

FIGURE 2-1. Doctorate-granting institutions, by control of institution: 1920–99

Year	All institutions	Public	Private	Year	All institutions	Public	Private
1920	44	18	26	1960	165	89	76
1921	44	19	25	1961	172	89	83
1922	50	21	29	1962	174	95	79
1923	48	20	28	1963	185	103	82
1924	52	23	29	1964	195	110	85
1925	52	24	28	1965	204	113	91
1926	56	26	30	1966	215	121	94
1927	60	26	34	1967	219	120	99
1928	67	29	38	1968	229	127	102
1929	67	30	37	1969	231	129	102
1930	73	33	40	1970	240	133	107
1931	74	34	40	1971	260	146	114
1932	73	34	39	1972	267	153	114
1933	76	36	40	1973	286	160	126
1934	76	36	40	1974	292	165	127
1935	84	39	45	1975	292	164	128
1936	85	39	46	1976	294	167	127
1937	89	41	48	1977	304	171	133
1938	91	42	49	1978	311	172	139
1939	93	41	52	1979	311	173	138
1940	90	42	48	1980	320	172	148
1941	93	41	52	1981	323	179	144
1942	95	40	55	1982	328	180	148
1943	92	42	50	1983	332	183	149
1944	86	39	47	1984	331	183	148
1945	89	41	48	1985	337	186	151
1946	89	39	50	1986	340	187	153
1947	102	48	54	1987	349	191	158
1948	107	51	56	1988	351	192	159
1949	115	54	61	1989	356	196	160
1950	115	58	57	1990	354	193	161
1951	118	59	59	1991	364	196	168
1952	120	62	58	1992	367	197	170
1953	130	69	61	1993	372	199	173
1954	137	72	65	1994	374	201	173
1955	138	74	64	1995	381	204	177
1956	143	75	68	1996	389	209	180
1957	148	78	70	1997	383	208	175
1958	152	78	74	1998	387	210	177
1959	156	84	72	1999	392	215	177

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 2-2. Decade of first doctoral award in the 50 U.S. states, District of Columbia, and Puerto Rico: pre-1920 to 1960s

Decade	Location	Decade	Location
pre-1920	California	1920s	Arizona
pre-1920	Colorado	1920s	North Dakota
pre-1920	Connecticut	1920s	New Hampshire
pre-1920	District of Columbia	1920s	Oklahoma
pre-1920	Iowa	1920s	Oregon
pre-1920	Illinois	1920s	South Carolina
pre-1920	Indiana	1930s	Florida
pre-1920	Kansas	1930s	Georgia
pre-1920	Louisiana	1930s	Hawaii
pre-1920	Massachusetts	1930s	Kentucky
pre-1920	Maryland	1930s	Vermont
pre-1920	Michigan	1930s	West Virginia
pre-1920	Minnesota	1940s	Delaware
pre-1920	Missouri	1940s	New Mexico
pre-1920	North Carolina	1940s	Utah
pre-1920	Nebraska	1940s	Wyoming
pre-1920	New Jersey	1950s	Alaska
pre-1920	New York	1950s	Alabama
pre-1920	Ohio	1950s	Arkansas
pre-1920	Pennsylvania	1950s	Mississippi
pre-1920	Rhode Island	1950s	Montana
pre-1920	Tennessee	1950s	South Dakota
pre-1920	Texas	1960s	Idaho
pre-1920	Virginia	1960s	Maine
pre-1920	Washington	1960s	Nevada
pre-1920	Wisconsin	1960s	Puerto Rico

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 2-3. Distribution of doctorate-granting institutions, by region: 1920–99
(Percent)

Year	Institutions	Northeast	Midwest	South	West	Year	Institutions	Northeast	Midwest	South	West	Puerto Rico
1920	44	40.9	34.1	15.9	9.1	1960	165	33.3	20.0	27.9	18.8	na
1921	44	40.9	29.5	20.5	9.1	1961	172	33.1	19.8	26.7	20.3	na
1922	50	40.0	30.0	16.0	14.0	1962	174	32.8	19.5	26.4	21.3	na
1923	48	41.7	31.2	18.8	8.3	1963	185	32.4	19.5	27.0	21.1	na
1924	52	34.6	32.7	21.2	11.5	1964	195	32.8	20.0	27.7	19.5	na
1925	52	34.6	30.8	25.0	9.6	1965	204	34.3	19.6	26.0	20.1	*
1926	56	39.3	30.4	19.6	10.7	1966	215	33.5	20.9	26.0	19.1	0.5
1927	60	36.7	28.3	21.7	13.3	1967	219	33.3	20.5	25.6	20.1	0.5
1928	67	34.3	32.8	20.9	11.9	1968	229	33.2	21.0	25.8	20.1	0.0
1929	67	32.8	32.8	22.4	11.9	1969	231	32.9	21.2	25.5	20.3	0.0
1930	73	32.9	31.5	23.3	12.3	1970	240	32.5	21.7	25.8	19.6	0.4
1931	74	33.8	32.4	20.3	13.5	1971	260	30.4	20.4	30.4	18.5	0.4
1932	73	34.2	30.1	23.3	12.3	1972	267	30.0	20.6	31.1	18.0	0.4
1933	76	32.9	28.9	23.7	14.5	1973	286	29.4	19.6	32.5	18.2	0.3
1934	76	32.9	28.9	23.7	14.5	1974	292	29.5	19.9	32.9	17.5	0.3
1935	84	35.7	27.4	23.8	13.1	1975	292	30.1	19.5	32.5	17.5	0.3
1936	85	36.5	28.2	22.4	12.9	1976	294	28.9	20.1	33.0	17.7	0.3
1937	89	34.8	27.0	23.6	14.6	1977	304	28.6	20.1	32.2	18.8	0.3
1938	91	36.3	27.5	20.9	15.4	1978	311	28.0	20.3	31.5	19.9	0.3
1939	93	35.5	29.0	22.6	12.9	1979	311	27.3	20.3	32.5	19.6	0.3
1940	90	35.6	25.6	24.4	14.4	1980	320	27.8	20.3	31.6	20.0	0.3
1941	93	37.6	25.8	22.6	14.0	1981	323	26.6	21.1	32.2	19.8	0.3
1942	95	36.8	27.4	23.2	12.6	1982	328	26.5	21.3	32.0	19.8	0.3
1943	92	37.0	27.2	22.8	13.0	1983	332	26.5	20.8	32.8	19.6	0.3
1944	86	36.0	29.1	19.8	15.1	1984	331	25.7	20.8	33.2	19.9	0.3
1945	89	36.0	29.2	21.3	13.5	1985	337	26.1	20.5	33.2	19.9	0.3
1946	89	37.1	28.1	20.2	14.6	1986	340	26.5	19.7	33.5	20.0	0.3
1947	102	35.3	25.5	23.5	15.7	1987	349	25.8	20.9	33.0	20.1	0.3
1948	107	34.6	25.2	25.2	15.0	1988	351	25.9	20.5	33.0	19.7	0.9
1949	115	34.8	24.3	24.3	16.5	1989	356	25.8	20.5	33.7	19.1	0.8
1950	115	33.0	24.3	26.1	16.5	1990	354	25.4	21.5	33.3	18.9	0.8
1951	118	32.2	23.7	25.4	18.6	1991	364	25.5	20.6	33.8	19.2	0.8
1952	120	31.7	23.3	28.3	16.7	1992	367	25.3	20.7	33.8	19.3	0.8
1953	130	30.8	21.5	30.8	16.9	1993	372	24.5	21.0	34.7	19.1	0.8
1954	137	30.7	20.4	31.4	17.5	1994	374	24.3	20.6	35.0	19.3	0.8
1955	138	30.4	20.3	32.6	16.7	1995	381	24.4	20.5	34.9	19.2	1.0
1956	143	31.5	19.6	30.8	18.2	1996	389	24.4	21.1	34.4	19.0	1.0
1957	148	31.8	19.6	29.7	18.9	1997	383	24.0	21.1	35.0	18.8	1.0
1958	152	32.2	19.1	28.9	19.7	1998	387	24.3	21.2	35.1	18.3	1.0
1959	156	32.1	21.8	28.2	17.9	1999	392	23.5	20.7	34.9	19.6	1.3

* = less than 0.1%.

na = not applicable; the first doctoral degree awarded in Puerto Rico was in 1965.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 2-4. Doctorates awarded: 1900–99

Year of doctorate	Number of doctorates	Year of doctorate	Number of doctorates	Year of doctorate	Number of doctorates	Year of doctorate	Number of doctorates
1900	382	1925	1,206	1950	6,535	1975	32,952
1901	365	1926	1,441	1951	7,331	1976	32,946
1902	293	1927	1,540	1952	7,717	1977	31,716
1903	337	1928	1,632	1953	8,379	1978	30,875
1904	334	1929	1,917	1954	8,708	1979	31,239
1905	369	1930	2,075	1955	8,905	1980	31,020
1906	383	1931	2,344	1956	8,517	1981	31,356
1907	349	1932	2,400	1957	8,611	1982	31,111
1908	391	1933	2,462	1958	8,773	1983	31,281
1909	451	1934	2,696	1959	9,213	1984	31,337
1910	443	1935	2,529	1960	9,733	1985	31,297
1911	497	1936	2,712	1961	10,413	1986	31,902
1912	500	1937	2,752	1962	11,500	1987	32,370
1913	538	1938	2,754	1963	12,728	1988	33,500
1914	559	1939	2,950	1964	14,325	1989	34,327
1915	611	1940	3,277	1965	16,340	1990	36,067
1916	667	1941	3,484	1966	17,949	1991	37,534
1917	612	1942	3,405	1967	20,403	1992	38,890
1918	556	1943	2,591	1968	22,937	1993	39,801
1919	559	1944	1,968	1969	25,743	1994	41,034
1920	562	1945	1,633	1970	29,498	1995	41,743
1921	662	1946	1,990	1971	31,867	1996	42,414
1922	780	1947	2,951	1972	33,041	1997	42,555
1923	1,062	1948	3,940	1973	33,755	1998	42,683
1924	1,133	1949	5,390	1974	33,047	1999	41,140

SOURCES: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File (1920–99); U.S. Office of Education annual reports (1900–19).

FIGURE 2-5. Distribution of doctorates awarded, by region: 1920–99
(Percent)

