY MAJOR GROUPS AND SUBGROUPS

MAJOR GROUP/SUBGROUP	MAJORS PER 10,000 COLLEGES GRADUATES (AGES 25-59)	MEDIAN ANNUAL WAGES OF COLLEGE- EDUCATED WORKERS (AGES 25-59) (2013\$)	GRADUATE DEGREE ATTAINMENT OF COLLEGE GRADUATES (AGES 25-59) (%)	GRADUATE DEGREE WAGE PREMIUM FOR COLLEGE-EDUCATED WORKERS (AGES 25-59) (%)
Industrial production technologies	21	74,000	18.1	18.9
Mechanical engineering	132	87,000	39.7	23.0
Mechanical engineering- related technologies	8	69,000	17.1	27.5
Metallurgical engineering	2	98,000	54.4	11.2
Mining and mineral engineering	2	97,000	35.6	9.3
Miscellaneous engineering	15	76,000	32.6	28.9
Miscellaneous engineering technologies	45	72,000	21.6	22.2
Petroleum engineering	4	136,000	29.5	-5.9
Arts	479	49,000	23.2	22.4
Commercial art and graphic design	144	51,000	9.7	23.5
Drama and theater arts	48	45,000	26.2	33.3
Film, video, and photographic arts	36	51,000	16.0	17.6
Fine arts	148	49,000	22.2	22.4
Music	66	49,000	42.9	24.5
Studio arts	21	42,000	27.8	28.6
Visual and performing arts	15	42,000	25.6	33.3
Biology and life sciences	333	56,000	57.7	64.3
Biochemical sciences	18	59,000	68.3	64.4
Biology	206	56,000	58.9	71.4
Botany	3	52,000	56.8	26.9
Ecology	12	51,000	35.6	29.4
Environmental science	31	57,000	31.3	24.6
Microbiology	17	62,000	56.6	43.5
Miscellaneous biology	23	54,000	59.0	50.0
Molecular biology	7	54,000	64.5	63.0
Neuroscience	2	48,000	68.0	27.1
Zoology	12	58,000	62.8	79.3

APPENDIX SEVEN

PREVALENCE, WAGES, GRADUATE DEGREE ATTAINMENT, AND GRADUATE DEGREE WAGE BY MAJOR GROUPS AND SUBGROUPS

MAJOR GROUP/SUBGROUP	MAJORS PER 10,000 COLLEGES GRADUATES (AGES 25-59)	MEDIAN ANNUAL WAGES OF COLLEGE- EDUCATED WORKERS (AGES 25-59) (2013\$)	GRADUATE DEGREE ATTAINMENT OF COLLEGE GRADUATES (AGES 25-59) (%)	GRADUATE DEGREE WAGE PREMIUM FOR COLLEGE-EDUCATED WORKERS (AGES 25-59) (%)
Business	2609	65,000	22.2	33.8
Accounting	463	69,000	25.0	31.9
Business economics	19	75,000	30.1	33.3
Business management and administration	814	62,000	20.7	30.6
Finance	233	73,000	28.2	38.4
General business	539	65,000	22.6	36.9
Hospitality management	57	52,000	11.6	32.7
Human resources and personnel management	50	58,000	29.0	29.3
International business	25	60,000	28.7	31.7
Management information systems and statistics	50	77,000	21.1	19.5
Marketing and marketing research	315	63,000	15.2	28.6
Miscellaneous business and medical administration	27	59,000	18.6	32.2
Operations logistics and e-commerce	16	71,000	23.0	36.6
Communications and journalism	516	54,000	20.8	25.9
Advertising and public relations	53	54,000	16.4	20.4
Communications and mass media	352	54,000	20.8	24.1
Journalism	111	56,000	23.1	26.8

PREVALENCE, WAGES, GRADUATE DEGREE ATTAINMENT, AND GRADUATE DEGREE WAGE BY MAJOR GROUPS AND SUBGROUPS

MAJOR GROUP/SUBGROUP	MAJORS PER 10,000 COLLEGES GRADUATES (AGES 25-59)	MEDIAN ANNUAL WAGES OF COLLEGE- EDUCATED WORKERS (AGES 25-59) (2013\$)	GRADUATE DEGREE ATTAINMENT OF COLLEGE GRADUATES (AGES 25-59) (%)	GRADUATE DEGREE WAGE PREMIUM FOR COLLEGE-EDUCATED WORKERS (AGES 25-59) (%)
Computers, statistics, and mathematics	557	76,000	33.3	26.3
Applied mathematics	5	83,000	48.6	27.7
Computer and information systems	83	69,000	22.3	23.2
Computer engineering	49	87,000	36.2	16.1
Computer science	243	83,000	30.9	20.5
Information sciences	24	73,000	26.0	20.5
Mathematics	91	73,000	48.8	23.3
Miscellaneous computer	56	59,000	17.3	37.3
Statistics and decision science	6	78,000	50.7	28.2
Education	938	45,000	44.6	33.3
Art and music education	47	46,000	42.9	32.6
Early childhood education	42	39,000	35.3	35.9
Elementary education	279	43,000	43.2	32.6
General education	287	46,000	43.7	30.4
Language and drama education	34	45,000	50.8	35.6
Mathematics teacher education	14	49,000	52.0	28.6
Miscellaneous education	40	52,000	51.0	23.1
Physical and health education teaching	62	51,000	38.4	31.4
Science and computer teacher education	11	48,000	50.7	33.3
Secondary teacher education	39	48,000	46.9	33.3
Social sciences or history teacher education	24	47,000	44.2	31.9

APPENDIX SEVEN

PREVALENCE, WAGES, GRADUATE DEGREE ATTAINMENT, AND GRADUATE DEGREE WAGE BY MAJOR GROUPS AND SUBGROUPS

MAJOR GROUP/SUBGROUP	MAJORS PER 10,000 COLLEGES GRADUATES (AGES 25-59)	MEDIAN ANNUAL WAGES OF COLLEGE- EDUCATED WORKERS (AGES 25-59) (2013\$)	GRADUATE DEGREE ATTAINMENT OF COLLEGE GRADUATES (AGES 25-59) (%)	GRADUATE DEGREE WAGE PREMIUM FOR COLLEGE-EDUCATED WORKERS (AGES 25-59) (%)
Special needs education	39	45,000	56.2	35.6
Teacher education: multiple levels	18	42,000	42.5	35.7
Health	746	65,000	33.8	29.2
Communication disorders sciences and services	16	46,000	75.9	43.5
Health and medical administrative services	30	55,000	29.4	45.5
Health and medical preparatory programs	6	54,000	77.3	137.0
Miscellaneous health medical professions	120	56,000	33.5	30.4
Nursing	448	66,000	23.8	33.3
Nutrition sciences	18	52,000	40.8	34.6
Pharmacy, pharmaceutical sciences, and pharmaceutical administration	38	113,000	51.6	4.4
Treatment therapy professions	71	65,000	38.6	12.3
Humanities and liberal arts	864	52,000	41.4	34.6
Area ethnic and civilization studies	26	51,000	46.4	51.0
Art history and criticism	22	49,000	39.3	34.7
Composition and speech	16	47,000	31.0	29.8
English language and literature	251	53,000	43.2	28.3
French, German, Latin, and other common foreign language studies	52	52,000	46.8	28.8
History	164	54,000	45.7	48.1
Humanities	11	49,000	35.6	44.9
Intercultural and international studies	15	52,000	40.5	40.4

PREVALENCE, WAGES, GRADUATE DEGREE ATTAINMENT, AND GRADUATE DEGREE WAGE BY MAJOR GROUPS AND SUBGROUPS

MAJOR GROUP/SUBGROUP	MAJORS PER 10,000 COLLEGES GRADUATES (AGES 25-59)	MEDIAN ANNUAL WAGES OF COLLEGE- EDUCATED WORKERS (AGES 25-59) (2013\$)	GRADUATE DEGREE ATTAINMENT OF COLLEGE GRADUATES (AGES 25-59) (%)	GRADUATE DEGREE WAGE PREMIUM FOR COLLEGE-EDUCATED WORKERS (AGES 25-59) (%)
Liberal arts	162	53,000	25.5	34.0
Linguistics and comparative language and literature	17	50,000	45.8	36.0
Multi/interdisciplinary studies	11	46,000	26.5	23.9
Other foreign languages	13	51,000	45.5	35.3
Philosophy and religious studies	48	51,000	53.0	33.3
Theology and religious vocations	55	43,000	39.0	18.6
Industrial arts, consumer services, and recreation	267	52,000	24.2	25.0
Family and consumer sciences	92	45,000	27.4	33.3
Miscellaneous industrial arts and consumer services	42	64,000	11.0	18.8
Physical fitness, parks, recreation, and leisure	98	49,000	28.2	32.7
Transportation sciences and technologies	35	73,000	16.7	28.8
Law and public policy	257	54,000	24.2	35.2
Criminal justice and fire protection	219	54,000	20.7	29.6
Pre-law and legal studies	21	51,000	30.6	52.9
Public administration	14	62,000	44.8	21.0
Public policy	4	65,000	55.7	41.5
Physical sciences	247	65,000	50.0	49.2
Atmospheric sciences and meteorology	4	66,000	44.4	27.3
Chemistry	64	64,000	61.7	62.5
Geology and earth science	26	69,000	45.8	26.1

APPENDIX SEVEN

PREVALENCE, WAGES, GRADUATE DEGREE ATTAINMENT, AND GRADUATE DEGREE WAGE BY MAJOR GROUPS AND SUBGROUPS

MAJOR GROUP/SUBGROUP	MAJORS PER 10,000 COLLEGES GRADUATES (AGES 25-59)	MEDIAN ANNUAL WAGES OF COLLEGE- EDUCATED WORKERS (AGES 25-59) (2013\$)	GRADUATE DEGREE ATTAINMENT OF COLLEGE GRADUATES (AGES 25-59) (%)	GRADUATE DEGREE WAGE PREMIUM FOR COLLEGE-EDUCATED WORKERS (AGES 25-59) (%)
Geosciences	2	64,000	53.1	53.1
Multi-disciplinary or general science	114	61,000	32.0	42.6
Nuclear, industrial radiology, and biological technologies	5	66,000	47.0	47.0
Oceanography	3	69,000	43.8	31.9
Physical sciences	2	62,000	43.5	27.4
Physics	25	81,000	67.0	24.7
Psychology and social work	516	47,000	45.3	31.9
Human services and community organization	22	41,000	27.0	31.7
Industrial and organizational psychology	5	66,000	42.7	25.8
Psychology	404	49,000	46.1	32.7
Social psychology	2	51,000	38.9	37.3
Social work	83	42,000	45.3	31.0
Social sciences	689	60,000	41.2	45.0
Anthropology and archeology	36	49,000	44.0	34.7
Criminology	20	54,000	21.9	31.5
Economics	186	76,000	41.3	43.4
General social sciences	29	53,000	32.4	28.3
Geography	31	58,000	29.5	34.5
Interdisciplinary social sciences	16	49,000	33.5	38.8
International relations	20	62,000	50.8	45.2
Miscellaneous social sciences	4	57,000	47.4	43.9
Political science and government	189	64,000	48.7	50.0
Sociology	158	51,000	33.5	27.5

