

American Statistical Association 2020 Work and Salary Survey

This report presents findings of the American Statistical Association's 2020 Work and Salary survey, conducted July 20-Aug. 10, 2020. Following an announcement from ASA Executive Director Ron Wasserstein, the survey invitation was sent July 20 to 11,514 ASA members, with reminder emails sent July 27, Aug. 3 and Aug. 6. Invitations were not extended to student or developing country members. Surveys were completed by 2,727 members, of whom 287 were ineligible due to being full-time students, retired or unemployed/furloughed in 2019. Results are reported among the 2,438 eligible respondents who were employed in 2019.

The data were not weighted. Participation by gender, race/ethnicity, academic degree, employment sector and membership type were largely reflective of the full population. See Appendix A for comparisons of the characteristics of responding vs. invited members.

Employment status and sector

Ninety-three percent of responding members held a full-time position in 2019. This includes 78 percent who held that one full-time job, and 15 percent who held a full-time position while also doing part-time and/or freelance/consulting work. Of the rest, three percent held multiple part-time positions; an additional 3 percent held one part-time position.

Fifty-three percent worked in academia or education. A quarter (24 percent) worked in business/industry, 11 percent in government, 7 percent in the nonprofit sector and 5 percent as independent/consulting workers. While the study was open to part-time students also working for pay, no participating ASA members met those criteria.

Among the 47 percent of participating ASA members employed outside academia/education, a majority reported working for a for-profit business, 51 percent, followed by 19 percent in the federal government and 16 percent for nonprofits. Fewer were self-employed/private consultants (8 percent) or employed in other fields. Unlike the vast majority of other respondents, two-thirds of self-employed consultants reported having more than one job.

Few, 9 percent, were members of a union or an employee association in 2019. That includes 18 percent of those working in federal, state or local government and 13 percent in academia, with single-digit shares in other industries.

Members in academia

Ninety-six percent of those working in the academia/education sector were employed in academia, while 4 percent held other education-related positions. Three-quarters of those in academia (76 percent) worked at a doctoral university (Research 1), 11 percent at another research university, 9 percent at a liberal arts college, 1 percent at an associates or community college and 3 percent something else.

Departmental breakdowns of those in academia were 29 percent in biostatistics, 21 percent in statistics and 16 percent in mathematical sciences. One percent were in non-departmental administration. A third identified another type of department, listed in Appendix E (attached).

Thirty-six percent were professors, 19 percent associate professors and 24 percent assistant professors. Three percent were postdocs, 2 percent were instructors and 2 percent identified themselves as lecturers. One percent apiece were visiting professors and adjuncts. An additional 13 percent reported some other job title (see Appendix E).

More men than women were full professors, 43 vs. 25 percent, though rates at the associate and assistant levels were more comparable.

Forty-five percent of those in academia were tenured in 2019, with another two in 10 on the tenure track. Thirty-five percent held non-tenure track positions. Fifty-five percent of men were fully tenured, compared with 32 percent of women.

Salaries

Surveyed members were asked to provide both their base salary from their primary employer and, if applicable, total employment income, including bonuses or salary from any additional jobs. Summary statistics for income and salary exclude respondents who provided a salary range rather than their specific salary ($n=26$) or did not provide any salary data ($n=7$).

Among all members who participated, the median reported base salary for 2019 was \$125,000, ranging from \$96,000 among those with five or fewer years of experience to \$166,500 among those with more than 25 years. Including other sources of income, median total employment income was \$132,462, with a range of \$100,000 to \$175,000 by experience level. (See Appendix B for tables among full-time employees by selected groups.)

Employees at for-profit businesses had the highest median base salaries, \$155,000. Federal employees reported a median base salary of \$130,000; nonprofits, \$120,000; and academia, \$113,500. (Self-employed consultants had the lowest median base salary, \$103,000, however, 63 percent of them reported working multiple part-time jobs, and this measure reflects only the base salary from what they considered their primary job.)

Total employment income from all sources likewise was highest among those working in for-profit businesses, with a median of \$173,200, followed by the federal government, \$133,500; nonprofit organizations, \$125,000; and academia and self-employed consultants, both \$120,000.

Median total employment income		
	Base pay	Total income
All	\$125,000	\$132,462
Business/industry	\$155,000	\$173,200
Federal government	\$130,000	\$133,500
Nonprofit	\$120,000	\$125,000
Academia	\$113,500	\$120,000
Consultant/self-employed	\$103,000	\$120,000

Women tend to make less, both in base salary and total employment income, with gaps growing wider through mid-career. While the difference in base pay narrows or reverses among those with the most work experience, women are outnumbered by men at that level by more than 2-1. However, in a regression, when controlling for characteristics such as educational attainment, years of experience, race, sector and whether or not one is in a management position, gender is not a significant independent predictor of total employment income. (See Appendix C).

Median total employment incomes are \$133,100 for whites, \$135,200 for Asians and \$121,000 for members of other racial and ethnic backgrounds. These results are influenced by the fact that minorities as a group have less experience in the field. When evaluated by experience level, Asians report the highest incomes in each category (save entry-level), and the difference between whites and others narrows considerably or reverses. Being Asian is a significant predictor of higher incomes when experience is taken into account, controlling for characteristics such as educational achievement (which is higher for Asians). (See Appendix C.)

