

TABLE 8-4

Biological and biomedical sciences research doctorate recipients, statistical profile by sex and major field of doctorate: 2023

(Number, percent, and median years)

Characteristic	All biological and biomedical sciences fields	Biochemistry, biophysics, and molecular biology	Bioinformatics, biostatistics, and computational biology	Biological and biomedical sciences, general	Cell/ cellular biology and anatomy	Ecology, evolutionary biology, and epidemiology	Genetics and genomics	Microbiology and immunology	Neurobiology and neurosciences	Pharmacology and toxicology	Physiology, oncology, and cancer biology	Biological and biomedical sciences, other
All doctorate recipients (number) ^a	9,724	1,509	735	907	761	1,144	477	1,092	1,200	409	821	669
Sex (%)												
Male	45.6	51.7	56.2	40.8	41.1	39.1	47.2	45.3	43.7	44.0	50.3	40.8
Female	54.4	48.2	43.8	59.2	58.9	60.9	52.8	54.7	56.3	56.0	49.7	59.2
Unknown	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Citizenship status (%)												
U.S. citizen or permanent resident	72.0	68.3	55.9	68.7	71.7	79.3	75.3	77.4	78.9	72.1	70.6	68.8
Temporary visa holder	24.2	28.2	41.0	23.8	23.9	18.7	21.0	19.6	18.2	22.7	24.1	28.4
Unknown	3.8	3.4	3.1	7.5	4.3	2.0	3.8	3.0	2.9	5.1	5.2	2.8
Marital status (%)												
Never married	42.8	46.1	47.9	39.1	45.2	38.2	43.6	42.0	44.1	45.2	40.9	39.8
Married	33.9	33.1	33.5	30.4	34.0	37.9	34.2	35.7	31.3	30.3	36.1	34.8
Marriage-like relationship	12.5	10.5	9.8	10.8	12.2	15.6	12.2	14.4	14.9	11.0	11.3	12.6
Separated, divorced, widowed	1.9	1.6	1.8	2.0	1.4	2.4	1.9	1.4	2.0	2.0	2.3	1.9
Unknown	8.9	8.7	7.1	17.6	7.1	5.9	8.2	6.5	7.7	11.5	9.4	10.9
Has dependent age 18 or younger (%)	13.3	11.7	14.2	12.6	11.9	16.4	14.8	12.5	10.5	14.2	16.4	14.3
Has one or more functional limitations (%)	14.9	15.7	13.6	14.7	12.6	15.9	15.4	15.8	15.2	12.2	13.3	17.0
Age at doctorate (median years)	30.4	29.8	30.2	30.7	30.3	31.7	30.2	30.2	30.2	30.3	30.5	31.0
Bachelor's in same field as doctorate (%) ^b	64.2	61.6	39.2	71.0	81.4	58.2	75.1	80.2	61.6	60.9	56.4	61.4
Master's earned (%)	44.6	36.1	62.4	42.0	34.7	66.2	34.5	33.7	36.4	46.7	50.4	53.2
Master's earned at same doctorate institution (%)	38.5	41.3	43.3	40.1	34.4	35.6	36.1	34.1	50.4	44.1	33.2	29.6
Time to doctorate (median years)												
Years since earning bachelor's degree	7.8	7.2	7.8	8.0	7.8	9.0	7.6	7.6	7.6	7.6	7.9	8.0
From graduate school start	6.4	6.2	6.7	6.5	6.3	7.3	6.4	6.1	6.3	6.3	6.6	6.8
From doctoral program start ^c	5.8	5.8	5.3	5.8	5.8	5.7	5.8	5.5	5.8	5.3	5.3	5.6
Received tuition remission (%)	90.4	92.2	90.0	91.8	90.4	87.1	87.3	90.8	92.1	91.6	91.5	87.0
Male doctorate recipients (number)	4,433	780	413	370	313	447	225	495	524	180	413	273
Citizenship status (%)												
U.S. citizen or permanent resident	70.2	67.1	56.4	66.8	71.2	77.6	75.6	76.4	75.2	73.9	69.2	64.5
Temporary visa holder	25.7	29.2	40.7	25.7	22.4	20.6	19.6	21.2	21.4	19.4	24.9	32.2
Unknown	4.1	3.7	2.9	7.6	6.4	1.8	4.9	2.4	3.4	6.7	5.8	3.3
Marital status (%)												
Never married	44.1	47.6	49.6	41.1	D	38.0	D	43.8	45.0	43.3	38.7	D
Married	33.2	31.9	31.5	27.8	27.8	39.6	29.3	37.6	30.3	34.4	37.8	34.4
Marriage-like relationship	11.8	10.3	9.9	10.8	13.1	14.3	13.8	12.1	13.7	9.4	11.1	11.4
Separated, divorced, widowed	1.6	1.4	1.7	1.6	D	2.7	D	1.0	1.7	0.0	1.9	D