Year of doctorate	Number of doctorates	Northeast	Midwest	South	West	Year of doctorate	Number of doctorates	Northeast	Midwest	South	West
1920	562	41.6	41.1	11.2	6.0	1960	9,733	34.2	35.3	15.4	15.1
1921	662	50.2	33.7	11.0	5.1	1961	10,413	33.6	35.3	15.4	15.7
1922	780	47.1	33.8	11.8	7.3	1962	11,500	31.5	34.6	17.0	16.9
1923	1,062	44.3	35.2	12.9	7.6	1963	12,728	30.8	34.7	17.4	17.1
1924	1,133	45.9	36.5	10.8	6.9	1964	14,325	30.2	34.3	18.1	17.4
1925	1,206	43.9	36.3	11.5	8.2	1965	16,340	29.1	32.8	19.1	18.9
1926	1,441	42.5	36.7	12.2	8.5	1966	17,949	28.6	31.7	20.0	19.7
1927	1,540	43.0	36.8	11.8	8.4	1967	20,403	28.2	31.6	20.5	19.7
1928	1,632	40.5	39.0	11.4	9.1	1968	22,937	27.6	31.5	21.0	19.9
1929	1,917	39.4	40.6	11.5	8.5	1969	25,743	27.3	31.4	21.4	19.9
1930	2,075	42.4	37.6	11.7	8.3	1970	29,498	26.4	31.9	21.7	19.9
1931	2,344	40.7	39.8	11.7	7.8	1971	31,867	25.6	32.1	22.1	20.1
1932	2,400	42.2	37.6	12.2	8.0	1972	33,041	26.4	30.8	22.9	19.9
1933	2,462	43.2	35.9	11.9	9.0	1973	33,755	27.0	30.6	22.3	20.1
1934	2,696	41.7	36.1	12.8	9.4	1974	33,047	26.5	30.0	23.1	20.4
1935	2,529	41.8	36.8	11.9	9.5	1975	32,952	25.9	29.8	24.5	19.7
1936	2,712	42.7	36.3	11.7	9.3	1976	32,946	26.8	28.5	24.9	19.8
1937	2,752	40.6	38.8	11.4	9.1	1977	31,716	26.7	28.0	25.3	20.0
1938	2,754	42.6	36.2	12.4	8.9	1978	30,875	27.0	27.5	25.3	20.2
1939	2,950	40.2	35.8	12.7	11.4	1979	31,239	26.1	27.9	25.8	20.1
1940	3,277	39.8	38.8	11.5	9.9	1980	31,020	26.0	27.4	25.7	20.9
1941	3,484	38.8	38.7	13.2	9.4	1981	31,356	25.9	27.2	25.8	21.1
1942	3,405	38.6	39.6	12.8	9.0	1982	31,111	26.1	27.3	25.8	20.8
1943	2,591	39.3	37.0	13.3	10.4	1983	31,281	25.6	26.7	26.1	21.6
1944	1,968	41.1	37.6	10.9	10.5	1984	31,337	26.1	26.5	26.3	21.2
1945	1,633	40.1	37.4	12.7	9.9	1985	31,297	26.0	27.0	26.6	20.3
1946	1,990	42.6	37.4	9.6	10.4	1986	31,902	25.9	26.0	27.1	21.0
1947	2,951	40.0	35.3	11.0	13.6	1987	32,370	25.8	26.5	26.9	20.7
1948	3,940	39.0	37.3	11.2	12.6	1988	33,500	25.9	25.5	27.3	21.2
1949	5,390	38.5	37.2	11.1	13.2	1989	34,327	25.7	25.4	27.5	21.2
1950	6,535	37.7	37.4	11.2	13.7	1990	36,067	25.4	25.7	28.2	20.5
1951	7,331	38.7	36.2	11.3	13.8	1991	37,534	25.5	26.0	27.6	20.9
1952	7,717	36.0	37.1	12.4	14.5	1992	38,890	25.1	26.4	28.0	20.4
1953	8,379	33.9	37.9	14.0	14.2	1993	39,801	25.1	25.3	28.8	20.8
1954	8,708	34.2	36.9	14.6	14.2	1994	41,034	24.7	25.6	28.5	20.9
1955	8,905	34.0	36.4	15.0	14.5	1995	41,743	24.5	25.6	28.6	21.1
1956	8,517	33.4	34.9	15.5	16.2	1996	42,414	24.3	25.8	29.4	20.4
1957	8,611	34.0	35.5	15.7	14.9	1997	42,555	23.4	25.6	30.1	20.7
1958	8,773	34.1	34.5	15.7	15.7	1998	42,683	23.8	25.5	30.4	20.1
1959	9,213	34.5	34.6	15.8	15.1	1999	41,140	23.3	24.5	31.3	20.6

NOTE: The first doctoral degree awarded in Puerto Rico was in 1965; in 1999, Puerto Rico represented 0.3 percent of doctoral awards.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 2-6. Distribution of doctorates awarded, by control of institution: 1920–99
(Percent)

Year of doctorate	Number of doctorates	Public	Private	Year of doctorate	Number of doctorates	Public	Private
1920	562	31.1	68.9	1960	9,733	54.0	46.0
1921	662	26.1	73.9	1961	10,413	55.8	44.2
1922	780	31.5	68.5	1962	11,500	57.0	43.0
1923	1,062	30.9	69.1	1963	12,728	57.3	42.7
1924	1,133	31.1	68.9	1964	14,325	58.4	41.6
1925	1,206	35.7	64.3	1965	16,340	59.4	40.6
1926	1,441	33.8	66.2	1966	17,949	60.7	39.3
1927	1,540	33.3	66.7	1967	20,403	60.9	39.1
1928	1,632	39.5	60.5	1968	22,937	61.3	38.7
1929	1,917	36.2	63.8	1969	25,743	63.0	37.0
1930	2,075	40.7	59.3	1970	29,498	64.4	35.6
1931	2,344	39.1	60.9	1971	31,867	65.0	35.0
1932	2,400	38.2	61.8	1972	33,041	65.7	34.3
1933	2,462	38.5	61.5	1973	33,755	65.5	34.5
1934	2,696	41.0	59.0	1974	33,047	65.8	34.2
1935	2,529	42.5	57.5	1975	32,952	66.4	33.6
1936	2,712	39.5	60.5	1976	32,946	65.2	34.8
1937	2,752	42.9	57.1	1977	31,716	65.7	34.3
1938	2,754	44.1	55.9	1978	30,875	65.6	34.4
1939	2,950	41.9	58.1	1979	31,239	66.0	34.0
1940	3,277	45.8	54.2	1980	31,020	65.6	34.4
1941	3,484	44.8	55.2	1981	31,356	65.5	34.5
1942	3,405	45.6	54.4	1982	31,111	65.9	34.1
1943	2,591	43.0	57.0	1983	31,281	66.3	33.7
1944	1,968	43.4	56.6	1984	31,337	66.0	34.0
1945	1,633	41.6	58.4	1985	31,297	66.7	33.3
1946	1,990	41.1	58.9	1986	31,902	66.0	34.0
1947	2,951	44.1	55.9	1987	32,370	66.6	33.4
1948	3,940	43.8	56.2	1988	33,500	66.5	33.5
1949	5,390	45.3	54.7	1989	34,327	66.8	33.2
1950	6,535	46.9	53.1	1990	36,067	67.0	33.0
1951	7,331	46.2	53.8	1991	37,534	67.3	32.7
1952	7,717	50.0	50.0	1992	38,890	67.7	32.3
1953	8,379	52.5	47.5	1993	39,801	67.6	32.4
1954	8,708	53.5	46.5	1994	41,034	68.4	31.6
1955	8,905	54.0	46.0	1995	41,743	67.8	32.2
1956	8,517	53.8	46.2	1996	42,414	68.4	31.6
1957	8,611	53.5	46.5	1997	42,555	68.8	31.2
1958	8,773	53.4	46.6	1998	42,683	68.4	31.6
1959	9,213	53.8	46.2	1999	41,140	67.3	32.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-1. Doctorates awarded, by major field: 1920–99

Year of doctorate	Science and engineering											Non-science and engineering				
	All fields	Earth, atmospheric, ocean sciences										Total	Health sciences			Professional fields/other
		Agricultural sciences	Biological sciences	Mathematics, computer sciences	Physical sciences	Psychology	Social sciences	Engineering	Education	Humanities						
1920–24	4,199	2,724	136	646	139	114	996	217	416	60	1,475	310	100	959	106	
1925–29	7,736	4,907	223	1,148	193	237	1,597	427	914	168	2,829	843	123	1,631	232	
1930–34	11,977	7,455	372	1,799	305	398	2,352	545	1,274	410	4,522	1,421	186	2,581	334	
1935–39	13,697	8,487	336	2,257	323	380	2,931	571	1,266	423	5,210	1,706	133	3,051	320	
1940–44	14,725	9,267	411	2,498	251	362	3,435	528	1,337	445	5,458	2,157	144	2,930	227	
1945–49	15,904	10,014	463	2,165	309	470	3,392	725	1,490	1,000	5,890	2,606	150	2,905	229	
1950–54	38,670	25,277	1,535	5,090	754	1,056	7,664	2,753	3,670	2,755	13,393	6,394	305	6,049	645	
1955–59	44,019	28,308	1,749	5,764	946	1,254	7,527	3,606	4,317	3,145	15,711	7,639	492	6,597	983	
1960–64	58,699	38,267	2,305	7,099	1,380	2,082	9,525	4,351	5,554	5,971	20,432	9,609	527	8,676	1,620	
1965–69	103,372	66,183	3,165	12,377	2,124	4,325	14,897	6,618	9,555	13,122	37,189	17,945	989	15,029	3,226	
1970–74	161,208	94,862	4,236	17,747	2,871	6,188	18,075	11,370	17,371	17,004	66,346	33,856	2,384	23,495	6,611	
1975–79	159,728	90,804	4,183	17,716	3,218	5,052	13,943	14,770	18,506	13,416	68,924	37,119	2,556	21,304	7,945	
1980–84	156,105	91,690	4,857	19,120	3,100	4,842	13,507	16,219	16,698	13,347	64,415	36,316	3,290	16,691	8,118	
1985–89	163,396	100,930	5,184	19,666	3,178	6,051	15,903	15,699	16,265	18,984	62,466	32,479	4,155	15,957	9,875	
1990–94	193,326	123,214	5,356	24,072	3,942	9,410	18,607	16,593	18,168	27,066	70,112	33,038	5,602	19,757	11,715	
1995–99	210,535	134,271	5,057	28,339	4,073	10,302	18,857	17,843	20,106	29,694	76,264	33,126	6,990	24,599	11,549	

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File

FIGURE 3-2. Doctorates awarded, by sex of recipient: 1900–99

Year of doctorate	All Ph.D. recipients	Male	Female	Year of doctorate	All Ph.D. recipients	Male	Female	Year of doctorate	All Ph.D. recipients	Male	Female	Year of doctorate	All Ph.D. recipients	Male	Female
1900	382	359	23	1925	1,206	1,004	202	1950	6,535	5,915	620	1975	32,952	25,751	7,201
1901	365	334	31	1926	1,441	1,241	200	1951	7,331	6,649	682	1976	32,946	25,262	7,684
1902	293	264	29	1927	1,540	1,307	233	1952	7,717	6,985	732	1977	31,716	23,858	7,858
1903	337	302	35	1928	1,632	1,395	237	1953	8,379	7,590	789	1978	30,875	22,553	8,322
1904	334	302	32	1929	1,917	1,596	321	1954	8,708	7,914	794	1979	31,239	22,302	8,937
1905	369	341	28	1930	2,075	1,762	313	1955	8,905	8,026	879	1980	31,020	21,612	9,408
1906	383	358	25	1931	2,344	1,983	361	1956	8,517	7,709	808	1981	31,356	21,464	9,892
1907	349	320	29	1932	2,400	2,016	384	1957	8,611	7,611	1,000	1982	31,111	21,018	10,093
1908	391	339	52	1933	2,462	2,115	347	1958	8,773	7,782	991	1983	31,281	20,748	10,533
1909	451	397	54	1934	2,696	2,346	350	1959	9,213	8,237	976	1984	31,337	20,638	10,699
1910	443	399	44	1935	2,529	2,161	368	1960	9,733	8,691	1,042	1985	31,297	20,553	10,744
1911	497	449	48	1936	2,712	2,300	412	1961	10,413	9,285	1,128	1986	31,902	20,595	11,307
1912	500	436	64	1937	2,752	2,350	402	1962	11,500	10,265	1,235	1987	32,370	20,938	11,432
1913	538	481	57	1938	2,754	2,335	419	1963	12,728	11,336	1,392	1988	33,500	21,680	11,819
1914	559	486	73	1939	2,950	2,526	424	1964	14,325	12,764	1,561	1989	34,327	21,814	12,513
1915	611	549	62	1940	3,277	2,848	429	1965	16,340	14,580	1,760	1990	36,067	22,960	13,106
1916	667	586	81	1941	3,484	3,081	403	1966	17,949	15,863	2,086	1991	37,534	23,525	13,873
1917	612	538	73	1942	3,405	2,983	422	1967	20,403	17,961	2,442	1992	38,890	24,235	14,436
1918	556	491	65	1943	2,591	2,197	394	1968	22,937	20,005	2,932	1993	39,801	24,384	15,122
1919	559	483	76	1944	1,968	1,632	336	1969	25,743	22,355	3,388	1994	41,034	25,059	15,820
1920	562	474	88	1945	1,633	1,301	332	1970	29,498	25,527	3,971	1995	41,743	25,159	16,414
1921	662	555	107	1946	1,990	1,608	382	1971	31,867	27,271	4,596	1996	42,414	25,274	16,944
1922	780	668	112	1947	2,951	2,539	412	1972	33,041	27,754	5,287	1997	42,555	24,944	17,251
1923	1,062	905	157	1948	3,940	3,464	476	1973	33,755	27,670	6,085	1998	42,683	24,659	17,858
1924	1,133	963	170	1949	5,390	4,853	537	1974	33,047	26,594	6,453	1999	41,140	23,460	17,493

SOURCES: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File (1920–99); U.S. Office of Education annual and biennial reports (1900–19).

