

THE ECONOMIC VALUE *of* COLLEGE MAJORS

GEORGETOWN UNIVERSITY



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on Education
and the Workforce

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Executive Summary

2015

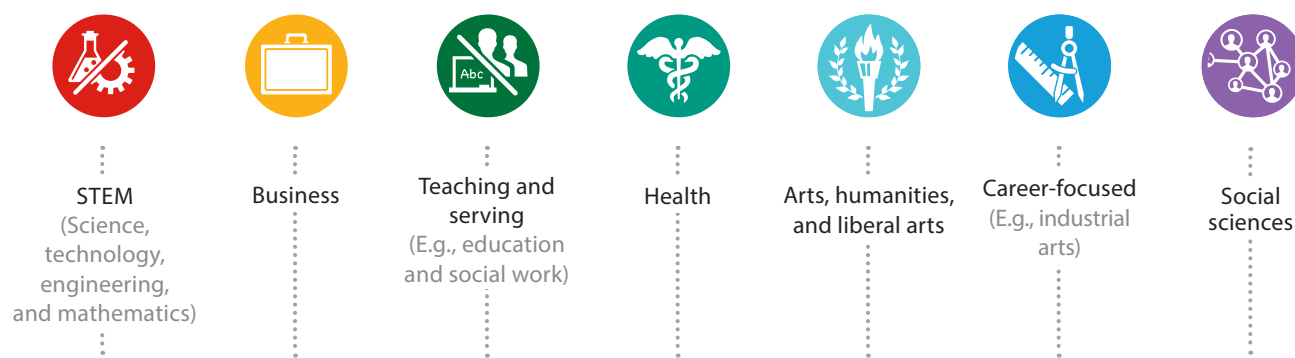


The Economic Value of College Majors

FACT SHEET

In this report, we analyze the annual earnings of college graduates by major. Entry-level earnings are for ages 21-24. Mid-career earnings are for ages 25-59. Earnings are reported in 2013 dollars.

Majors are aggregated into seven supergroups:



We also analyze the prevalence of majors among college-educated adults and how much graduate degree holders earn based on their undergraduate major compared to Bachelor's degree holders. Finally, we analyze the 10 highest- and lowest-paying majors among 137 detailed major subgroups.



Graduate degree holders include workers between the ages of 25 and 59. Graduate degree holders' majors refer to their undergraduate major, not their graduate field of study.



Bachelor's degree holders refers to adults between the ages of 21 and 59 with a Bachelor's degree but no further education. Earnings data are reported for workers employed full-time, full-year. Data on the prevalence of majors include all college-educated adults, including those neither employed nor in the labor force.

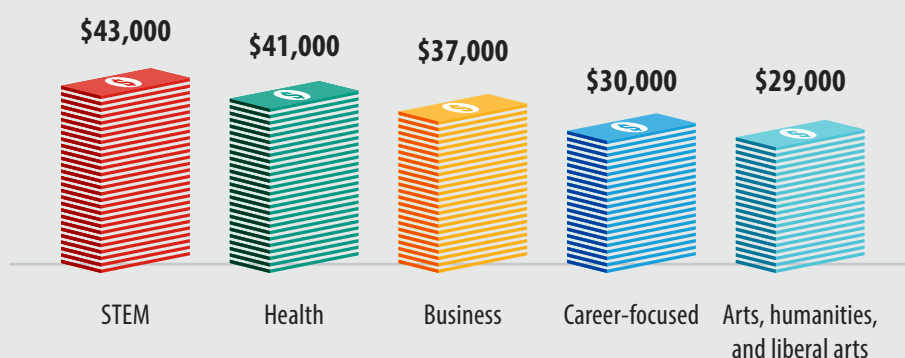


High school graduates refers to workers between the ages of 21 and 59 with nothing other than a high school diploma, employed full-time, full-year.

FIGURE

1

Not all Bachelor's degrees are created equal.



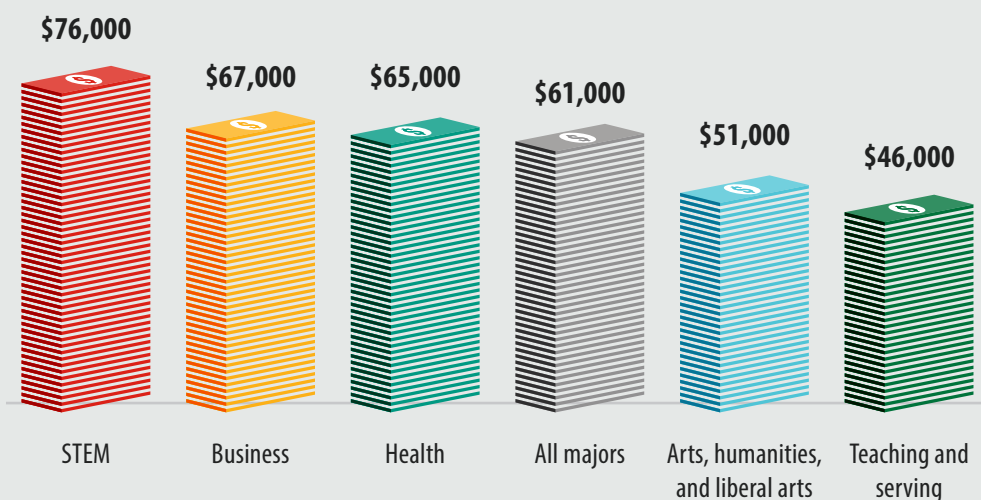
Median annual wages of college-educated workers (ages 21-24) by major supergroup (2013\$)

Entry-level

At the entry level, health majors earn \$41,000 annually, while humanities and liberal arts majors earn \$29,000 annually.

Mid-career

Among prime-age workers,¹ those who majored in STEM earn \$76,000 annually, while those who had a teaching and serving major earn \$46,000 annually.



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

FIGURE

2

College graduates' wages increase over the course of their careers, while the differences in wages among majors grow larger.

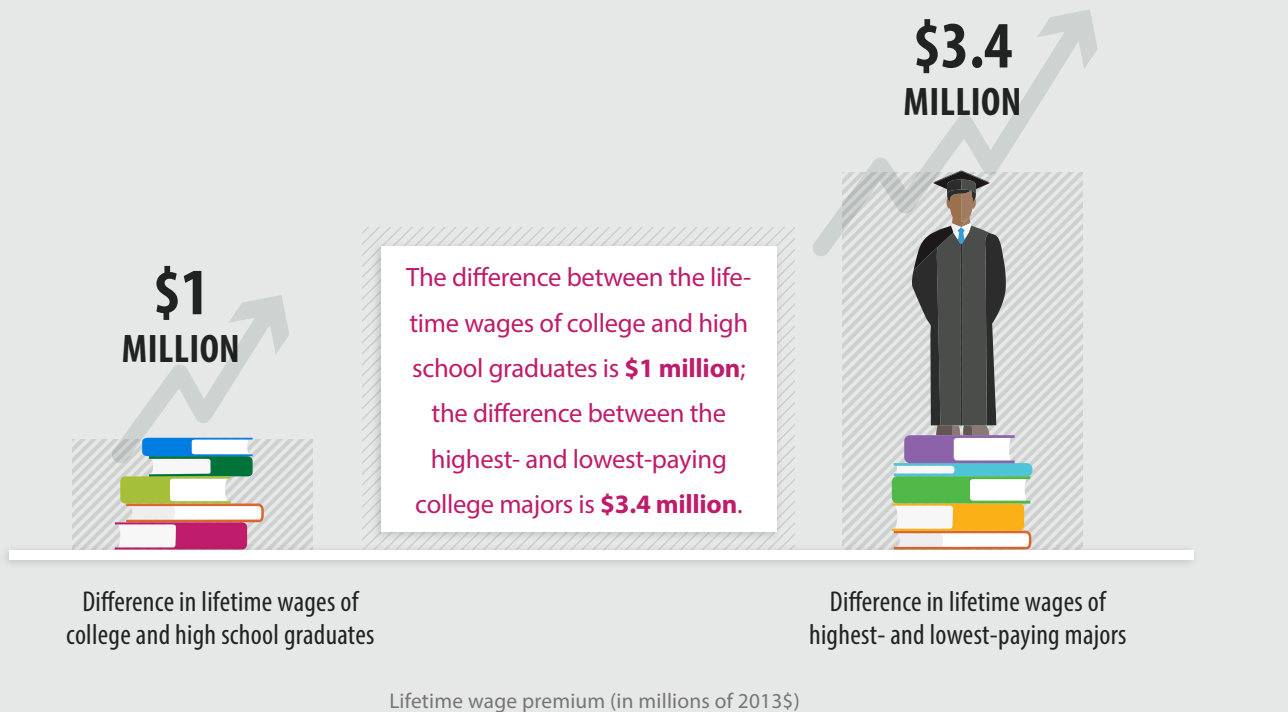
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

¹ "Prime-age workers" refers to those between the ages of 25 and 59.

FIGURE

3

Majors play a larger role in determining earnings than the decision to go to college.

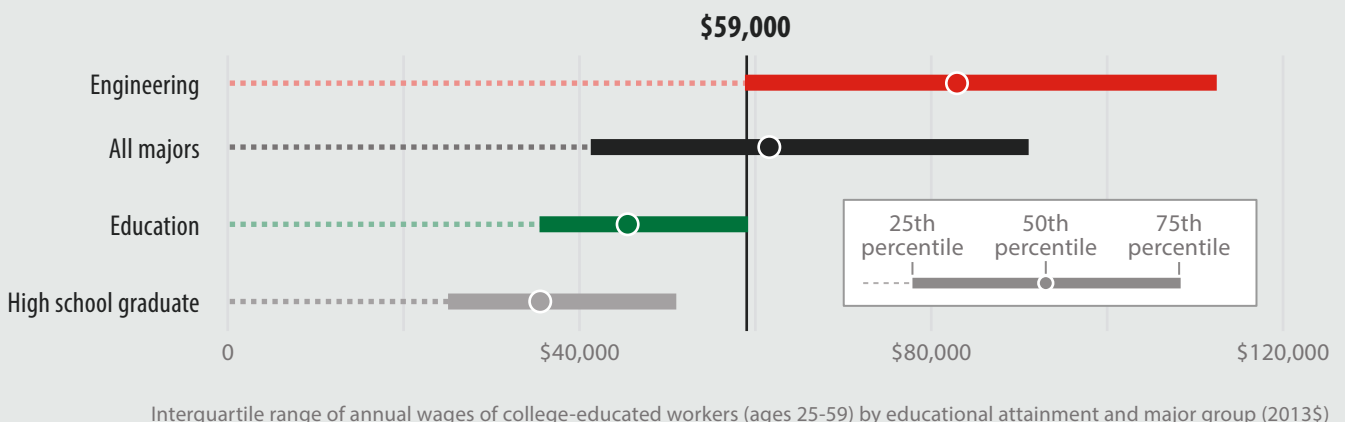


FIGURE

4

Your major isn't your destiny.

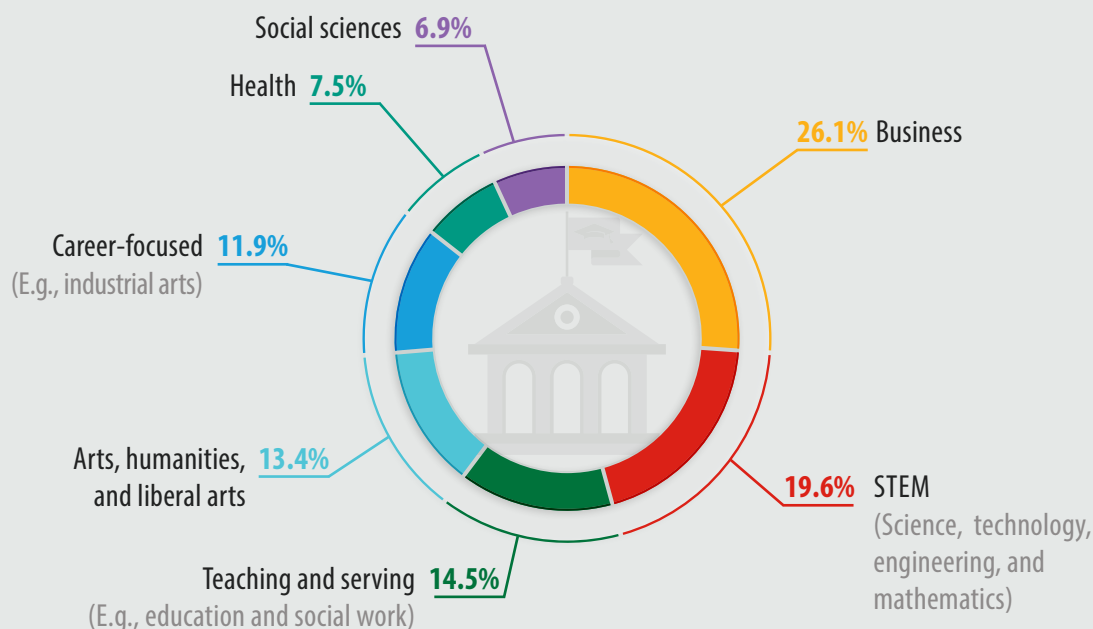
Some college graduates who have generally low-paying majors earn more than some college graduates with generally higher-paying majors: the top 25 percent of education majors earn \$59,000 or more annually, while the bottom 25 percent of engineering majors earn \$59,000 or less annually.



FIGURE

5

Business majors and STEM majors are the most common and among the highest-paying majors.



Share of college graduates (ages 25-59) by meta-major

FIGURE

6

Most students choose a major that is connected to the labor market.

20%

Majors with weak connections to the labor market – humanities and liberal arts, social sciences, and arts majors – comprise only **20 percent** of college-educated workers.

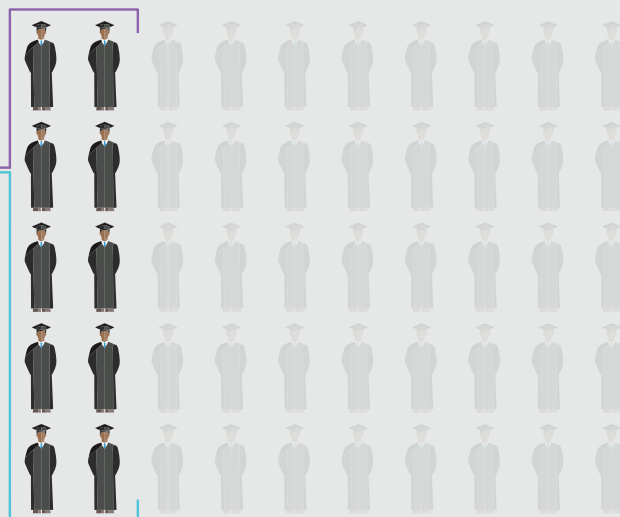


FIGURE 7

Some majors are more likely to lead to graduate school than others.