Additional pay

Additional pay from a primary employer on top of a base salary, such as a performance bonus or compensation for extra work, varied by industry. Sixty-nine percent of respondents in academia and 74 percent of those at nonprofits did not receive any additional pay in 2019. By contrast, 77 percent of those working for a for-profit business did receive additional pay, primarily performance bonuses, as did 52 percent of federal workers. Additional pay is included in total employment income figures.

Managerial duties

Just fewer than half, 45 percent, held supervisory or managerial responsibilities in 2019. Rates were similar by race and gender, and were higher among members with PhDs than among those with a master's degree, 48 vs. 37 percent.

Supervisory responsibilities were more common among respondents with more professional experience, including 59 percent of those with 16 to 25 years of experience and 52 percent of those with 26 or more years, vs. 43 percent of those with 6 to 15 years of experience and 23 percent of those with five years of experience or fewer.

Reflecting their longer tenure, those with these roles also reported higher salaries, with median total employment income of \$160,000, compared with \$119,100 among those without them.

COVID-19 impacts and salary expectations

Seven in 10 members in the survey say the COVID-19 pandemic has been disruptive to their work, including 22 percent who say it's been “very disruptive.” A similar share, 20 percent, have had their personal income reduced as a result of the outbreak, and 23 percent of employed members are concerned they may either lose their job or be furloughed without pay because of the pandemic.

Members employed in academia have been particularly affected, with 79 percent saying it's been at least somewhat disruptive to their work, compared with about six in 10 of those working in federal government or nonprofit sectors, 55 percent in business/industry and 44 percent who are self-employed/independent consultants. Just 7 percent overall say the outbreak has been “not at all disruptive” to their work.

% saying the coronavirus outbreak has been very or somewhat disruptive to their work	
All	68%
Academia	79
Federal government	62
Nonprofit	60
Business/industry	55
Consultant/self-employed	44

While disruptions abound, just 2 percent of members employed in 2019 currently are either not employed by choice (1 percent) or have lost their job or been furloughed without pay (1 percent). Among them (note, $n=49$), 35 percent were previously employed in academia or education, 33 percent in business/industry. Fewer, 14 percent, were employed in government and 8 percent in independent/consulting and nonprofit sectors alike.

Two in 10 members have had their personal income reduced as a result of the pandemic, as previously noted. That includes 10 percent who say it's been reduced a little, 8 percent somewhat and 2 percent “a great deal.”

In terms of expectations, despite the pandemic, more ASA members think their personal employment income from all sources this year will be higher than their 2019 income, 31 vs. 16 percent. Fifty-three percent expect their income to stay about the same.

Similarly, when asked about their total household employment income – including that of other members of their immediate household – 27 percent expect a higher income vs. 19 percent lower. A plurality, 43 percent, anticipates no change.

Work satisfaction

More than half the members surveyed (55 percent) say they were very satisfied with their primary job in 2019. An additional 36 percent were somewhat satisfied; 7 percent, not so satisfied; and 1 percent, not at all satisfied.

Being very satisfied reaches 78 percent among those who are self-employed or independent consultants, 19 to 24 percentage points higher than in any other sector. It's also higher among those with the most professional experience, peaking at 64 percent among those who've been working for 26 or more years, and higher among white respondents, 58 percent, compared with 49 percent among racial and ethnic minorities.

% very satisfied with their primary job	
All	55%
Consultant/self-employed	78
Nonprofit	58
Federal government	59
Academia	54
Business/industry	54

In terms of individual factors in their primary jobs, strong satisfaction is highest in terms of work flexibility and job security. More than half also were very satisfied with having interesting work that they enjoy, benefits (such as leave, health insurance and retirement benefits), work that makes a positive contribution, opportunity to exercise job-related expertise and judgment, and their working relationships.

	Very satisfied
Work flexibility	68%
Job security	65
Interesting work that I enjoy	57
Benefits	56
Work that makes a positive contribution	55
Opportunity to exercise job-related expertise and judgment	53
Working relationship with coworkers and supervisors	51
Opportunity for work-life balance	47
Pay	41
Learning and development opportunities	37
Opportunity for advancement	31
Your level of job stress	26

Satisfaction is lowest in terms of job stress. Essentially as many are not so or not at all satisfied (27 percent) as very satisfied (26 percent). The plurality, 46 percent were somewhat satisfied with the level of job stress at their primary position in 2019.

Relevant to the role ASA can play in members’ careers, satisfaction with learning and development opportunities (e.g., training, continuing professional education) also is comparatively low; 37 percent are very satisfied.

There also is room for improvement in satisfaction with career mentoring and skills development opportunities available through the workplace for those in their early career. Those early in their careers and veterans alike express less than top-level satisfaction with these opportunities. Just 26 percent of those who have worked for five years or fewer say they’re very satisfied, as do 28 percent of those with more experience, when looking back on their early careers. A quarter of those in their early careers and three in 10 of those looking back report being not so or not at all satisfied. That leaves half and four in 10, respectively, as somewhat satisfied.