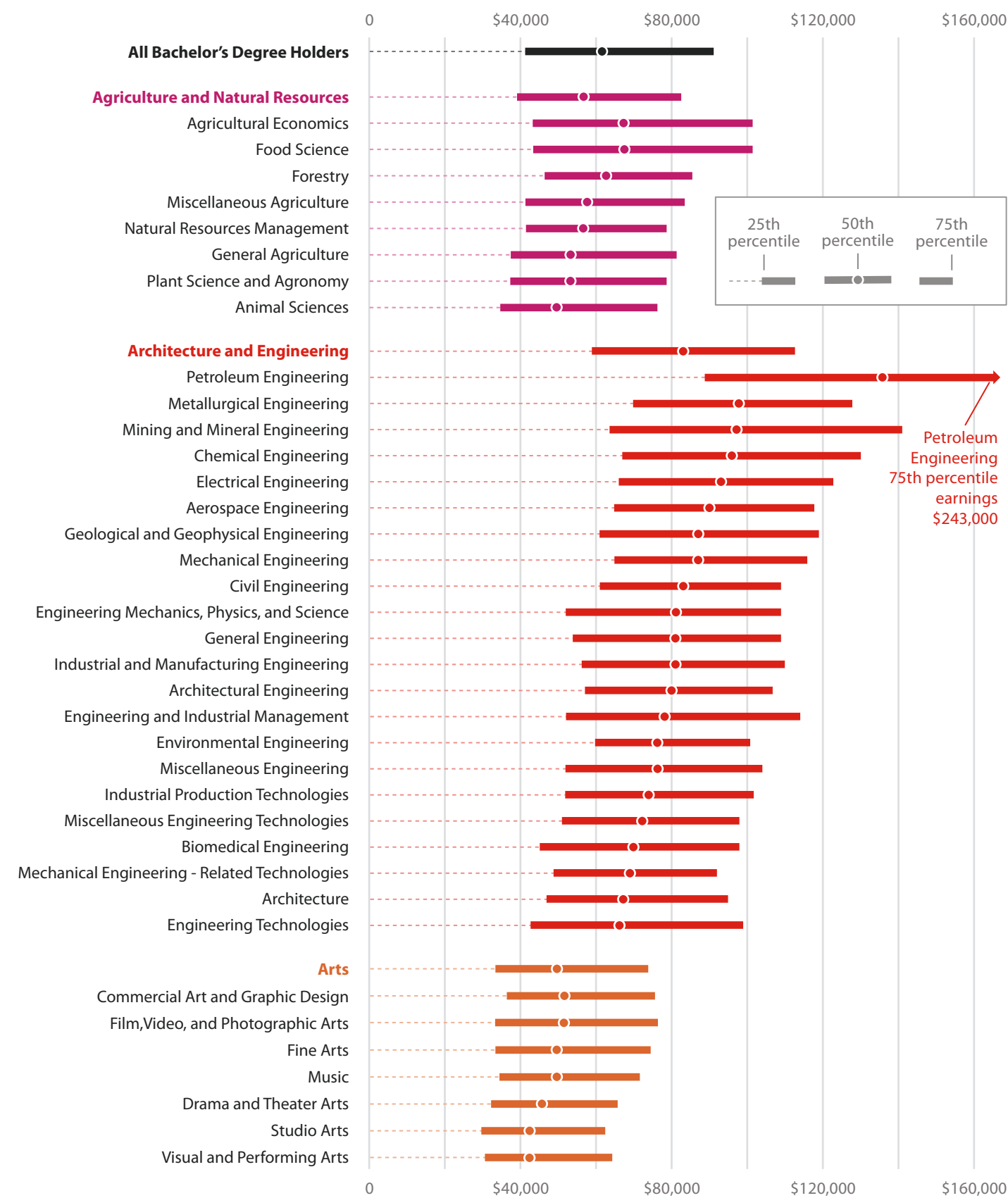
137 Detailed Majors

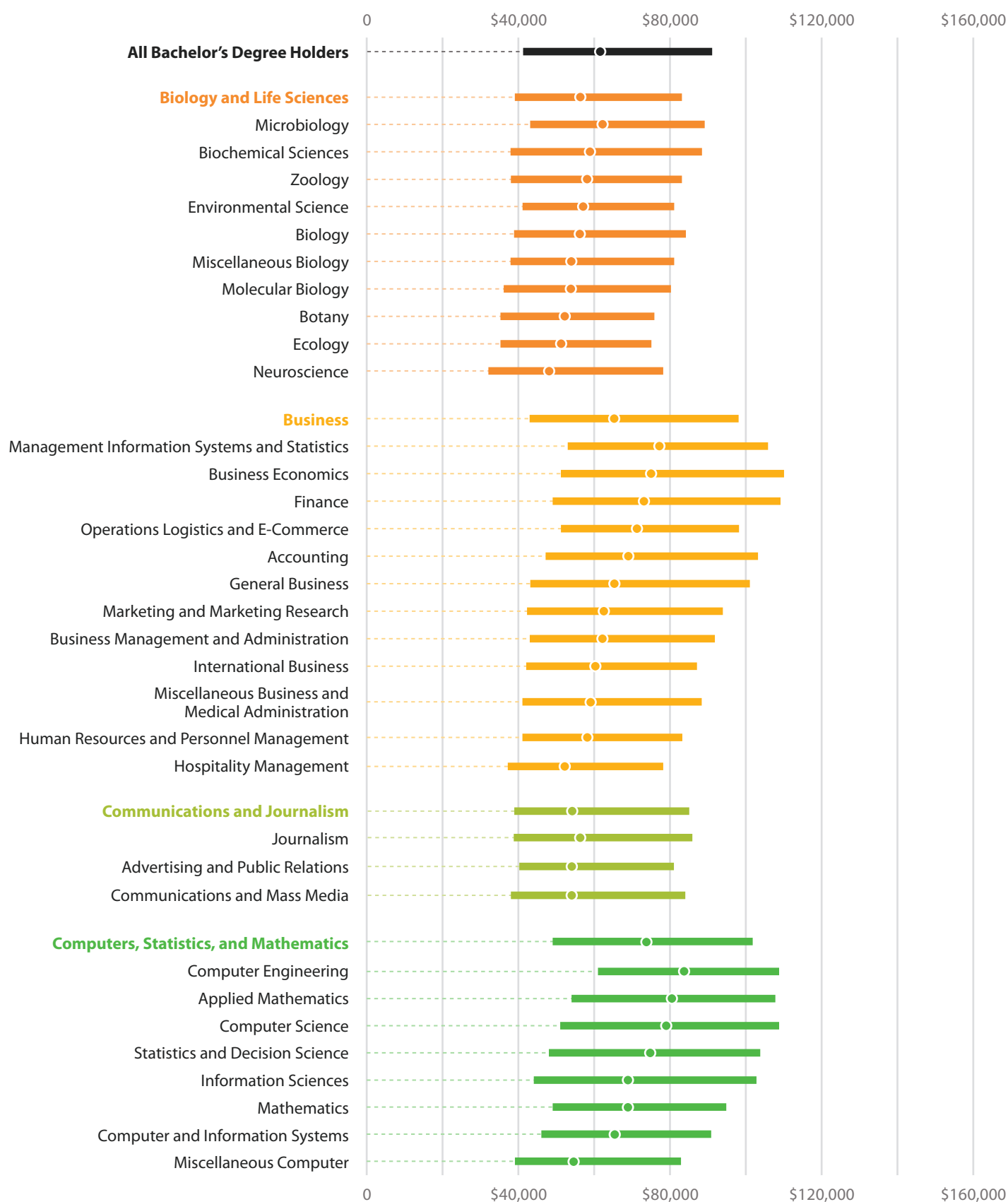
Selective Statistics

Contents

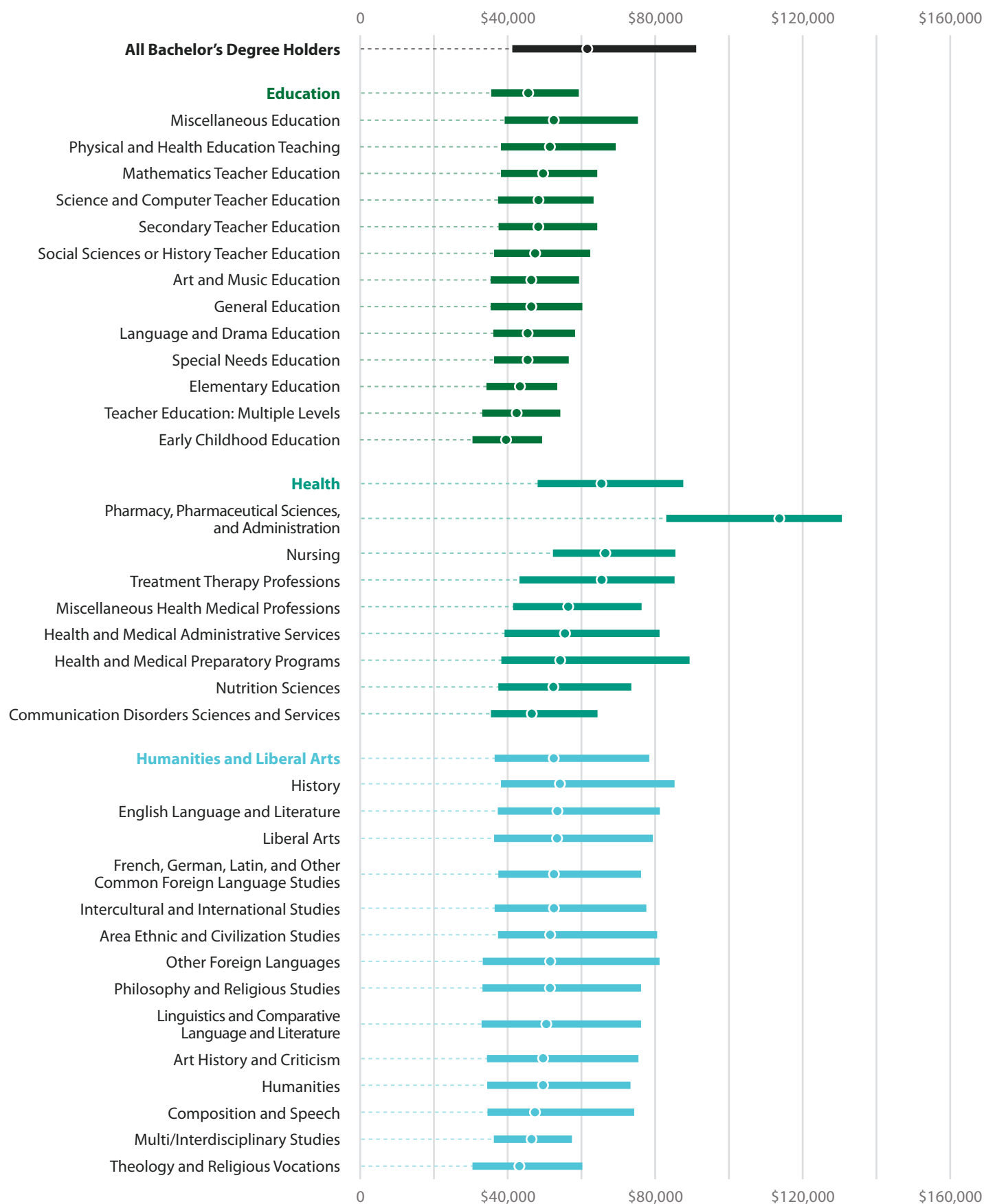
- 180 Earnings at the 25th, 50th and 75th percentiles, by Bachelor's degree major
- 184 The graduate advantage, earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major
- 200 All majors by group, ranked by earnings and popularity
- 204 Lowest- and highest-earning majors, Bachelor's degree holders
- 206 Lowest- and highest-earning majors, graduate degree holders
- 208 Majors ranked by popularity for Bachelor's degree holders
- 209 Majors ranked by popularity for graduate degree holders

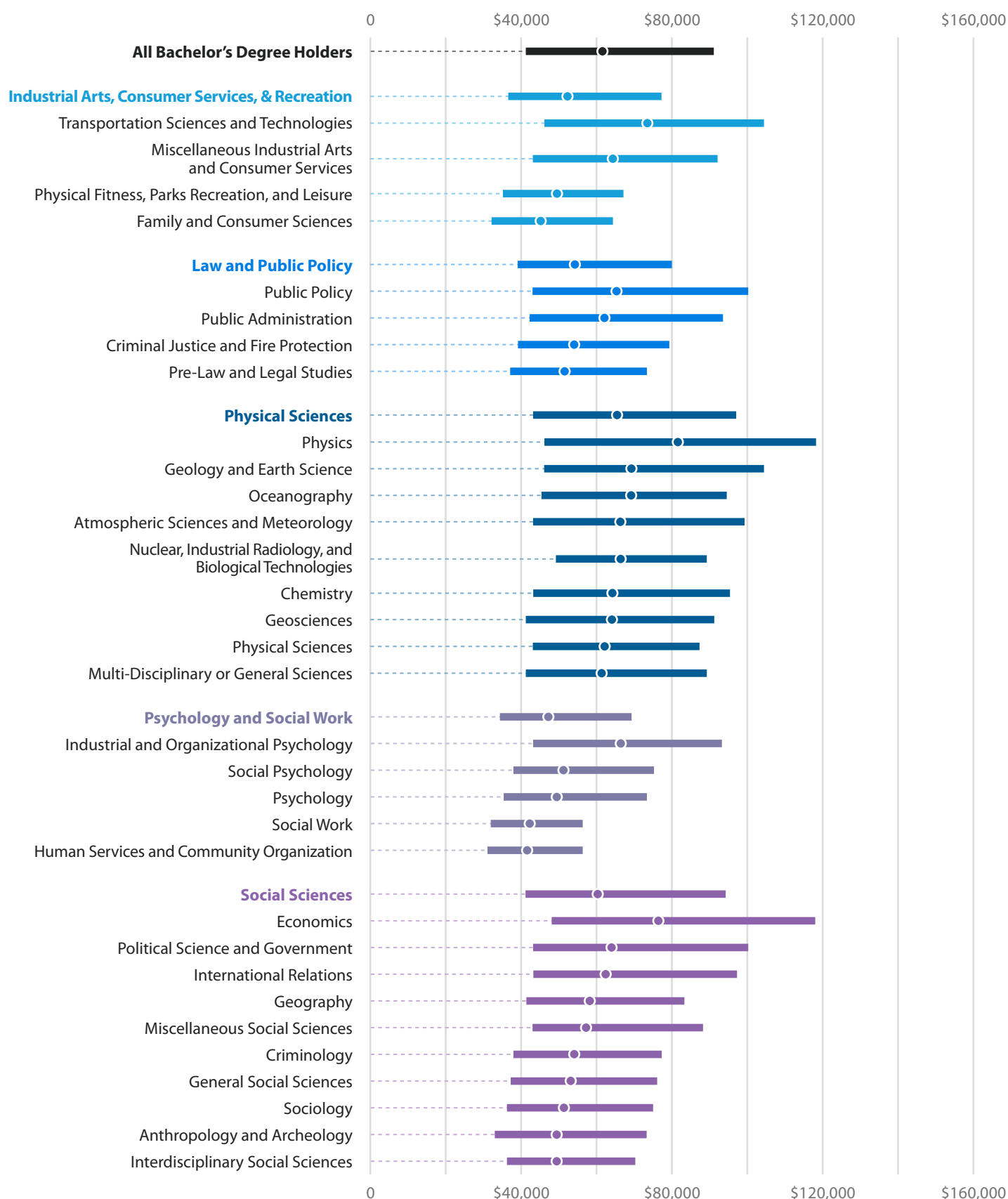
MID-CAREER EARNINGS AT THE 25TH, 50TH AND 75TH PERCENTILES, BY BACHELOR'S DEGREE MAJOR





Earnings at the 25th, 50th and 75th percentiles,
by Bachelor's degree major





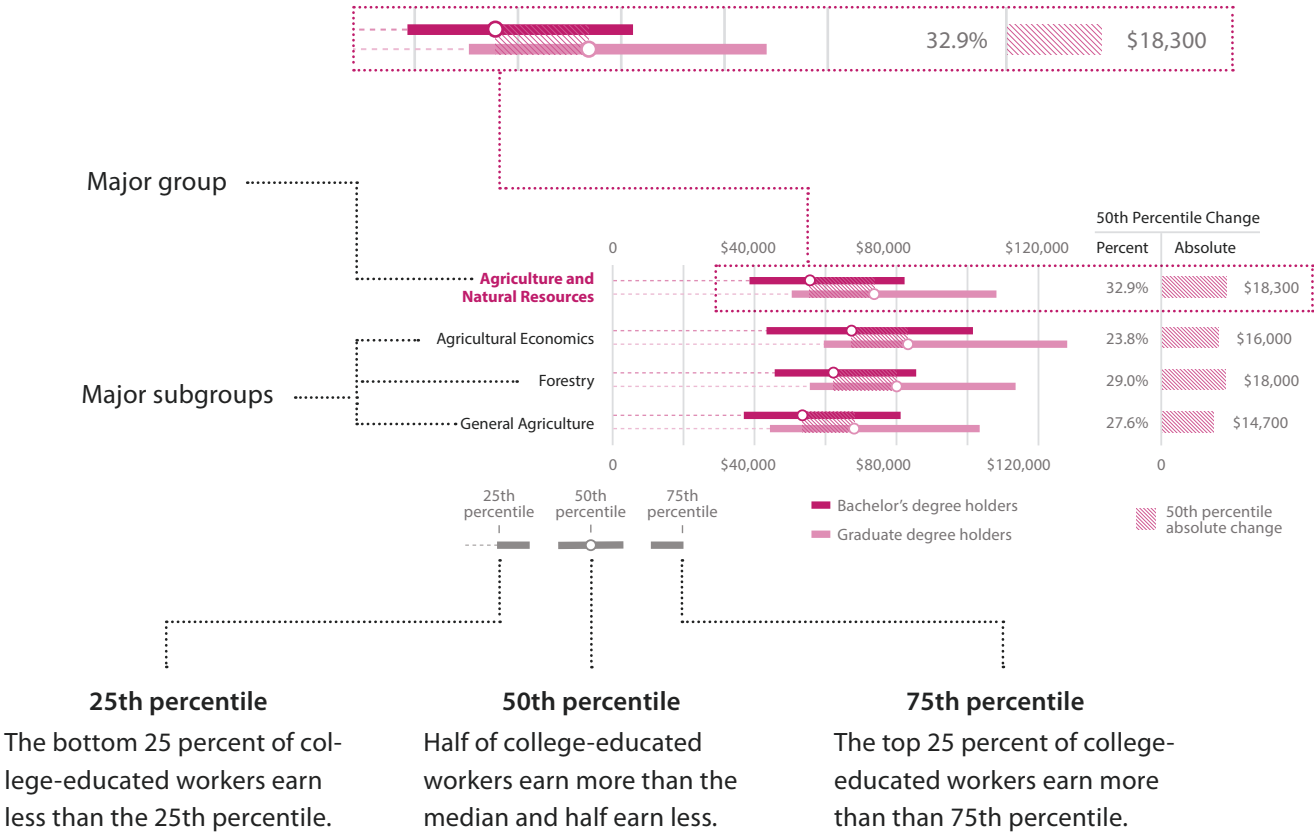
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

THE GRADUATE ADVANTAGE

The charts displayed in this section (the graduate advantage) show the interquartile range of annual wages for each major group and subgroup.