Biology and life sciences majors are the most likely to earn a graduate degree.



Biology and life sciences



Physical sciences



Psychology and social work

Three most likely majors to earn a graduate degree

Three least likely majors to earn a graduate degree



All majors



Arts



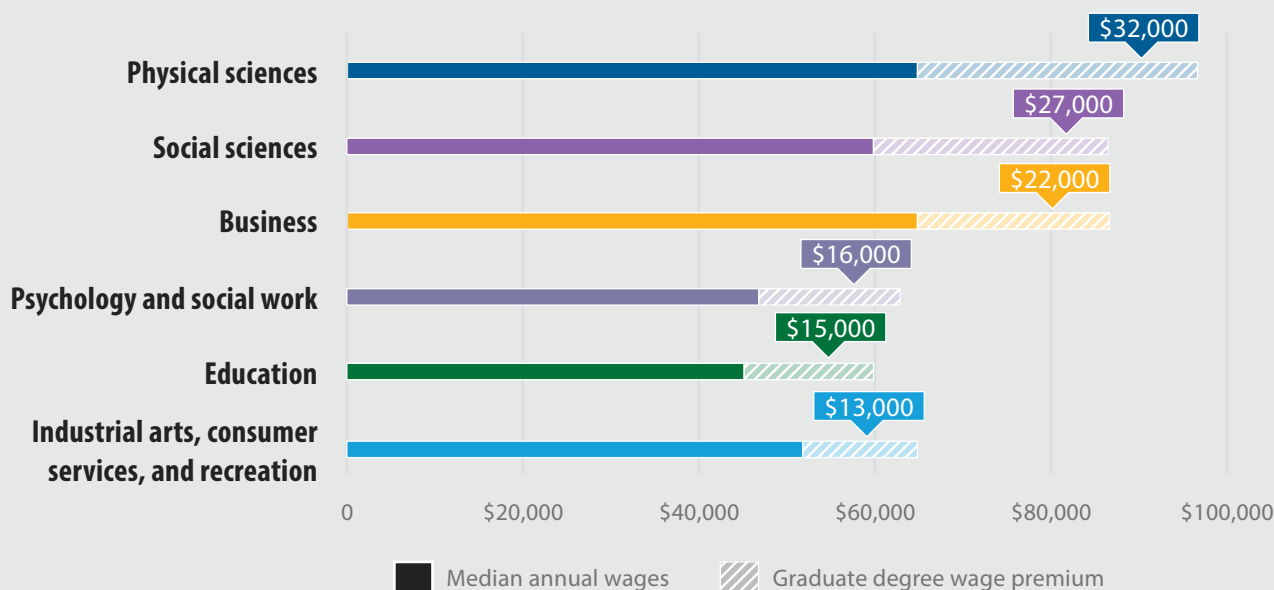
Business



Communications and journalism

FIGURE 8

The benefit of a graduate degree is much greater for some majors than others.



What's It Worth?

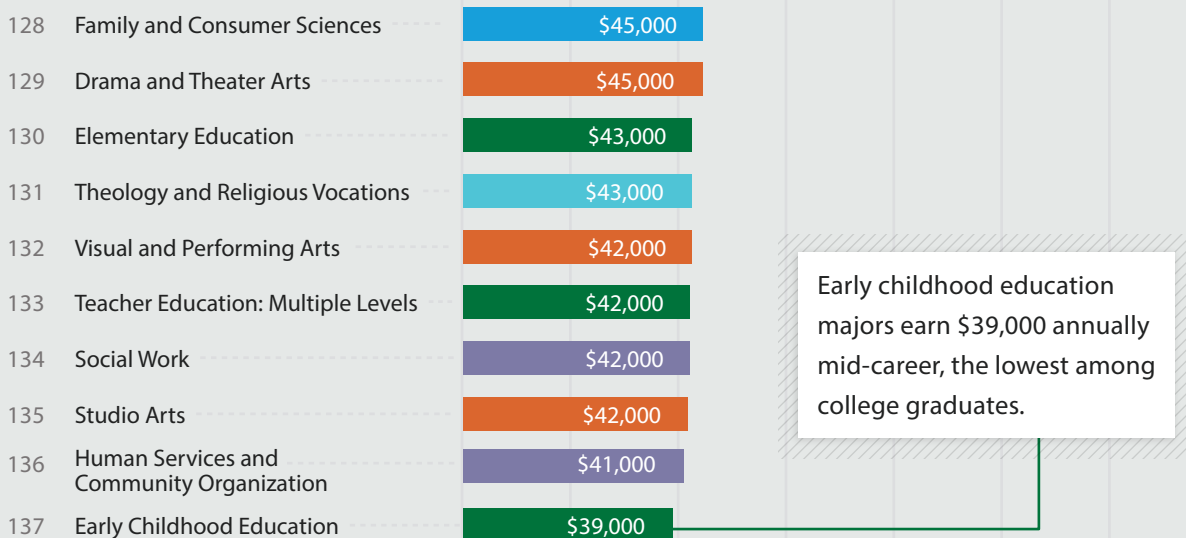
Highest- and Lowest-Earning Majors

FACT SHEET

Almost all of the highest-paying majors are in engineering fields.



The lowest-paying majors are in education, arts, and social work fields.



Median annual wages of college-educated workers (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 pooled sample.

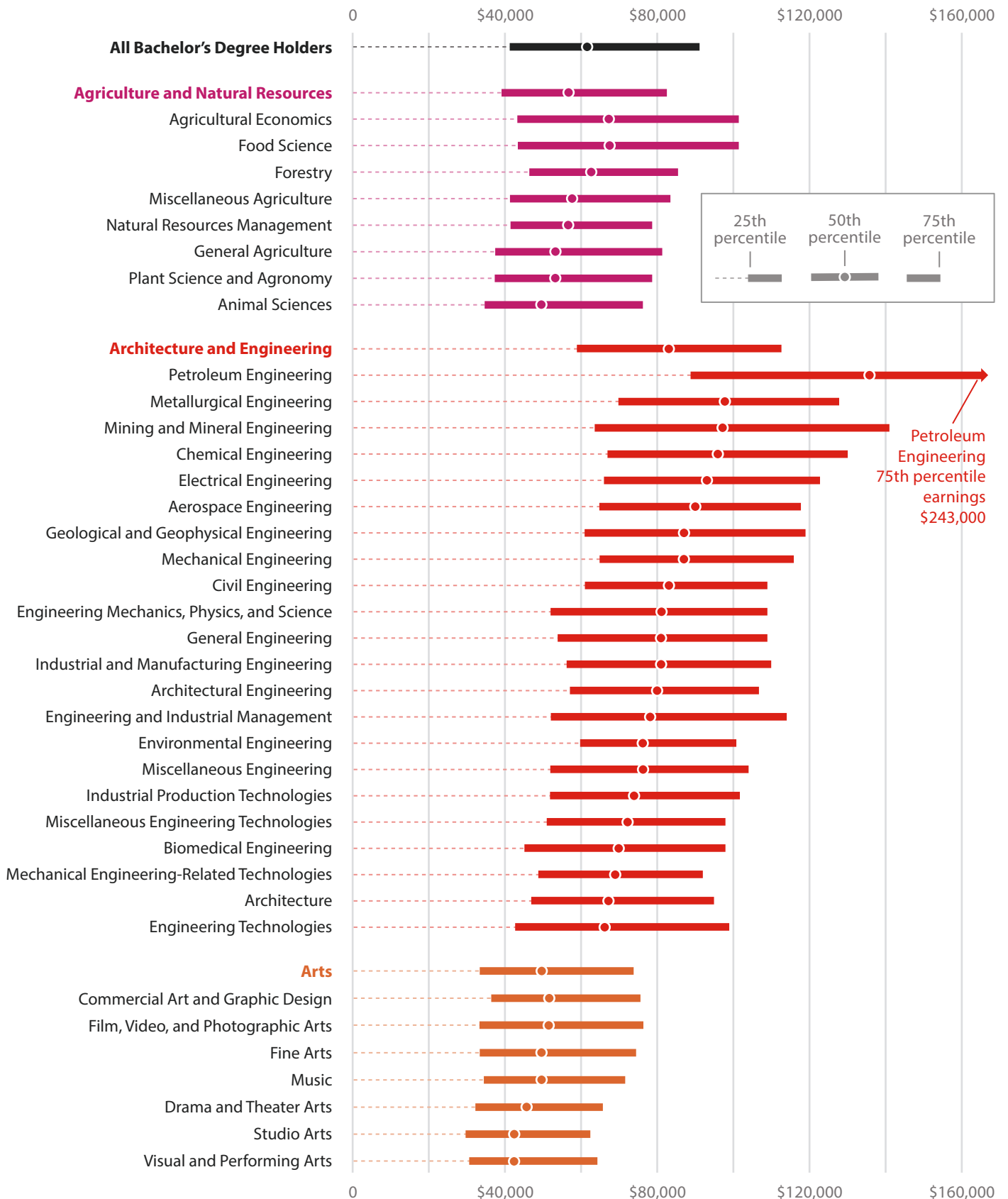
137 Detailed Majors

Selective Statistics

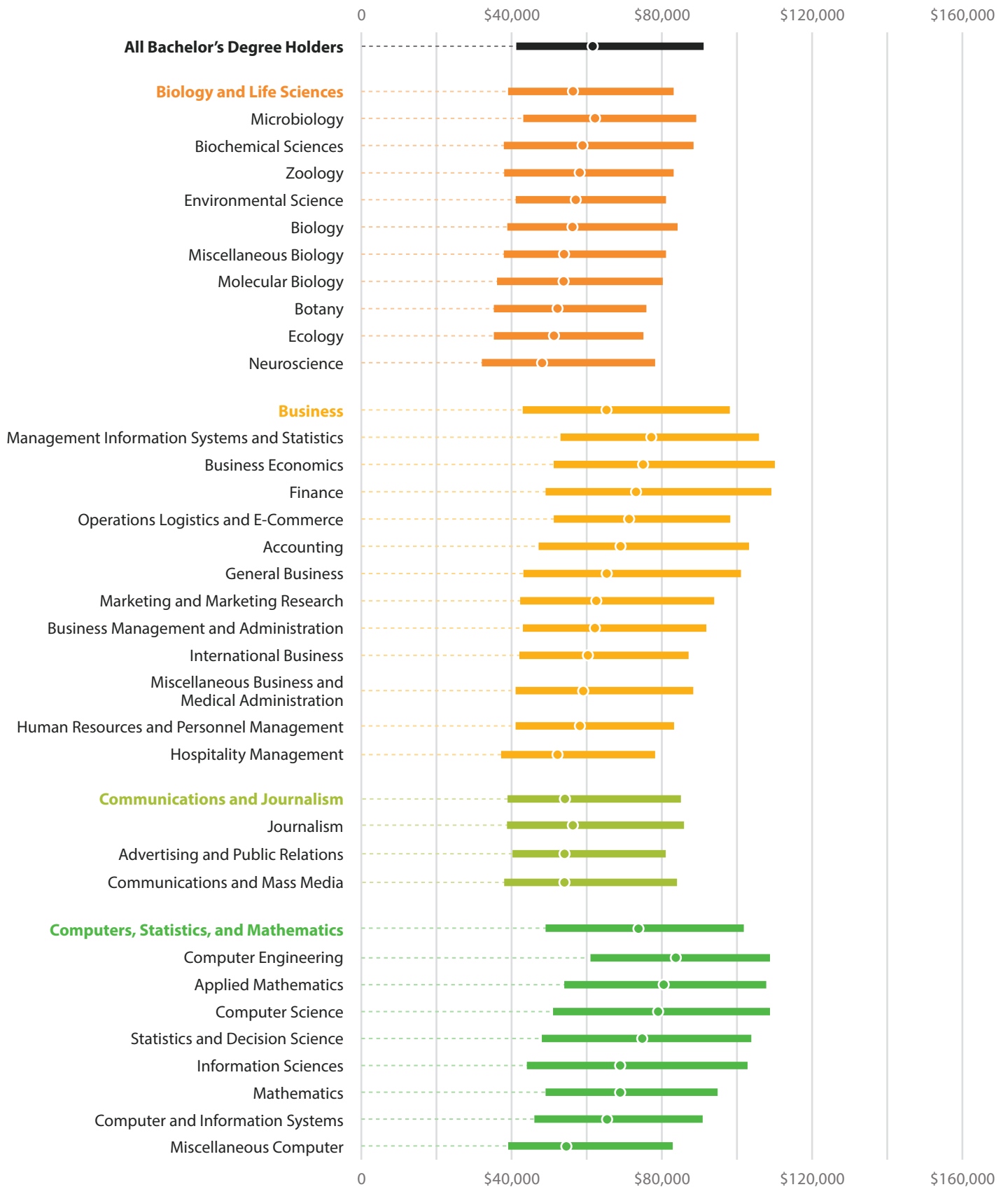
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- 39 Majors ranked by popularity for graduate degree holders