Importance of work attributes

As well as their satisfaction with aspects of their work, members were asked about the importance they place on these factors. Several factors are highly important – most acutely, interesting work that they enjoy, followed by work that makes a positive contribution. Next are the opportunity for work-life balance, opportunity to exercise job-related expertise and judgment, working relationships with coworkers and supervisors, benefits, work flexibility and job security.

	Very important
Interesting work that I enjoy	83%
Work that makes a positive contribution	73
Opportunity for work-life balance	66
Opportunity to exercise job-related expertise and judgment	64
Working relationships with coworkers and supervisors	61
Benefits	58
Work flexibility	58
Job security	57
Your level of job stress	46
Learning and development opportunities	43
Pay	38
Opportunity for advancement	36

Fewer rate levels of job stress, learning and development opportunities, pay or opportunity for advancement as very important. Still, the first three of these are seen as at least somewhat important by 86 percent or more. Opportunity for advancement is very or somewhat important to 76 percent, reduced to some extent by the share of members later in their careers.

Some of these views vary by gender. Seventy-four percent of women rate work-life balance as very important, compared with 62 percent of men, a result that holds across most experience

levels. It's similar for work flexibility, though the widest gender gap, 17 points, is among mid-career women and men (those who have been working for 16 to 25 years). There's also a gender gap in the importance of working relationships with coworkers and supervisors, sharper in this case among those with less experience, rather than more.

Statistics or data science?

Eighty-two percent of members surveyed were employed primarily in the statistics or data science field in 2019. Seventeen percent were employed in some other field, listed in Appendix E. From these responses, it was determined that 5 percent worked in biostatistics.

Seventy-four percent of those in statistics or data science prefer to be known professionally as a statistician, compared with 7 percent who prefer to be known as a data scientist. It makes no difference to 14 percent, and 5 percent prefer to be known as some other title (see Appendix E).

A vast majority, 92 percent, say that if asked for career advice they would encourage a young person to take up statistics or data science as a profession. Just 7 percent would neither encourage nor discourage this and fewer than half a percent would discourage it.

Appendix A: Demographic Comparison of Study Participants and Invited Members

	Study Participants	Membership Invited to Participate	Difference
Sex			
Male	59.7%	66.1%	-6.4 pts
Female	40.3	33.9	6.4
Race/ethnicity			
White alone	75.2	64.8	10.4
Black/African American alone	1.8	2.4	-0.6
American Indian/Alaska Native alone	0.0	0.1	-0.1
Asian alone	16.0	26.8	-10.8
Hispanic/Latino/Latina	2.7	3.5	-0.8
Other race alone	0.4	0.9	-0.5
Multiple races	3.9	1.4	2.5
Academic degree			
Associate degree	0.0	0.0	0.0
Bachelor's	1.3	1.8	-0.5
Master's	22.8	21.9	0.9
Doctoral	75.8	75.8	0.0
Other	0.2	0.4	-0.2
Employment sector (if employed)			
Academic	54.4	50.6	3.8
Business/industry	27.1	31.3	-4.2
Government	11.1	9.6	1.5
Consultant/self-employed	3.7	4.7	-1.0
Other	3.7	3.9	-0.2
Membership type			
Regular	71.9	67.5	4.4
Senior	3.9	12.8	-8.9
Postgraduate	18.0	12.6	5.4
Family	0.7	0.9	-0.2
Life	5.2	5.9	-0.7
Institutional representative/faculty	0.3	0.3	0.0
Corporate	0.1	0.1	0.0

For purposes of this comparison, missing data were percentaged out of each base.

Appendix B: Salary Tables

Groups with fewer than 10 responding members are not presented.

Academic Salaries

Statistics department academic positions, full-time, by rank

Rank	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	123	\$137,000	\$175,000	\$225,000	\$316,000
Associate Professor	47	\$98,900	\$120,000	\$148,000	\$197,600
Assistant Professor	47	\$94,807	\$104,000	\$120,000	\$137,680
Instructor or Lecturer	15	\$75,900	\$95,500	\$121,000	\$213,000
All Ranks	252	\$102,000	\$131,500	\$186,500	\$251,940

Statistics department academic positions, full-time, by rank and gender identity

Rank	Gender ID	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	Woman	24	\$138,778	\$200,000	\$237,500	\$320,000
	Man	95	\$136,500	\$172,948	\$220,000	\$321,600
Associate Professor	Woman	26	\$96,220	\$117,048	\$126,035	\$202,900
	Man	19	\$104,000	\$138,000	\$188,000	\$200,000
Assistant Professor	Woman	16	\$92,655	\$102,500	\$118,750	\$125,130
	Man	30	\$96,362	\$104,500	\$125,161	\$156,650

Statistics department academic positions, full-time, by rank and race

Rank	Race	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	White	84	\$146,554	\$186,236	\$237,250	\$335,000
	Racial/ethnic minority	38	\$122,250	\$160,000	\$192,500	\$255,000
Associate Professor	White	32	\$97,875	\$120,000	\$144,000	\$195,500
	Racial/ethnic minority	14	\$99,156	\$124,570	\$160,000	\$985,000
Assistant Professor	White	32	\$94,250	\$109,632	\$123,411	\$152,950
	Racial/ethnic minority	14	\$91,394	\$99,500	\$105,150	\$125,550

*One minority associate professor reported an income of \$1,700,000.