Each horizontal bar corresponds to a major group or subgroup. The leftmost point on the bar shows the 25th percentile of the wage distribution. The dot in the middle of the bar shows the median or 50th percentile of the wage distribution. The rightmost point on the bar shows the 75th percentile of the wage distribution.

The columns on the right correspond to the percentage and absolute difference between the median annual wage distribution of graduate degree holders and Bachelor's degree holders.



Agriculture and Natural Resources | The Graduate Advantage
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major

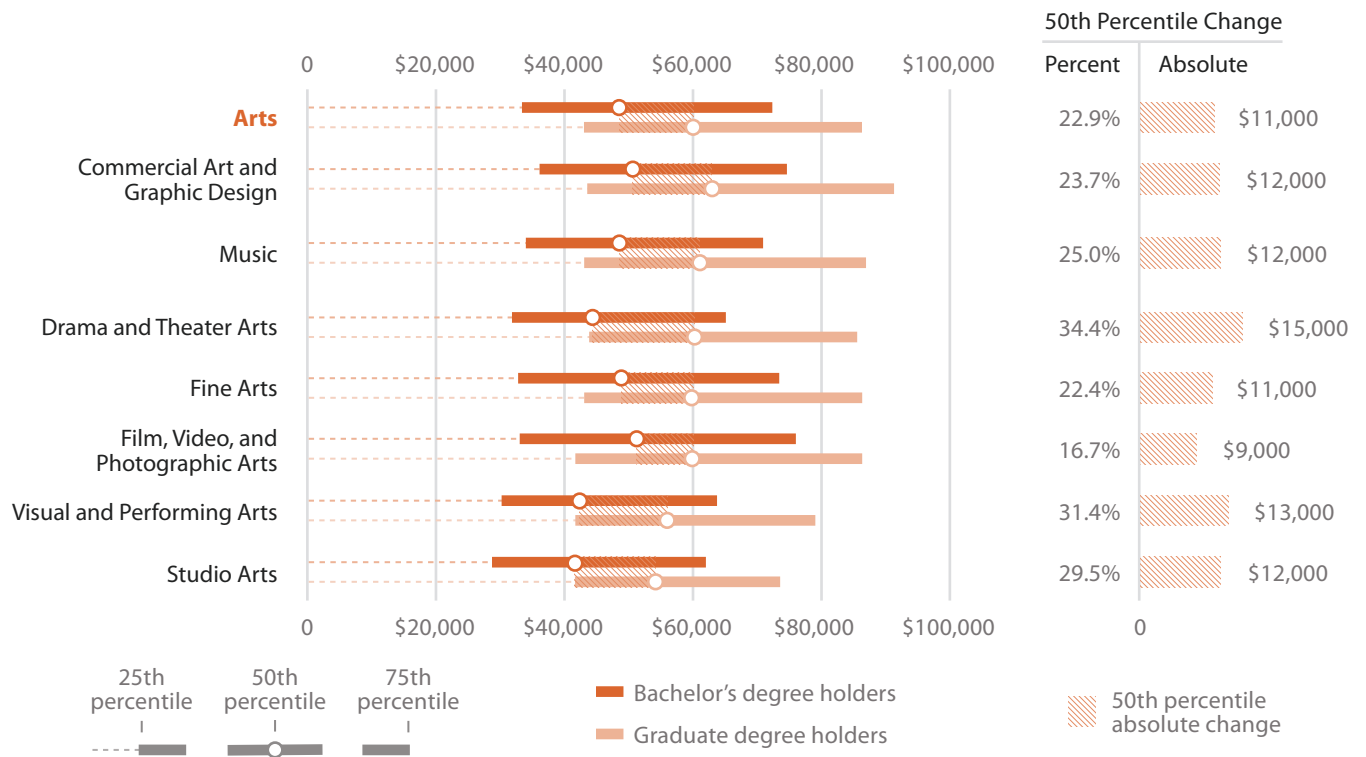


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

Architecture and Engineering | The Graduate Advantage
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major

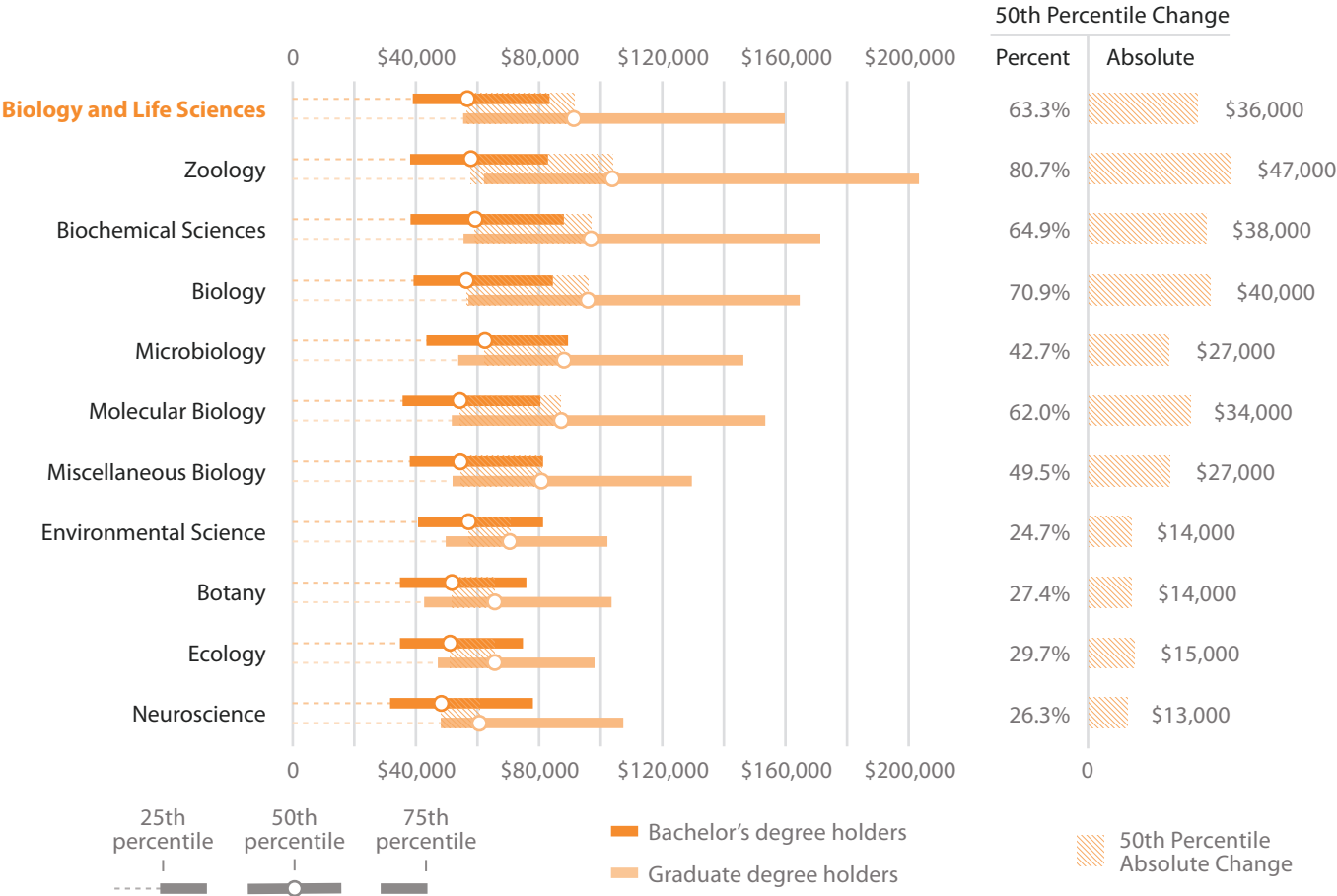


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

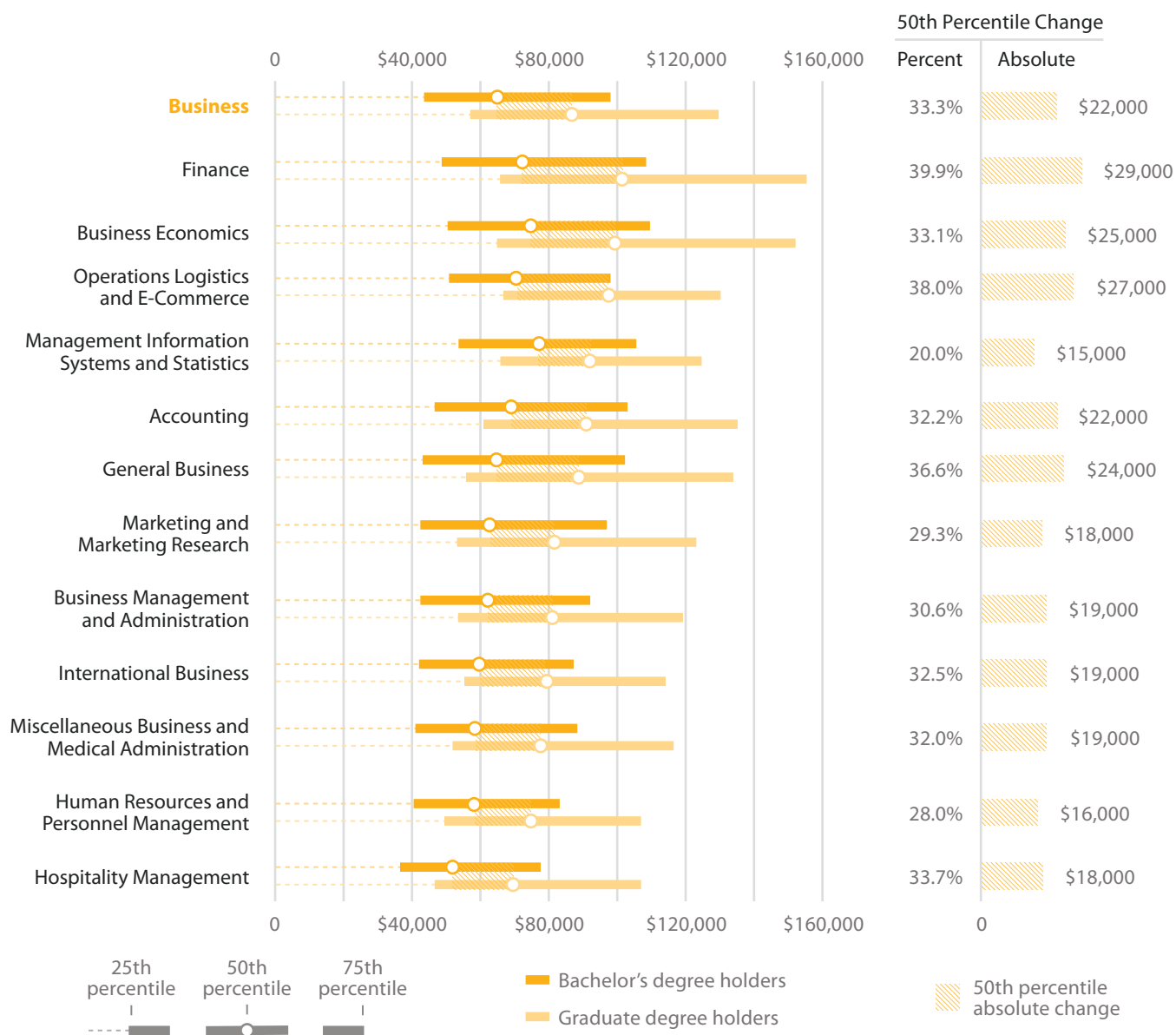


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

Biology and Life Sciences | The Graduate Advantage
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major

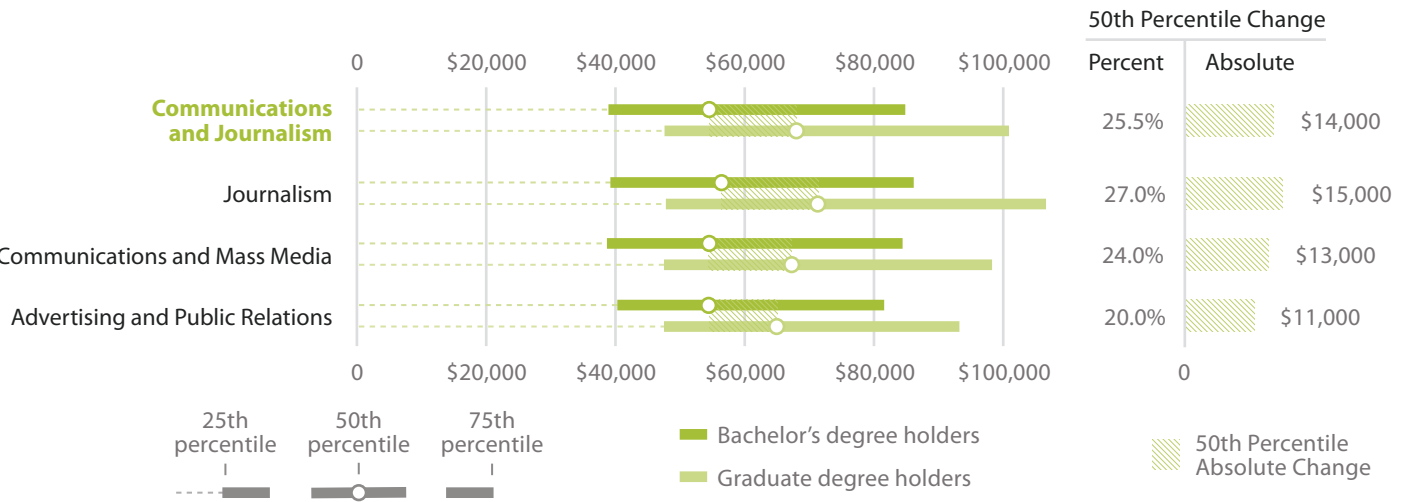


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.