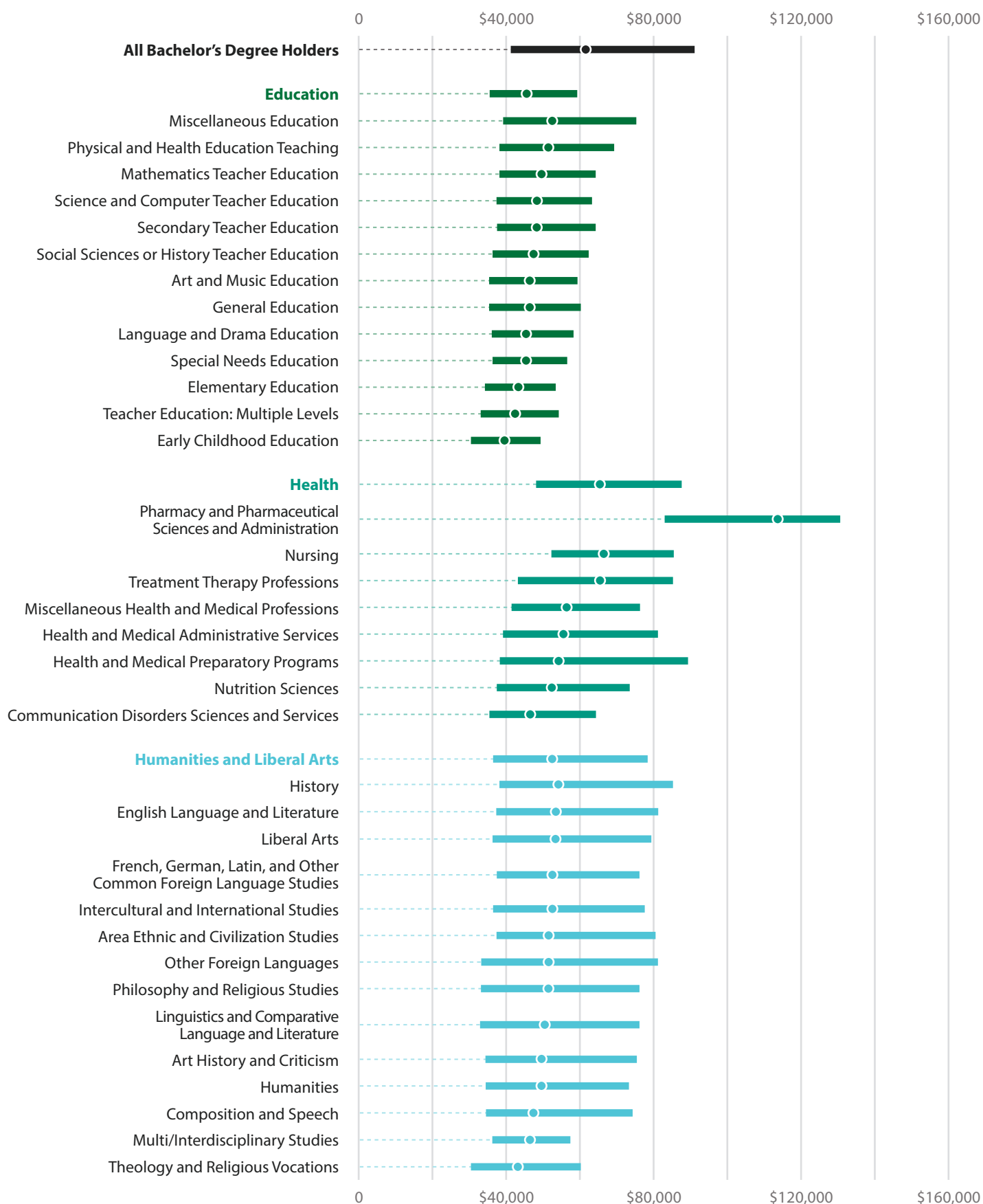
MID-CAREER EARNINGS AT THE 25TH, 50TH AND 75TH PERCENTILES, BY BACHELOR'S DEGREE MAJOR



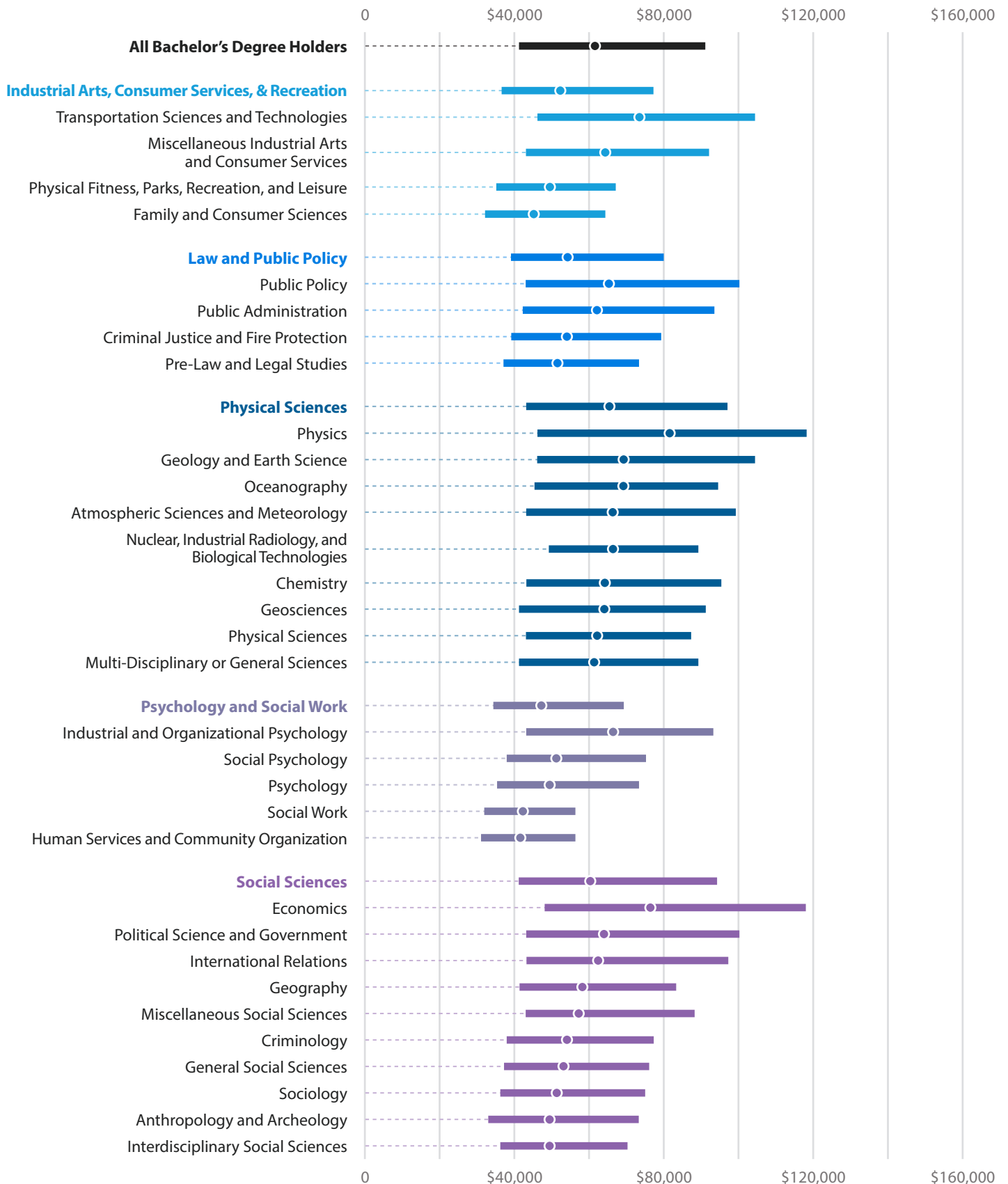
Mid-career earnings at the 25th, 50th and 75th percentiles,
by Bachelor's degree major



Mid-career earnings at the 25th, 50th and 75th percentiles,
by Bachelor's degree major



Mid-career earnings at the 25th, 50th and 75th percentiles,
by Bachelor's degree major



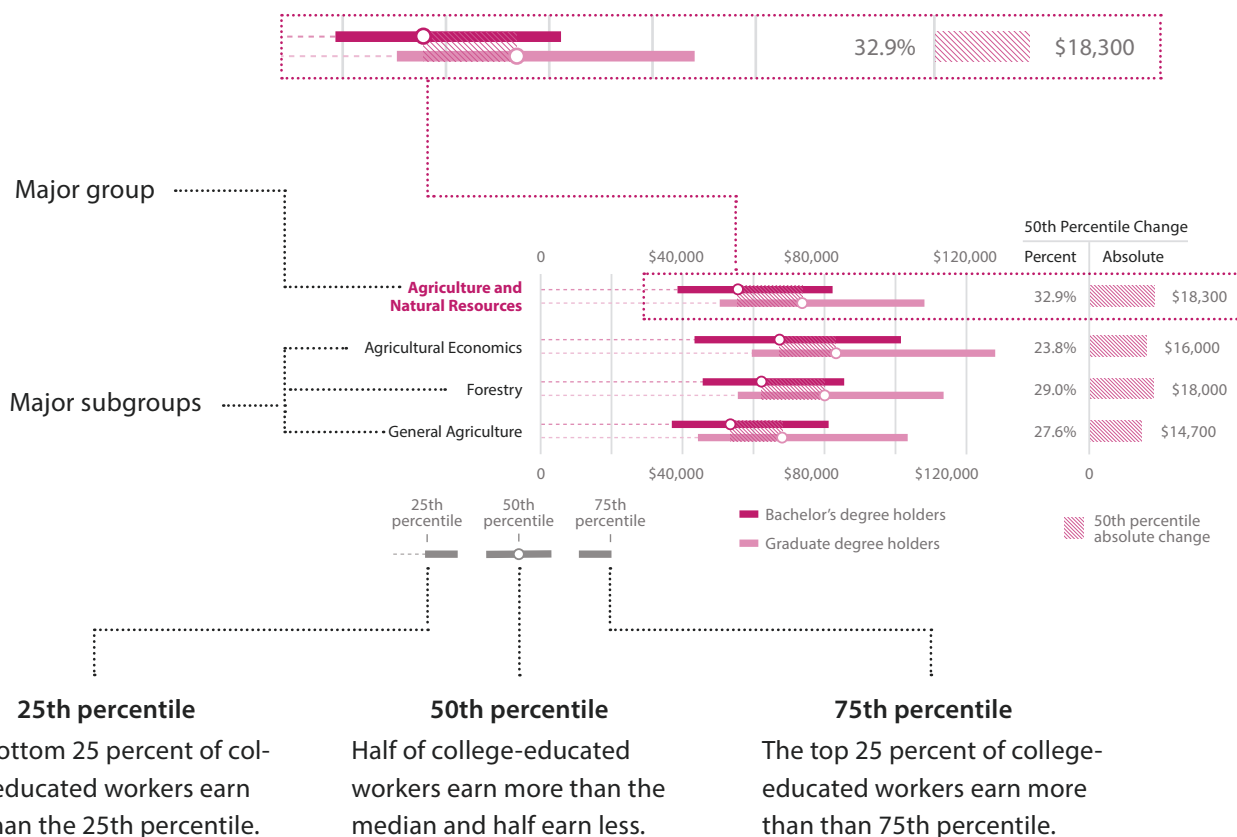
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

THE GRADUATE ADVANTAGE

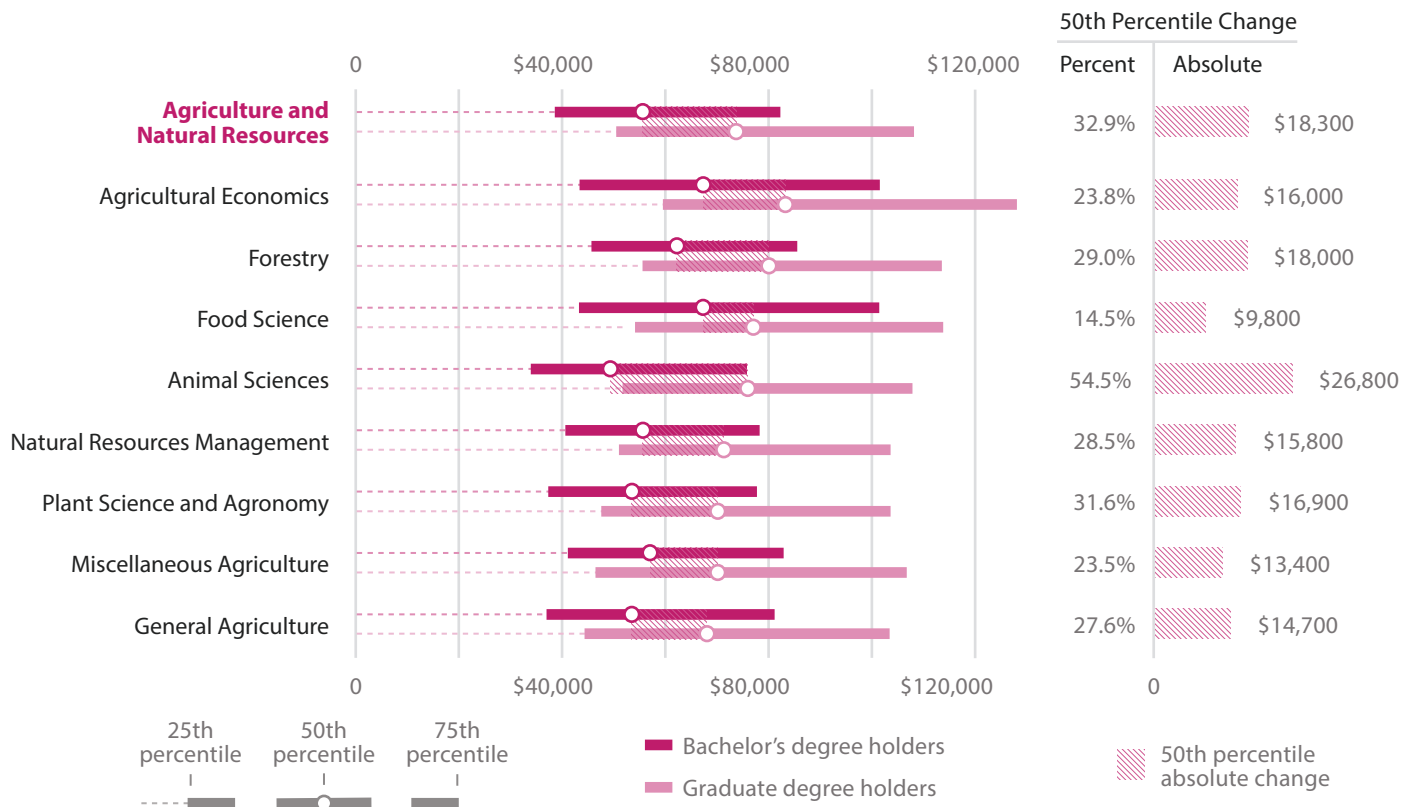
The charts displayed in this section (the graduate advantage) show the interquartile range of annual wages for each major group and subgroup.