Biostatistics department academic positions, full-time, by rank

Rank	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	120	\$190,150	\$219,000	\$264,750	\$324,700
Associate Professor	73	\$134,000	\$151,000	\$165,000	\$191,200

Assistant Professor	83	\$109,000	\$117,000	\$126,812	\$136,200
All Ranks	336	\$112,375	\$142,465	\$200,075	\$264,300

Biostatistics department academic positions, full-time, by rank and gender identity

Rank	Gender ID	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	Woman	44	\$192,500	\$213,651	\$264,750	\$326,262
	Man	72	\$186,250	\$220,000	\$260,000	\$319,900
Associate Professor	Woman	25	\$134,500	\$150,000	\$163,100	\$193,000
	Man	47	\$132,900	\$151,000	\$165,000	\$193,000
Assistant Professor	Woman	41	\$110,000	\$118,000	\$129,000	\$136,600
	Man	42	\$104,491	\$114,500	\$125,000	\$138,200

Biostatistics department academic positions, full-time, by rank and race

Rank	Race	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	White	82	\$185,761	\$220,000	\$277,000	\$329,258
	Racial/ethnic minority	34	\$200,075	\$219,000	\$256,250	\$283,500
Associate Professor	White	40	\$130,375	\$148,750	\$159,750	\$184,800
	Racial/ethnic minority	32	\$140,000	\$155,000	\$169,300	\$200,000
Assistant Professor	White	53	\$110,000	\$119,614	\$129,000	\$138,600
	Racial/ethnic minority	29	\$101,250	\$110,000	\$123,500	\$131,000

Mathematical sciences department academic positions, full-time, by rank

Rank	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	60	\$102,500	\$122,000	\$153,000	\$192,720
Associate Professor	44	\$85,000	\$95,500	\$107,625	\$128,500
Assistant Professor	68	\$71,000	\$82,488	\$96,830	\$110,200
All Ranks	188	\$80,000	\$96,001	\$115,000	\$150,000

Mathematical sciences department academic positions, full-time, by rank and gender ID

Rank	Gender ID	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	Woman	15	\$105,000	\$124,000	\$156,427	\$166,800
	Man	42	\$99,750	\$120,000	\$153,000	\$198,140
Associate Professor	Woman	15	\$86,400	\$99,000	\$105,000	\$122,000
	Man	27	\$83,275	\$93,000	\$109,000	\$138,200
Assistant Professor	Woman	38	\$72,250	\$84,908	\$97,750	\$105,700
	Man	29	\$71,000	\$80,000	\$97,000	\$122,000

Mathematical sciences department academic positions, full-time only, by rank and race

Rank	Race	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	White	42	\$104,750	\$127,500	\$156,820	\$198,140
	Racial/ethnic minority	17	\$95,945	\$120,000	\$151,500	\$241,600
Associate Professor	White	34	\$84,569	\$96,500	\$108,625	\$126,000
	Racial/ethnic minority	10	\$87,803	\$94,150	\$108,000	\$138,000
Assistant Professor	White	49	\$70,500	\$82,475	\$97,160	\$108,000
	Racial/ethnic minority	18	\$74,000	\$87,750	\$98,875	\$124,800

Other department academic positions, full-time, by rank

Rank	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	115	\$146,000	\$188,000	\$250,000	\$325,000
Associate Professor	62	\$103,750	\$125,000	\$157,750	\$178,500
Assistant Professor	90	\$85,750	\$101,972	\$124,000	\$146,299
Instructor or Lecturer	13	\$65,500	\$74,000	\$107,650	\$192,000
All Ranks	372	\$87,000	\$119,215	\$165,500	\$229,700

Other department academic positions, full-time, by rank and gender identity

Rank	Gender ID	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	Woman	36	\$138,250	\$178,500	\$210,569	\$254,400
	Man	76	\$146,750	\$192,000	\$257,600	\$353,000
Associate Professor	Woman	25	\$106,000	\$124,000	\$148,000	\$176,129
	Man	35	\$99,000	\$135,000	\$160,000	\$183,600
Assistant Professor	Woman	43	\$87,000	\$104,000	\$124,000	\$148,066
	Man	45	\$84,750	\$100,000	\$122,898	\$146,000

Other department academic positions, full-time, by rank and race

Rank	Race	N	1st Quartile	Median	3rd Quartile	90th Percentile
Professor	White	87	\$150,000	\$188,000	\$250,000	\$325,000
	Racial/ethnic minority	24	\$125,500	\$178,942	\$219,000	\$322,992
Associate Professor	White	44	\$96,750	\$126,000	\$159,250	\$186,170
	Racial/ethnic minority	16	\$120,000	\$124,000	\$161,000	\$173,925
	White	57	\$88,339	\$107,800	\$125,500	\$160,000

Assistant Professor	Racial/ethnic minority	30	\$78,500	\$94,800	\$118,500	\$138,575
----------------------------	------------------------	----	----------	----------	-----------	-----------

