Appendix Table C.1

Selected Characteristics of the NRSA Predoctoral Study Group by Cohort: Biomedical Sciences

Group	Fiscal Year of Doctorate													
	1981-82 (*n*=1,866)		1983-84 (*n*=2,079)		1985-86 (*n*=2,062)		1987-88 (*n*=2,084)		1989-90 (*n*=2,100)		1991-92 (*n*=2,250)		Total (*n*=12,441)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Field of doctorate														
Anatomy	53	2.8	34	1.6	29	1.4	24	1.2	19	0.9	18	0.8	177	1.4
Biochemistry, immunology, microbiology, and cellular, developmental, or molecu-lar biology	787	42.2	944	45.4	948	46.0	912	43.8	936	44.6	1,042	46.3	5,569	44.8
Bioengineering	26	1.4	28	1.4	32	1.6	33	1.6	33	1.6	40	1.8	192	1.5
General biological sciences	61	3.3	66	3.2	67	3.3	91	4.4	110	5.2	86	3.8	481	3.9
Endocrinology	0	0.0	16	0.8	4	0.2	11	0.5	14	0.7	14	0.6	59	0.5
Genetics	124	6.7	80	3.9	87	4.2	114	5.5	114	5.4	105	4.7	624	5.0
Neurosciences[a]	66	3.5	134	6.5	143	6.9	141	6.8	159	7.6	201	8.9	844	6.8
Nursing	24	1.3	32	1.5	55	2.7	73	3.5	85	4.1	113	5.0	382	3.1
Nutritional sciences	22	1.2	19	0.9	17	0.8	28	1.3	20	1.0	17	0.8	123	1.0
Pathology	25	1.3	24	1.2	33	1.6	34	1.6	31	1.5	21	0.9	168	1.4
Pharmacology/toxicology	219	11.7	267	12.8	264	12.8	257	12.3	238	11.3	226	10.0	1,471	11.8
Physiology and biophysics	194	10.4	211	10.2	173	8.4	161	7.7	148	7.1	173	7.7	1,060	8.5
Public health, epidemiol-ogy, and biostatistics	55	3.0	78	3.8	85	4.1	82	3.9	94	4.5	87	3.9	481	3.9
Other biological sciences[b]	147	7.9	108	5.2	87	4.2	90	4.3	76	3.6	74	3.3	819	6.6
Other health sciences[c]	66	3.5	38	1.8	38	1.8	33	1.6	23	1.1	33	1.5	231	1.9

Appendix Table C.1 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study Group by Cohort: Biomedical Sciences

Group	Fiscal Year of Doctorate													
	1981-82 (*n*=1,866)		**1983-84** (*n*=2,079)		**1985-86** (*n*=2,062)		**1987-88** (*n*=2,084)		**1989-90** (*n*=2,100)		**1991-92** (*n*=2,250)		**Total** (*n*=12,441)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
M.D./Ph.D. recipient[d]	203	10.9	220	10.6	208	10.1	230	11.0	258	12.3	200	8.9	1,319	10.6
Received MSTP support[e]	168	9.0	193	9.3	168	8.2	202	9.7	197	9.4	176	7.8	1,104	8.9
Type of NRSA support														
Fellowship	50	2.7	49	2.4	73	3.5	88	4.2	96	4.6	127	5.6	483	3.9
Traineeship	1,809	97.0	2,017	97.0	1,971	95.6	1,974	94.7	1,977	94.1	2,099	93.3	11,847	95.2
Both	7	0.4	13	0.6	18	0.9	22	1.1	27	1.3	21	0.9	108	0.9
Months of support[f]														
9-12 months	141	7.6	162	7.8	219	10.6	236	11.3	275	13.1	296	13.2	1,329	10.7
13-24 months	345	18.5	360	17.3	358	17.4	356	17.1	406	19.3	447	19.9	2,272	18.3
25-36 months	590	31.6	588	28.3	564	27.4	560	26.9	551	26.2	609	27.1	3,462	27.8
37-48 months	364	19.5	423	20.4	427	20.7	422	20.2	376	17.9	425	18.9	2,437	19.6
49-60 months	254	13.6	330	15.9	334	16.2	311	14.9	297	14.1	310	13.8	1,836	14.8
More than 60 months	172	9.2	216	10.4	160	7.8	199	9.6	195	9.3	163	7.2	1,105	8.9
Median	36.0		36.0		36.0		36.0		36.0		36.0		36.0	
Mean	38.3		39.6		38.1		38.6		37.5		36.9		38.1	
Standard deviation	17.0		17.4		16.9		17.4		18.1		17.4		17.4	

Appendix Table C.1 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study Group by Cohort: Biomedical Sciences