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
Mid-career earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



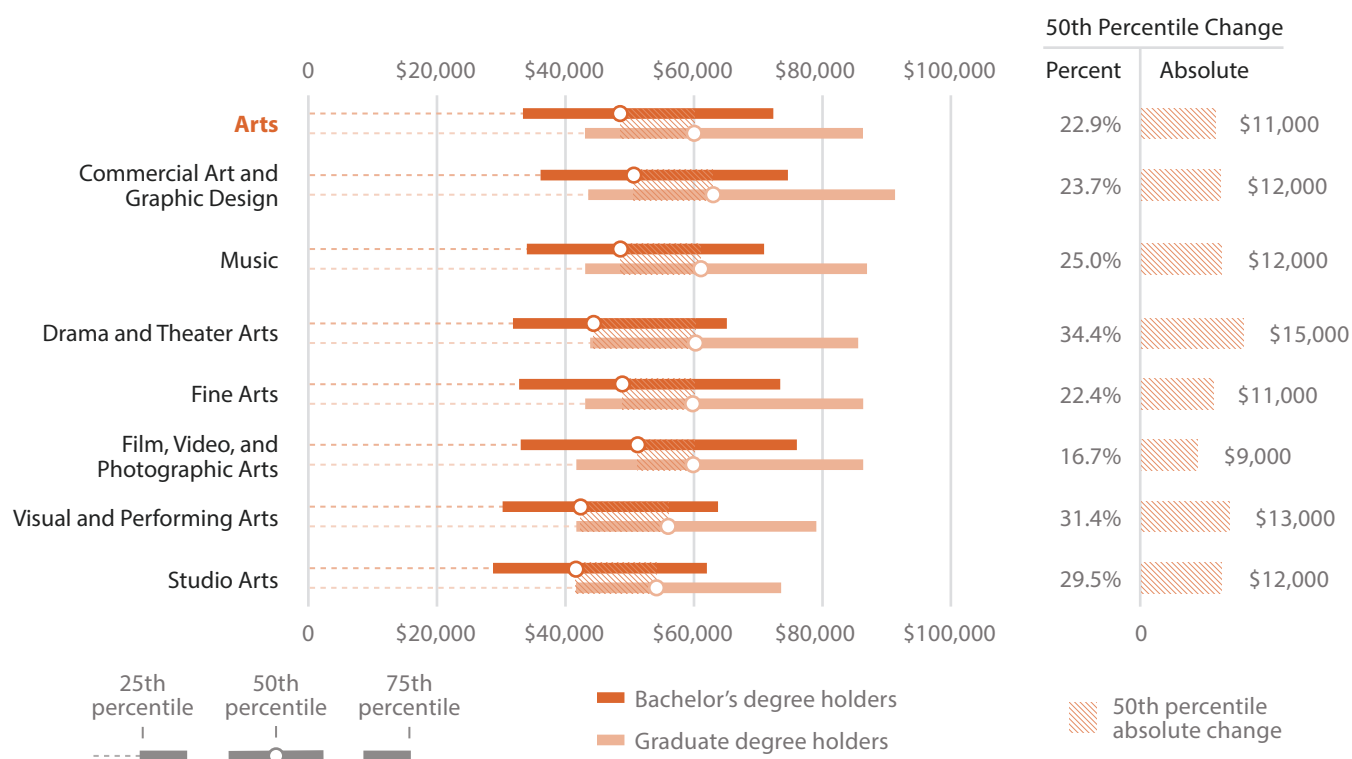
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

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



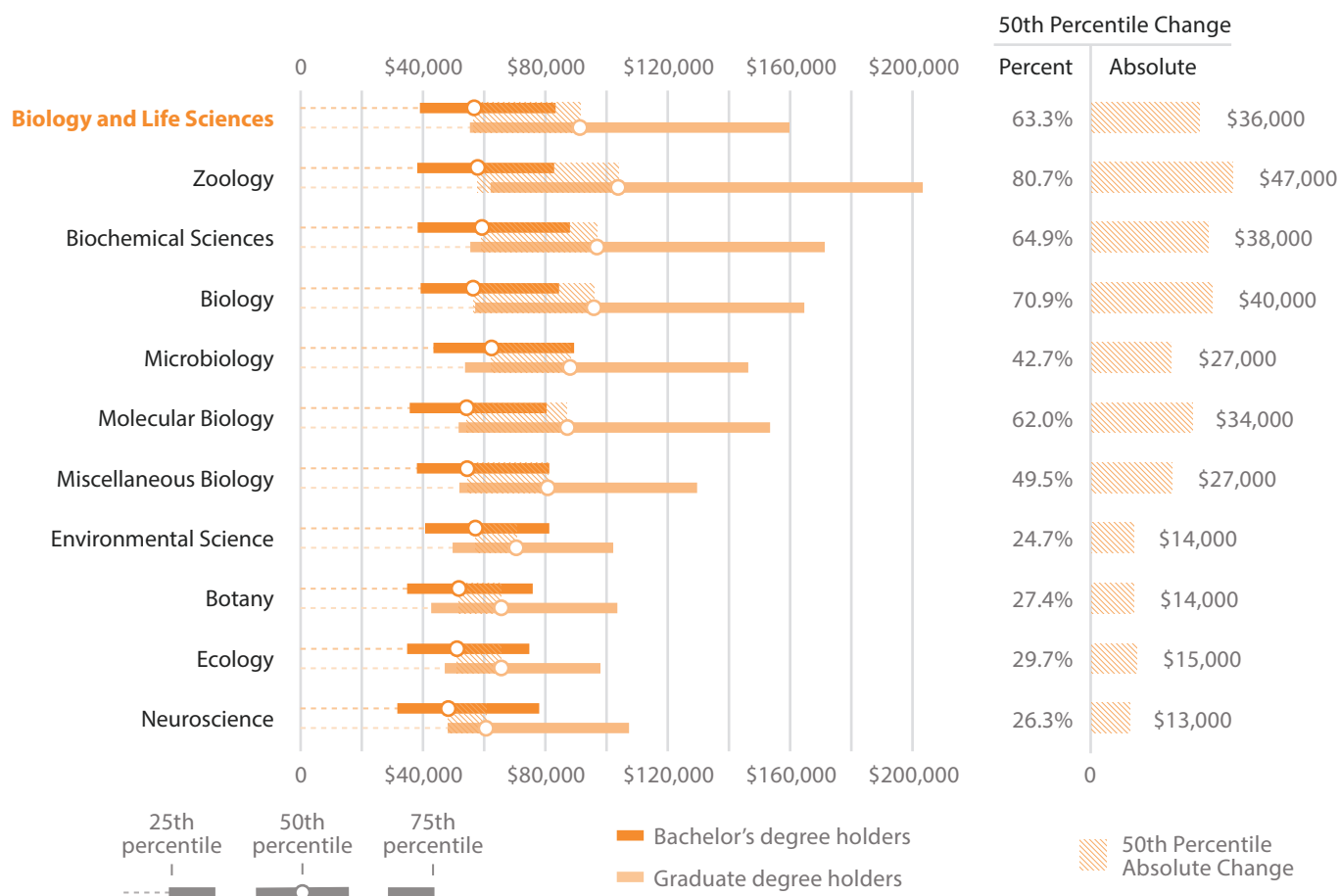
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

The Graduate Advantage | Arts
Mid-career earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



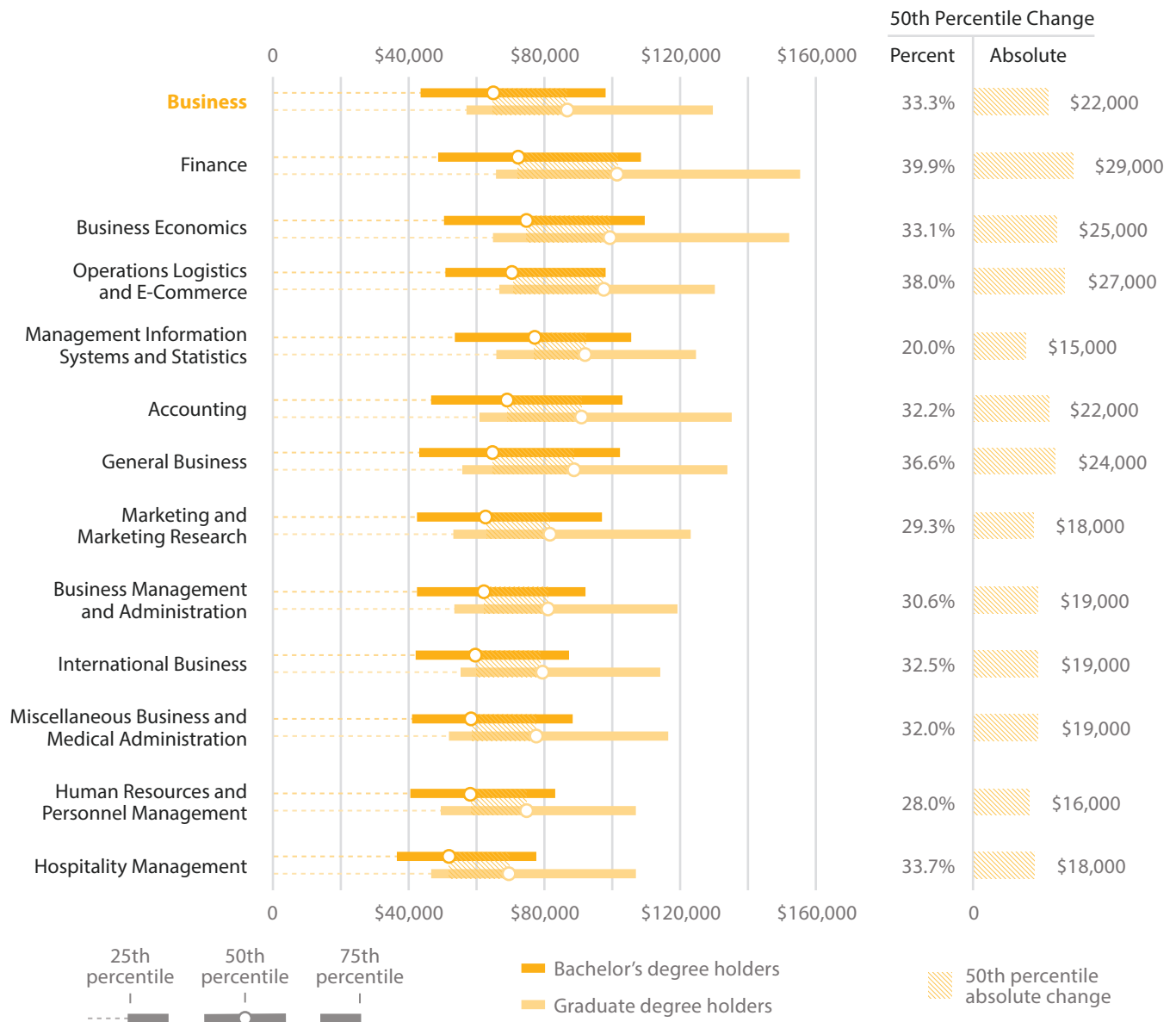
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

Biology and Life Science | The Graduate Advantage
 Mid-career earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



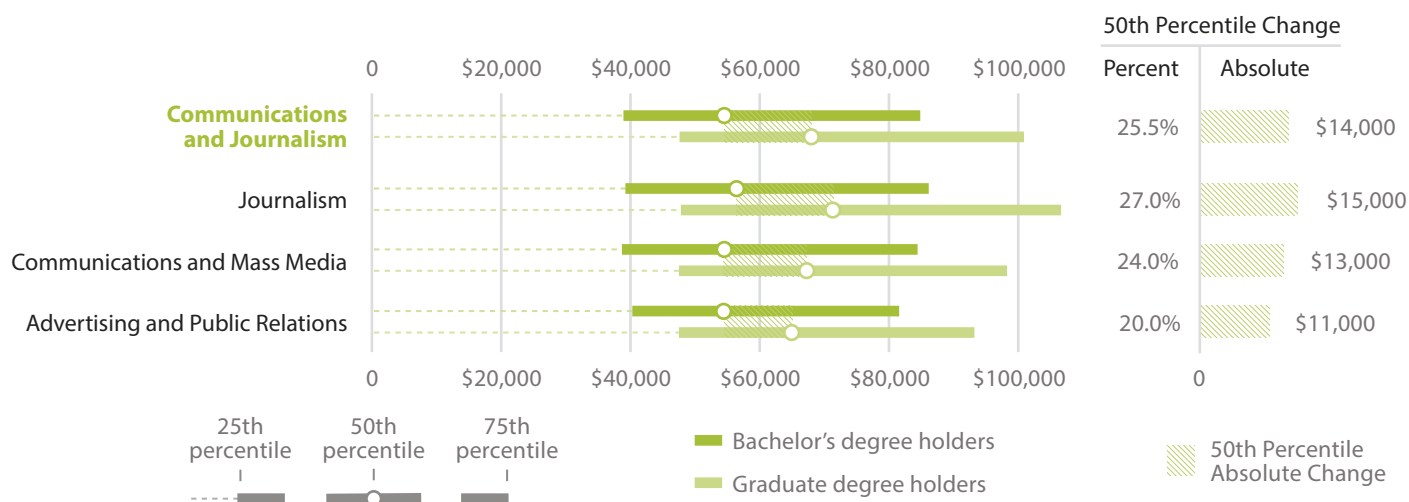
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

The Graduate Advantage | Business
Mid-career 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.