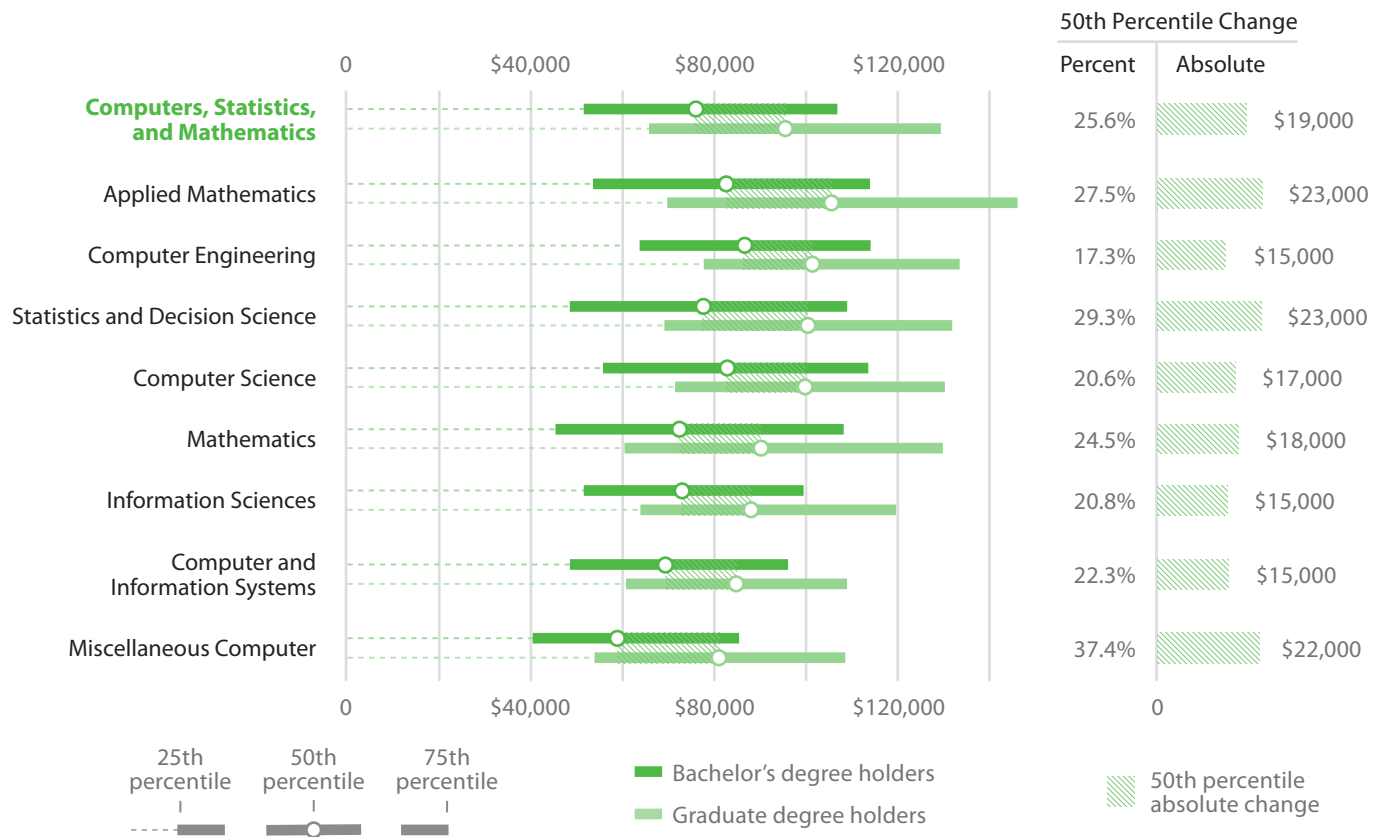
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

Communications and Journalism | The Graduate Advantage
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

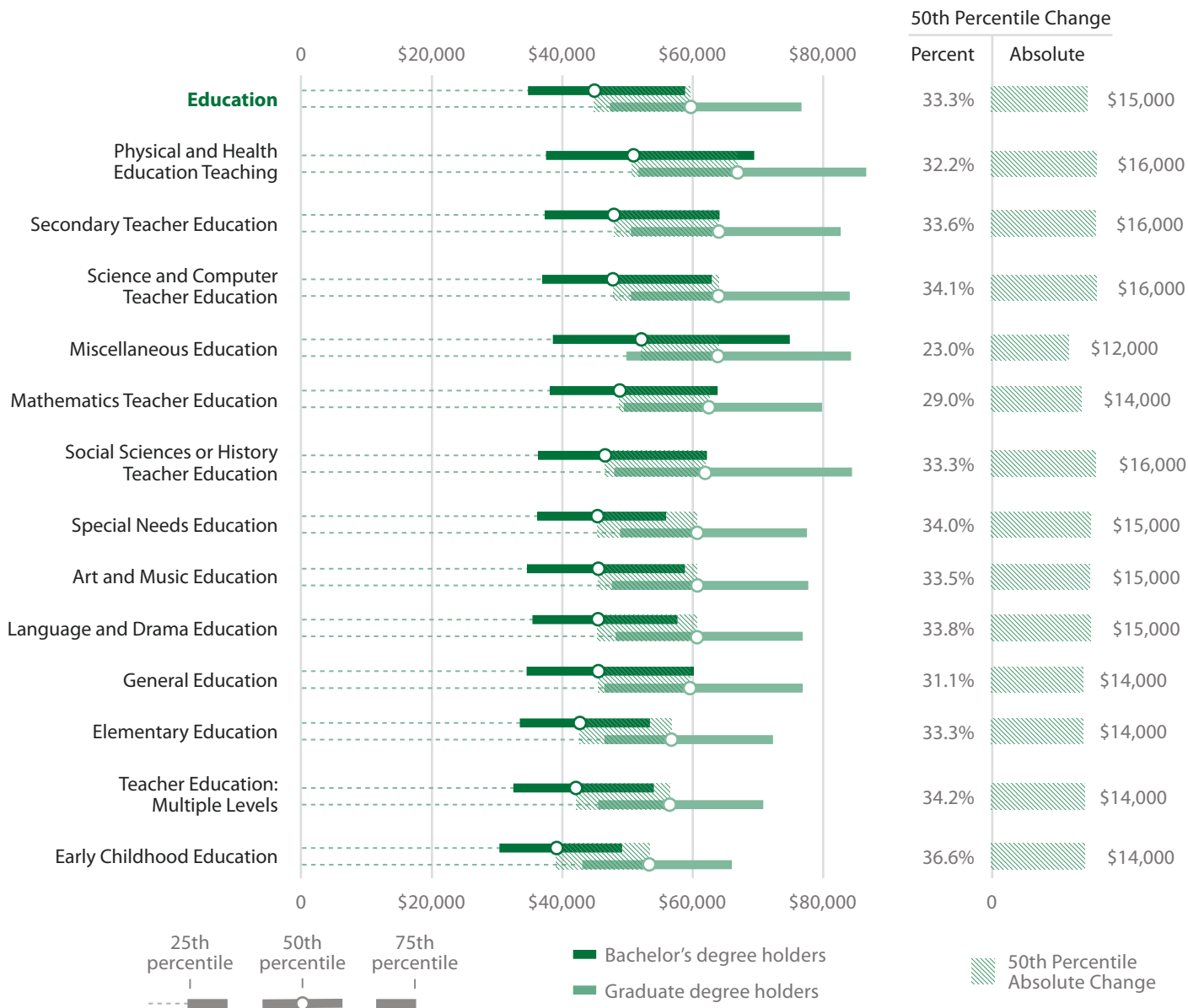
The Graduate Advantage | Computers, Statistics, and Mathematics
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

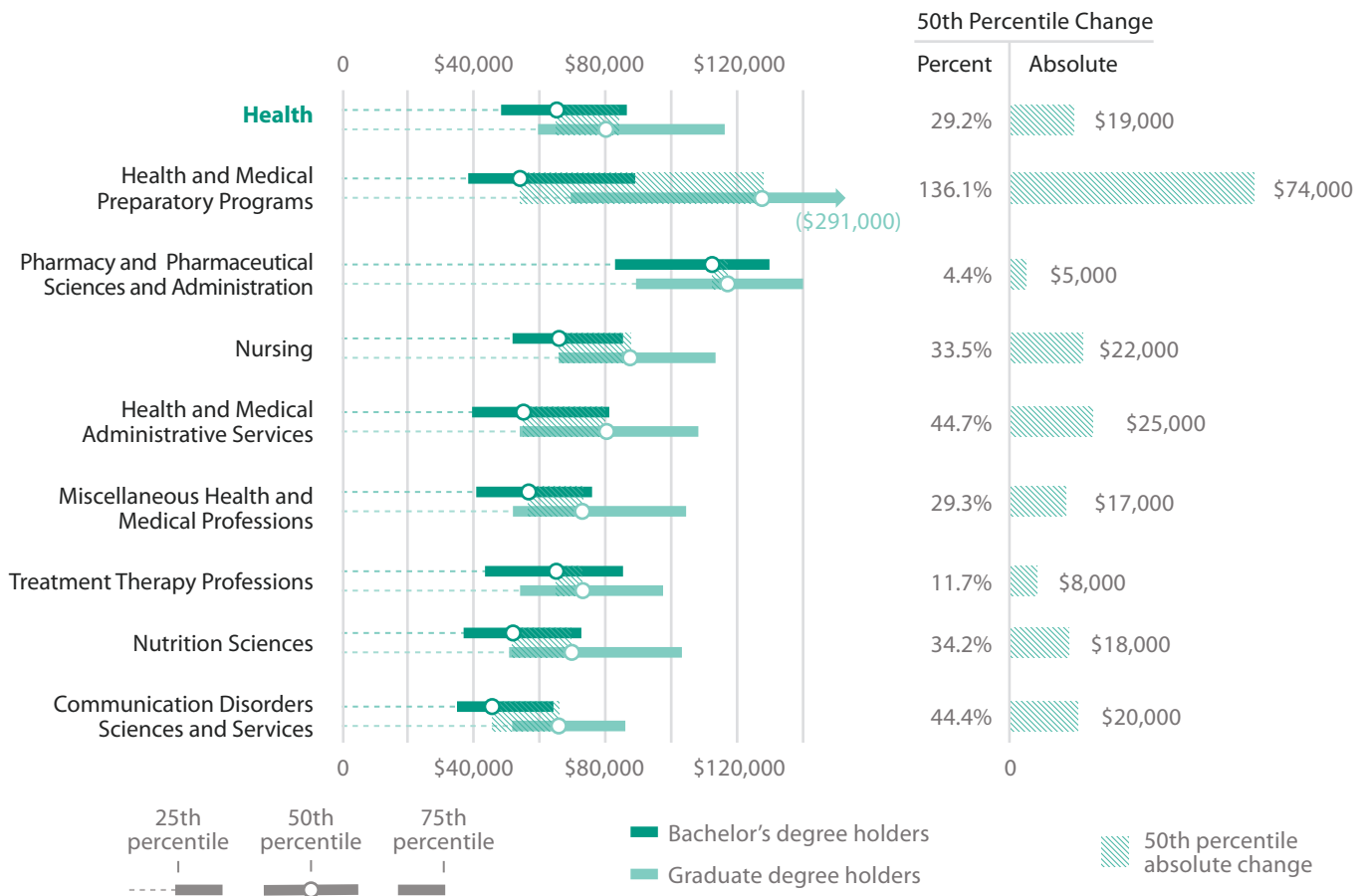
Education | The Graduate Advantage

Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



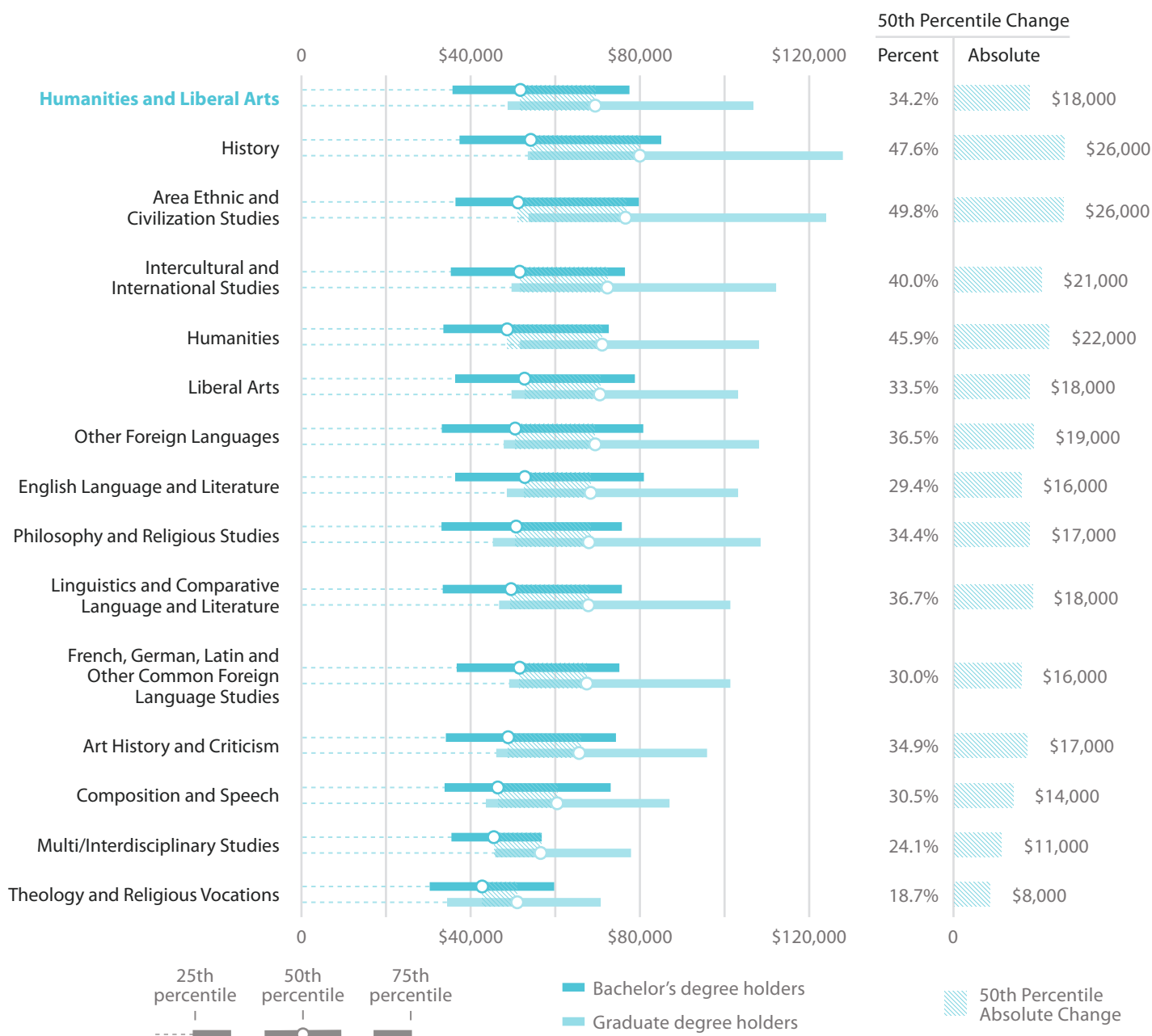
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