FIGURE 3-3. Distribution of doctorates awarded, by sex of recipient and broad field of doctorate: 1920–99
(Percent)

Year of doctorate	All fields			Science and engineering			Non-science and engineering		
	All Ph.D.s	Male	Female	All Ph.D.s	Male	Female	All Ph.D.s	Male	Female
1920–24	100	84.9	15.1	100	87.2	12.8	100	80.7	19.3
1925–29	100	84.6	15.4	100	87.6	12.4	100	79.4	20.6
1930–34	100	85.3	14.7	100	88.7	11.3	100	79.8	20.2
1935–39	100	85.2	14.8	100	89.1	10.9	100	79.0	21.0
1940–44	100	86.5	13.5	100	91.3	8.7	100	78.4	21.6
1945–49	100	86.6	13.4	100	90.9	9.1	100	79.2	20.8
1950–54	100	90.6	9.4	100	93.6	6.4	100	85.0	15.0
1955–59	100	89.4	10.6	100	92.8	7.2	100	83.3	16.7
1960–64	100	89.2	10.8	100	92.7	7.3	100	82.6	17.4
1965–69	100	87.8	12.2	100	91.5	8.5	100	81.2	18.8
1970–74	100	83.6	16.4	100	88.4	11.6	100	76.8	23.2
1975–79	100	75.0	25.0	100	81.9	18.1	100	65.8	34.2
1980–84	100	67.6	32.4	100	76.0	24.0	100	55.6	44.4
1985–89	100	64.6	35.4	100	73.1	26.9	100	50.9	49.1
1990–94	100	62.4	37.6	100	70.7	29.3	100	47.9	52.1
1995–99	100	59.0	41.0	100	66.8	33.2	100	45.1	54.9

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-4. Doctorates awarded, by sex of recipient and broad field of doctorate: 1920–99

Year of doctorate	All fields			Science and engineering			Non-science and engineering		
	All Ph.D.s	Male	Female	All Ph.D.s	Male	Female	All Ph.D.s	Male	Female
1920–24	4,199	3,565	634	2,724	2,374	350	1,475	1,191	284
1925–29	7,736	6,543	1,193	4,907	4,297	610	2,829	2,246	583
1930–34	11,977	10,222	1,755	7,455	6,612	843	4,522	3,610	912
1935–39	13,697	11,672	2,025	8,487	7,558	929	5,210	4,114	1,096
1940–44	14,725	12,741	1,984	9,267	8,460	807	5,458	4,281	1,177
1945–49	15,904	13,765	2,139	10,014	9,099	915	5,890	4,666	1,224
1950–54	38,670	35,053	3,617	25,277	23,670	1,607	13,393	11,383	2,010
1955–59	44,019	39,365	4,654	28,308	26,270	2,038	15,711	13,095	2,616
1960–64	58,699	52,341	6,358	38,267	35,459	2,808	20,432	16,882	3,550
1965–69	103,372	90,764	12,608	66,183	60,584	5,599	37,189	30,180	7,009
1970–74	161,208	134,816	26,392	94,862	83,876	10,986	66,346	50,940	15,406
1975–79	159,728	119,726	40,002	90,804	74,347	16,457	68,924	45,379	23,545
1980–84	156,105	105,480	50,625	91,690	69,671	22,019	64,415	35,809	28,606
1985–89	163,396	105,580	57,815	100,930	73,788	27,141	62,466	31,792	30,674
1990–94	193,326	120,163	72,357	123,214	86,639	35,955	70,112	33,524	36,402
1995–99	210,535	123,496	85,960	134,271	89,224	44,314	76,264	34,272	41,646

Before 1990 Ph.D.s who did not report their sex were assumed to be male if female could not be determined definitely from the name. In the 1990s, such cases were left blank; numbers shown in this table for "All Ph.D.s" include Ph.D.s who did not report their sex.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-5. Women's share of doctorates awarded, by major field: 1920–99
(Percent)

Year of doctorate	Science and engineering											Non-science and engineering				
	All fields	Earth, atmospheric, ocean sciences										Total	Health sciences			Professional fields/other
		Total	Agricultural sciences	Biological sciences	atmospheric ocean sciences	Mathematics and computer sciences	Physical sciences	Psychology	Social sciences	Engineering	Education		Humanities			
1920–24	15.1	12.8	3.7	19.3	7.2	19.3	6.7	33.2	11.5	1.7	19.3	15.2	5.0	22.7	13.2	
1925–29	15.4	12.4	1.3	19.4	3.1	12.2	7.1	27.4	12.9	0.6	20.6	19.2	13.8	23.5	8.6	
1930–34	14.7	11.3	1.6	18.2	4.9	16.3	6.6	23.5	11.2	0.7	20.2	17.5	15.6	23.0	12.0	
1935–39	14.8	10.9	1.5	17.0	2.2	12.9	5.0	28.4	13.6	0.7	21.0	21.4	9.8	22.2	12.8	
1940–44	13.5	8.7	0.2	13.5	6.0	11.9	3.6	26.9	10.6	0.4	21.6	23.2	9.0	21.4	15.9	
1945–49	13.4	9.1	0.9	17.1	5.5	9.8	4.8	22.1	10.1	0.5	20.8	22.5	9.3	19.7	22.3	
1950–54	9.4	6.4	0.7	11.9	2.0	5.1	3.6	12.7	8.0	0.2	15.0	17.0	7.5	13.8	10.2	
1955–59	10.6	7.2	1.5	11.6	1.8	4.9	3.7	16.7	8.5	0.5	16.7	19.2	5.7	14.9	14.0	
1960–64	10.8	7.3	1.3	12.6	1.4	5.5	4.0	18.9	9.2	0.5	17.4	19.5	6.8	16.0	15.8	
1965–69	12.2	8.5	1.6	15.8	2.4	5.7	5.1	21.9	10.8	0.4	18.8	19.5	12.3	19.5	13.9	
1970–74	16.4	11.6	3.6	18.5	3.9	8.1	6.5	27.3	14.5	0.8	23.2	23.3	21.8	26.2	12.5	
1975–79	25.0	18.1	7.0	23.9	8.4	12.4	9.3	35.8	22.4	2.2	34.2	36.1	35.3	35.8	20.6	
1980–84	32.4	24.0	13.3	30.0	13.7	13.9	13.0	45.9	28.4	4.4	44.4	48.3	49.5	41.9	30.0	
1985–89	35.4	26.9	17.9	35.2	18.8	15.5	16.9	53.0	33.3	7.0	49.1	54.8	61.9	44.0	33.4	
1990–94	37.6	29.3	21.8	39.1	21.7	18.0	20.1	60.5	36.5	9.5	52.1	59.1	64.5	46.4	35.8	
1995–99	41.0	33.2	26.7	42.7	24.2	20.8	23.1	66.3	39.5	12.8	54.9	62.8	65.5	48.5	39.3	

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-6. Non-U.S. citizens' share of doctorates awarded, by major field: 1960–64 and 1995–99
(Percent)

Field	1960–64			1995–99		
	All non-U.S. citizens	Permanent resident	Temporary resident	All non-U.S. citizens	Permanent resident	Temporary resident
All fields	13.0	2.8	10.2	30.8	7.9	22.9
Science and engineering	16.3	3.4	12.9	38.6	9.7	29.0
Agricultural sciences	25.7	3.0	22.6	52.8	8.5	44.3
Biological sciences	17.0	3.0	14.0	34.2	11.8	22.4
Earth, atmospheric, ocean sciences	16.2	2.9	13.3	37.4	10.1	27.3
Mathematics, computer sciences	17.1	2.7	14.4	50.4	11.1	39.3
Physical sciences	13.4	2.8	10.6	42.0	11.7	30.3
Chemistry	12.7	2.7	10.0	40.5	11.7	28.8
Physics, astronomy	14.6	2.9	11.7	44.2	11.7	32.4
Psychology	5.4	1.8	3.5	7.5	2.7	4.8
Social sciences	18.2	3.9	14.3	34.7	7.8	26.9
Engineering	22.4	6.1	16.3	55.4	11.3	44.1
Non-science and engineering	7.0	1.7	5.2	17.0	4.9	12.2
Education	5.5	0.8	4.7	10.6	2.9	7.6
Health sciences	24.2	3.8	20.4	26.8	6.3	20.5
Humanities	6.1	2.5	3.6	17.7	6.4	11.3
Professional fields/other	14.7	2.5	12.3	28.3	6.4	22.0

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-7. Citizenship status of Ph.D.s: 1960–99
(Percent)

Year of doctorate	Ph.D.s (number)		U.S. citizen	Permanent resident	Temporary resident
	Total	Citizenship status known			
1960–64	58,699	57,868	87.0	2.8	10.2
1965–69	103,372	101,227	85.5	4.3	10.2
1970–74	161,208	157,535	84.7	6.0	9.3
1975–79	159,728	156,079	84.1	4.6	11.2
1980–84	156,105	150,578	81.8	4.2	14.0
1985–89	163,396	152,679	76.1	5.0	19.0
1990–94	193,326	188,322	69.1	6.1	24.8
1995–99	210,535	202,015	69.2	7.9	22.9

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-8. Regional origins of non-U.S. citizen Ph.D.s: 1960–99

(Number of non-U.S. citizen Ph.D.s)

Region	1960–64	1965–69	1970–74	1975–79	1980–84	1985–89	1990–94	1995–99
Africa	351	993	1,602	1,905	3,126	3,297	3,620	2,645
Americas	1,238	2,713	4,435	4,047	4,123	4,475	6,341	6,624
Asia	3,166	7,034	11,932	11,273	13,491	20,280	39,779	41,100
Australasia/Pacific	187	370	654	539	589	506	607	599
Europe	896	1,887	3,625	3,009	2,935	4,186	6,960	9,020

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-9. Leading Asian origins of non-U.S. citizen Ph.D.s: 1960-99

(Number of non-U.S. citizen Ph.D.s)

Country/economy	1960-64	1965-69	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99
China (PRC)	70	54	29	17	86	1,802	10,570	13,673
India	1,127	2,106	3,253	2,467	2,248	3,049	5,305	6,712
Korea	224	511	866	889	1,167	3,289	7,014	5,733
Taiwan	486	1,750	3,155	2,519	2,936	4,391	6,933	6,256
Other Asia	1,259	2,613	4,629	5,381	7,054	7,749	9,957	8,726

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-10. Leading Eastern European origins of non-U.S. citizen Ph.D.s: 1960–99

Country of origin	1960–64	1965–69	1970–74	1975–79	1980–84	1985–89	1990–94	1995–99
Bulgaria	0	1	0	3	0	6	22	203
Former Czechoslovakia	2	5	34	15	3	5	18	144
Former USSR	1	3	1	5	6	6	47	1,030
Former Yugoslavia	9	32	79	98	60	132	291	370
Hungary	26	4	12	5	2	26	78	178
Poland	14	21	27	29	79	137	225	297
Romania	3	0	10	29	12	8	28	327

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-11. Women's share of doctorates earned by U.S. citizens, by major field:
1960-64 and 1995-99

(Percent)

Field	1960-64	1995-99
All fields	11.1	47.0
Science and engineering	7.4	39.2
Agricultural sciences	0.6	29.5
Biological sciences	12.5	44.3
Earth, atmospheric, and ocean sciences	1.4	26.7
Mathematics and computer sciences	5.5	24.1
Physical sciences	3.5	23.2
Chemistry	4.8	29.9
Physics and astronomy	1.2	13.4
Psychology	18.6	66.9
Social sciences	9.8	44.7
Engineering	0.3	15.7
Non-science and engineering	17.3	57.3
Education	19.2	64.1
Health sciences	6.8	72.9
Humanities	15.9	48.6
Professional fields/other	15.9	45.1