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

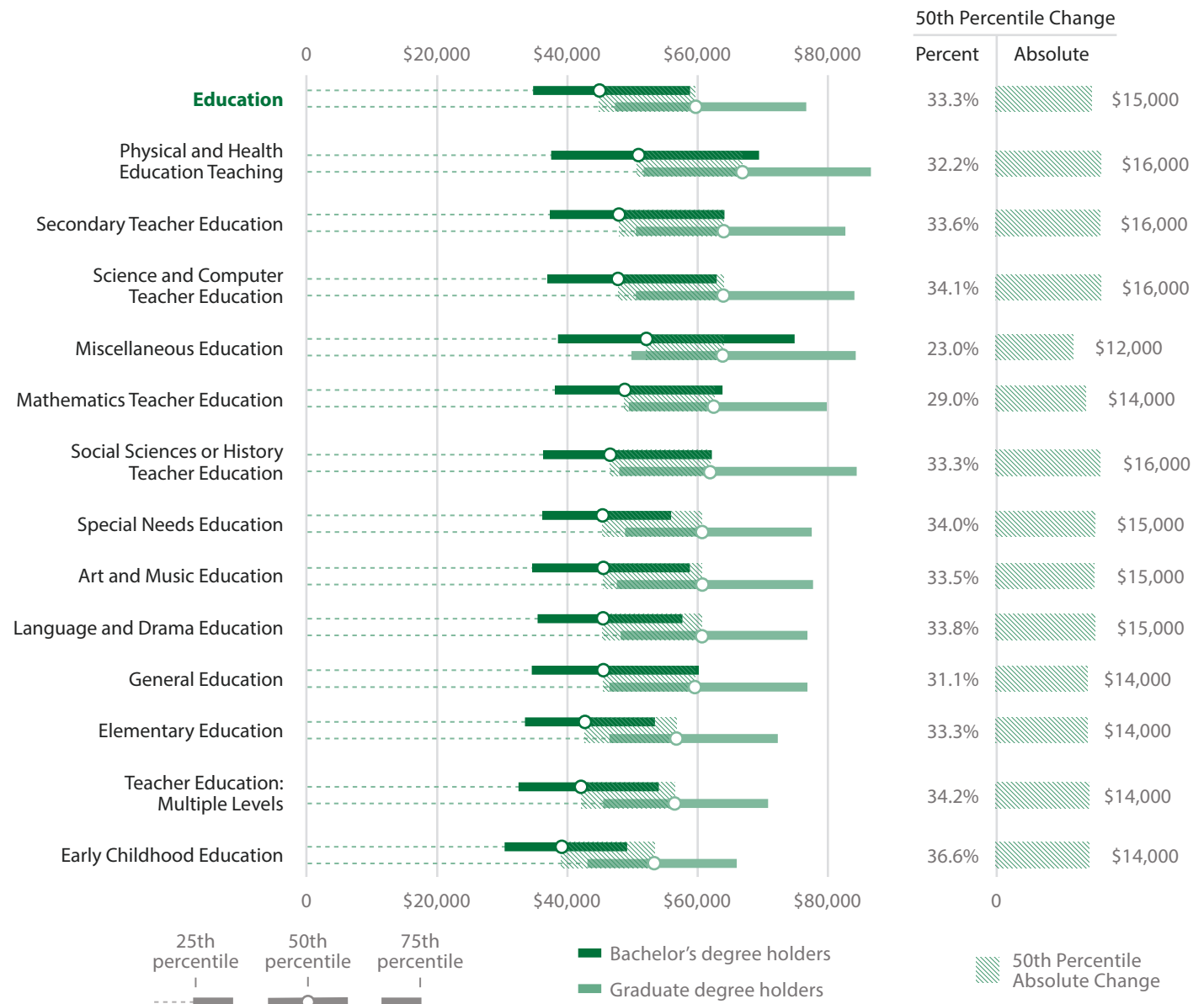


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

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

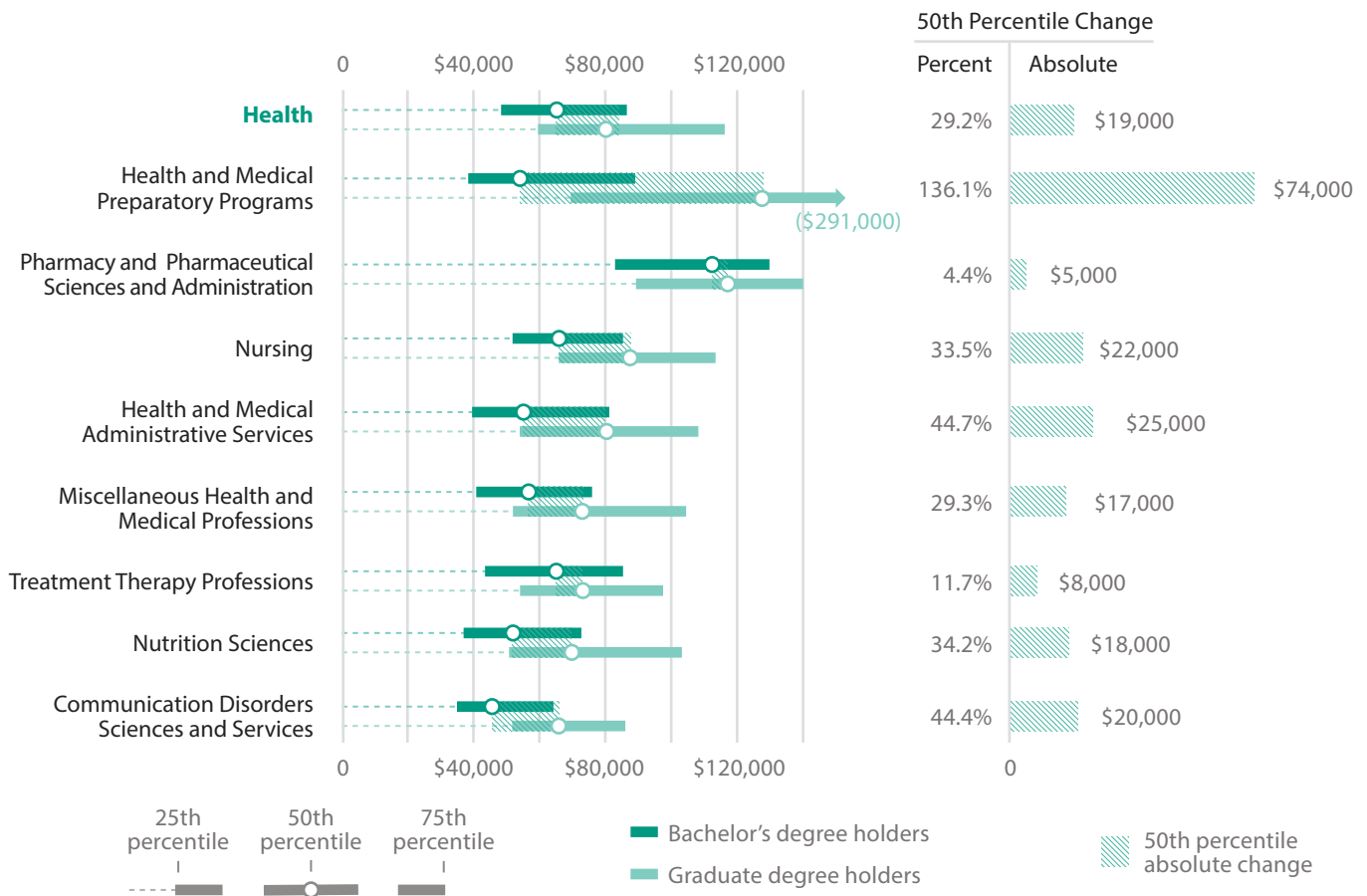


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.



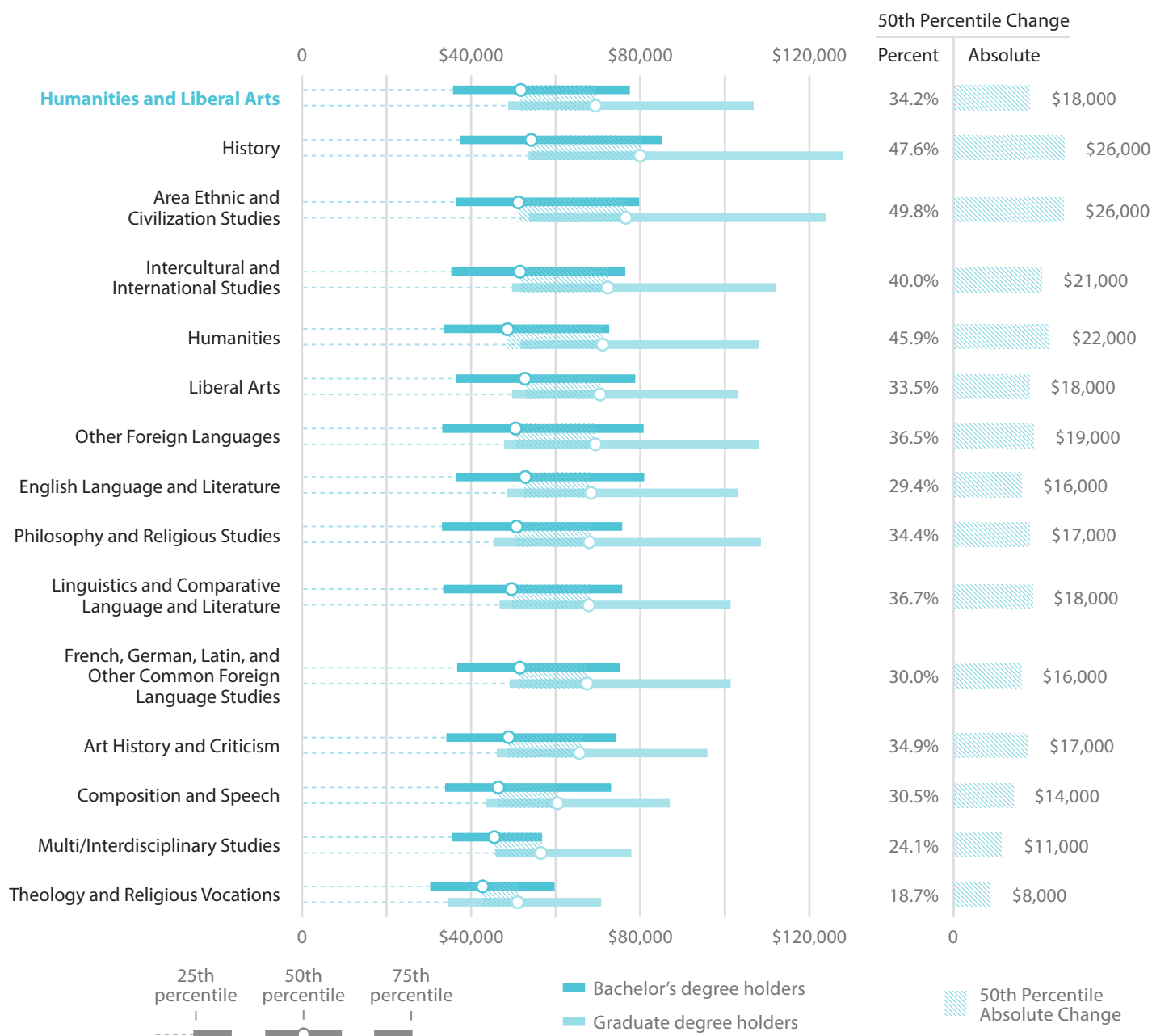
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

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



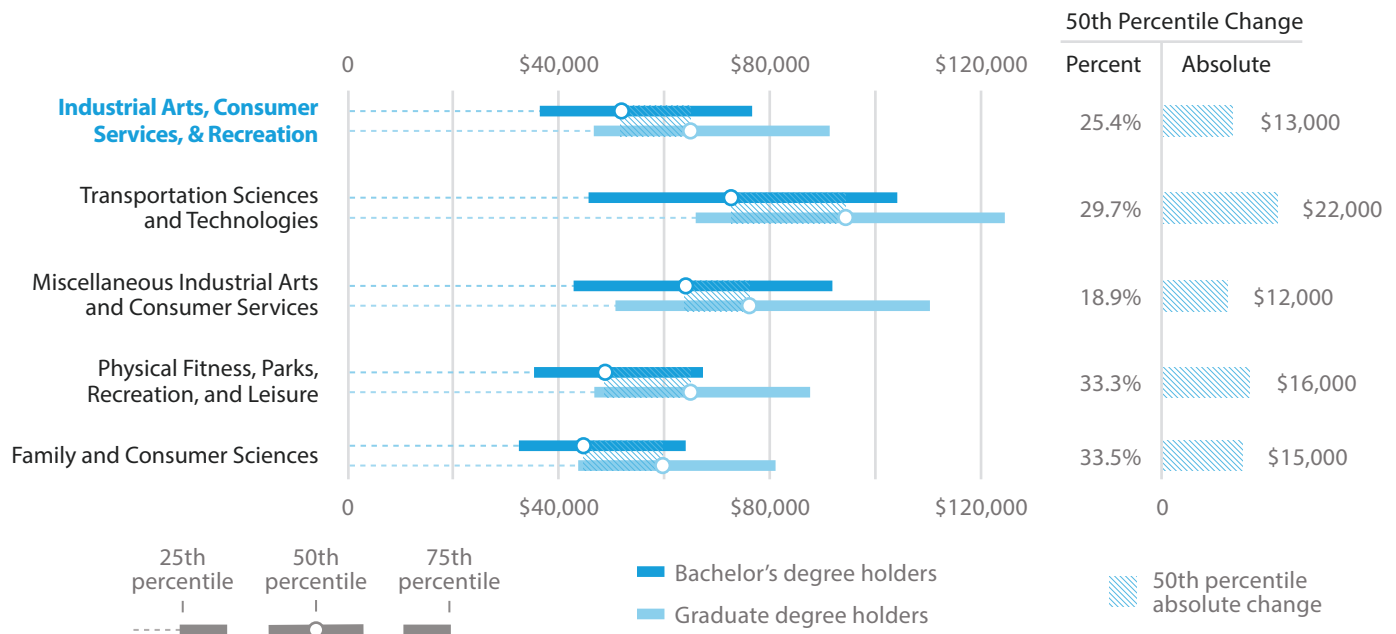
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

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



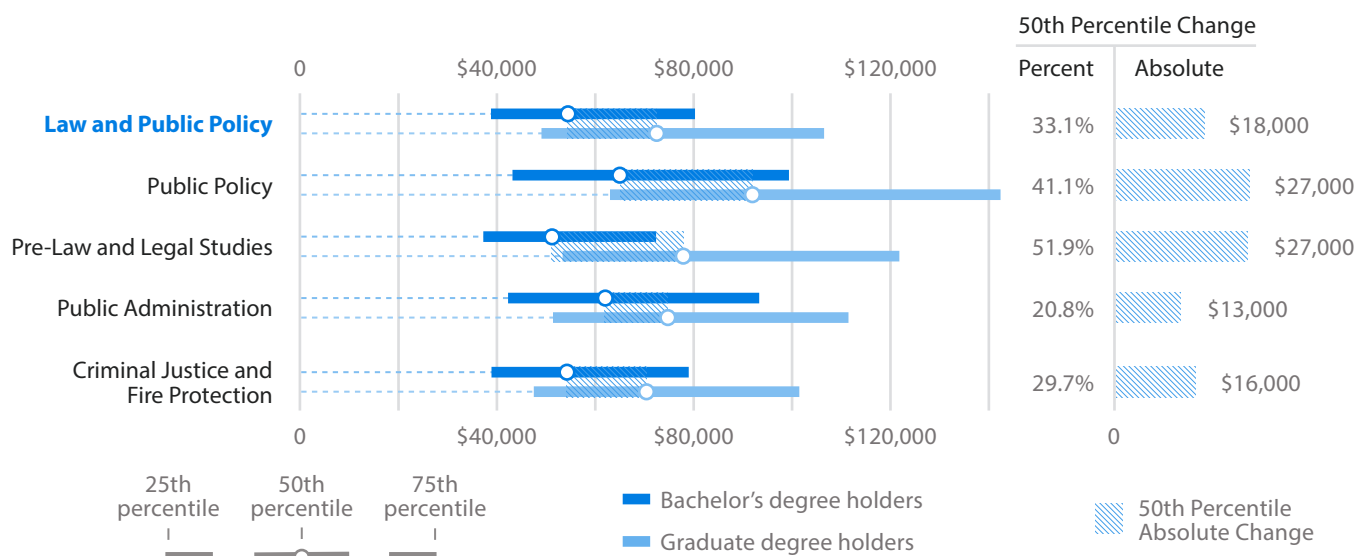
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

The Graduate Advantage | Industrial Arts, Consumer Services & Recreation
Mid-career earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