Non-academic salaries

Full-time, non-academic salaries by groups

		N	1st Q	Median	3rd Q	90th P
Total sample		1022	\$115,000	\$150,000	\$205,000	\$300,000
Employer	Federal government	205	\$111,858	\$133,000	\$167,398	\$185,800
	State or local government	31	\$78,000	\$100,000	\$117,000	\$172,400
	For-profit business or industry	568	\$127,350	\$175,000	\$250,000	\$362,300
	Nonprofit organization	166	\$95,946	\$125,000	\$154,750	\$240,300
	Self-employed/private consultant	18	\$78,000	\$186,750	\$355,000	\$705,000
	Other	30	\$82,000	\$108,500	\$161,250	\$234,550
Managerial responsibility	Yes	434	\$132,000	\$180,000	\$260,000	\$395,450
	No	579	\$103,000	\$130,000	\$172,000	\$224,000
Gender identity	Woman	392	\$106,250	\$134,500	\$182,250	\$249,400
	Man	604	\$120,000	\$162,000	\$225,000	\$330,000
Race/ethnicity	White	755	\$112,000	\$149,000	\$200,000	\$300,000
	Racial or ethnic minority	245	\$116,500	\$150,000	\$230,000	\$324,000
Highest degree	Bachelor's	24	\$77,800	\$92,200	\$134,250	\$161,500
	Master's/PhD candidate	388	\$95,005	\$125,000	\$177,250	\$250,349
	Doctorate	606	\$130,000	\$168,000	\$230,125	\$330,000
Years of experience	0-5	244	\$88,076	\$115,850	\$136,750	\$180,000
	6-10	150	\$108,000	\$126,468	\$160,750	\$232,524
	11-15	125	\$116,500	\$140,000	\$187,500	\$253,200
	16-25	219	\$133,000	\$175,000	\$250,000	\$365,898
	26+	276	\$153,010	\$190,000	\$271,500	\$375,900

Managerial responsibility by experience by highest degree, full time

Experience	Highest degree	N	1 st Q	Median	3 rd Q	90 th P
No managerial responsibility						
0-5	Master's/PhD cand.	77	\$72,000	\$88,303	\$108,312	\$125,200
	Doctorate	114	\$111,855	\$128,000	\$160,000	\$194,500
6-10	Master's/PhD cand.	41	\$94,606	\$108,000	\$125,488	\$153,000
	Doctorate	49	\$111,988	\$132,000	\$177,500	\$240,000
11-15	Master's/PhD cand.	30	\$98,061	\$120,500	\$140,000	\$188,500
	Doctorate	32	\$126,250	\$155,000	\$197,108	\$230,000
16-25	Master's/PhD cand.	34	\$98,500	\$123,650	\$162,100	\$278,046
	Doctorate	56	\$133,338	\$166,398	\$218,000	\$288,600
26+	Master's/PhD cand.	45	\$122,408	\$150,000	\$198,250	\$241,661
	Doctorate	76	\$153,920	\$176,410	\$229,125	\$286,910
Managerial responsibility						
0-5	Master's/PhD cand.	16	\$78,500	\$105,500	\$136,000	\$254,000
	Doctorate	26	\$104,500	\$131,500	\$142,500	\$198,400
6-10	Master's/PhD cand.	18	\$88,250	\$123,650	\$139,000	\$187,500
	Doctorate	38	\$130,750	\$157,000	\$200,000	\$290,000
11-15	Master's/PhD cand.	21	\$111,500	\$132,000	\$181,000	\$242,000
	Doctorate	36	\$124,750	\$182,000	\$256,000	\$320,000
16-25	Master's/PhD cand.	46	\$140,000	\$183,500	\$242,500	\$321,800
	Doctorate	74	\$170,000	\$240,000	\$365,000	\$450,000
26+	Master's/PhD cand.	53	\$148,500	\$185,000	\$275,000	\$397,200
	Doctorate	95	\$175,000	\$250,000	\$325,000	\$564,000

Sector by highest degree, full time

Sector	Highest degree	N	1 st Q	Median	3 rd Q	90 th P
Federal government	Master's/PhD cand.	54	\$98,629	\$118,000	\$132,000	\$156,500
	Doctorate	145	\$120,000	\$149,700	\$171,000	\$205,920
State or local government	Master's/PhD cand.	18	\$77,250	\$90,500	\$105,360	\$116,500
	Doctorate	11	\$100,000	\$117,000	\$160,000	\$210,300
For-profit business or industry	Master's/PhD cand.	232	\$108,950	\$150,000	\$209,624	\$295,827
	Doctorate	326	\$145,000	\$195,000	\$280,000	\$400,000
Nonprofit organization	Master's/PhD cand.	63	\$80,000	\$105,000	\$130,000	\$151,800
	Doctorate	97	\$114,500	\$140,000	\$200,000	\$280,000
Self-employed or private consultant	Doctorate	13	\$114,000	\$188,500	\$450,000	\$980,000
Other	Master's/PhD cand.	15	\$78,000	\$82,000	\$106,000	\$155,400
	Doctorate	12	\$116,250	\$172,000	\$233,875	\$285,000

Appendix C: OLS Regressions Predicting Log Total Employment Income

Predicting Log Total Employment Income			
	M1	M2	M3
Gender: Woman	-0.10	-0.09	-0.02
Employment: Has a full-time job	0.12	0.11	0.21
Doctoral degree	0.27	0.25	0.23
Race: Asian	-0.02	-0.01	0.04
Race: Other, non-white	-0.04	-0.03	0.00
Sector: Government	0.05	0.06	0.04
Sector: Business	0.33	0.33	0.33
Sector: Nonprofit	0.06	0.06	0.07
Union/assoc. member	-0.08	-0.07	-0.08
Has managerial responsibilities		0.27	0.20
Years of experience			0.36
<i>Adjusted R-square</i>	<i>0.18</i>	<i>0.25</i>	<i>0.35</i>

p < 0.05 bolded. Standardized coefficient estimates are from ordinary least squares regression.