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-12. Ethnicity of U.S. citizen Hispanic Ph.D.s: 1980-99

Ethnicity	1980-84	1985-89	1990-94	1995-99
All U.S. Hispanics	2,496	2,927	3,949	5,218
Mexican American	783	875	1,122	1,586
Puerto Rican	585	813	1,119	1,419
Other Hispanic	1,128	1,239	1,708	2,213

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-13. Minorities' share of doctorates earned by U.S. citizens, by race/ethnicity: 1975–99
(Percent)

Year of doctorate	All minorities	Underrepresented minorities ^a	American Indian/ Alaskan Native	Asian/Pacific Islander	Black	Hispanic
1975–79	7.5	6.1	0.2	1.4	4.2	1.6
1980–84	8.6	6.6	0.3	2.0	4.2	2.1
1985–89	9.1	6.6	0.4	2.5	3.6	2.6
1990–94	10.8	7.5	0.5	3.2	4.0	3.1
1995–99	14.1	9.6	0.7	4.4	5.2	3.8

^a American Indians/Alaskan Natives, blacks, and Hispanics.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-14. U.S. citizen minority Ph.D.s, by race/ethnicity: 1975-99

Year of doctorate	American Indian/ Alaskan Native	Asian/Pacific Islander	Black	Hispanic
1975-79	282	1,777	5,301	2,061
1980-84	392	2,381	4,978	2,496
1985-89	498	2,840	4,153	2,927
1990-94	640	4,119	5,094	3,949
1995-99	910	6,039	7,048	5,218

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-15. Minorities' share of non-science and engineering doctorates earned by U.S. citizens, by race/ethnicity: 1975-99
(Percent)

Year of doctorate	All minorities	Underrepresented minorities ^a	American Indian/ Alaskan Native	Asian/ Pacific Islander	Black	Hispanic
1975-79	9.8	8.9	0.3	0.8	6.5	2.1
1980-84	10.8	9.5	0.4	1.2	6.5	2.6
1985-89	10.4	9.0	0.5	1.4	5.6	2.9
1990-94	11.5	9.8	0.7	1.7	6.0	3.2
1995-99	14.4	12.1	0.8	2.4	7.3	4.0

^a American Indians/Alaskan Natives, blacks, and Hispanics.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-16. Minorities' share of non-science and engineering doctorates earned by U.S. citizens, by major field and race/ethnicity: 1975-99
(Percent)

Field	All U.S. minorities	American Indian/ Alaskan Native	Asian/ Pacific Islander	Black	Hispanic
Education					
1975-79	12.7	0.4	0.7	9.5	2.1
1980-84	13.1	0.6	1.1	8.8	2.6
1985-89	12.5	0.6	1.1	7.5	3.2
1990-94	14.0	0.8	1.4	8.3	3.5
1995-99	17.7	0.9	1.7	10.6	4.4
Health sciences					
1975-79	7.4	0.1	2.1	4.1	1.2
1980-84	7.4	0.5	2.4	3.2	1.4
1985-89	8.5	0.6	2.5	3.6	1.9
1990-94	10.4	0.6	3.3	4.6	1.9
1995-99	13.2	0.6	3.7	5.4	3.5
Humanities					
1975-79	5.9	0.1	0.9	2.4	2.5
1980-84	7.3	0.2	1.0	2.8	3.2
1985-89	7.4	0.3	1.3	2.5	3.3
1990-94	8.1	0.4	1.5	2.6	3.6
1995-99	10.3	0.5	2.6	3.2	3.9
Professional fields/other					
1975-79	6.6	0.2	1.1	3.8	1.4
1980-84	8.1	0.1	1.8	4.6	1.6
1985-89	8.4	0.5	1.8	4.4	1.7
1990-94	9.9	0.6	2.2	4.9	2.3
1995-99	13.7	0.8	3.4	6.6	2.9

NOTE: Detail may not add to total because of rounding.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-17. Women's share of doctorates earned by U.S. citizens, by race/ethnicity: 1975–79 and 1995–99
(Percent women)

Year of doctorate	All U.S. citizens	American Indian/ Alaskan Native	Asian/ Pacific Islander	Black	Hispanic	White
1975–79	27.0	26.6	26.0	41.1	28.7	26.6
1995–99	47.0	49.1	42.9	61.9	50.9	46.4

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-18. Age of Ph.D.s at graduation, by broad field of doctorate: 1960–99
(Median age)

Year of doctorate	All fields	Science and engineering	Non-science and engineering
1960–64	31.8	30.3	35.7
1965–69	31.3	29.6	35.5
1970–74	31.1	29.7	34.4
1975–79	31.7	30.1	34.7
1980–84	32.6	30.7	36.0
1985–89	33.7	31.6	37.8
1990–94	34.1	32.0	39.3
1995–99	33.7	31.9	39.5

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-19. Age of Ph.D.s at graduation, by sex: 1960-99
(Median age)

Year of doctorate	Male	Female
1960-64	31.6	36.2
1965-69	31.0	34.4
1970-74	30.9	32.7
1975-79	31.4	32.8
1980-84	32.0	34.1
1985-89	32.8	35.6
1990-94	33.2	36.1
1995-99	33.2	35.0

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-20. Disabilities of Ph.D.s: 1993–99, aggregate

Disability	Number	Percent
All disabilities	4,678	100.0
Visual	873	18.7
Orthopedic	1,303	27.9
Auditory	654	14.0
Vocal	84	1.8
Other/multiple	1,378	29.5
Unspecified	386	8.3

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-21. Married Ph.D.s, by broad field of doctorate: 1960–99
(Percent married)

Broad field	1960–64	1965–69	1970–74	1975–79	1980–84	1985–89	1990–94	1995–99
All Ph.D.s	75.2	77.3	76.9	68.9	62.9	62.6	62.7	60.5
Science and engineering	75.4	77.0	76.4	67.1	59.8	59.6	60.9	58.8
Non-science and engineering	74.9	77.8	77.6	71.4	67.4	67.2	66.0	63.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-22. Married Ph.D.s, by sex and citizenship status: 1960–99
(Percent married)

Year of doctorate	Sex		Citizenship status		
	Male	Female	U.S. citizen	Permanent resident	Temporary resident
1960–64	79.5	40.5	77.3	75.9	57.5
1965–69	81.1	50.1	79.0	77.4	62.7
1970–74	81.0	56.1	78.0	78.4	65.5
1975–79	73.4	55.8	69.0	79.8	64.4
1980–84	66.8	55.0	62.1	78.3	63.3
1985–89	66.1	56.2	61.1	76.9	64.7
1990–94	66.1	57.1	60.3	78.4	65.6
1995–99	63.4	56.4	58.6	78.8	60.1

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-23. Marital status of Ph.D.s with dependents, by sex: 1960–64 and 1995–99

(Percent)

Marital status	1960–64	1995–99
All Ph.D.s		
Married with dependents	74.0	43.4
Unmarried with dependents	2.3	4.4
Male		
Married with dependents	80.5	51.3
Unmarried with dependents	1.6	3.0
Female		
Married with dependents	13.8	31.8
Unmarried with dependents	8.8	6.5

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-24. Married U.S. citizen Ph.D.s, by race/ethnicity: 1975-99
(Percent married)

Race/ethnicity	1975-79	1980-84	1985-89	1990-94	1995-99
American Indian/Alaskan Native	70.4	64.5	61.2	62.6	62.1
Asian/Pacific Islander	70.1	61.6	59.3	55.8	50.4
Black	66.3	59.3	53.9	51.7	48.2
Hispanic	69.1	62.5	61.0	60.3	57.2
White	69.2	62.2	61.5	60.9	59.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-25. Ph.D.s whose parents both have a college degree, by selected characteristics of the Ph.D.: 1995–99

Characteristic	Percent
All Ph.D.s	34.7
Broad field	
Science and engineering	38.2
Non-science and engineering	28.3
Sex	
Male	34.0
Female	35.6
Citizenship status	
U.S. citizen	36.9
Asian/Pacific Islander	47.1
American Indian/Alaskan Native	20.0
Black	19.9
Hispanic	22.1
White	38.0
Permanent resident	32.4
Temporary resident	28.6

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 3-26. Educational attainment of Ph.D.s' parents compared with the U.S. national population: 1999
(Percent)

Educational attainment	U.S. population age 55 or older	Ph.D.s' parents
Less than high school diploma	26.5	13.7
High school diploma	35.7	22.0
Some college	19.4	14.9
Bachelor's degree	11.2	22.1
Advanced degree	7.2	27.3

NOTES: To be most comparable to national data collected by the U.S. Census Bureau, educational attainment is counted for both parents of Ph.D.s who received their degree in 1999. A generation is traditionally defined as 30 years; thus, parents are assumed to be 30 years old when their child is born. Ph.D.s are assumed to be age 25 or older at graduation; the parent of a 25-year old Ph.D. is assumed to be 55 or older when the child receives the doctorate.

SOURCES: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File (Ph.D.s' parents); U.S. Census Bureau, *Statistical Abstract of the United States: 2000* (120th edition), table 251.

FIGURE 3-27. Educational attainment of Ph.D.s' parents: 1965–99
(Percent)

Parent and year of doctorate	All educational attainment	Less than high school diploma	High school diploma	Some college	Bachelor's degree	Master's/ professional degree	Doctorate
Both parents							
1965–69	100.0	23.5	25.5	16.5	19.0	11.4	4.1
1970–74	100.0	20.0	26.4	16.7	19.5	12.7	4.7
1975–79	100.0	16.6	26.2	16.4	20.7	14.5	5.6
1980–84	100.0	14.6	24.7	15.7	22.0	16.3	6.8
1985–89	100.0	13.3	22.9	14.5	22.8	18.2	8.3
1990–94	100.0	11.7	19.8	15.3	20.8	21.3	11.1
1995–99	100.0	9.4	17.5	14.1	22.1	23.8	13.1
Mother							
1965–69	100.0	33.2	32.3	16.6	13.2	4.3	0.4
1970–74	100.0	28.8	34.4	16.8	14.0	5.4	0.5
1975–79	100.0	24.7	35.8	16.9	15.3	6.5	0.7
1980–84	100.0	22.1	35.2	17.3	16.6	7.7	1.0
1985–89	100.0	21.1	33.5	16.9	17.9	9.1	1.3
1990–94	100.0	19.3	29.6	17.7	19.0	12.3	2.1
1995–99	100.0	16.0	27.0	17.3	21.3	15.4	3.0
Father							
1965–69	100.0	36.5	21.4	12.2	16.2	9.7	4.0
1970–74	100.0	32.2	23.1	13.0	16.6	10.6	4.5
1975–79	100.0	27.0	24.3	13.3	18.0	12.0	5.3
1980–84	100.0	23.2	23.8	13.0	19.8	13.8	6.4
1985–89	100.0	20.5	22.7	12.1	21.2	15.7	7.8
1990–94	100.0	17.9	19.9	13.7	20.1	18.0	10.3
1995–99	100.0	14.2	18.6	13.2	21.8	20.2	12.0

NOTES: For both parents, the parent with the higher educational attainment is counted; thus, if the mother has a bachelor's degree and the father has a master's degree, only the father's educational attainment is counted. If both parents have the same level of educational attainment, one count is made for that level. Detail may not add to total because of rounding.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-1. Ph.D.s who ever attended a 2-year college, by broad field of doctorate: 1971–99
(Percent)

Year of doctorate	All fields	Science and engineering	Non-science and engineering
1971–74	7.7	6.4	9.5
1975–79	8.7	7.1	10.8
1980–82	8.8	7.3	11.0
1987–89	8.3	7.0	10.6
1990–94	8.3	6.6	11.3
1995–99	8.1	6.1	11.6