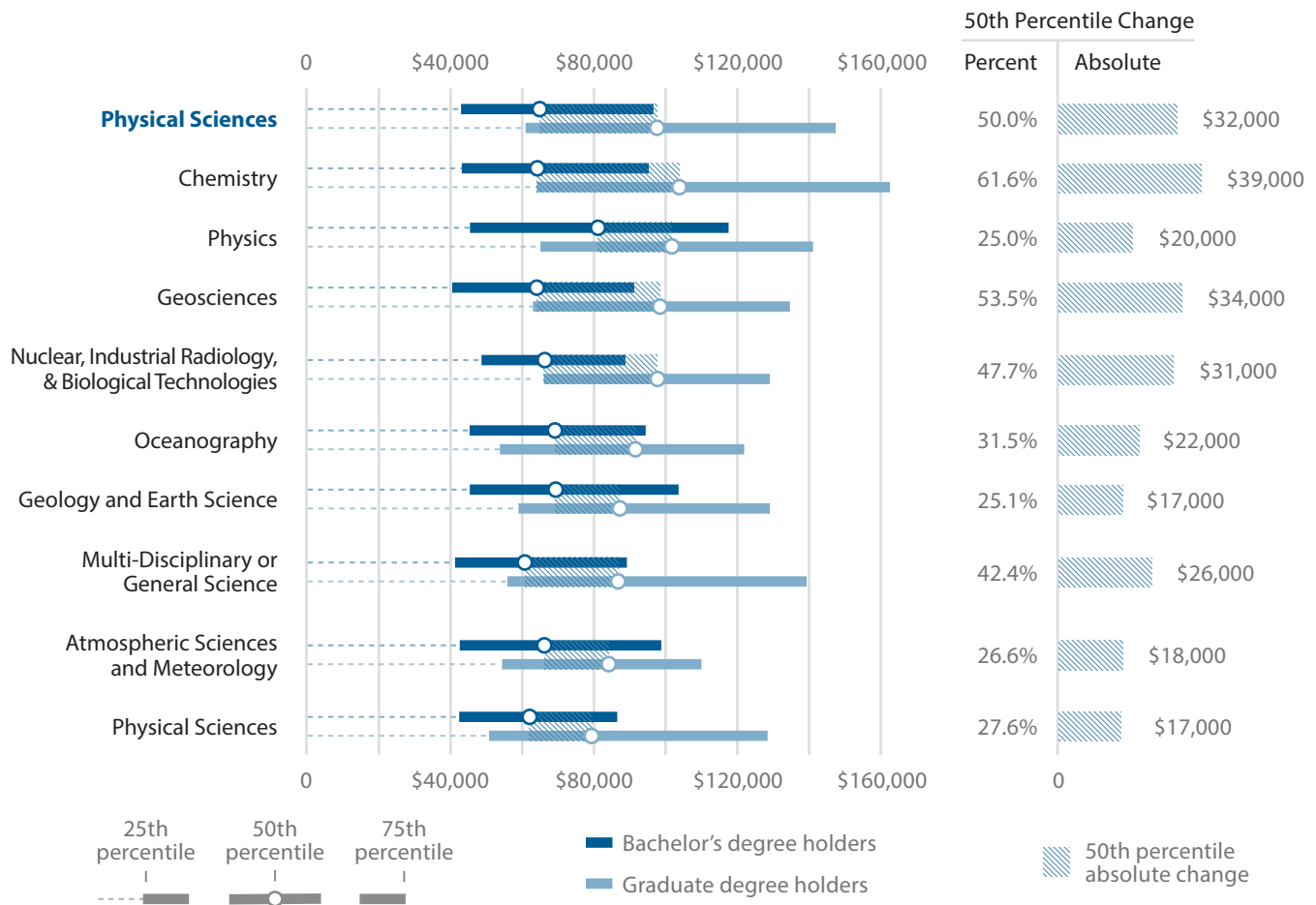
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

Law and Public Policy | The Graduate Advantage
Mid-career earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



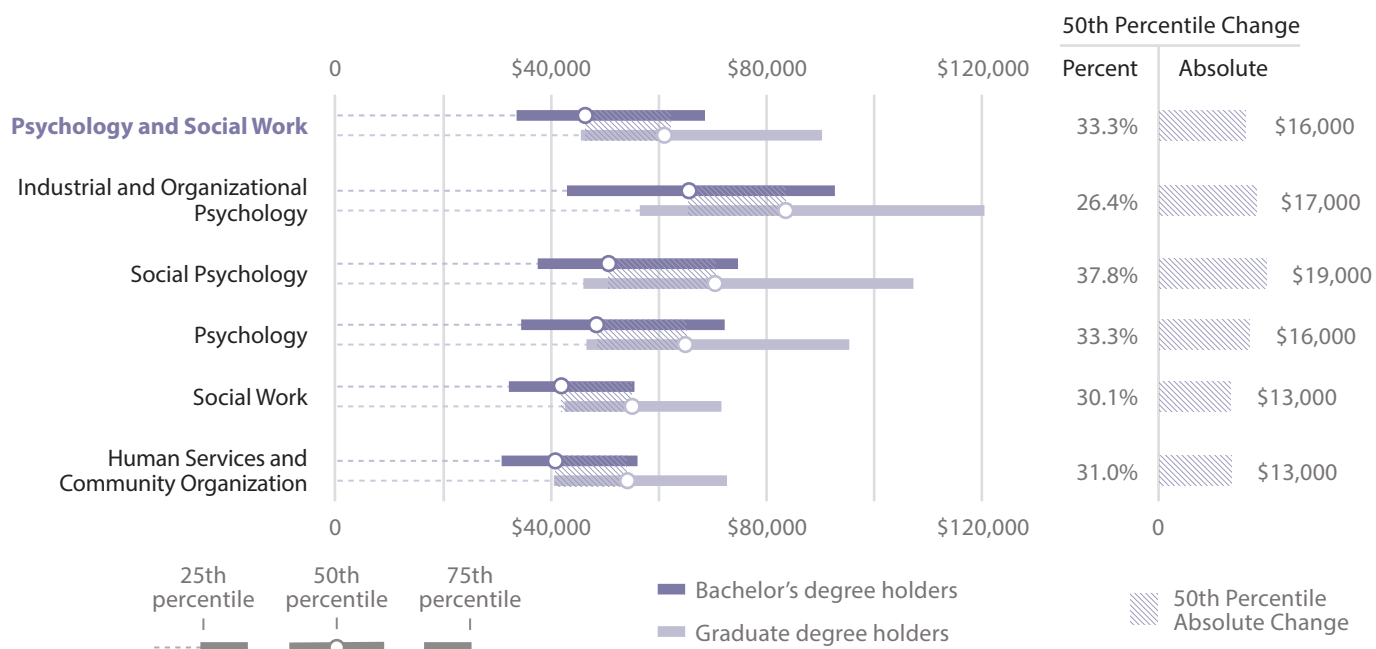
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

The Graduate Advantage | Physical Sciences
Mid-career earnings at the 25th, 50th and 75th percentiles by Bachelor's degree major



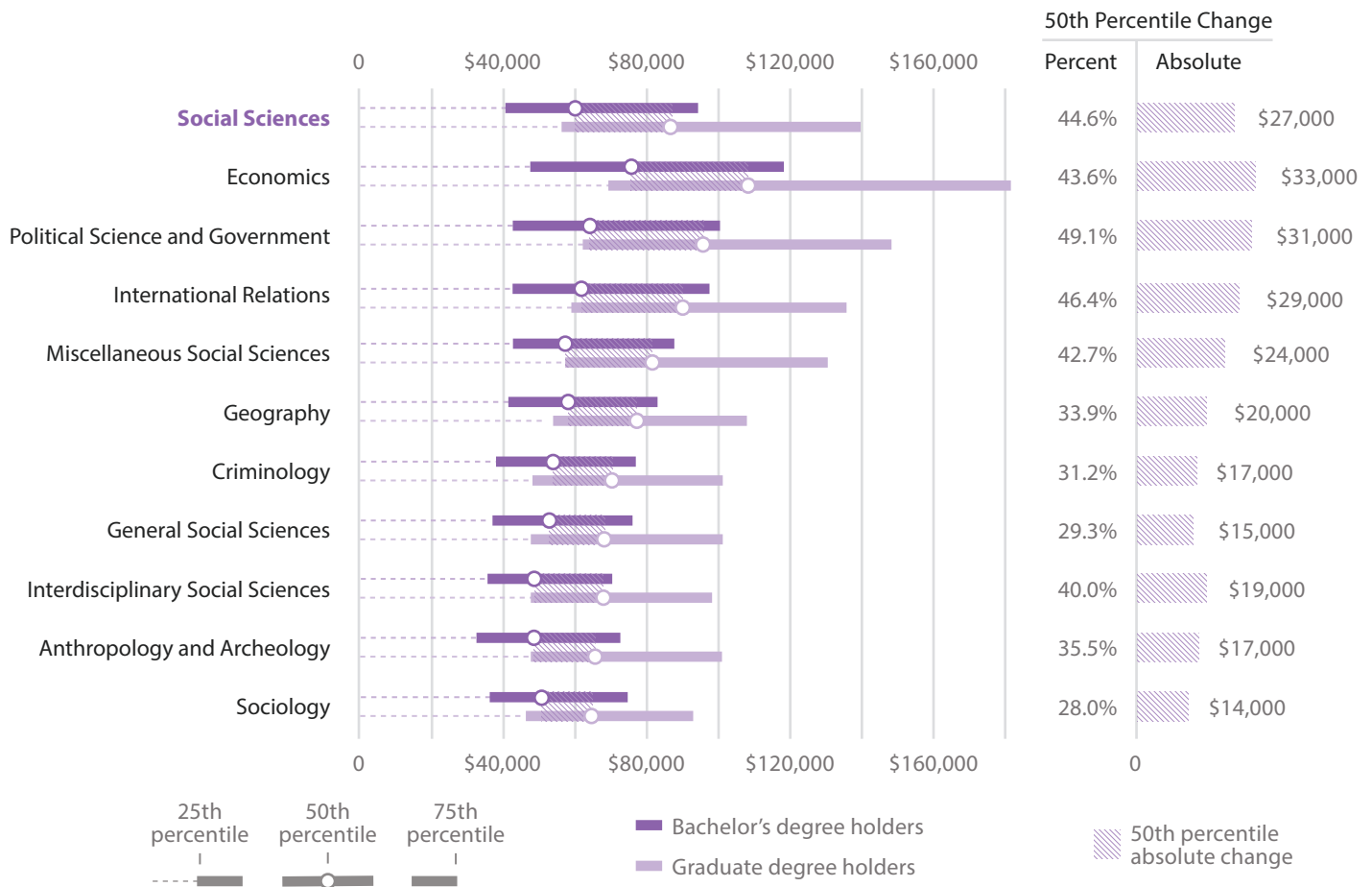
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

Psychology and Social Work | The Graduate Advantage
Mid-career 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
Mid-career 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

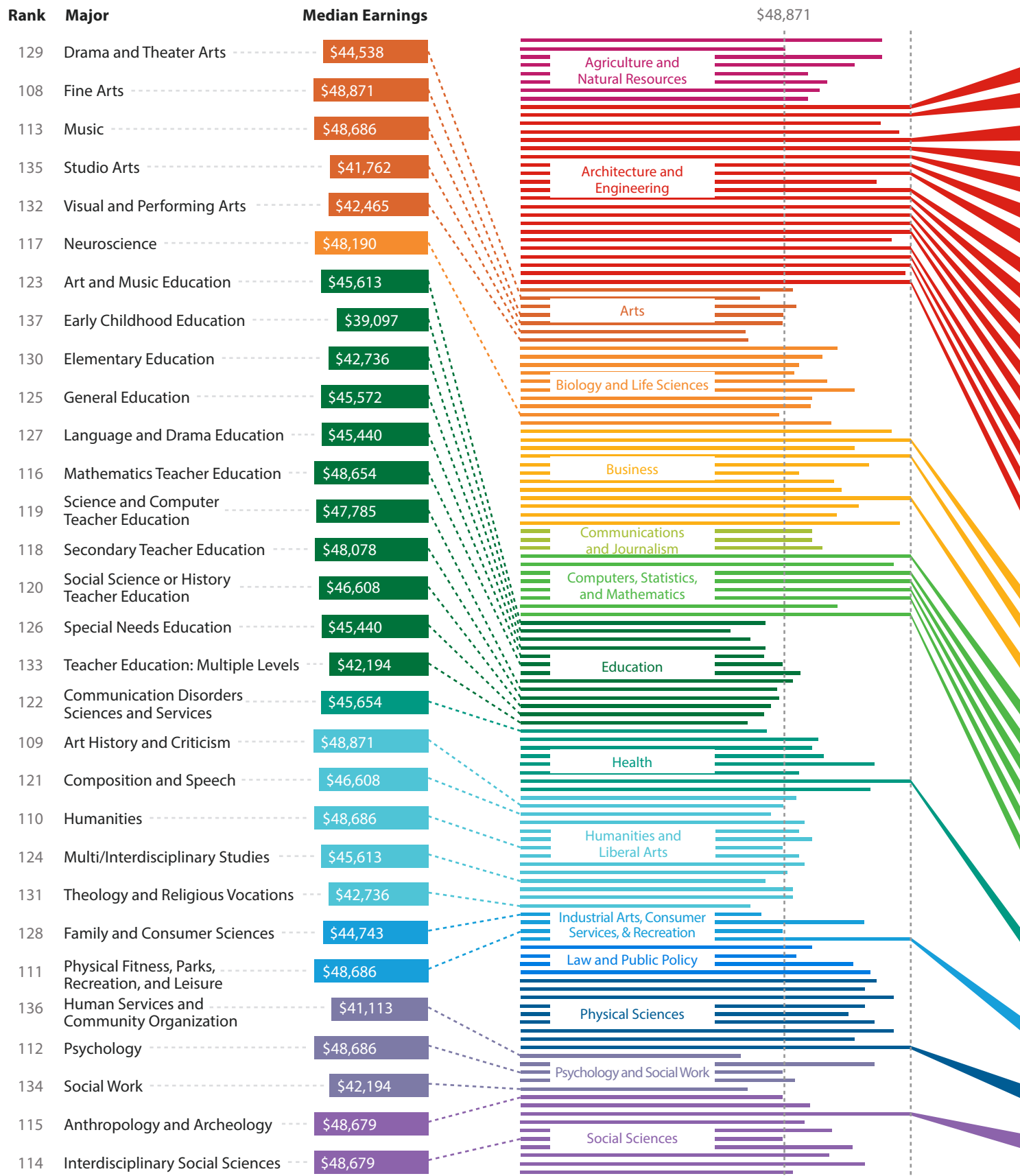
All Majors by Group
Ranked by Earnings and Popularity