Appendix D: Topline Data Report

This American Statistical Association study was conducted July 20-Aug. 10, 2020, with qualified responses from 2,438 ASA members who were employed in 2019. The study was produced by [Langer Research Associates](#), with data collection by SSRS of Glen Mills, Pa.

Full results follow. Unless otherwise noted, * = <0.5 percent.

1. How long have you been an ASA member?

	Fewer than 2 years	2 to 5 years	More than 5 to 10 years	More than 10 to 15 years	More than 15 years	Skipped
8/10/20	7	15	19	15	43	*

2. In 2019, what was your primary employment sector or status?

	8/10/20
Academia/education	53
Business/industry	24
Government	11
Nonprofit	7
Independent/consulting	5
Student	0
Skipped	0

3. What best describes the field in which you were primarily employed in 2019?

	Statistics or data science	----- Other ----- Biostatistics	Other	Skipped
8/10/20	82	5	12	*

4. [IF STATISTICS OR DATA SCIENCE] How did you prefer to be known professionally?

	As a data scientist	As a statistician	Makes no difference	Other	Skipped
8/10/20	7	74	14	5	*

5. In 2019, did you hold a single job for pay or more than one job for pay (including freelance/consulting work)?

	Single job	More than one job	Skipped
8/10/20	82	18	1

6. [IF SINGLE JOB] What kind of position did you hold in 2019?

	Full-time	Part-time	Skipped
8/10/20	96	4	*

7. [IF MULTIPLE JOBS] Which of these best describes your employment situation in 2019?

	Full-time position	No full-time position. Multiple

	plus part-time and/or freelance/consulting work	part-time positions and/or freelance/consulting work	Skipped
8/10/20	81	19	0

Q5/Q6/Q7 NET table:

	----- Full-time -----		----- Part-time -----		Full- or			
	NET	Single job	Additional jobs/work	NET	Single job	Multiple jobs/work	part-time unknown	Q3, Skipped
8/10/20	93	78	15	6	3	3	*	1

8. [IF ACADEMIA/EDUCATION] Which of these best describes your primary employment in 2019?

	Academia (college or university)	Another education- related position	Skipped
8/10/20	96	4	*

9. [IF ACADEMIA] Which of these best describes your institution in 2019?

	8/10/20
Doctoral university (Research 1)	76
Other research university	11
Liberal arts college	9
Associates or community college	1
Other	3
Skipped	*

10. [IF ACADEMIA] What department did you work in, in 2019? If you worked in multiple departments, please identify your primary department.

	Statistics	Biostatistics	Mathematical sciences	Non-departmental administration	Other	Skip.
8/10/20	21	29	16	1	32	*

11. [IF ACADEMIA] What was your job title in 2019?

	8/10/20
Professor	36
Associate professor	19
Assistant professor	24
Instructor	2
Lecturer	2
Visiting professor	1
Adjunct	1
Postdoc	3
Other	13
Skipped	*

12. [IF ACADEMIA] In 2019, were you tenured, on a tenure track, or on a non-tenure track?

	Tenured	Tenure track	Non-tenure track	Skipped
8/10/20	45	19	35	1

13. [IF BUSINESS, INDENDENT, GOVERNMENT, OR NONPROFIT] What was your job title in 2019?

See Appendix E.

14. [IF BUSINESS, INDENDENT, GOVERNMENT, OR NONPROFIT] Which best describes your primary employer in 2019?

	8/10/20
Federal government	19
State or local government	3
For-profit business or industry	51
Nonprofit organization	16
Self-employed/private consultant	8
Other	3
Skipped	*

15. Did your position in 2019 include supervisory and/or managerial responsibilities?

	Yes, supervisory and/or managerial	No, neither supervisory nor managerial	Skipped
8/10/20	45	54	1

16. As of December 2019, how many years of professional experience did you have in your field?

	--- 6-15 years ---		--- 16-25 years ---		---- 26+ years ----						
	< 6 yrs	6-15 yrs	11-15 years	16-20 years	21-25 years	26-30 years	31+ years	Skip.			
	NET	NET	NET	NET	NET	NET	NET	NET			
8/10/20	21	29	16	13	22	12	9	28	9	19	1