NOTE: Two-year college attendance was not recorded in all years. The 1971–74, 1980–82, and 1987–89 periods include less than 5 years.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-2. Ph.D.s who ever attended a 2-year college,
by major field of doctorate: 1995–99

Field	Percent
All fields	8.1
Science and engineering	6.1
Agricultural sciences	7.9
Biological sciences	6.2
Earth, atmospheric, and ocean sciences	6.2
Mathematics and computer sciences	4.3
Physical sciences	4.5
Psychology	11.0
Social sciences	7.1
Engineering	3.9
Non-science and engineering	11.6
Education	15.4
Health sciences	11.4
Humanities	7.5
Professional fields/other	9.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-3. Ph.D.s who ever attended a 2-year college, by sex and citizenship status: 1971–74 and 1995–99
(Percent)

Year of doctorate	All Ph.D.s	Male	Female	U.S. citizen	Permanent resident	Temporary resident
1971–74	7.7	7.9	6.6	8.9	2.1	0.7
1995–99	8.1	7.1	9.4	11.3	2.0	0.5

NOTE: Two-year college attendance was not recorded in 1970.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-4. U.S. citizen Ph.D.s who ever attended a 2-year college, by race/ethnicity: 1975–79 and 1995–99 (Percent)

Year of doctorate	All U.S. citizens	American Indian/		Asian/		Black	Hispanic	White
		Alaskan Native	Pacific Islander	Pacific Islander	Black			
1975–79	10.1	18.0	8.5	11.0	20.9	9.9		
1995–99	11.3	21.5	6.1	11.8	15.9	11.3		

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-5. Ph.D.s with baccalaureates from foreign institutions, by citizenship status: 1960–64 and 1995–99 (Percent)

Year of doctorate	All Ph.D.s	U.S. citizen	Permanent resident	Temporary resident
1960–64	12.2	1.1	72.3	89.8
1995–99	27.6	2.2	79.2	89.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-6. Ph.D.s with baccalaureates from foreign institutions, by broad field of doctorate: 1920–99

(Percent)

Year of doctorate	All fields	Science and engineering	Non-science and engineering
1920–24	7.0	6.9	7.0
1925–29	7.3	7.7	6.6
1930–34	6.7	7.3	5.8
1935–39	5.4	5.8	4.6
1940–44	5.7	6.5	4.2
1945–49	8.4	10.1	5.5
1950–54	9.3	11.0	6.0
1955–59	9.9	11.9	6.3
1960–64	12.2	15.0	7.0
1965–69	13.5	16.9	7.5
1970–74	14.2	18.8	7.7
1975–79	13.9	18.6	7.8
1980–84	16.1	20.4	10.0
1985–89	21.8	27.2	13.1
1990–94	28.3	35.4	15.7
1995–99	27.6	34.5	15.4

SOURCE: NSF/NIH/USED/NEH/USDA/ NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-7. Ph.D.s without master's degrees, by major field of doctorate: 1995-99

Field	Percent
All fields	9.7
Science and engineering	14.2
Agricultural sciences	4.5
Biological sciences	36.9
Earth, atmospheric, and ocean sciences	11.6
Mathematics and computer sciences	7.3
Mathematics	10.1
Computer sciences	4.1
Physical sciences	28.0
Chemistry	38.2
Physics and astronomy	16.2
Psychology	5.1
Social sciences	5.1
Engineering	6.0
Non-science and engineering	2.4
Education	0.9
Health sciences	6.7
Humanities	2.9
Professional fields/other	3.4

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-8. Major field of Ph.D.s' bachelor's, master's, and doctoral degrees: 1960–64
(Percent)

Field	Bachelor's degree	Master's degree	Doctoral degree
Science and engineering			
Agricultural sciences	5.4	5.1	3.9
Biological sciences	8.2	9.8	12.1
Earth, atmospheric, and ocean sciences	2.0	2.3	2.4
Mathematics and computer sciences	4.2	3.7	3.5
Physical sciences	18.1	11.1	16.2
Psychology	6.2	7.3	7.4
Social sciences	8.6	9.2	9.5
Engineering	11.7	11.4	10.2
Non-science and engineering			
Education	9.6	16.9	16.4
Health sciences	1.7	1.3	0.9
Humanities	20.0	17.7	14.8
Professional fields/other	4.4	4.2	2.8

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-9. Major field of Ph.D.s' bachelor's, master's, and doctoral degrees: 1995–99

(Percent)

Field	Bachelor's degree	Master's degree	Doctoral degree
Science and engineering			
Agricultural sciences	2.6	2.9	2.4
Biological sciences	11.9	6.7	13.5
Earth, atmospheric, and ocean sciences	1.6	1.9	1.9
Mathematics and computer sciences	5.7	5.6	4.9
Physical sciences	11.2	6.7	9.0
Psychology	8.6	8.1	8.5
Social sciences	9.4	10.0	9.5
Engineering	15.4	16.1	14.1
Non-science and engineering			
Education	8.1	14.4	15.7
Health sciences	3.8	4.5	3.3
Humanities	15.9	13.7	11.7
Professional fields/other	5.9	9.4	5.5

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-10. Ph.D.s whose bachelor's and doctoral degrees are in the same major field and whose master's and doctoral degrees are in the same major field: 1960-99

(Percent)

Year of doctorate	Same field for bachelor's and doctorate	Same field for master's and doctorate
1960-64	68.6	86.2
1965-69	69.3	86.4
1970-74	67.6	84.5
1975-79	64.9	81.6
1980-84	64.1	80.4
1985-89	65.2	80.0
1990-94	66.0	80.1
1995-99	66.7	80.2

NOTES: Percentages are based on number of Ph.D.s in doctoral field. Subfields of physical sciences and subfields of mathematics and computer sciences were not broken out from their respective major field.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-11. Ph.D.s with bachelor's and doctoral degrees in the same major field, by field of degree: 1960–64 and 1995–99

(Percent)

Field	1960–64	1995–99
Science and engineering		
Agricultural sciences	76.7	62.7
Biological sciences	54.6	68.5
Earth, atmospheric, and ocean sciences	75.7	56.2
Engineering	89.3	86.3
Mathematics and computer sciences	71.6	72.9
Mathematics	na	81.1
Computer sciences	na	45.5
Physical sciences	83.9	84.7
Chemistry	86.5	83.8
Physics and astronomy	76.4	81.6
Psychology	65.8	70.0
Social sciences	57.7	58.8
Non-science and engineering		
Education	44.1	41.1
Health sciences	52.9	54.4
Humanities	84.7	80.4
Professional fields/other	51.2	41.3

NOTES: Percentages are based on number of Ph.D.s in doctoral field or in subfields of mathematics and computer sciences or subfields of physical sciences. Computer sciences did not become a separate field in the SED until the late 1970s.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-12. Ph.D.s with bachelor's and doctoral degrees in the same major field, by sex and citizenship status: 1960–64 and 1995–99

(Percent)

Sex and citizenship status	1960–64	1995–99
All Ph.D.s	68.6	66.7
Sex		
Male	69.4	69.3
Female	62.4	62.9
Citizenship status		
U.S. citizen	68.9	64.9
Permanent resident	70.5	67.0
Temporary resident	65.8	72.5

NOTES: Percentages are based on number of Ph.D.s in doctoral field. Subfields of physical sciences and subfields of mathematics and computer sciences were not broken out from their respective major field.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-13. U.S. citizen Ph.D.s with bachelor's and doctoral degrees in the same major field, by race/ethnicity: 1975–79 and 1995–99

(Percent)

Race/ethnicity	1975–79	1995–99
All U.S. citizen Ph.D.s	64.1	64.9
American Indian/Alaskan Native	63.5	63.0
Asian/Pacific Islander	66.2	69.7
Black	56.8	56.0
Hispanic	59.9	65.1
White	64.4	65.2

NOTES: Percentages are based on number of Ph.D.s in doctoral field. Subfields of physical sciences and subfields of mathematics and computer sciences were not broken out from their respective major field.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-14. Total time to doctorate, by broad field of study: 1920-99
(Percent)

Year of doctorate	All fields	Science and engineering	Non-science and engineering
1920-24	7.0	6.0	8.0
1925-29	7.0	6.0	9.0
1930-34	7.0	6.0	9.0
1935-39	8.0	6.0	11.0
1940-44	7.0	6.0	12.0
1945-49	9.0	8.0	13.0
1950-54	8.0	7.0	12.0
1955-59	8.0	7.0	12.0
1960-64	9.0	7.0	12.0
1965-69	8.0	7.0	12.0
1970-74	8.2	7.0	10.9
1975-79	8.9	7.5	11.3
1980-84	9.7	8.0	12.7
1985-89	10.5	8.7	14.4
1990-94	10.6	9.0	15.6
1995-99	10.6	9.0	15.1

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-15. Registered time to doctorate, by broad field of study: 1960–99
(Median years)

Year of doctorate	All fields	Science and engineering	Non-science and engineering
1960–64	5.0	5.0	6.0
1965–69	5.1	5.0	6.0
1970–74	5.9	5.6	6.2
1975–79	6.1	5.9	6.7
1980–84	6.6	6.2	7.3
1985–89	7.0	6.5	8.0
1990–94	7.1	6.8	8.0
1995–99	7.3	7.0	8.3

NOTE: Before 1969 registered time to doctorate (RTD) was based on whole years to degree; from 1969 on, RTD was based on years and months to degree.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-16. Total time to doctorate and registered time to doctorate, by sex: 1960–64 and 1995–99
(Median years)

Year of doctorate	All Ph.D.s		Male		Female	
	TTD	RTD	TTD	RTD	TTD	RTD
1960–64	9.0	5.0	8.0	5.0	12.0	6.0
1965-69	8.0	5.1	8.0	5.0	10.5	6.0
1970-74	8.2	5.9	8.0	5.8	9.7	6.0
1975-79	8.9	6.1	8.5	6.0	10.0	6.3
1980-84	9.7	6.6	9.0	6.5	11.1	7.0
1985-89	10.5	7.0	9.7	6.8	12.3	7.3
1990-94	10.6	7.1	10.0	7.0	12.3	7.6
1995-99	10.6	7.3	10.0	7.1	11.7	7.6

NOTES: Before 1969 registered time to doctorate (RTD) was based on whole years to degree; from 1969 on, RTD was based on years and months to degree. TTD is total time to doctorate.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-17. Total time to doctorate and registered time to doctorate, by citizenship status: 1960–64 and 1995–99
(Median years)

Year of doctorate	U.S. citizen		Permanent resident		Temporary resident	
	TTD	RTD	TTD	RTD	TTD	RTD
1960–64	9.0	5.0	8.0	5.0	8.0	5.0
1965-69	8.0	5.2	8.5	5.3	8.0	5.0
1970-74	8.2	5.9	8.9	6.0	7.8	5.2
1975-79	9.0	6.2	9.0	6.3	8.0	5.5
1980-84	10.0	6.8	9.3	6.5	9.0	5.9
1985-89	11.0	7.2	10.0	7.0	9.4	6.2
1990-94	11.5	7.3	10.5	7.3	9.5	6.7
1995–99	11.0	7.4	11.3	7.8	9.8	6.9

NOTES: Before 1969 registered time to doctorate (RTD) was based on whole years to degree; from 1969 on, RTD was based on years and months to degree. TTD is total time to doctorate.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 4-18. U.S. citizens' total time to doctorate and registered time to doctorate, by race/ethnicity: 1975–79 and 1995–99
(Median years)

Year of doctorate	All U.S. citizens		American Indian/Alaskan Native		Asian/Pacific Islander		Black		Hispanic		White	
	TTD	RTD	TTD	RTD	TTD	RTD	TTD	RTD	TTD	RTD	TTD	RTD
1975–79	9.0	6.2	10.0	6.3	10.2	6.7	12.3	6.2	9.7	6.3	8.9	6.2
1980-84	10.0	6.8	11.1	7.0	10.1	7.0	13.3	7.3	10.9	7.0	9.8	6.7
1985-89	11.0	7.2	12.3	7.1	9.6	7.0	14.9	8.0	11.6	7.5	10.9	7.1
1990-94	11.5	7.3	14.2	7.2	9.0	7.0	16.5	8.0	11.6	7.6	11.4	7.3
1995–99	11.0	7.4	12.3	7.6	8.7	7.0	14.8	7.9	11.2	7.6	11.0	7.4