The Graduate Advantage | Health
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major

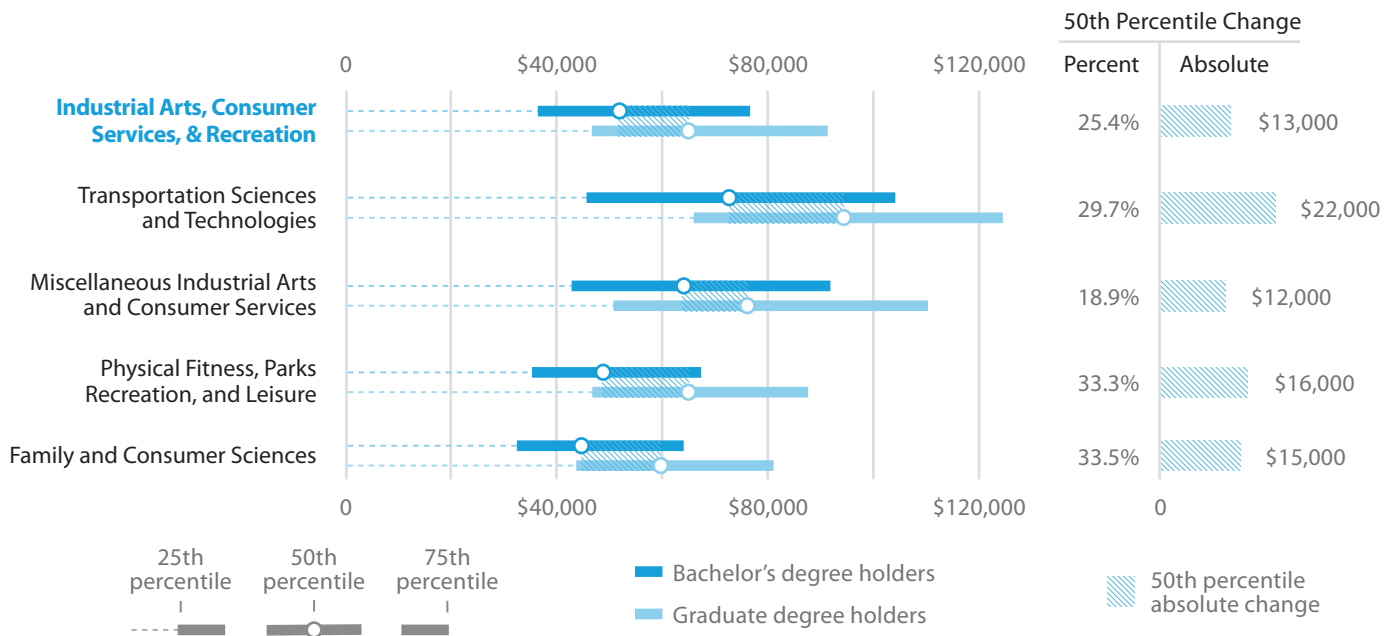


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

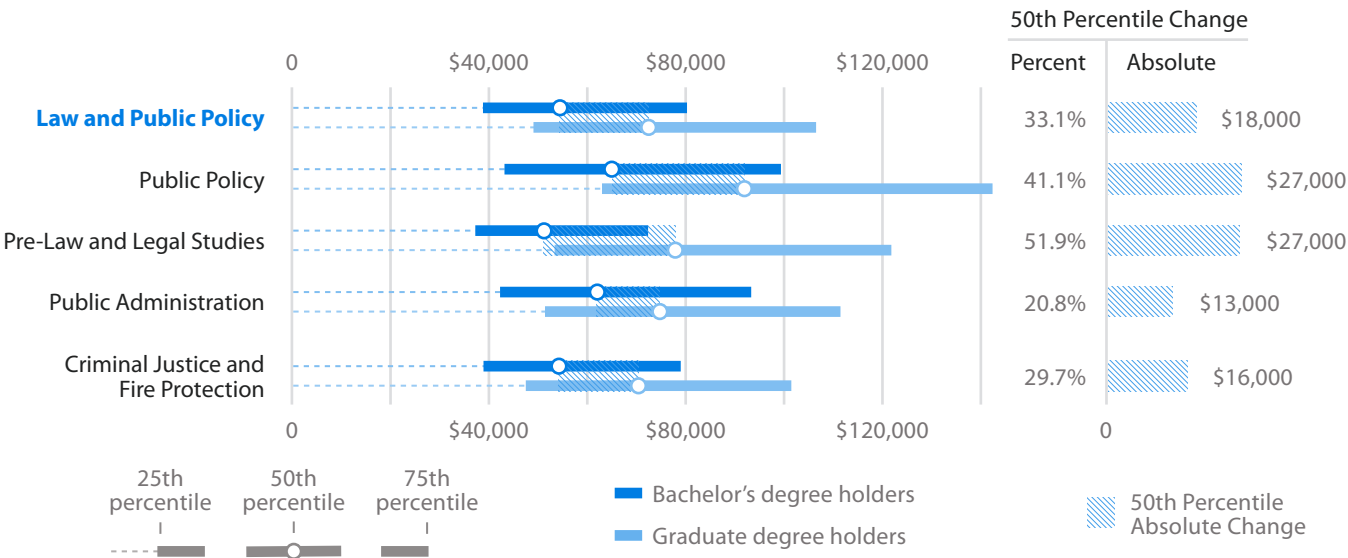
Humanities and Liberal Arts | The Graduate Advantage
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



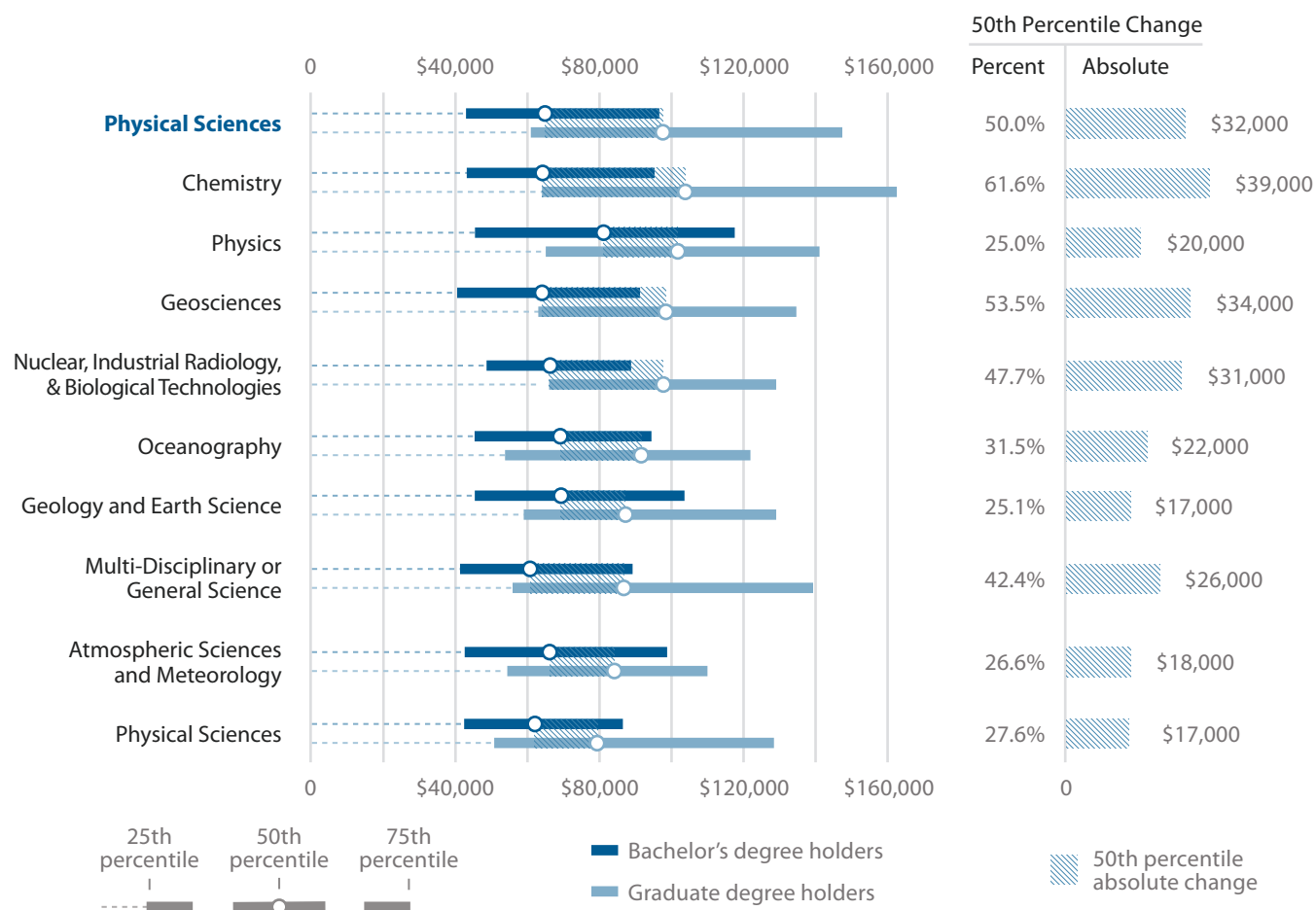
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

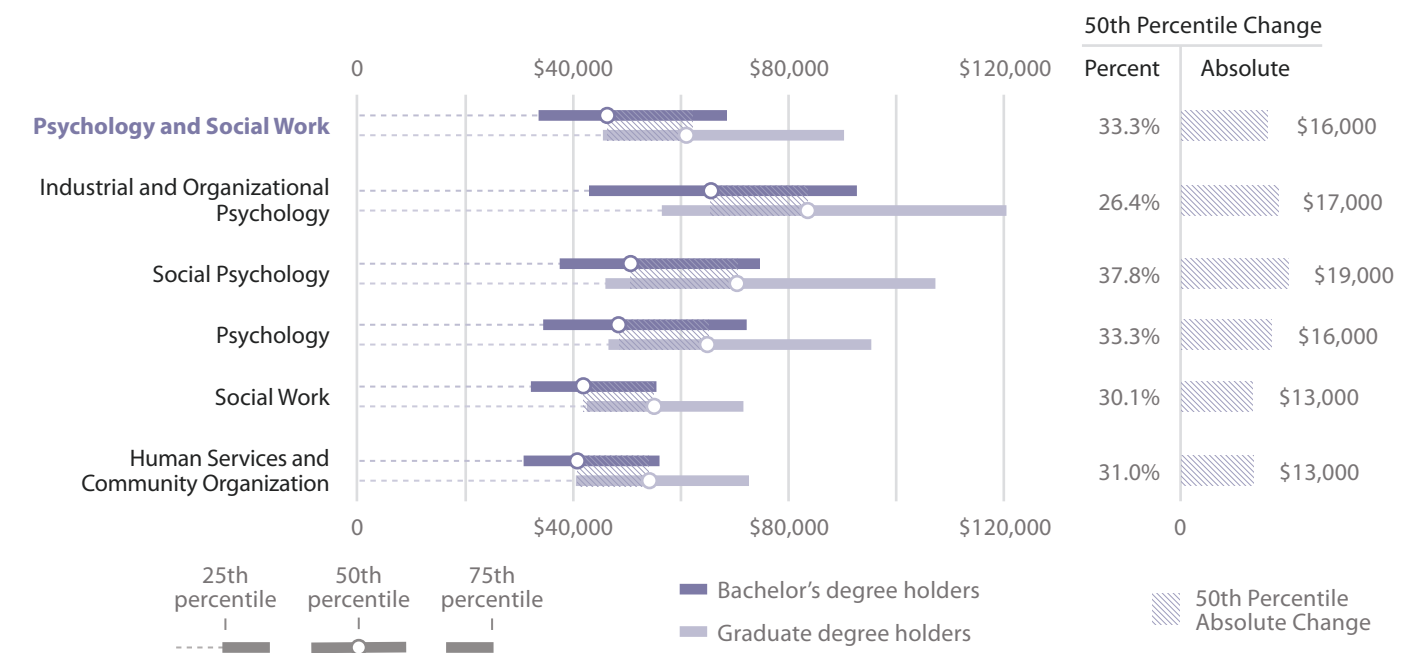


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.