17. Thinking about work, how important is each of these to you?

Summary table - 8/10/20

	- More important -			-- Less important --			
	NET	Very impt	Smwht impt	NET	Not so impt	Not impt	Skip.
a. Interesting work that I enjoy	99	83	16	1	1	*	*
b. Opportunity to exercise job-related expertise and judgment	95	64	31	4	4	*	*
c. Work that makes a positive contribution	97	73	25	3	2	*	*
d. Job security	91	57	34	8	6	2	*
e. Pay	94	38	55	6	6	*	*
f. Benefits (e.g., leave, health insurance, retirement benefits)	93	58	35	7	5	2	*
g. Learning and development opportunities (e.g., training, continuing professional education)	86	43	43	14	13	2	*
h. Opportunity for advancement	76	36	40	23	19	5	*
i. Opportunity for work-life balance	95	66	29	5	4	1	*
j. Work flexibility (e.g., telework, alternative work schedules, core hours)	91	58	34	8	8	1	*
k. Working relationships with							

coworkers and supervisors	95	61	33	5	5	1	*
1. Your level of job stress	92	46	46	8	7	1	*

18. What best describes your overall level of satisfaction or dissatisfaction with your primary job in 2019?

	----- More satisfied -----			----- Less satisfied -----			
	Very	Somewhat		Not so	Not at all		
	NET	satisfied	satisfied	NET	satisfied	satisfied	Skipped
8/10/20	92	55	36	8	7	1	*

19. How satisfied were you with these factors in your primary job in 2019?

	- More satisfied -			- Less satisfied -			
	Very	Smwht		Not so	Not		
	NET	sat	sat	NET	sat	sat	Skip
a. Interesting work that I enjoy	91	57	34	8	7	1	1
b. Opportunity to exercise job-related expertise and judgment	90	53	38	9	7	1	1
c. Work that makes a positive contribution	91	55	37	8	6	1	1
d. Job security	91	65	26	8	6	2	1
e. Pay	82	41	42	17	13	4	1
f. Benefits (e.g., leave, health insurance, retirement benefits)	91	56	35	8	6	1	1
g. Learning and development opportunities (e.g., training, continuing professional education)	84	37	46	15	13	2	1
h. Opportunity for advancement	74	31	43	24	19	5	2
i. Opportunity for work-life balance	84	47	37	15	13	3	1
j. Work flexibility (e.g., telework alternative work schedules, core hours)	94	68	26	5	4	1	1
k. Working relationships with coworkers and supervisors	87	51	36	12	10	2	1
l. Your level of job stress	72	26	46	27	22	6	1

20. If asked for career advice, would you encourage a young person to take up statistics or data science as a profession, or would you discourage this?

	Neither encourage			
	Encourage	nor discourage	Discourage	Skipped
8/10/20	92	7	*	*

21a. [IF 0-5 YEARS' EXPERIENCE] How satisfied are you with the career mentoring and skills development opportunities that are available to you through your workplace?

	----- More satisfied -----			----- Less satisfied -----			
	Very	Somewhat		Not so	Not at all		
	NET	satisfied	satisfied	NET	satisfied	satisfied	Skipped
8/10/20	75	26	50	24	17	6	1

21b. [IF 6+ YEARS' EXPERIENCE] Thinking about your early career, how satisfied are you with the career mentoring and skills development opportunities that were available to you through your workplace?

	----- More satisfied -----			----- Less satisfied -----			
	NET	Very satisfied	Somewhat satisfied	NET	Not so satisfied	Not at all satisfied	Skipped
8/10/20	68	28	40	31	23	8	1

Your answers to the following questions are strictly confidential and will be evaluated only in the aggregate. We're conducting this study to help all ASA members better understand the employment market. We appreciate your response.

22. What was your base annual salary, before taxes, from your primary employer in 2019? Please note that we are asking about your 2019 income, the year before the coronavirus outbreak.

23. [IF SKIPPED Q22] Which of the following categories best describes your base annual salary, before taxes, from your primary employer in 2019? Please note that we are asking about your 2019 income, the year before the coronavirus outbreak.

	8/10/20
Less than \$100,000 NET	29
Less than \$35,000	2
From \$35,000 to less than \$50,000	1
From \$50,000 to less than \$75,000	9
From \$75,000 to less than \$100,000	17
\$100,000 to <\$200,000 NET	54
From \$100,000 to less than \$150,000	34
From \$150,000 to less than \$200,000	20
\$200,000 to <\$500,000 NET	16
From \$200,000 to less than \$250,000	9
From \$250,000 to less than \$350,000	6
From \$350,000 to less than \$500,000	1
More than \$500,000	*
Skipped	*

24. Did your personal employment income in 2019 include additional pay, beyond your base pay, from your primary employer?*

	----- Additional pay from primary employer -----						
	No	NET	Performance bonus	Extra pay for voluntary extra work	Extra pay for mandatory extra work	Other additional pay	Skip.
8/10/20	58	42	28	7	1	10	*

*Respondents could select multiple sources of additional pay

25. [IF HAD MULTIPLE JOBS OR RECEIVED ADDITIONAL PAY] What was your personal annual total employment income, before taxes, from all sources in 2019?

26. [IF HAD MULTIPLE JOBS OR RECEIVED ADDITIONAL PAY AND SKIPPED Q23] Which of the following categories best describes your personal annual total employment income, before taxes, from all sources in 2019?