Group	Fiscal Year of Doctorate													
	1981-82 (*n*=1,867)		**1983-84** (*n*=2,079)		**1985-86** (*n*=2,062)		**1987-88** (*n*=2,084)		**1989-90** (*n*=2,100)		**1991-92** (*n*=2,250)		**Total** (*n*=12,441)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Institute of support[g]														
NIA	4	0.2	8	0.4	7	0.3	8	0.4	9	0.4	28	1.2	64	0.5
NIAAA	8	0.4	2	0.1	7	0.3	3	0.1	12	0.6	7	0.3	39	0.3
NIAID	54	2.9	73	3.5	60	2.9	72	3.5	90	4.3	107	4.8	456	3.7
NIADDK (includes both NIAMS and NIDDK)	24	1.3	40	1.9	29	1.4	52	2.5	32	1.5	38	1.7	215	1.7
NCI	209	11.2	215	10.3	226	11.0	273	13.1	274	13.1	303	13.5	1,500	12.1
NICHD	87	4.7	70	3.4	81	3.9	76	3.7	83	4.0	119	5.3	516	4.2
NIDA	9	0.5	11	0.5	5	0.2	11	0.5	9	0.4	10	0.4	55	0.4
NIDR	6	0.3	9	0.4	1	0.1	6	0.3	3	0.1	7	0.3	32	0.3
NIEHS	62	3.3	106	5.1	120	5.8	128	6.1	120	5.7	114	5.1	650	5.2
NEI	12	0.6	11	0.5	12	0.6	13	0.6	16	0.8	19	0.8	83	0.7
NIGMS	1,154	61.8	1,283	61.7	1,213	58.8	1,113	53.4	1,084	51.6	1,114	49.5	6,961	56.0
NHLBI	112	6.0	125	6.0	126	6.1	129	6.2	143	6.8	125	5.6	760	6.1
NIMH	77	4.1	66	3.2	87	4.2	103	4.9	97	4.6	108	4.8	538	4.3
NINR							21	1.0	74	3.5	103	4.5	198	1.6
NINDS	15	0.8	18	0.9	26	1.3	27	1.3	40	1.9	40	1.8	166	1.3
DN/BHP	33	1.8	42	2.0	62	3.0	48	2.3	12	0.6	2	0.1	199	1.6
All other Institutes[h]							1	0.1	2	0.1	6	0.3	9	0.1

Appendix Table C.1 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study Group: Biomedical Sciences

Group	Fiscal Year of Doctorate													
	1981-82 (*n*=1,867)		**1983-84** (*n*=2,079)		**1985-86** (*n*=2,062)		**1987-88** (*n*=2,084)		**1989-90** (*n*=2,100)		**1991-92** (*n*=2,250)		**Total** (*n*=12,441)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Supported by multiple training grants[i]	103	5.6	192	9.2	237	11.4	286	13.7	273	13.0	330	14.7	1,421	11.4
Estimated timing of first support (trainees only)[j]														
Within first 3 years of graduate program	1,515	81.2	1,719	82.7	1,674	81.2	1,688	81.0	1,633	77.8	1,722	76.5	9,951	80.0
In 4th or later years	344	18.4	357	17.2	370	17.9	387	18.6	453	21.6	507	22.5	2,418	19.4
Unknown	7	0.4	3	0.1	18	0.9	9	0.4	14	0.7	21	0.9	21	0.6
College/school in which training grant was located (trainees only)														
Medical school	996	54.9	1,151	56.7	1,126	56.6	1,151	57.7	1,156	57.7	1,196	56.4	6,776	56.7
Arts and sciences	622	34.3	635	31.2	657	33.0	612	30.6	593	29.6	642	30.2	3,761	31.5
Other health professional school	118	6.5	154	7.6	141	6.7	134	6.7	151	7.5	167	7.9	858	7.2
Other	62	3.4	63	3.1	54	2.7	70	3.5	71	3.5	79	3.7	399	3.3
Unknown	18	1.0	27	1.3	18	0.9	29	1.5	33	1.7	36	1.7	161	1.4

Note. Data are from the NRC Doctorate Records File (1994), the NIH Trainee and Fellow File (1994), and the AMC Master Information System. Included are those who had at least nine months of F30, F31, or T32 Predoctoral support. Percentages may not total to 100.0 due to rounding.

Footnotes to Appendix Table C.1 (*continued*)

[a] Neuroscience was not listed as a separate field until the 1982 survey.

[b] Other biological sciences include environmental sciences, medicinal chemistry, zoology, and fields not otherwise mentioned.

[c] Other health sciences include such fields as environmental health, pharmacy, and veterinary medicine.

[d] These individuals earned both an M.D. and a Ph.D. by 1992, with no more than four years having elapsed between receipt of the two degrees.

[e] These individuals received at least 9 months of support from a Medical Scientist Training Program (MSTP) grant.