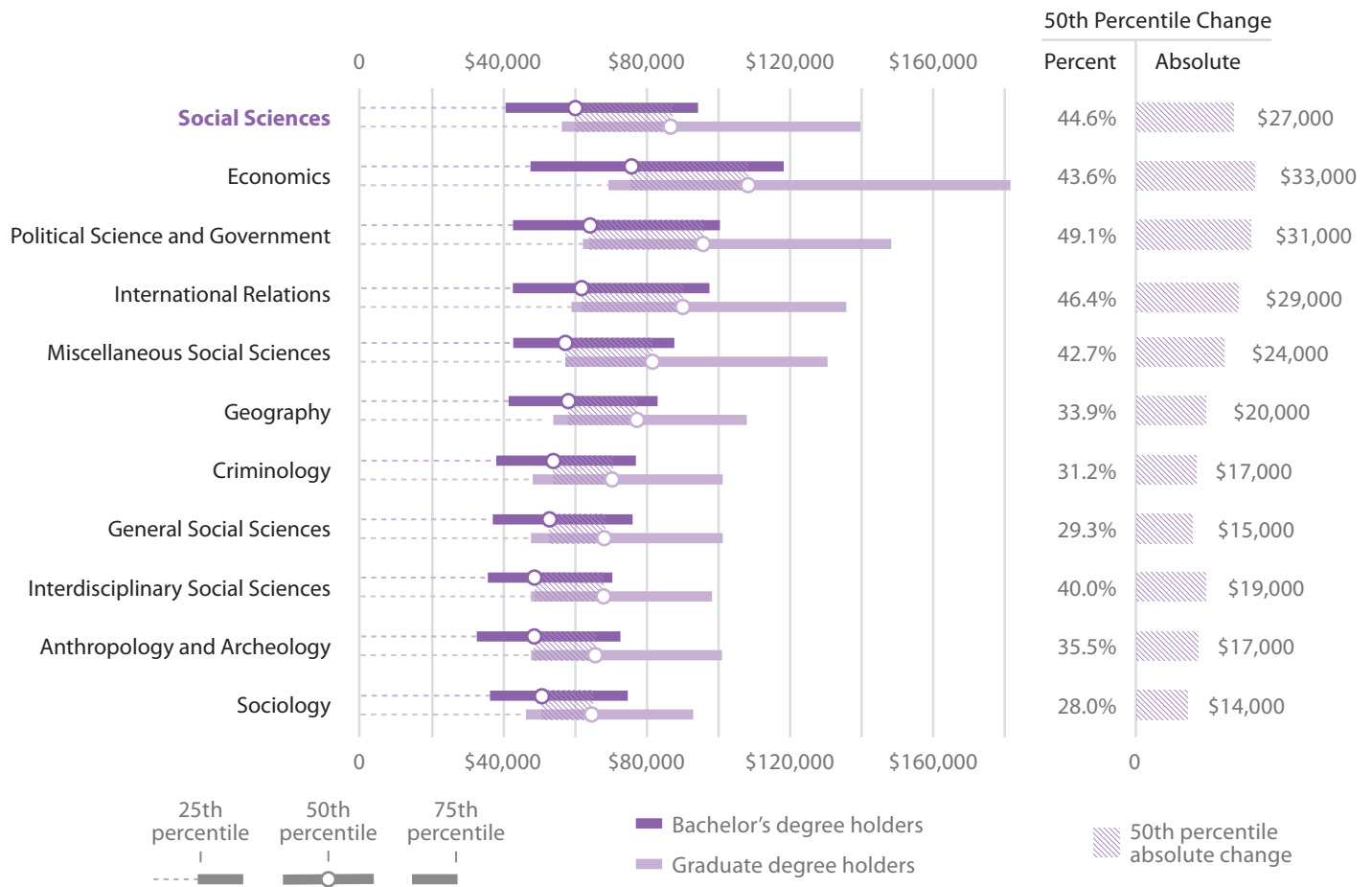
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

Psychology and Social Work | The Graduate Advantage
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

The Graduate Advantage | Social Sciences
Earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

ALL MAJORS BY GROUP

RANKED BY EARNINGS AND POPULARITY

Bachelor's Degree Ranking			Graduate Degree Ranking	
By earnings	By popularity		By earnings	By popularity
Agriculture and Natural Resources				
39	112	Agricultural Economics	54	125
107	72	Animal Sciences	73	67
40	116	Food Science	71	119
55	99	Forestry	62	108
85	67	General Agriculture	96	89
70	70	Miscellaneous Agriculture	89	106
75	78	Natural Resources Management	82	90
86	86	Plant Science and Agronomy	88	98
Architecture and Engineering				
7	100	Aerospace Engineering	5	72
18	122	Architectural Engineering	57	133
41	34	Architecture	75	40
33	107	Biomedical Engineering	49	75
5	51	Chemical Engineering	7	38
12	31	Civil Engineering	22	33
6	17	Electrical Engineering	6	13
19	114	Engineering and Industrial Management	10	122
17	123	Engineering Mechanics, Physics, and Science	11	116
43	111	Engineering Technologies	67	127
22	128	Environmental Engineering	44	123
16	23	General Engineering	17	21
10	137	Geological and Geophysical Engineering	4	137
14	62	Industrial and Manufacturing Engineering	19	56
26	81	Industrial Production Technologies	45	115
8	24	Mechanical Engineering	12	18
37	113	Mechanical Engineering - Related Technologies	46	132
3	136	Metallurgical Engineering	8	128
4	131	Mining and Mineral Engineering	13	136
23	98	Miscellaneous Engineering	26	97
31	50	Miscellaneous Engineering Technologies	43	78
1	124	Petroleum Engineering	1	131
Arts				
105	22	Commercial Art and Graphic Design	116	65
129	47	Drama and Theater Arts	124	64
98	58	Film, Video, and Photographic Arts	126	101
108	21	Fine Arts	125	36
113	36	Music	121	31
135	82	Studio Arts	134	93
132	97	Visual and Performing Arts	132	109

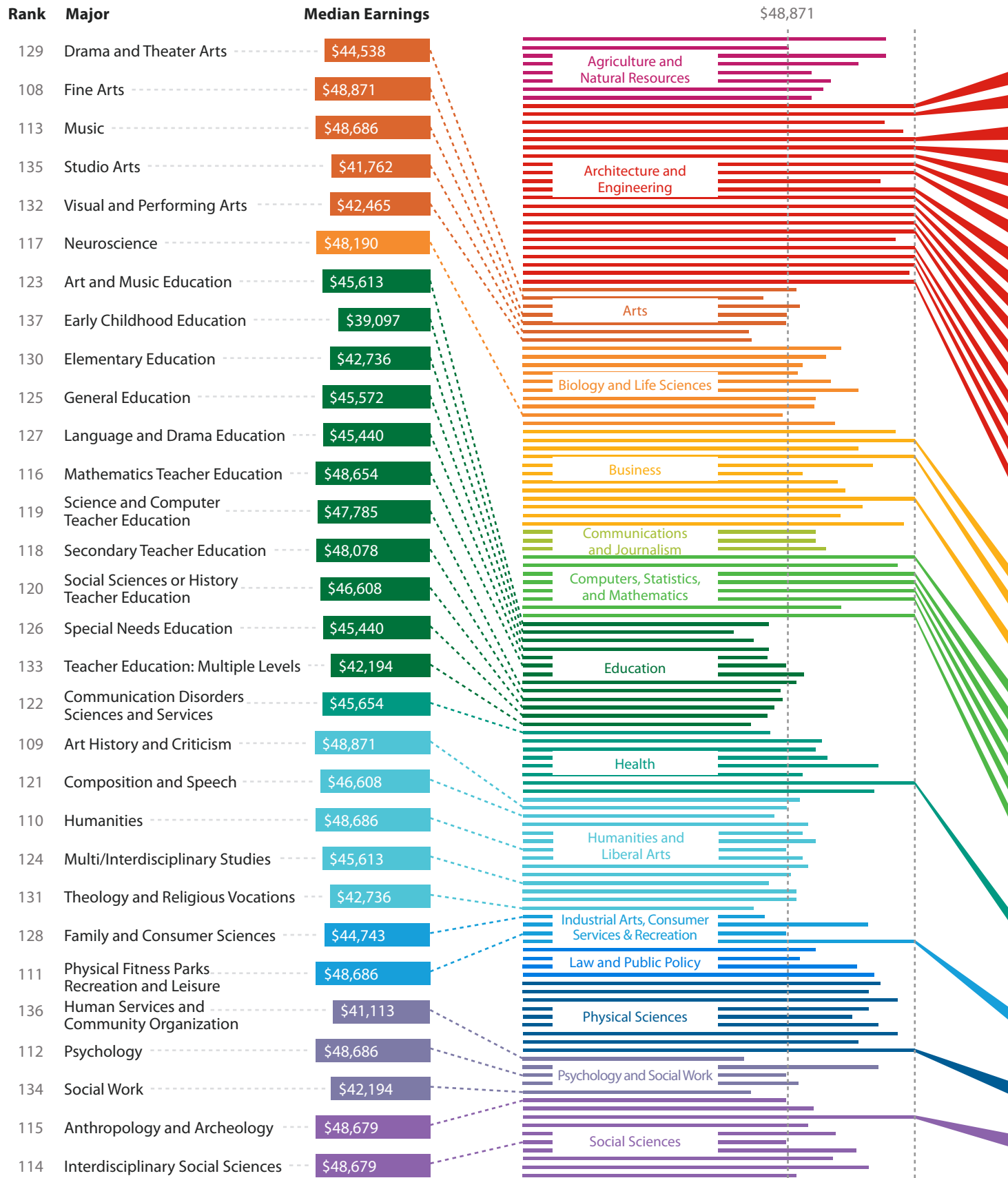
Bachelor's Degree Ranking		Graduate Degree Ranking	
By earnings	By popularity	By earnings	By popularity
Biology and Life Sciences			
64	89	Biochemical Sciences	30 41
74	14	Biology	31 2
93	129	Botany	103 118
100	106	Ecology	104 102
71	63	Environmental Science	83 69
56	92	Microbiology	40 58
79	77	Miscellaneous Biology	59 50
83	115	Molecular Biology	48 80
117	133	Neuroscience	120 112
68	105	Zoology	15 59
Business			
38	3	Accounting	37 9
25	87	Business Economics	25 95
58	1	Business Management and Administration	61 5
30	12	Finance	21 17
49	2	General Business	41 8
91	39	Hospitality Management	92 96
66	44	Human Resources and Personnel Management	77 61
62	74	International Business	66 86
21	45	Management Information Systems and Statistics	34 74
54	7	Marketing and Marketing Research	58 25
65	68	Miscellaneous Business and Medical Administration	70 105
32	94	Operations Logistics and E-Commerce	29 113
Communications and Journalism			
78	42	Advertising and Public Relations	108 85
77	6	Communications and Mass Media	101 16
73	27	Journalism	81 49
Computers, Statistics, and Mathematics			
13	119	Applied Mathematics	14 111
34	33	Computer and Information Systems	52 53
9	46	Computer Engineering	18 52
11	11	Computer Science	24 14
27	75	Information Sciences	42 91
29	30	Mathematics	38 19
63	40	Miscellaneous Computer	60 82
20	117	Statistics and Decision Science	23 104

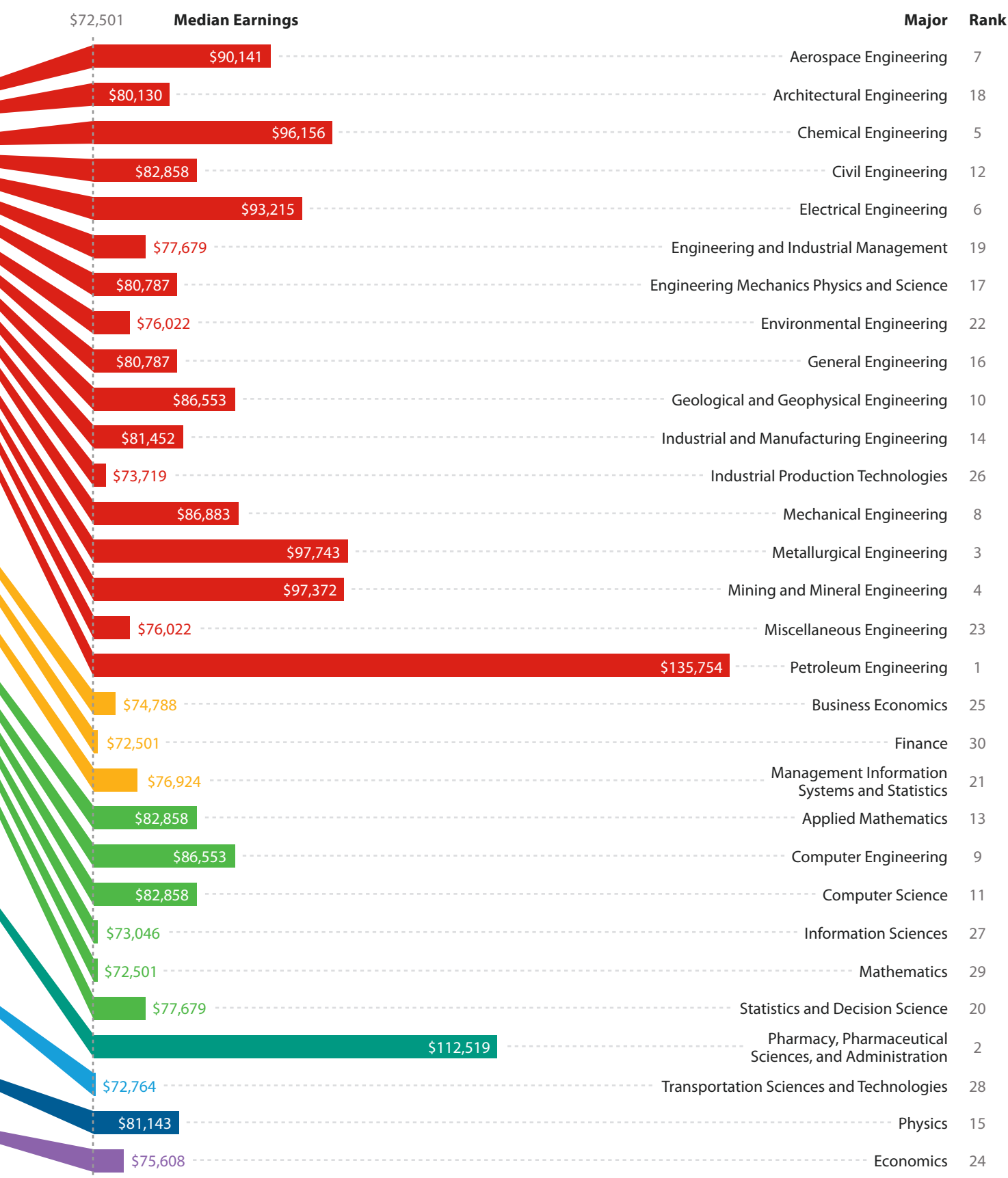
Bachelor's Degree Ranking		Graduate Degree Ranking	
By earnings	By popularity	By earnings	By popularity
Education			
123	49	Art and Music Education	119 44
137	53	Early Childhood Education	136 54
130	9	Elementary Education	129 4
125	8	General Education	127 3
127	61	Language and Drama Education	122 45
116	102	Mathematics Teacher Education	115 66
90	54	Miscellaneous Education	114 37
101	38	Physical and Health Education Teaching	102 42
119	108	Science and Computer Teacher Education	113 81
118	55	Secondary Teacher Education	112 48
120	76	Social Sciences or History Teacher Education	117 63
126	56	Special Needs Education	118 32
133	88	Teacher Education: Multiple Levels	130 73
Health			
122	93	Communication Disorders Sciences and Services	107 30
76	65	Health and Medical Administrative Services	63 77
81	118	Health and Medical Preparatory Programs	2 62
72	25	Miscellaneous Health Medical Professions	78 23
46	4	Nursing	47 10
95	90	Nutrition Sciences	91 79
2	57	Pharmacy and Pharmaceutical Sciences and Administration	3 39
48	35	Treatment Therapy Professions	79 35
Humanities and Liberal Arts			
96	71	Area Ethnic and Civilization Studies	72 55
109	80	Art History and Criticism	106 70
121	96	Composition and Speech	123 99
89	10	English Language and Literature	94 6
92	43	French, German, Latin, and Other Common Foreign Language Studies	100 34
82	18	History	64 11
110	109	Humanities	84 103
94	101	Intercultural and International Studies	80 87
87	19	Liberal Arts	85 26
106	91	Linguistics and Comparative Language and Literature	99 68
124	110	Multi/Interdisciplinary Studies	131 120
102	104	Other Foreign Languages	93 83
103	48	Philosophy and Religious Studies	98 27
131	41	Theology and Religious Vocations	137 46