	8/10/20
Less than \$100,000 NET	17
Less than \$35,000	1
From \$35,000 to less than \$50,000	1
From \$50,000 to less than \$75,000	4
From \$75,000 to less than \$100,000	11

\$100,000 to <\$200,000 NET	53
From \$100,000 to less than \$150,000	32
From \$150,000 to less than \$200,000	21
\$200,000 to <\$500,000 NET	28
From \$200,000 to less than \$250,000	12
From \$250,000 to less than \$350,000	12
From \$350,000 to less than \$500,000	4
More than \$500,000	3
Skipped	*

Q22/Q23/Q25/Q26 NET table - Annual total employment income among all respondents

	8/10/20
Less than \$100,000 NET	25
Less than \$35,000	1
From \$35,000 to less than \$50,000	1
From \$50,000 to less than \$75,000	8
From \$75,000 to less than \$100,000	15
\$100,000 to <\$200,000 NET	53
From \$100,000 to less than \$150,000	34
From \$150,000 to less than \$200,000	19
\$200,000 to <\$500,000 NET	21
From \$200,000 to less than \$250,000	10
From \$250,000 to less than \$350,000	8
From \$350,000 to less than \$500,000	3
More than \$500,000	1
Skipped	*

27. Compared with 2019, do you think your personal employment income from all sources for this year, 2020, will be (higher) or (lower)?

	----- Higher -----				----- Lower -----			
	NET	Much higher	Higher	About the same	NET	Lower	Much lower	Skipped
8/10/20	31	4	26	53	16	13	3	*

28. Now thinking about your total household employment income, including income, if any, from other members of your immediate household. Compared with 2019, do you think your total household employment income from all sources for this year, 2020, will be (higher) or (lower)?

	----- Higher -----		About the same	----- Lower -----		No one else in household is working for pay		Skip	
	NET	Much higher	Higher	NET	Lower	Much lower			
8/10/20	27	4	23	43	19	16	3	10	1

29. Changing topics, has the coronavirus outbreak been disruptive to your work?

	----- More disruptive -----			----- Less disruptive -----			
	NET	Very disruptive	Somewhat disruptive	NET	Not so disruptive	Not at all disruptive	Skipped
8/10/20	68	22	47	32	25	7	*

30. Has your employment situation changed since 2019?

	Yes	No	Skipped
8/10/20	11	88	*

31. [IF EMPLOYMENT SITUATION HAS CHANGED] What best describes your situation?

	8/10/20
Currently employed	81
Not employed by choice, prior to the coronavirus outbreak	7
Not employed by choice, since the coronavirus outbreak	5
Lost your job or furloughed without pay, prior to the coronavirus outbreak	2
Lost your job or furloughed without pay, since the coronavirus outbreak	4
Skipped	1

Q30/31 NET table:

	8/10/20
No change in employment situation	88
Employment situation has changed NET	11
Currently employed	9
Not employed by choice NET	1
Not employed by choice, prior to the coronavirus outbreak	1
Not employed by choice, since the coronavirus outbreak	1
Lost your job or furloughed without pay NET	1
Lost your job or furloughed without pay, prior to the coronavirus outbreak	*
Lost your job or furloughed without pay, since the coronavirus outbreak	*
Current employment situation unknown	*
Skipped	*

32. [IF NOT EMPLOYED BY CHOICE, SINCE THE CORONAVIRUS OUTBREAK] To the extent you are comfortable doing so, please describe any reasons why you are unemployed since the coronavirus outbreak.

See Appendix E.

33. [IF NOT EMPLOYED BY CHOICE OR LOST JOB OR FURLOUGHED WITHOUT PAY] Prior to becoming unemployed or furloughed, what was your primary employment sector or status?

	Academia/ education	Business/ industry	Independent/ consulting	Government	Nonprofit	Skipped
8/10/20*	35	33	8	14	8	2

*note, n=49

34. Not counting impacts on other members of your household, has your own personal income been reduced as a result of the coronavirus outbreak?

	----- Reduced -----					
	NET	Reduced a great deal	Reduced somewhat	Reduced a little	Not reduced	Skipped
8/10/20	20	2	8	10	80	*

35. [IF EMPLOYMENT SITUATION HAS NOT CHANGED SINCE 2019 OR CHANGED BUT CURRENTLY EMPLOYED OR SKIPPED Q31] How concerned are you, if at all, that you may lose your job or be furloughed without pay as a result of the coronavirus outbreak?

	----- More concerned -----			----- Less concerned -----			
	NET	Very concerned	Somewhat concerned	NET	Not so concerned	Not at all concerned	Skipped
8/10/20	23	4	19	77	38	39	*

36. [IF LOST JOB OR FURLOUGHED WITHOUT PAY, SINCE THE CORONAVIRUS OUTBREAK] How confident are you that you will be able to return to your previous job, if you want to, once the coronavirus outbreak has ended?

	----- More confident -----			----- Less confident -----			
	NET	Very confident	Somewhat confident	NET	Not so confident	Not at all confident	Skipped
8/10/20*	20	10	10	80	20	60	0

*note, n=10

37. Were you a member of a union or an employee association in 2019?

	Yes	No	Skipped
8/10/20	9	90	1

*** END ***