NOTE: RTD is registered time to doctorate; TTD is total time to doctorate.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-1. Baccalaureate institutions of Ph.D.s, distributed by control of institution: 1920–99
(Percent of doctorate recipients)

Year of doctorate	Public	Private
1920–24	37.1	62.9
1925–29	41.6	58.4
1930–34	42.8	57.2
1935–39	44.3	55.7
1940–44	45.4	54.6
1945–49	48.7	51.3
1950–54	52.6	47.4
1955–59	51.8	48.2
1960–64	51.8	48.2
1965–69	52.1	47.9
1970–74	54.1	45.9
1975–79	55.9	44.1
1980–84	57.9	42.1
1985–89	59.2	40.8
1990–94	60.0	40.0
1995–99	59.0	41.0

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-2. Top 50 U.S. baccalaureate institutions of Ph.D.s: 1920–99

Baccalaureate institution	Doctorate recipients
U. California-Berkeley	18,055
U. Illinois-Urbana-Champaign	13,704
U. Michigan-Ann Arbor	13,440
U. Wisconsin-Madison	12,627
* Cornell U.	11,598
* Harvard U.	10,772
U. California-Los Angeles	10,682
U. Minnesota-Twin Cities	10,449
* Massachusetts Institute of Technology	9,739
Pennsylvania State U.-U. Park	9,669
City U. New York-City College	9,625
Ohio State U.-Columbus	9,562
U. Texas-Austin	9,461
Michigan State U.	8,243
* Stanford U.	7,403
* U. Chicago	7,384
U. Washington-Seattle	7,365
Purdue U.-West Lafayette	7,260
* Columbia U. City of New York	7,245
* Yale U.	7,238
Rutgers State U. New Jersey-New Brunswick	7,042
* New York U.	6,790
City U. New York-Brooklyn College	6,717
* U. Pennsylvania	6,363
Indiana U.-Bloomington	6,283
* Brigham Young U.	6,191
* Princeton U.	5,867
U. Florida	5,780
U. Maryland-College Park	5,771
Iowa State U.	5,593
* Northwestern U.	5,475
U. Colorado-Boulder	5,333
U. Missouri-Columbia	5,287
U. Iowa	4,893
* Oberlin College	4,875
U. Utah	4,834
U. Kansas-Lawrence	4,809
U. North Carolina-Chapel Hill	4,771
* Brown U.	4,724
U. Nebraska-Lincoln	4,655
State U. New York at Buffalo	4,570
U. Massachusetts-Amherst	4,445
U. Pittsburgh-Pittsburgh	4,398
* Boston U.	4,381
Wayne State U.	4,263
* U. Rochester	4,260
U. California-Davis	4,212
Texas A&M U.-College Station	4,169
* Duke U.	4,118
* Case Western Reserve U.	3,874

* Privately controlled.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-3. Black, U.S. citizen Ph.D.s with baccalaureates, master's degrees, or doctorates awarded by an HBCU: 1975-79 and 1995-99

(Percent)

Year of doctorate	HBCU baccalaureate	HBCU master's degree	HBCU doctorate
1975-99	42.1	17.3	6.8
1975-79	56.0	19.4	2.8
1995-99	30.6	15.1	9.0

HBCU = historically black college or university.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-4. Doctorates awarded, by region of doctoral institution: 1920–99
(Percent)

Year of doctorate	Northeast	Midwest	South	West	Puerto Rico ^a
1920–99	27.3	28.8	24.3	19.4	0.1
1920–24	45.8	35.8	11.6	6.8	na
1925–29	41.6	38.1	11.7	8.6	na
1930–34	42.0	37.3	12.1	8.5	na
1935–39	41.5	36.8	12.0	9.7	na
1940–44	39.4	38.5	12.4	9.7	na
1945–49	39.6	36.9	11.1	12.4	na
1950–54	35.9	37.1	12.8	14.1	na
1955–59	34.0	35.2	15.5	15.3	na
1960–64	31.9	34.8	16.8	16.6	na
1965–69	28.1	31.7	20.5	19.7	*
1970–74	26.4	31.1	22.5	20.1	*
1975–79	26.5	28.4	25.2	19.9	*
1980–84	25.9	27.0	25.9	21.1	*
1985–89	25.9	26.1	27.1	20.9	0.1
1990–94	25.2	25.8	28.2	20.7	0.1
1995–99	23.8	25.4	30.0	20.6	0.2

* = less than 0.1%.

^a Doctorates were not awarded in Puerto Rico until 1965.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-5. Doctorates awarded, by location of doctoral institution: 1920-99

Location	1920-99		1920-24		1995-99	
	Number	Percent	Number	Percent	Number	Percent
All locations	1,354,873	100.0	4,199	100.0	210,535	100.0
New York	151,545	11.2	0	0.0	2,594	1.2
California	150,447	11.1	0	0.0	128	0.1
Illinois	86,648	6.4	2	0.0	3,815	1.8
Massachusetts	81,086	6.0	0	0.0	728	0.3
Pennsylvania	72,138	5.3	262	6.2	24,153	11.5
Texas	67,140	5.0	8	0.2	3,817	1.8
Michigan	57,823	4.3	228	5.4	3,085	1.5
Ohio	57,299	4.2	0	0.0	832	0.4
Indiana	44,640	3.3	141	3.4	2,457	1.2
Florida	39,284	2.9	0	0.0	8,969	4.3
Wisconsin	37,515	2.8	0	0.0	4,563	2.2
North Carolina	31,148	2.3	0	0.0	835	0.4
Iowa	27,926	2.1	0	0.0	430	0.2
Maryland	28,495	2.1	674	16.1	11,321	5.4
New Jersey	27,888	2.1	37	0.9	5,441	2.6
Minnesota	26,344	1.9	145	3.5	3,261	1.5
Colorado	24,858	1.8	10	0.2	2,303	1.1
Connecticut	24,863	1.8	0	0.0	1,667	0.8
Missouri	24,476	1.8	1	0.0	2,666	1.3
District of Columbia	21,445	1.6	0	0.0	235	0.1
Georgia	21,669	1.6	283	6.7	4,832	2.3
Virginia	22,099	1.6	490	11.7	10,861	5.2
Washington	21,967	1.6	113	2.7	7,470	3.5
Tennessee	20,568	1.5	105	2.5	4,267	2.0
Arizona	17,077	1.3	0	0.0	1,760	0.8
Oregon	15,881	1.2	37	0.9	3,541	1.7
Kansas	14,887	1.1	0	0.0	403	0.2
Oklahoma	15,216	1.1	17	0.4	1,459	0.7
Louisiana	14,201	1.0	0	0.0	398	0.2
Utah	13,771	1.0	0	0.0	514	0.2
Alabama	10,944	0.8	115	2.7	4,352	2.1
Mississippi	8,848	0.7	0	0.0	1,440	0.7
Nebraska	8,997	0.7	879	20.9	18,624	8.8
Kentucky	8,149	0.6	13	0.3	5,316	2.5
Rhode Island	8,164	0.6	0	0.0	386	0.2
South Carolina	8,064	0.6	92	2.2	9,059	4.3
New Mexico	6,940	0.5	0	0.0	2,036	1.0
Arkansas	4,330	0.3	0	0.0	2,132	1.0
Delaware	3,712	0.3	188	4.5	11,039	5.2
Hawaii	4,017	0.3	0	0.0	454	0.2
West Virginia	4,131	0.3	23	0.5	1,205	0.6
Idaho	2,081	0.2	0	0.0	1,984	0.9
Montana	2,223	0.2	0	0.0	378	0.2
New Hampshire	2,376	0.2	20	0.5	3,361	1.6
North Dakota	2,567	0.2	8	0.2	13,552	6.4
Wyoming	2,387	0.2	0	0.0	1,871	0.9
Maine	1,074	0.1	0	0.0	282	0.1
Nevada	1,158	0.1	21	0.5	5,084	2.4
South Dakota	1,739	0.1	12	0.3	3,512	1.7
Vermont	1,349	0.1	0	0.0	714	0.3
Puerto Rico	910	0.1	275	6.5	4,602	2.2
Alaska	369	*	0	0.0	347	0.2

* = less than 0.1%.

NOTE: States that were tied are listed alphabetically.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-6. Institutions that ever awarded a doctorate, by period of first doctoral award: pre-1920 and 5-year periods from 1920 to 1999

Period of first award	Number of institutions
1920-99	426
Pre-1920	50
1920-24	10
1925-29	18
1930-34	10
1935-39	18
1940-44	9
1945-49	13
1950-54	22
1955-59	25
1960-64	34
1965-69	36
1970-74	62
1975-79	30
1980-84	20
1985-89	24
1990-94	26
1995-99	19

SOURCE: NSF/NIH/USED/NEH/ USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-7. Doctoral awards by institutions that began granting doctorates before 1920: 1920-99

Year of doctorate	Percent
1920-99	50.1
1920-24	99.1
1925-29	97.2
1930-34	93.6
1935-39	88.0
1940-44	84.8
1945-49	81.2
1950-54	74.8
1955-59	69.1
1960-64	65.4
1965-69	57.3
1970-74	51.1
1975-79	47.4
1980-84	44.9
1985-89	43.8
1990-94	41.5
1995-99	39.7

SOURCE: NSF/NIH/USED/NEH/ USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-8. Doctoral institutions of Ph.D.s, distributed by control of institution: 1920-99
(Percent of doctorates awarded)

Year of doctorate	Public	Private
1920-24	30.3	69.7
1925-29	35.8	64.2
1930-34	39.5	60.5
1935-39	42.2	57.8
1940-44	44.7	55.3
1945-49	43.8	56.2
1950-54	50.1	49.9
1955-59	53.7	46.3
1960-64	56.7	43.3
1965-69	61.2	38.8
1970-74	65.3	34.7
1975-79	65.8	34.2
1980-84	65.9	34.1
1985-89	66.5	33.5
1990-94	67.6	32.4
1995-99	68.2	31.8

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-9. Control of doctoral institutions of Ph.D.s, by broad field of doctorate:
1920-99
(Percent)

Year of doctorate	Science and engineering		Non-science and engineering	
	Public	Private	Public	Private
1920-24	35.8	64.2	20.3	79.7
1925-29	41.7	58.3	25.6	74.4
1930-34	46.3	53.7	28.2	71.8
1935-39	48.1	51.9	32.4	67.6
1940-44	51.2	48.8	33.6	66.4
1945-49	49.5	50.5	34.0	66.0
1950-54	54.6	45.4	41.5	58.5
1955-59	56.6	43.4	48.4	51.6
1960-64	58.6	41.4	53.2	46.8
1965-69	61.6	38.4	60.5	39.5
1970-74	64.4	35.6	66.6	33.4
1975-79	65.4	34.6	66.2	33.8
1980-84	65.5	34.5	66.4	33.6
1985-89	66.7	33.3	66.3	33.7
1990-94	67.9	32.1	67.1	32.9
1995-99	68.6	31.4	67.3	32.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-10. Control of baccalaureate and doctoral institutions of Ph.D.s: 1920–24 and 1995–99

(Percent)

Degree and control of institution	1920–24	1995–99
Doctorate and bachelor's public	18.8	45.5
Doctorate public, bachelor's private	12.8	23.0
Doctorate and bachelor's private	50.1	17.9
Doctorate private, bachelor's public	18.3	13.5

NOTE: Percentages are based on number of doctorate holders with U.S. baccalaureates.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records Files.