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

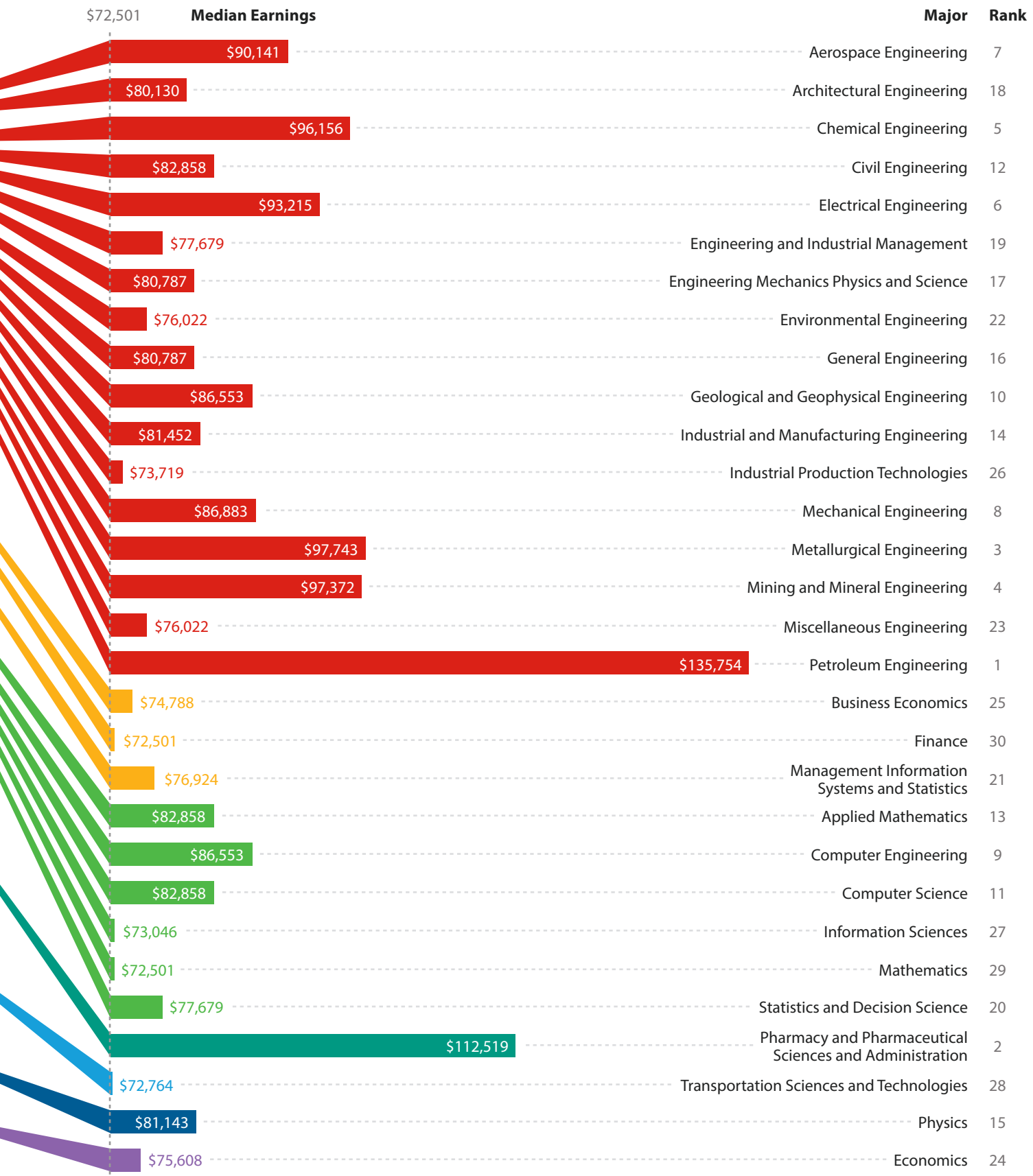
Bachelor's Degree Ranking		Graduate Degree Ranking	
By earnings	By popularity	By earnings	By popularity
Industrial Arts, Consumer Services, and Recreation			
128	29	Family and Consumer Sciences	128 47
53	52	Miscellaneous Industrial Arts and Consumer Services	74 110
111	28	Physical Fitness, Parks, Recreation, 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



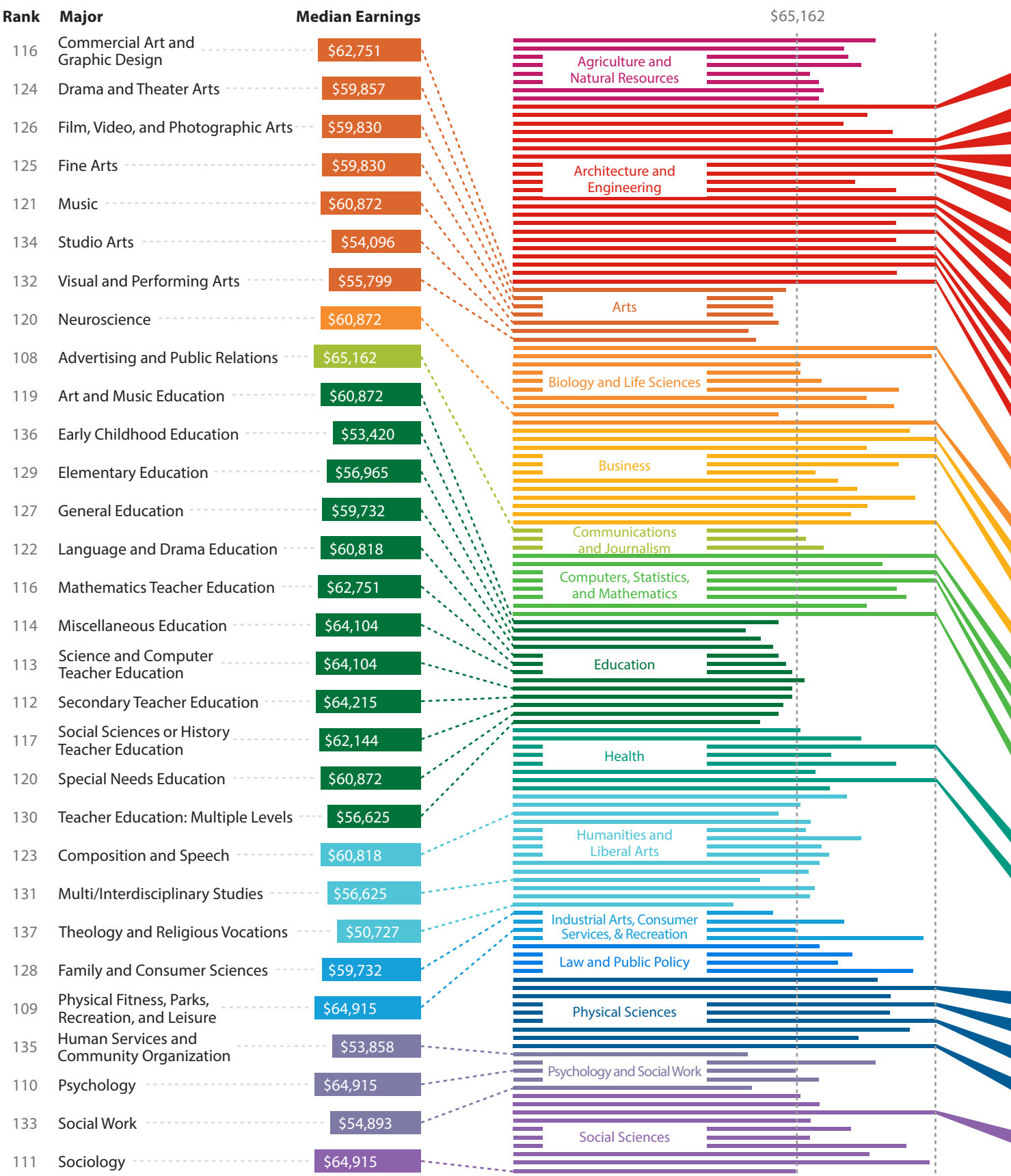
Lowest- and Highest-Earning Majors
Bachelor's Degree Holders



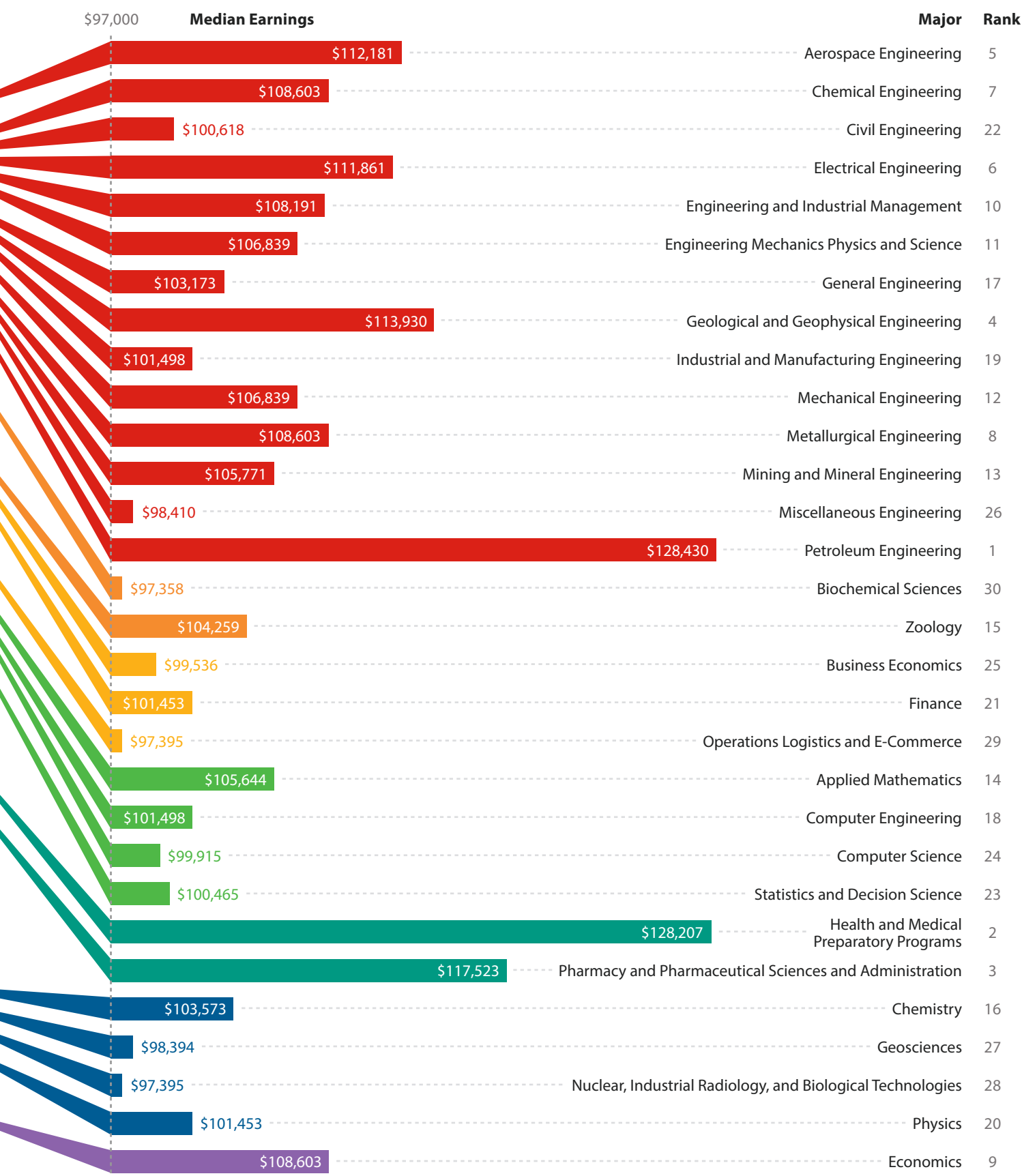
Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

LOWEST- AND HIGHEST-EARNING MAJORS

GRADUATE DEGREE HOLDERS



Lowest- and Highest-Earning Majors
Graduate Degree Holders

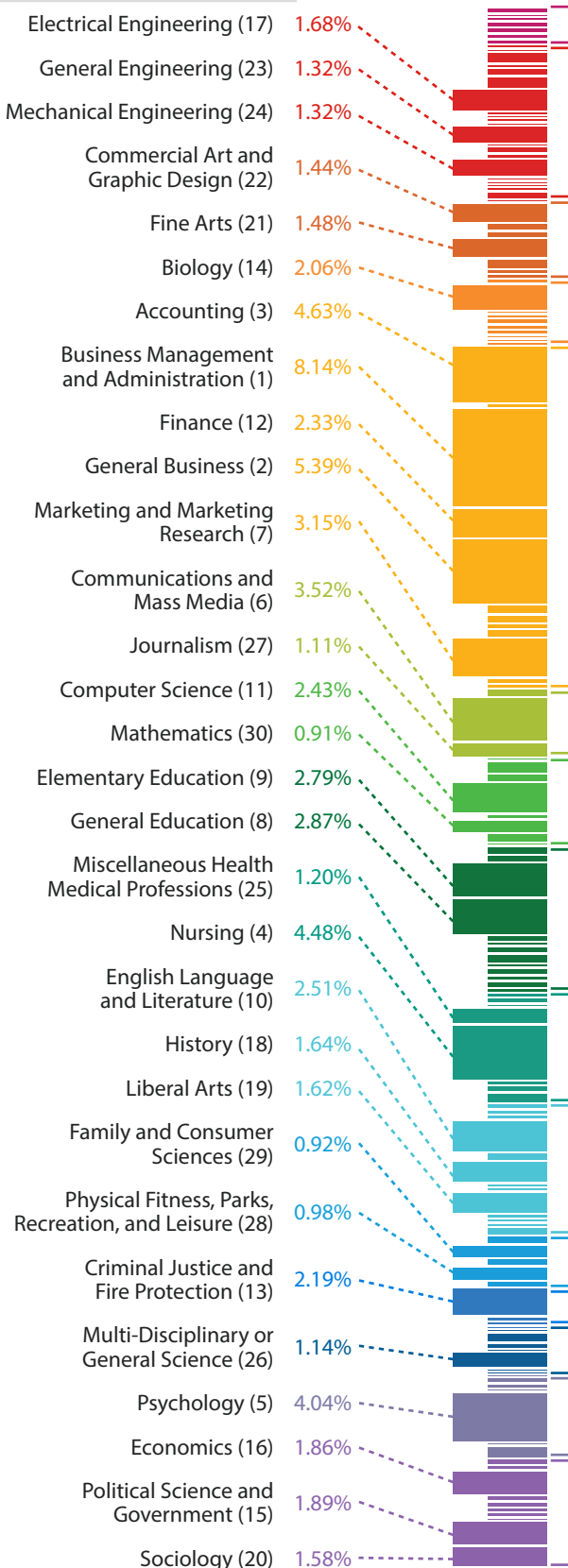


Source: Georgetown University Center on Education and the Workforce analysis of U.S. Census Bureau, *American Community Survey* micro data, 2009-2013 pooled sample.