Bachelor's Degree Ranking		Graduate Degree Ranking	
By earnings	By popularity	By earnings	By popularity
Industrial Arts, Consumer Services, and Recreation			
128	29	Family and Consumer Sciences	128 47
53	52	Miscellaneous Industrial Arts and Consumer Services	74 110
111	28	Physical Fitness, Parks, Recreation, and Leisure	109 43
28	60	Transportation Sciences and Technologies	33 100
Law and Public Policy			
80	13	Criminal Justice and Fire Protection	87 24
97	83	Pre-Law and Legal Studies	68 88
59	103	Public Administration	76 84
47	127	Public Policy	35 114
Physical Sciences			
42	126	Atmospheric Sciences and Meteorology	53 126
50	37	Chemistry	16 15
35	69	Geology and Earth Science	50 57
51	134	Geosciences	27 129
61	26	Multidisciplinary or General Science	51 28
44	120	Nuclear, Industrial Radiology, and Biological Technologies	28 117
36	130	Oceanography	36 130
57	135	Physical Sciences	65 134
15	73	Physics	20 29
Psychology and Social Work			
136	79	Human Services and Community Organization	135 92
45	121	Industrial and Organizational Psychology	55 124
112	5	Psychology	110 1
99	132	Social Psychology	90 135
134	32	Social Work	133 22
Social Sciences			
115	59	Anthropology and Archeology	105 51
84	85	Criminology	86 107
24	16	Economics	9 12
88	66	General Social Sciences	95 71
67	64	Geography	69 76
114	95	Interdisciplinary Social Sciences	97 94
60	84	International Relations	39 60
69	125	Miscellaneous Social Sciences	56 121
52	15	Political Science and Government	32 7
104	20	Sociology	111 20

LOWEST- AND HIGHEST-EARNING MAJORS

BACHELOR'S DEGREE HOLDERS

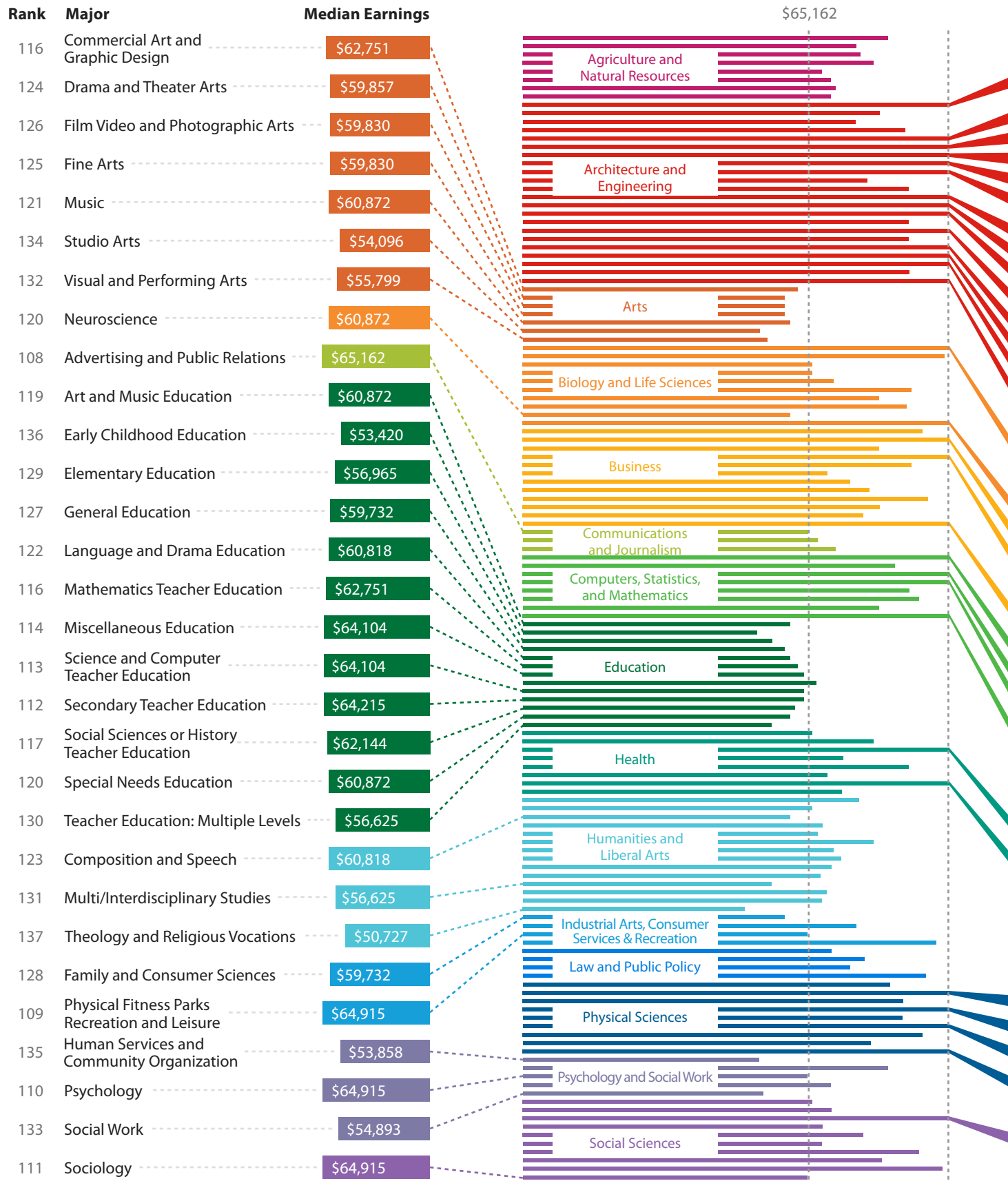




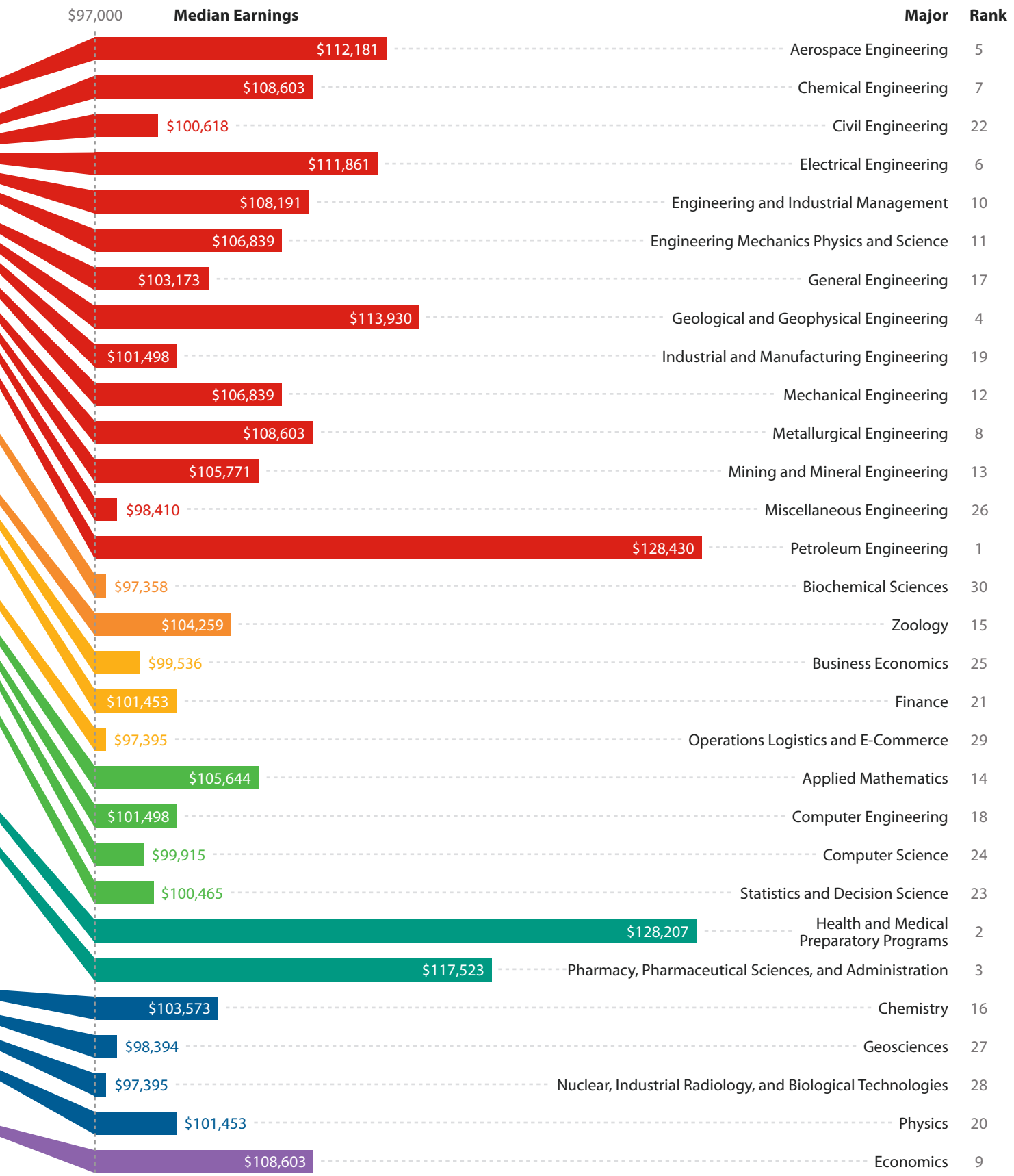
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