FIGURE 5-11. Doctorates awarded, by Carnegie classification of institution: 1990 and 1999

(Percent)

Carnegie classification	1990	1999
Research I	69.0	66.4
Research II	11.6	11.5
Doctoral I	11.2	10.7
Doctoral II	3.7	5.0
Other	4.5	6.5

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-12. Carnegie classifications of Ph.D.s' doctoral institutions, by sex and citizenship status of Ph.D.: 1990–99
(Percent)

Demographic group	Research I	Research II	Doctoral I	Doctoral II	Other
All Ph.D.s	68.3	11.5	10.6	4.4	5.3
Male	70.7	11.5	8.9	4.2	4.7
Female	64.5	11.4	13.1	4.6	6.4
U.S. citizen	66.0	11.6	11.9	4.5	5.9
Non-U.S. citizen	73.8	11.6	7.3	3.9	3.4

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-13. Carnegie classifications of U.S. citizen Ph.D.s' doctoral institutions, by race/ethnicity of Ph.D.: 1990-99
(Percent)

Race/ethnicity	Research I	Research II	Doctoral I	Doctoral II	Other
American Indian/Alaskan Native	53.9	19.2	12.5	7.0	7.4
Asian/Pacific Islander	76.4	7.4	7.0	3.6	5.6
Black	55.8	11.1	19.8	5.4	7.9
Hispanic	63.8	8.8	10.7	7.8	8.9
White	66.2	11.9	11.7	4.4	5.8

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-14. Top 50 U.S. doctoral institutions of Ph.D.s, by number of doctorates awarded: 1920–99

Doctoral institution	Doctorates awarded	
	Number	Percent
U. California-Berkeley	34,018	2.5
U. Wisconsin-Madison	33,834	2.5
U. Illinois-Urbana-Champaign	30,881	2.3
U. Michigan-Ann Arbor	28,662	2.1
* Harvard U.	28,117	2.1
Ohio State U.-Columbus	26,962	2.0
* Columbia U. City of New York	25,715	1.9
U. Minnesota-Twin Cities	24,988	1.8
* Stanford U.	22,461	1.7
* Cornell U.	22,377	1.7
* New York U.	21,906	1.6
U. Texas-Austin	21,608	1.6
U. California-Los Angeles	20,600	1.5
* U. Chicago	20,599	1.5
* Massachusetts Institute of Technology	19,414	1.4
Michigan State U.	18,840	1.4
Purdue U.-West Lafayette	18,702	1.4
Indiana U.-Bloomington	18,653	1.4
Pennsylvania State U.-U. Park	17,404	1.3
* Yale U.	17,202	1.3
* U. Pennsylvania	17,196	1.3
* U. Southern California	16,706	1.2
U. Washington-Seattle	15,593	1.2
U. Iowa	15,238	1.1
U. Maryland-College Park	14,814	1.1
U. Pittsburgh-Pittsburgh	14,613	1.1
* Northwestern U.	14,581	1.1
U. North Carolina-Chapel Hill	12,512	0.9
U. Florida	12,217	0.9
Rutgers State U. New Jersey-New Brunswick	12,199	0.9
Iowa State U.	12,152	0.9
Texas A&M U.-College Station	11,999	0.9
* Johns Hopkins U.	11,602	0.9
* Princeton U.	11,319	0.8
* Teachers College-Columbia U.	11,294	0.8
U. Colorado-Boulder	10,822	0.8
* Boston U.	10,506	0.8
Florida State U.	10,383	0.8
U. Missouri-Columbia	10,124	0.7
U. Massachusetts-Amherst	9,942	0.7
U. Georgia	9,829	0.7
U. Arizona	9,771	0.7
State U. New York at Buffalo	9,669	0.7
U. Kansas-Lawrence	9,355	0.7
U. Virginia-Charlottesville	9,232	0.7
U. California-Davis	8,863	0.7
U. Nebraska-Lincoln	8,810	0.7
* Nova Southeastern U.	8,671	0.6
* Vanderbilt U.	8,619	0.6
Temple U.	8,539	0.6

* Privately controlled.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 5-15. Doctorates awarded to black U.S. citizens by HBCUs: 1975-99

Institution	Doctorates
All HBCUs	1,804
Howard U.	716
Clark Atlanta U.	508
Texas Southern U.	187
South Carolina State U.	76
Meharry Medical College	74
Jackson State U.	56
Morgan State U.	48
Tennessee State U.	45
Grambling State U.	43
Florida A&M U.	23
Alabama A&M U.	18
North Carolina A&T State U.	5
Southern U. A&M College-Baton Rouge	2
U. Maryland-Eastern Shore	2
Hampton U.	1

HBCU = historically black college or university.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-1. Postgraduation plans of Ph.D.s: 1970-99

(Percent)

Postgraduation plans	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99
Definite plans	76.5	72.9	74.8	73.6	68.8	68.1
No definite plans	23.5	27.1	25.2	26.4	31.2	31.9

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-2. Ph.D.s with definite postgraduation plans, by major field of doctorate: 1970–74 and 1995–99
(Percent)

Field	1970–74	1975-79	1980-84	1985-89	1990-94	1995–99
All fields	76.5	72.9	74.8	73.6	68.8	68.1
Science and engineering	76.2	74.2	75.5	73.5	67.6	67.8
Agricultural sciences	71.6	72.1	71.2	69.5	65.4	62.5
Biological sciences	77.0	77.1	78.5	78.2	76.2	73.1
Earth, atmospheric, and ocean sciences	77.6	76.6	78.6	71.8	68.0	65.8
Mathematics and computer sciences	72.1	71.2	77.3	73.8	64.8	68.2
Physical sciences	74.7	75.4	79.6	78.9	70.1	70.2
Psychology	76.4	70.2	71.2	72.9	70.4	67.6
Social sciences	83.0	74.6	72.7	69.5	64.7	64.5
Engineering	72.5	74.3	75.7	68.8	59.7	64.6
Non-science and engineering	76.9	71.1	73.8	73.8	70.9	68.5
Education	76.2	73.7	75.2	75.2	74.2	73.5
Health sciences	81.0	77.8	76.9	76.3	71.7	71.2
Humanities	74.9	60.7	64.9	65.5	61.9	58.3
Professional fields/other	86.6	84.5	84.2	81.4	76.6	74.4

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-3. U.S. citizen and permanent resident Ph.D.s with definite postgraduation plans, by race/ethnicity: 1975–79 and 1995–99

(Percent)

Race/ethnicity	1975–79	1980–84	1985–89	1990–94	1995–99
All U.S. citizens and permanent residents	73.3	75.3	74.7	71.4	69.5
American Indian/Alaskan Native	71.2	68.6	72.1	68.6	67.3
Asian/Pacific Islander	64.8	68.3	66.5	59.1	62.2
Black	69.2	71.4	68.2	68.2	66.9
Hispanic	71.8	71.1	71.2	68.6	68.9
White	73.9	76.0	75.6	72.8	70.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-4. Location and kinds of postgraduation plans of Ph.D.s with definite plans: 1970-74 and 1995-99

(Percent)

Postgraduation plans	1970-74	1995-99
U.S. employment	76.8	63.1
U.S. study	13.8	26.5
Foreign employment	7.3	7.6
Foreign study	2.1	2.8

SOURCE: NSF/NIH/USED/NEH/USDA/ NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-5. Ph.D.s with definite plans to stay in the United States after graduation, by major field of doctorate: 1970-74 and 1995-99
(Percent)

Field	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99
All fields	90.6	90.7	90.1	89.5	87.6	89.6
Science and engineering	88.3	88.9	88.8	88.0	85.3	88.5
Agricultural sciences	70.9	71.1	69.2	68.6	66.7	72.2
Biological sciences	89.6	91.3	91.8	92.0	90.9	92.4
Earth, atmospheric, and ocean sciences	87.6	88.7	89.0	84.6	82.5	85.4
Mathematics and computer sciences	89.1	88.9	89.6	86.6	82.4	87.1
Physical sciences	88.6	90.9	91.5	90.8	87.1	90.5
Psychology	95.4	96.1	97.5	97.8	96.9	97.0
Social sciences	85.7	84.7	83.4	82.2	78.6	80.2
Engineering	88.8	87.6	84.5	83.1	79.2	86.8
Non-science and engineering	94.0	93.2	92.1	92.1	91.4	91.4
Education	95.1	94.4	92.8	93.0	93.9	94.2
Health sciences	91.2	90.5	90.3	89.8	88.9	88.8
Humanities	93.9	93.2	92.7	92.5	91.1	90.8
Professional fields/other	89.5	89.2	89.1	89.5	86.4	86.3

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-6. Ph.D.s with definite plans to stay in the United States after graduation, by citizenship status: 1970-99
(Percent)

Citizenship status	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99
All Ph.D.s	90.6	90.7	90.1	89.5	87.6	89.6
U.S. citizen	96.4	97.2	97.5	97.4	96.6	96.8
Permanent resident	89.2	91.2	92.1	85.6	87.3	92.0
Temporary resident	32.1	36.7	40.9	52.9	55.7	63.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-7. Non-U.S. citizen Ph.D.s with definite plans to stay in the United States after graduation, by visa status:
1970-99

Citizenship status	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99
Non-U.S. citizens	7,824	7,749	8,462	12,224	18,852	25,267
Permanent resident	4,756	3,759	3,255	3,362	4,962	8,117
Temporary resident	3,068	3,990	5,207	8,862	13,890	17,150

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-8. Non-U.S. citizen Ph.D.s with definite plans to stay in the United States after graduation, by region of origin: 1970–74 and 1995–99

(Percent of those with definite plans)

Region	Total	Permanent resident	Temporary resident
1970–74			
Africa	43.5	20.8	22.7
Americas	32.3	17.5	14.8
Asia	61.4	36.5	24.9
Australasia/Pacific	37.3	17.2	20.1
Europe	56.8	37.1	19.7
1995–99			
Africa	52.6	17.0	35.6
Americas	51.5	17.7	33.8
Asia	75.8	24.1	51.6
Australasia/Pacific	57.7	18.2	39.4
Europe	74.0	24.4	49.6

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-9. Top 10 origins of non-U.S. citizen Ph.D.s with definite plans to stay in the United States after graduation, by visa status: 1995–99

Country/economy	Non-U.S. citizen Ph.D.s			Stay rate (%)
	Total	Permanent resident	Temporary resident	
China (PRC)	7,548	3,635	3,913	96.5
India	4,018	615	3,403	93.0
Taiwan	1,734	361	1,373	58.8
Korea	1,405	189	1,216	57.1
Canada	983	337	646	60.3
Germany	607	216	391	68.7
Great Britain	542	255	287	82.0
Russia	491	132	359	90.9
Japan	339	96	243	46.4
Turkey	318	51	267	57.6

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-10. Ph.D.s with definite plans for U.S. postgraduation employment and study: 1970-99

Plans	1970-74		1975-79		1980-84		1985-89		1990-94		1995-99	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Study	15,633	15.3	17,759	18.7	19,022	20.9	23,003	25.5	29,223	27.9	33,735	29.6
Employment	86,802	84.7	77,325	81.3	71,794	79.1	67,167	74.5	75,542	72.1	80,257	70.4

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-11. Ph.D.s with definite plans for U.S. postgraduation study, by major field of doctorate: 1970–74 and 1995–99

(Percent)

Field	1970–74	1975–79	1980–84	1985–89	1990–94	1995–99
All fields	15.3	18.7	20.9	25.5	27.9	29.6
Science and engineering	24.9	30.5	33.4	39.2	42.7	43.3
Agricultural sciences	15.7	16.0	19.3	31.2	39.0	41.3
Biological sciences	53.9	68.2	74.6	78.6	81.1	79.2
Earth, atmospheric, and ocean sciences	20.2	26.2	29.5	38.8	43.7	48.0
Mathematics and computer sciences	6.7	9.3	12.6	17.3	20.2	22.5
Physical sciences	46.6	51.5	45.7	56.6	61.8	59.7
Chemistry	47.7	49.9	42.3	53.5	57.1	59.5
Physics and astronomy	45.1	54.1	52.1	62.6	70.3	59.9
Psychology	14.1	17.1	19.0	21.2	25.3	34.1
Social sciences	3.7	5.3	6.9	8.9	9.5	11.9
Engineering	9.7	13.4	12.6	18.8	22.4	22.2
Non-science and engineering	2.2	2.9	3.0	4.1	4.8	6.0
Education	1.6	2.0	1.9	2.7	3.1	3.6
Health sciences	13.8	17.5	16.5	16.3	19.0	21.0
Humanities	2.3	3.6	3.4	5.0	5.3	6.4
Professional fields/other	1.3	1.5	1.4	2.2	2.6	3.6