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Characteristic	All biological and biomedical sciences fields	Biochemistry, biophysics, and molecular biology	Bioinformatics, biostatistics, and computational biology	Biological and biomedical sciences, general	Cell/ cellular biology and anatomy	Ecology, evolutionary biology, and epidemiology	Genetics and genomics	Microbiology and immunology	Neurobiology and neurosciences	Pharmacology and toxicology	Physiology, oncology, and cancer biology	Biological and biomedical sciences, other
Unknown	9.3	8.8	7.3	18.1	9.9	5.4	8.9	5.5	9.2	12.8	10.4	11.7
Has dependent age 18 or younger (%)	14.2	12.5	12.5	12.5	12.5	17.1	13.6	12.8	10.9	17.8	20.0	18.8
Has one or more functional limitations (%)	13.3	13.8	11.9	12.9	11.2	13.2	13.9	14.2	13.0	13.5	13.7	14.4
Age at doctorate (median years)	30.8	30.3	30.5	31.0	30.8	32.0	30.6	30.3	30.8	30.3	31.1	31.6
Bachelor's in same field as doctorate (%) ^b	62.3	59.5	41.0	71.7	80.0	62.3	71.4	79.0	56.0	60.2	52.7	60.1
Master's earned (%)	45.0	36.0	60.1	43.6	33.9	64.2	33.8	33.2	38.9	48.8	55.9	53.8
Master's earned at same doctorate institution (%)	36.5	40.1	40.6	35.1	33.7	33.8	35.2	31.9	44.3	42.0	33.3	27.9
Time to doctorate (median years)												
Years since earning bachelor's degree	8.0	7.5	8.0	8.3	8.0	9.0	8.0	7.6	8.0	7.6	8.0	8.4
From graduate school start	6.7	6.3	6.8	6.8	6.8	7.8	6.6	6.1	6.7	6.0	6.7	6.8
From doctoral program start ^c	5.8	5.8	5.3	5.8	5.8	5.8	6.0	5.5	5.8	5.3	5.3	5.6
Received tuition remission (%)	90.5	91.6	88.9	93.1	90.1	88.3	88.9	91.2	93.1	90.1	92.5	83.5
Female doctorate recipients (number)	5,290	728	322	537	448	697	252	597	676	229	408	396
Citizenship status (%)												
U.S. citizen or permanent resident	73.6	69.6	55.3	70.0	72.1	80.3	75.0	78.2	81.8	70.7	72.1	71.7
Temporary visa holder	22.9	27.2	41.3	22.5	25.0	17.5	22.2	18.3	15.7	25.3	23.3	25.8
Unknown	3.5	3.2	3.4	7.4	2.9	2.2	2.8	3.5	2.5	3.9	4.7	2.5
Marital status (%)												
Never married	41.8	44.5	45.7	37.8	D	38.3	D	40.5	43.3	46.7	43.1	D
Married	34.5	34.3	36.0	31.8	38.4	36.9	38.5	34.2	32.1	27.1	34.3	35.1
Marriage-like relationship	13.1	10.9	9.6	10.8	11.6	16.4	10.7	16.2	15.8	12.2	11.5	13.4
Separated, divorced, widowed	2.1	1.8	1.9	2.2	D	2.2	D	1.7	2.2	3.5	2.7	D
Unknown	8.5	8.5	6.8	17.3	5.1	6.3	7.5	7.4	6.5	10.5	8.3	10.4
Has dependent age 18 or younger (%)	12.6	10.6	16.3	12.6	11.5	16.0	15.9	12.2	10.2	11.3	12.8	11.2
Has one or more functional limitations (%)	16.3	17.8	14.6	16.5	13.5	17.7	16.8	17.1	16.9	11.3	12.9	18.8
Age at doctorate (median years)	30.1	29.4	29.6	30.3	30.0	31.4	29.8	30.2	29.8	30.1	30.1	30.4
Bachelor's in same field as doctorate (%) ^b	65.7	63.9	36.9	70.6	82.4	55.6	78.2	81.2	65.8	61.5	60.0	62.4
Master's earned (%)	44.3	36.1	65.4	40.9	35.2	67.6	35.1	34.2	34.5	44.1	44.9	52.7
Master's earned at same doctorate institution (%)	40.1	42.5	46.5	43.8	34.9	36.7	36.9	35.9	55.7	45.8	32.9	30.7
Time to doctorate (median years)												
Years since earning bachelor's degree	7.6	7.0	7.3	7.8	7.5	9.0	7.3	7.7	7.4	7.6	7.6	7.7
From graduate school start	6.3	6.0	6.3	6.3	6.3	7.3	6.3	6.2	6.2	6.3	6.3	6.6
From doctoral program start ^c	5.7	5.8	5.3	5.6	5.8	5.7	5.7	5.5	5.8	5.3	5.3	5.5
Received tuition remission (%)	90.3	92.9	91.4	90.9	90.7	86.3	86.0	90.4	91.4	92.7	90.4	89.4