LOWEST- AND HIGHEST-EARNING MAJORS

GRADUATE DEGREE HOLDERS



Lowest- and Highest-Earning Majors
Graduate Degree Holders

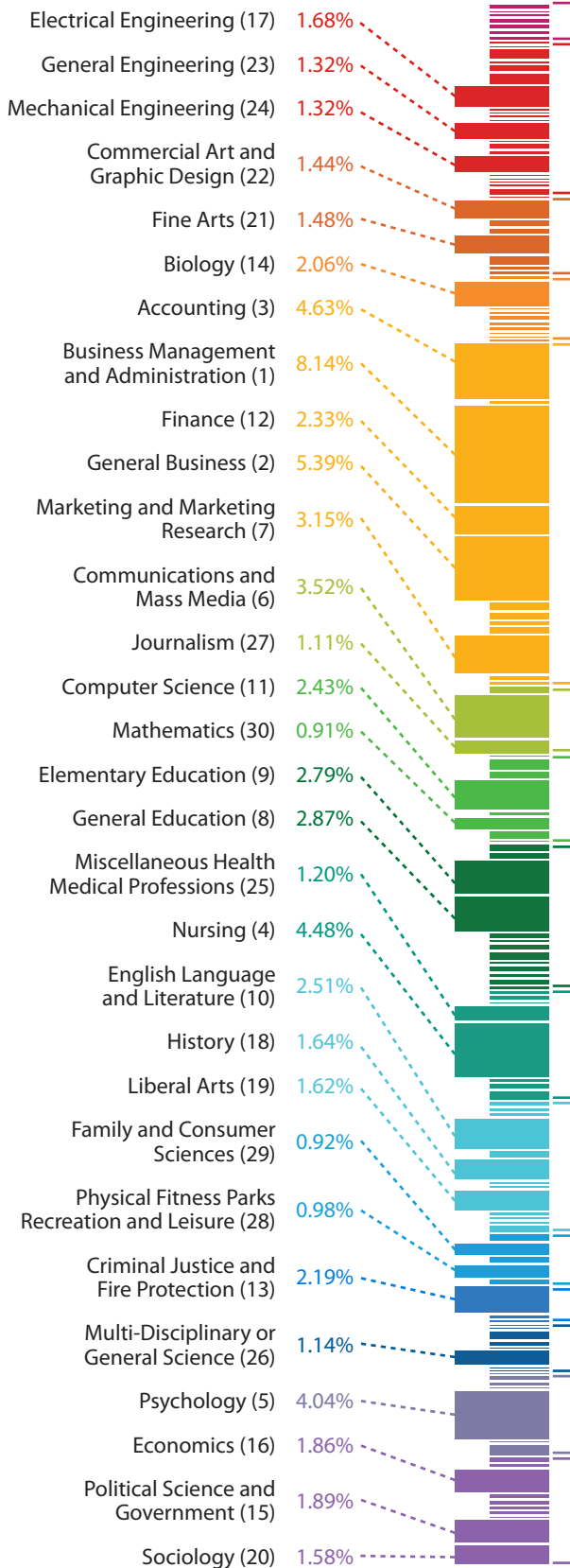


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

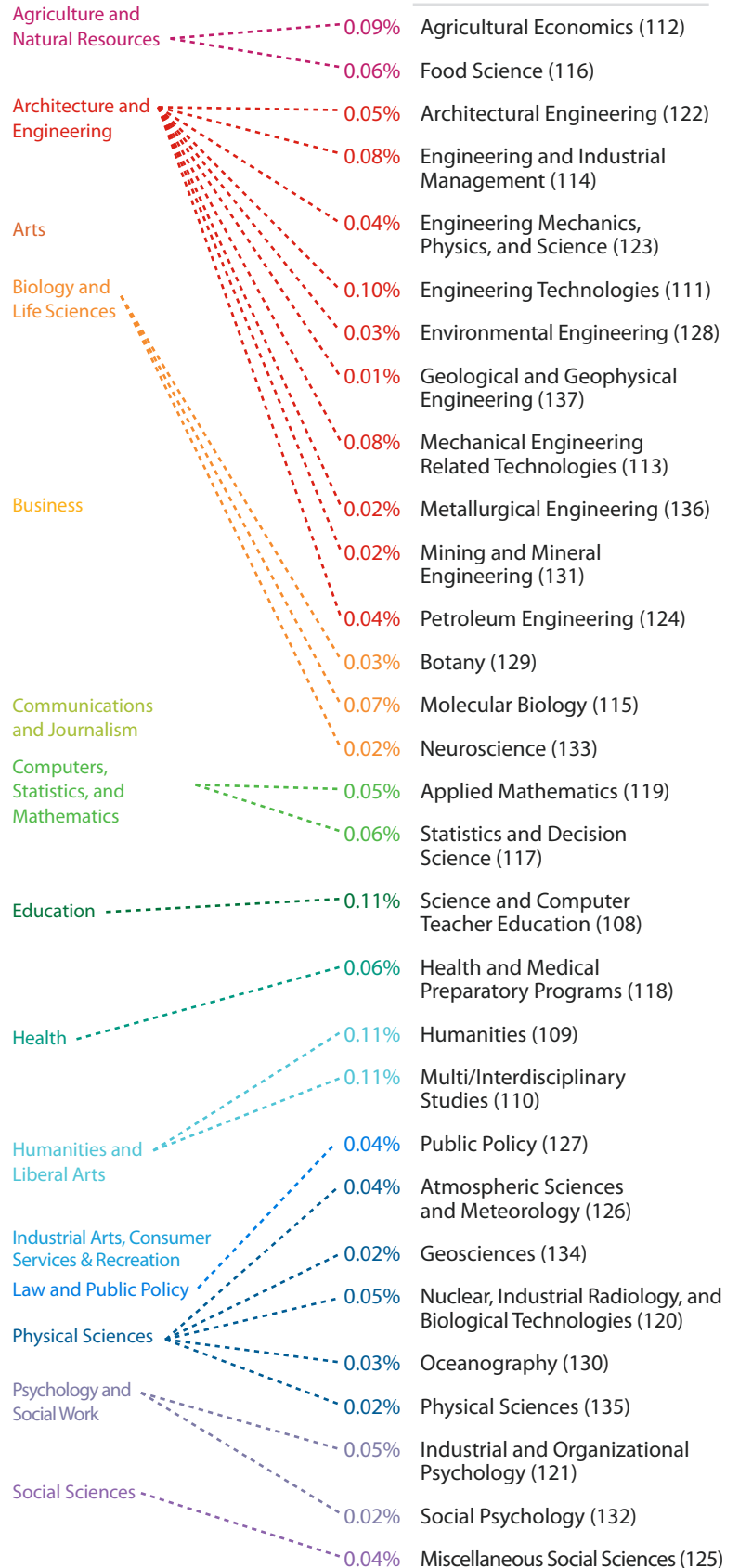
MAJORS RANKED BY POPULARITY

BACHELOR'S DEGREE HOLDERS

30 Most Popular Majors (Rank)



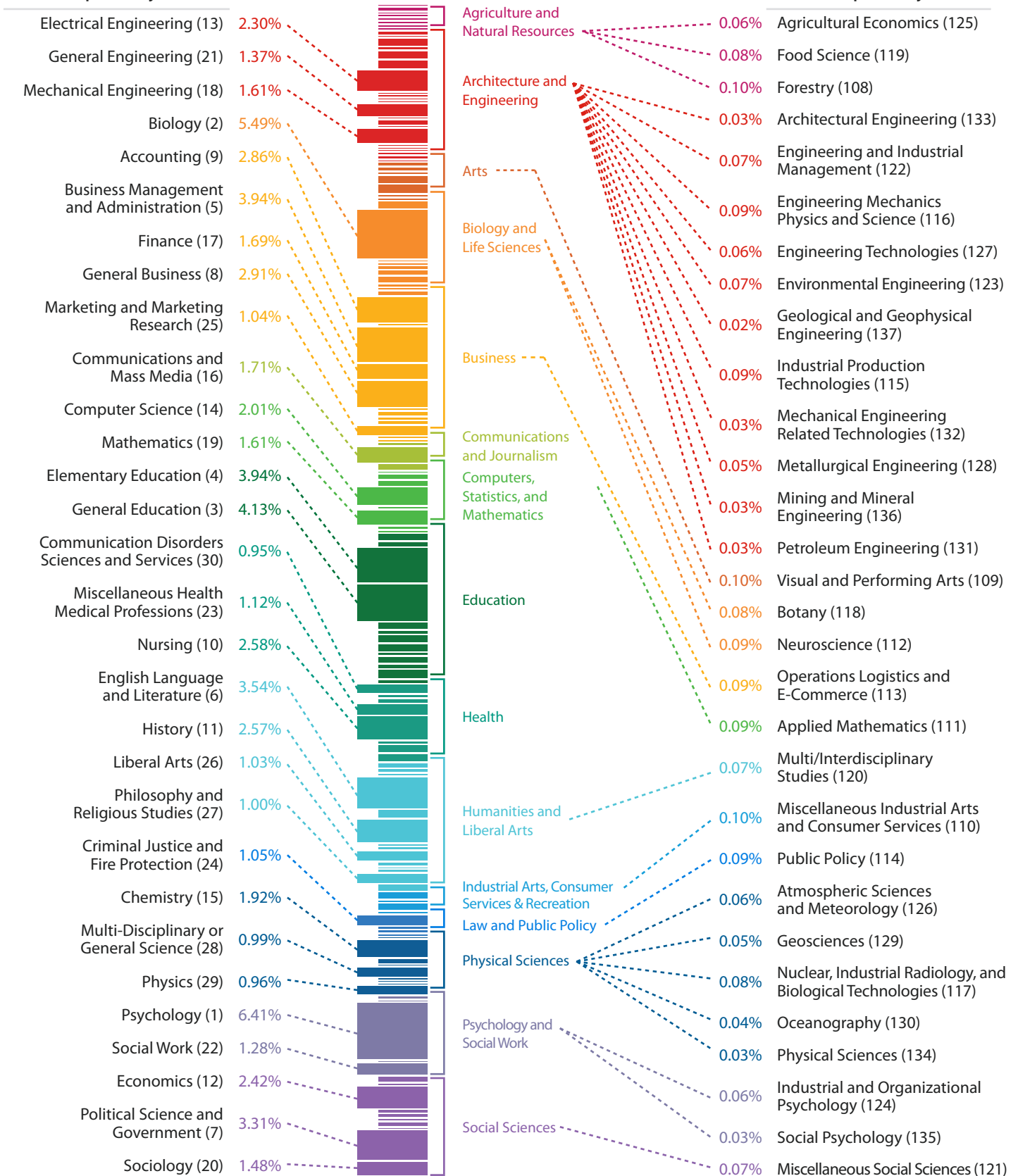
30 Least Popular Majors (Rank)



Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

30 Most Popular Majors (Rank)

30 Least Popular Majors (Rank)



HELP READING OUR CHARTS

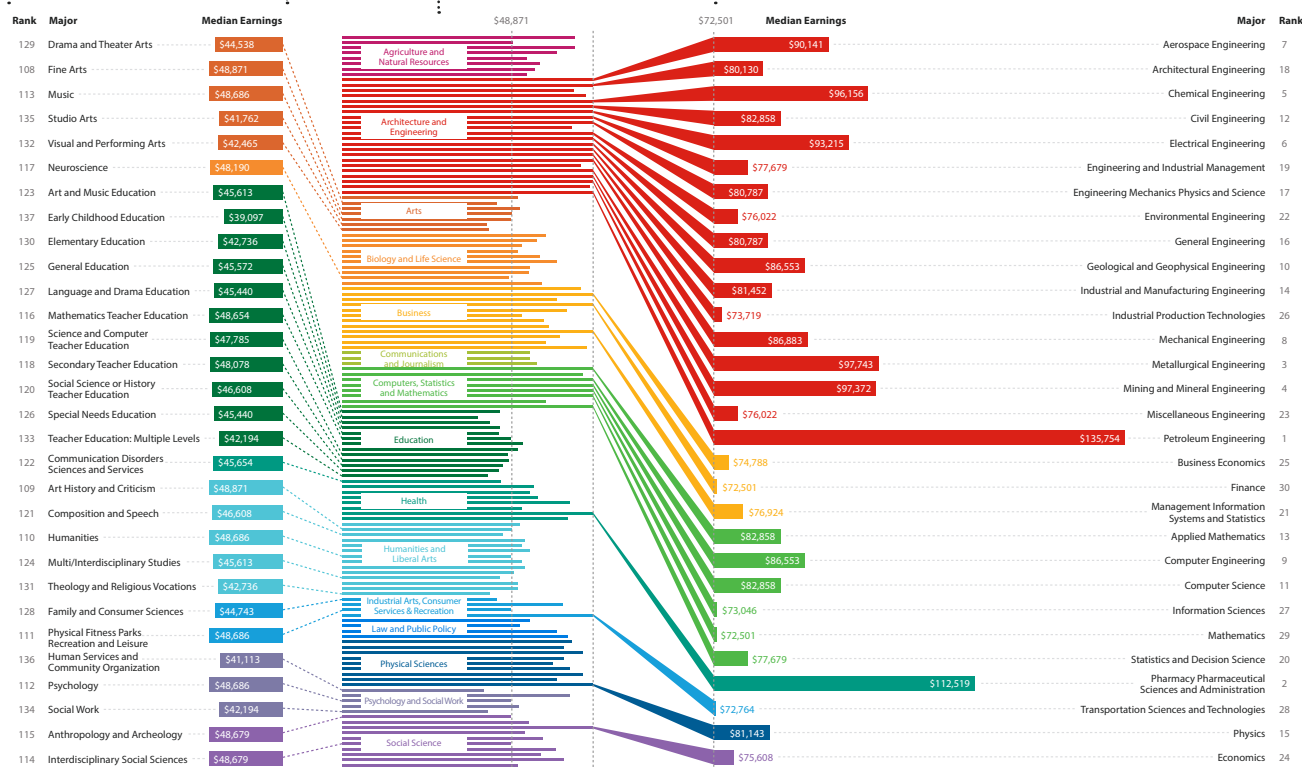
LOWEST- AND HIGHEST-EARNING MAJORS

This chart shows the 30 highest paying majors and the 30 lowest paying majors.

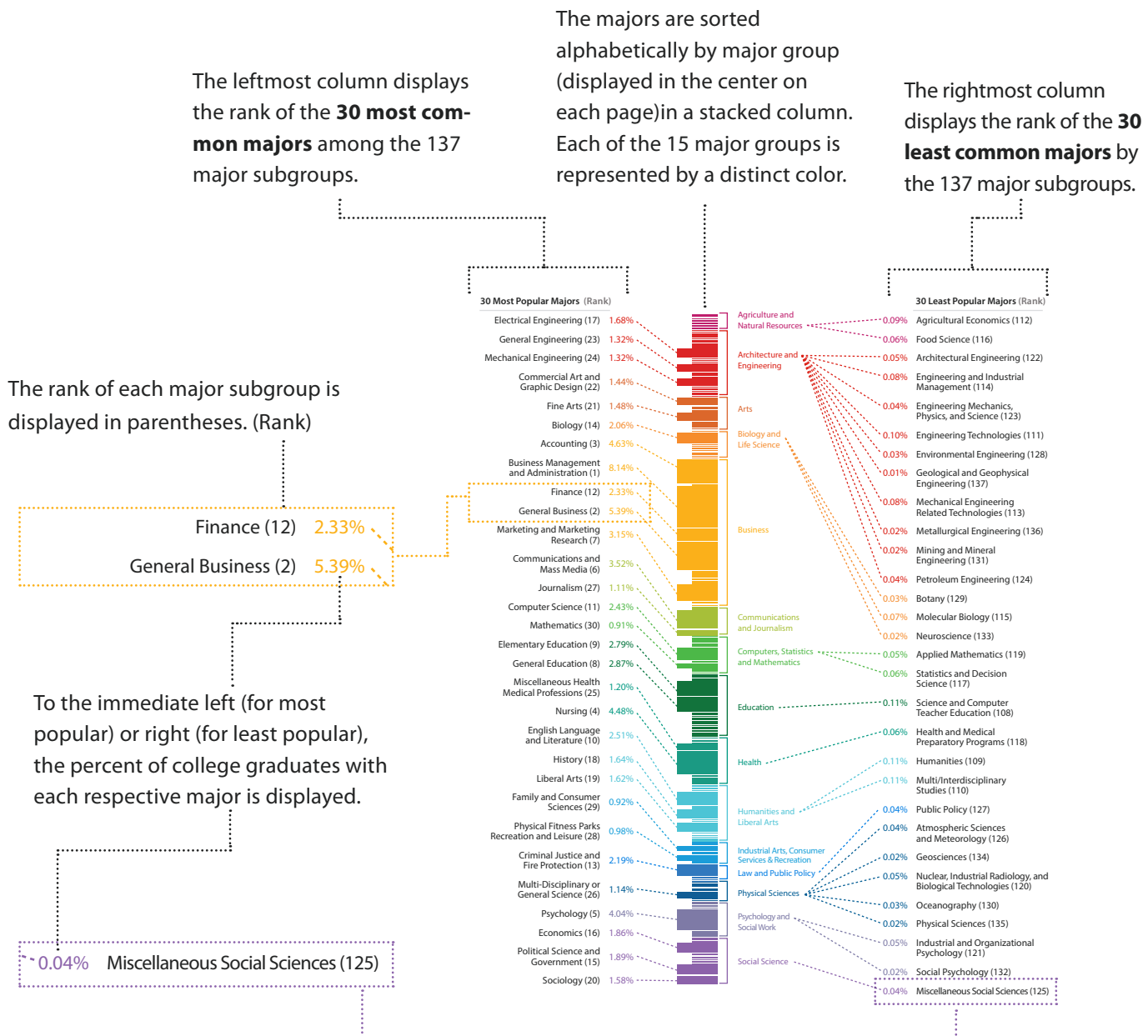
The leftmost column displays the rank of the **30 lowest paying majors** among the 137 major subgroups. To the right of that column is the median annual wages (2013\$) of that major subgroup.

The rightmost column displays the rank of the **30 highest paying majors** among the 137 major subgroups. To the left of that column is the median annual wages (2013\$) of that major subgroup.

The chart is sorted alphabetically by the 15 major groups included in the center. Each of the 15 major groups is represented by a distinct color. For example, **architecture and engineering** majors are red.



This chart shows the 30 most common majors and 30 least common majors for Bachelor's degree holders and graduate degree holders.



The Economic Value of College Majors
can be accessed at
cew.georgetown.edu/report/valueofcollegemajors



THE ECONOMIC VALUE *of* COLLEGE MAJORS

GEORGETOWN UNIVERSITY



McCourt School of Public Policy

Center
on Education
and the Workforce

3300 Whitehaven Street, NW, Suite 5000
Washington, DC 20007
Mail: Campus Box 571444
Washington, DC 20057
cew.georgetown.edu