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-12. U.S. citizen and permanent resident Ph.D.s with definite plans for U.S. postgraduation study, by race/ethnicity: 1975–79 and 1995–99

(Percent)

Race/ethnicity	1975–79	1980–84	1985–89	1990–94	1995–99
All U.S. citizens and permanent residents	17.4	19.6	22.7	24.4	26.2
American Indian/Alaskan Native	11.0	12.1	21.4	18.4	19.4
Asian/Pacific Islander	30.3	26.3	32.2	41.8	42.8
Black	5.8	6.6	11.3	15.2	17.1
Hispanic	10.7	14.0	22.1	24.2	25.0
White	17.4	19.9	22.7	23.7	24.9

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-13. Financial support mechanisms of Ph.D.s with U.S. postgraduation study commitments:
1970-74 and 1995-99

(Percent)

Mechanism	All Ph.D.s	Male	Female	U.S. citizen	Permanent resident	Temporary resident
1970-74						
Fellowship	48.4	47.3	55.3	49.9	43.0	40.0
Research associateship	40.1	41.9	29.0	37.9	49.6	50.9
Traineeship	4.0	3.6	6.8	3.9	3.1	5.8
Other study	7.5	7.3	8.9	8.3	4.3	3.3
1995-99						
Fellowship	53.1	48.7	60.5	56.0	53.9	44.9
Research associateship	36.8	41.4	28.9	32.0	37.9	49.2
Traineeship	2.8	2.5	3.3	2.6	3.0	3.3
Other study	7.3	7.3	7.3	9.4	5.2	2.6

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-14. Financial support mechanisms of Ph.D.s with U.S. postgraduation study commitments, by sex and citizenship status: 1995–99

(Percent)

Demographic group	Fellowship	Research associateship	Traineeship	Other study
All Ph.D.s	53.1	36.8	2.8	7.3
Male	48.7	41.4	2.5	7.3
Female	60.5	28.9	3.3	7.3
U.S. citizen	56.0	32.0	2.6	9.4
Permanent resident	53.9	37.9	3.0	5.2
Temporary resident	44.9	49.2	3.3	2.6

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-15. Sources of support for Ph.D.s with U.S. postgraduation study commitments: 1975-79 and 1995-99
(Percent)

Cohort	U.S. government	College/university	Private foundation	Nonprofit organization	Other/unknown
1975-79	53.8	22.1	9.7	2.7	11.8
1995-99	41.2	31.8	9.5	2.8	14.7

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-16. U.S. government as main support for Ph.D.s with U.S. postgraduation study commitments, by major field of doctorate: 1975–79 and 1995–99

(Percent)

Field	1975–79	1995–99
All fields	53.8	41.2
Science and engineering	55.4	42.5
Agricultural sciences	33.6	34.0
Biological sciences	60.0	47.6
Earth, atmospheric, and ocean sciences	65.2	57.3
Mathematics and computer sciences	31.1	29.2
Physical sciences	52.1	42.7
Chemistry	49.8	39.1
Physics and astronomy	55.5	48.0
Psychology	57.0	33.7
Social sciences	41.3	27.8
Engineering	48.9	37.3
Non-science and engineering	30.0	23.7
Education	24.4	15.6
Health sciences	58.1	46.4
Humanities	15.9	6.9
Professional fields/other	24.4	19.0

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-17. Study settings of Ph.D.s with U.S. postgraduation study commitments: 1970–74 and 1995–96

(Percent)

Cohort	College/university	U.S. government	Industry/business	Nonprofit organization	Other
1970–74	82.3	8.0	1.0	5.8	2.9
1995–96	77.7	10.4	3.7	7.3	0.9

NOTE: Nonacademic settings were not coded in 1997–99.

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-18. Ph.D.s with definite plans for U.S. postgraduation employment, by citizenship status: 1970–99

(Percent)

Citizenship group	1970–74	1975–79	1980–84	1985–89	1990–94	1995–99
All Ph.D.s	84.7	81.3	79.1	74.5	72.1	70.4
U.S. citizen	86.5	82.9	80.4	77.5	76.3	75.1
Permanent resident	72.0	73.8	79.1	72.7	62.8	59.2
Temporary resident	51.2	52.4	56.9	49.1	49.3	51.1

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-19. Employment sectors of Ph.D.s with U.S. postgraduation work commitments: 1970-99

Sector	1970-74		1975-79		1980-84		1985-89		1990-94		1995-99	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Academe	57,802	66.7	45,187	58.5	36,874	51.4	34,585	51.6	39,124	52.4	38,807	49.4
Elementary/secondary school	5,586	6.4	6,765	8.8	7,214	10.1	6,666	9.9	7,797	10.4	7,509	9.6
Government	8,961	10.3	9,656	12.5	8,377	11.7	7,105	10.6	6,663	8.9	6,091	7.8
Industry/business	10,139	11.7	9,982	12.9	12,470	17.4	12,051	18.0	13,595	18.2	18,762	23.9
Nonprofit organization	3,463	4.0	4,644	6.0	5,162	7.2	5,003	7.5	4,962	6.6	4,612	5.9
Self-employment	460	0.5	827	1.1	1,474	2.1	1,474	2.2	2,270	3.0	2,146	2.7
Other	250	0.3	170	0.2	157	0.2	199	0.3	234	0.3	613	0.8

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-20. Employment sectors of Ph.D.s with U.S. postgraduation work commitments, by sex and citizenship status: 1970–74 and 1995–99
(Percent)

Demographic group	1970–74				1995–99			
	Industry/				Industry/			
	Academe	self-employment	Government	Other	Academe	self-employment	Government	Other
All Ph.D.s	66.7	12.2	10.3	10.7	49.4	26.6	7.8	16.2
Male	64.7	13.9	11.0	10.4	43.5	35.3	8.7	12.6
Female	78.1	2.8	6.7	12.4	57.0	15.6	6.6	20.9
U.S. citizen	67.0	11.2	10.8	11.0	52.1	20.6	8.9	18.4
Permanent resident	61.0	30.5	3.8	4.7	38.7	50.3	3.8	7.2
Temporary resident	65.0	23.8	2.8	8.4	34.4	60.0	1.6	4.1

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-21. Employment sectors of U.S. citizen and permanent resident Ph.D.s with U.S. postgraduation work commitments, by race/ethnicity: 1975–79 and 1995–99

(Percent)

Race/ethnicity	1975–79				1995–99			
	Academe	Industry/ self-employment	Government	Other	Academe	Industry/ self-employment	Government	Other
All U.S. citizens and permanent residents	58.6	13.5	12.7	15.2	51.3	22.5	8.5	17.7
American Indian/Alaskan Native	60.0	6.9	15.0	18.1	53.8	15.6	9.9	20.8
Asian/Pacific Islander	36.4	48.0	9.9	5.7	32.6	53.8	6.2	7.5
Black	65.7	4.5	11.7	18.1	55.9	11.0	8.3	24.7
Hispanic	70.0	7.4	12.1	10.5	60.0	16.0	8.2	15.8
White	58.8	12.8	12.9	15.5	52.1	20.9	8.7	18.2

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-22. Primary work activities of Ph.D.s with U.S. postgraduation work commitments: 1970-74 and 1995-99

(Percent)

Work activity	1970-74	1995-99
Administration	11.1	13.4
Professional services	7.7	14.3
R&D	23.0	30.8
Teaching	56.7	38.2
Other	1.5	3.2

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-23. Ph.D.s with postgraduation work commitments in same state as doctoral institution, by major field of doctorate: 1970–74 and 1995–99

(Percent)

Field	1970–74	1995–99
All fields	37.0	46.7
Science and engineering	33.0	41.1
Agricultural sciences	25.5	41.1
Biological sciences	36.7	51.4
Earth, atmospheric, and ocean sciences	26.2	44.2
Mathematics and computer sciences	30.9	35.6
Physical sciences	31.0	37.7
Psychology	39.7	51.2
Social sciences	26.6	34.3
Engineering	38.0	39.9
Non-science and engineering	41.2	52.6
Education	51.9	68.5
Health sciences	36.5	52.6
Humanities	28.9	37.1
Professional fields/other	29.0	31.2

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-24. Top 20 destinations of Ph.D.s who left the state where the doctorate was received for postgraduation work commitments in another state: 1995–99

State	Percent
All Ph.D.s who left doctorate state for job (number)	41,931
California	8.4
New York	6.1
Texas	5.4
Pennsylvania	4.8
New Jersey	4.5
Illinois	4.4
Massachusetts	4.1
Ohio	3.6
Virginia	3.4
Georgia	3.1
District of Columbia	3.0
Maryland	2.9
North Carolina	2.9
Michigan	2.8
Florida	2.5
Indiana	2.3
Minnesota	2.1
Missouri	2.0
Washington	2.0
Connecticut	1.9

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-25. Top 20 destinations of Ph.D.s with U.S. postgraduation work commitments: 1970–74

Destination	Percent
All Ph.D.s with U.S. work commitments (number)	86,783
California	9.5
New York	9.0
Pennsylvania	5.4
Illinois	5.1
Texas	4.9
Ohio	4.8
Massachusetts	3.9
Michigan	3.7
New Jersey	3.3
Virginia	2.7
Florida	2.6
District of Columbia	2.5
Indiana	2.5
Maryland	2.5
Wisconsin	2.3
North Carolina	2.2
Georgia	2.1
Missouri	2.1
Tennessee	2.0
Minnesota	1.9

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-26. Destinations of Ph.D.s with U.S. postgraduation work commitments: 1995–99

Destination	Percent
All Ph.D.s with U.S. work commitments (number)	78,703
California	11.0
New York	7.4
Texas	6.6
Pennsylvania	5.0
Illinois	4.6
Massachusetts	4.2
Ohio	4.0
New Jersey	3.2
Florida	3.1
Michigan	3.0
Virginia	3.0
Georgia	2.8
North Carolina	2.6
Maryland	2.4
Minnesota	2.1
Indiana	2.0
District of Columbia	1.9
Missouri	1.9
Colorado	1.8
Tennessee	1.8
Washington	1.8
Wisconsin	1.7
Arizona	1.6
Connecticut	1.4
Louisiana	1.4
Alabama	1.3
Iowa	1.3
Oregon	1.3
South Carolina	1.2
Kansas	1.1
Kentucky	1.1
Oklahoma	1.1
Mississippi	1.0
Nebraska	0.8
New Mexico	0.8
Utah	0.8
Arkansas	0.7
Delaware	0.5
West Virginia	0.5
Idaho	0.4
Maine	0.4
New Hampshire	0.4
Rhode Island	0.4
Puerto Rico	0.4
Hawaii	0.3
Montana	0.3
Nevada	0.3
North Dakota	0.3
South Dakota	0.3
Vermont	0.3
Alaska	0.2
Wyoming	0.2
Guam	0.1

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.

FIGURE 6-27. Employment destinations of U.S. citizen and permanent resident Ph.D.s with U.S. high school diplomas and U.S. postgraduation work commitments: 1970–74 and 1995–99

(Percent)

Destination	1970–74	1995–99
Staying in doctorate state	37.0	49.1
Doctorate state is high school state	18.3	24.5
Doctorate state is not high school state	18.7	24.6
Leaving doctorate state	63.0	50.9
Returning to high school state	10.5	9.1
Doctorate state is high school state	14.1	9.9
Going elsewhere (different high school and doctorate states)	38.4	32.0

SOURCE: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates and Doctorate Records File.