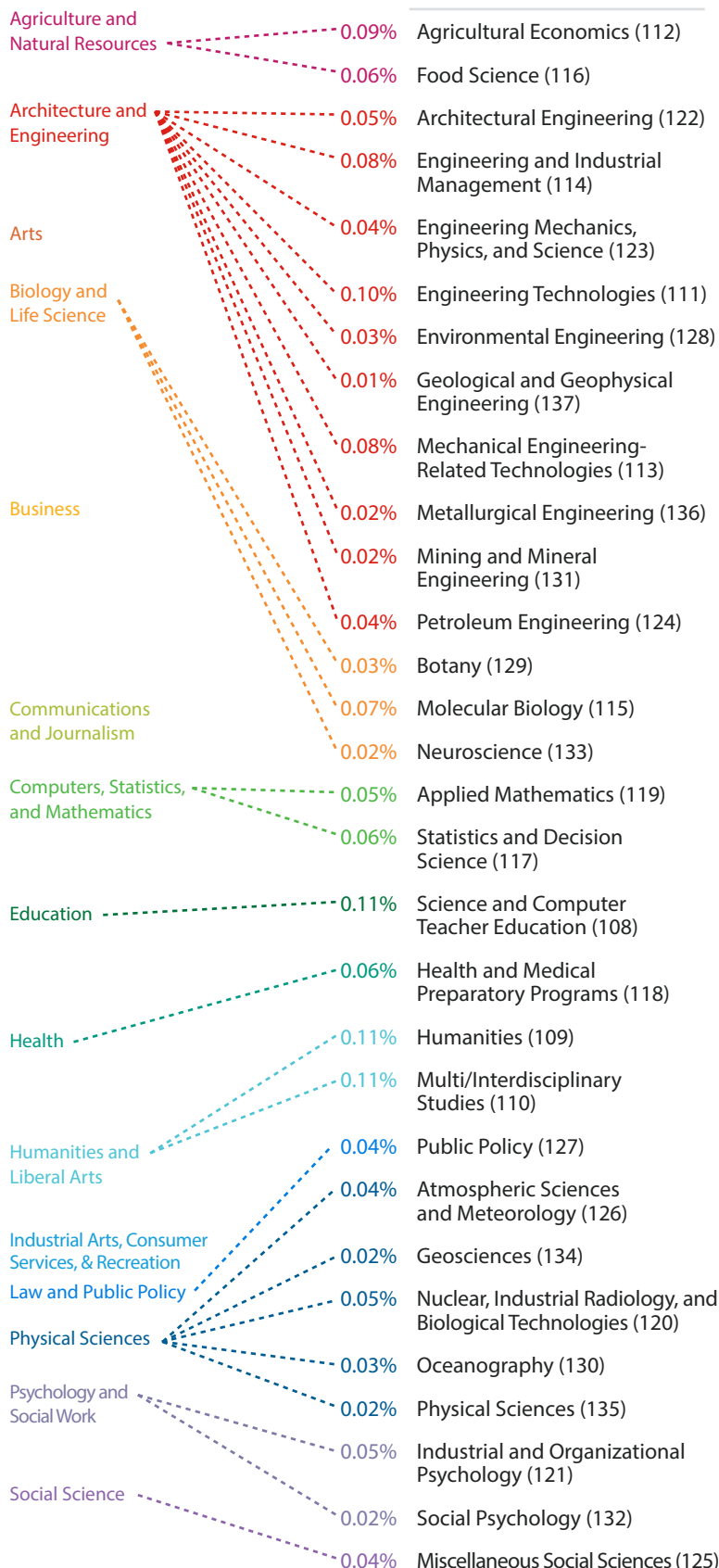
MAJORS RANKED BY POPULARITY

BACHELOR'S DEGREE HOLDERS

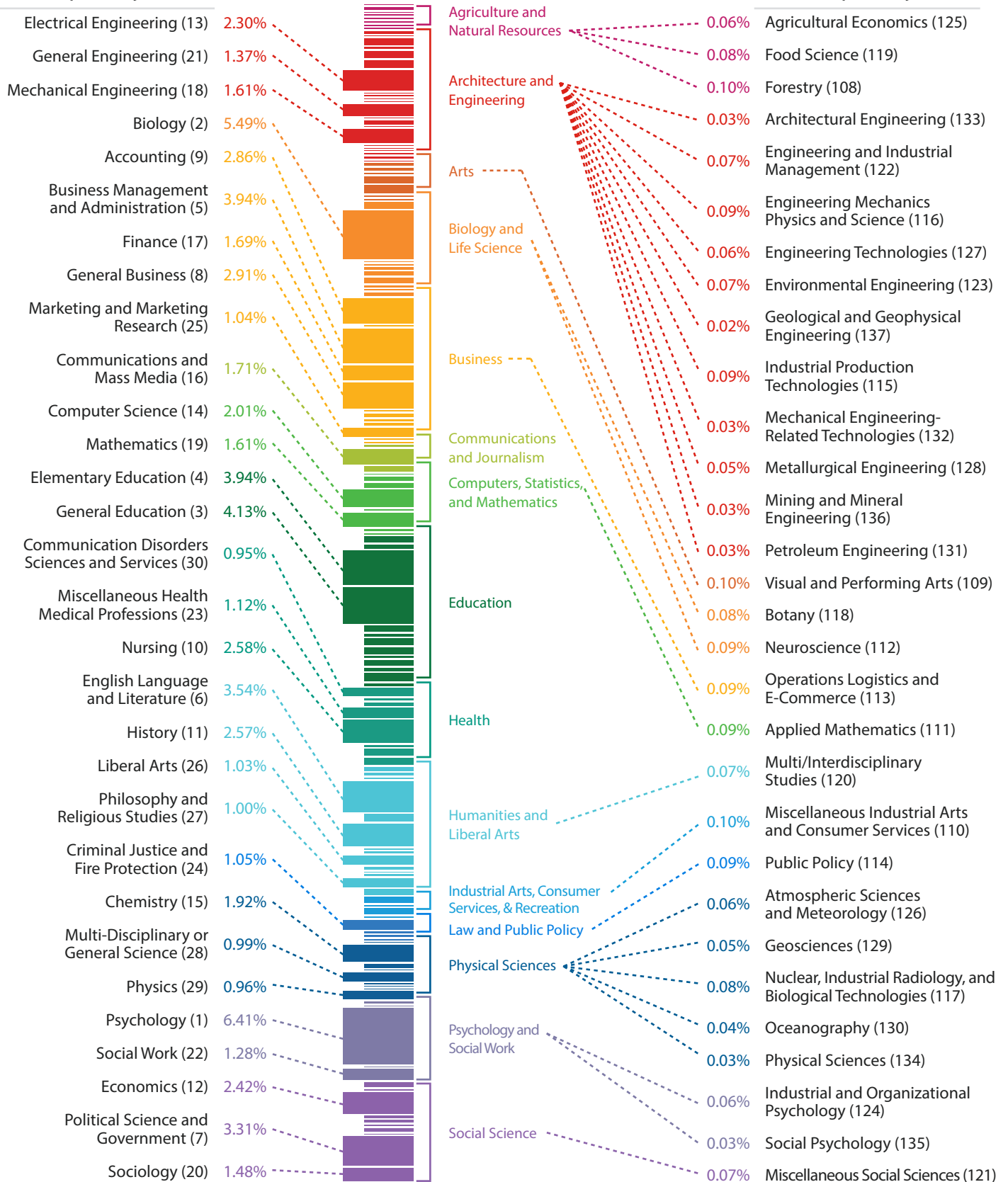
30 Most Popular Majors (Rank)



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

HELP READING OUR CHARTS

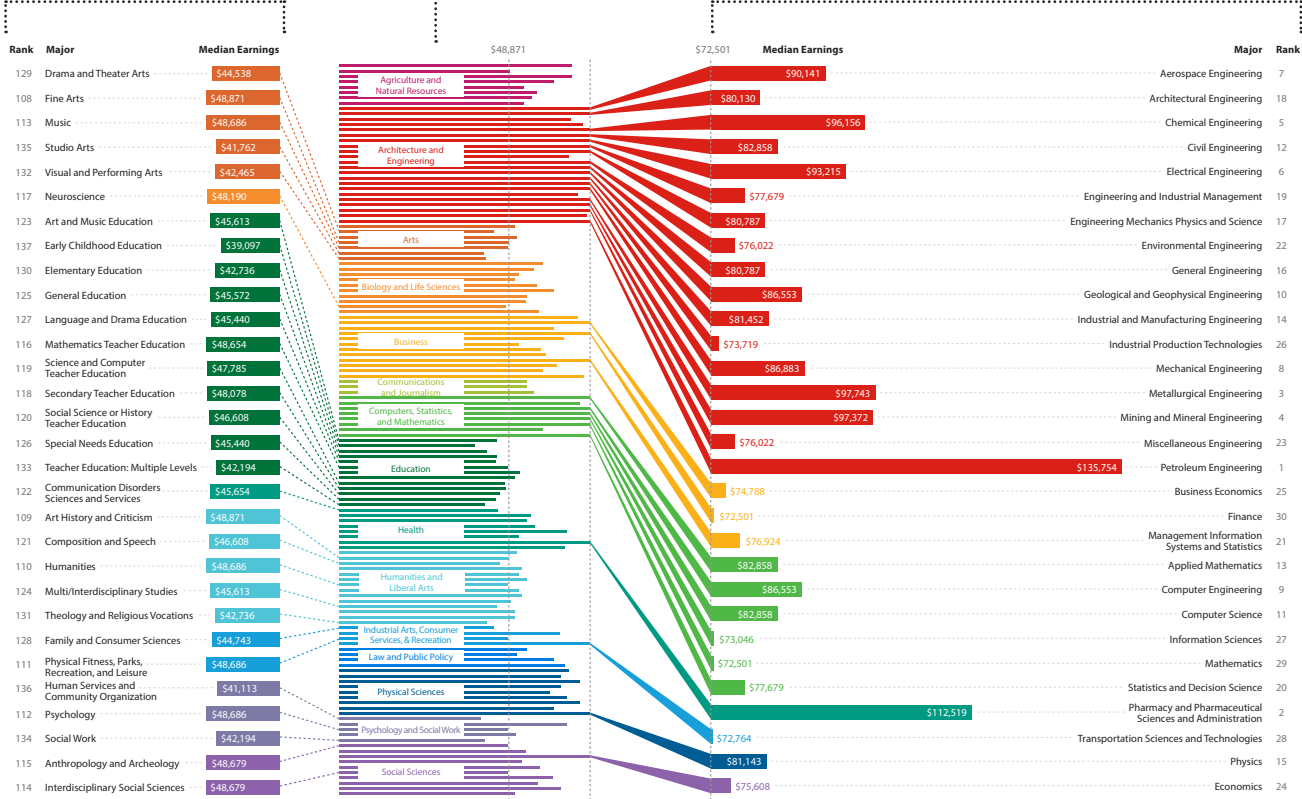
LOWEST- AND HIGHEST-EARNING MAJORS

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

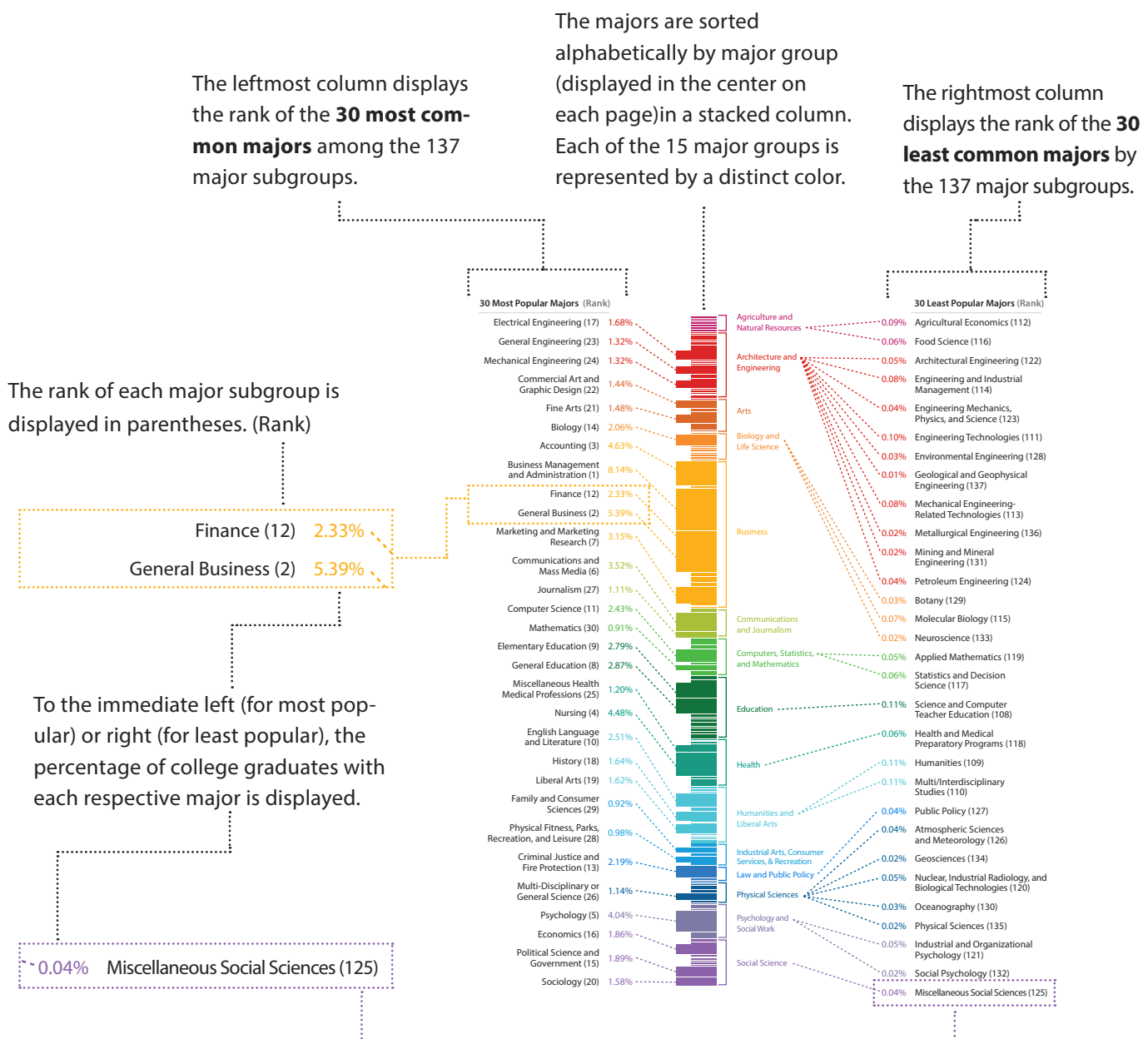
The leftmost column displays the rank of the **30 lowest paying majors** among the 137 major subgroups. To the right of that column is the median annual wages (2013\$) of that major subgroup.

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



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on Education
and the Workforce

McCourt School of Public Policy

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