[f] Although the majority of predoctoral support is NRSA support, some individuals also received other forms of predoctoral training support (i.e., training funded under mechanisms that predated those of the NRSA). This was particularly true for those in the earliest cohorts.

[g] Because some individuals received support from more than one Institute, this refers to the last Institute that provided NRSA predoctoral support.

[h] Included here are doctorates in the relevant fields who were supported by the NIDCD (n = 3) and AHRQ (n = 6).

[i] This refers to receiving support from two or more NRSA predoctoral training grants.

[J] Because data are available only for the calendar year of entry into the first graduate program (which may or may not be the same as the program from which the person earned the Ph.D.), the numbers are estimates.

Appendix Table C.2

Selected Characteristics of the NRSA Predoctoral Study Group by Cohort: Behavioral Sciences

Group	Fiscal Year of Doctorate													
	1981-82 (*n*=449)		**1983-84** (*n*=451)		**1985-86** (*n*=433)		**1987-88** (*n*=352)		**1989-90** (*n*=340)		**1991-92** (*n*=415)		**Total** (*n*=2,440)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Field of doctorate														
Anthropology	40	8.9	39	8.7	33	7.6	33	9.4	22	6.5	17	4.1	184	7.5
Psychology														
Clinical, counseling, and school	24	5.4	32	7.1	38	8.8	39	11.1	47	13.8	75	18.1	255	10.5
Cognitive[a]	0	0.0	22	4.9	24	5.5	11	3.1	7	2.1	24	5.8	88	3.6
Comparative and physio-physiological	47	10.5	42	9.3	29	6.7	20	5.7	22	6.5	22	5.3	182	7.5
Developmental	56	12.5	75	16.6	68	15.7	57	16.2	50	14.7	66	15.9	372	15.3
Experimental	72	35.0	43	9.5	30	6.9	18	5.1	12	3.5	31	7.5	206	8.4
Social and personality	68	15.1	63	14.0	56	12.9	43	12.2	42	12.4	40	9.6	312	12.8
Psychology, general	25	5.6	15	3.3	18	4.2	21	6.0	32	9.4	25	6.0	136	5.6
Psychology, other[b]	34	7.6	27	5.9	43	9.9	34	9.7	29	8.5	26	6.3	193	7.9
Sociology	76	16.9	88	19.5	92	21.3	69	19.6	73	21.5	84	20.2	482	19.8
Speech and hearing sciences	7	1.6	5	1.1	2	0.5	7	2.0	4	1.2	5	1.2	30	1.2
Type of NRSA support														
Fellowship	90	20.0	54	12.0	54	12.5	53	15.1	54	15.9	67	16.1	372	15.3
Traineeship	353	78.6	386	85.6	367	85.0	295	83.8	281	82.7	336	81.0	2,018	82.8
Both	6	1.3	10	2.2	11	2.6	4	1.1	5	1.5	12	2.9	48	2.0

Appendix Table C.2 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study Group by Cohort: Behavioral Sciences

Group	Fiscal Year of Doctorate													
	1981-82 (*n*=449)		**1983-84** (*n*=451)		**1985-86** (*n*=433)		**1987-88** (*n*=352)		**1989-90** (*n*=340)		**1991-92** (*n*=415)		**Total** (*n*=2,440)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Months of support[c]														
9-12 months	108	24.1	127	28.2	144	33.3	110	31.3	116	34.1	136	32.8	741	30.4
13-24 months	143	31.9	148	32.8	123	28.4	101	28.7	101	29.7	106	25.5	722	29.6
25-36 months	133	29.6	106	23.5	98	22.6	90	25.6	84	24.7	98	23.6	609	25.0
37-48 months	42	9.4	51	11.3	36	8.3	25	7.1	23	6.8	43	10.4	220	9.0
More than 48 months	23	5.1	19	4.2	32	7.4	26	7.3	16	4.7	32	7.7	148	6.1
Median	24.0		24.0		23.0		24.0		24.0		24.0		24.0	
Mean	26.0		25.2		25.4		25.6		24.6		27.0		25.7	
Standard deviation	12.8		13.1		14.9		14.1		13.6		15.9		14.1	
Institute of support[d]														
NIA	15	3.3	23	5.1	24	5.5	28	8.0	21	6.2	28	6.8	139	5.7
NIAAA	18	4.0	11	2.4	10	2.3	7	2.0	3	0.9	9	2.2	58	2.4
NICHD	49	10.9	54	12.0	51	11.8	59	16.8	62	18.2	69	16.6	344	14.1
NIDA	6	1.3	1	0.2	3	0.7	2	0.6	10	2.9	12	2.9	34	1.3
NEI	4	0.9	3	0.7	4	0.9	2	0.6	2	0.6	2	0.5	17	0.7
NIGMS	15	3.3	6	1.3	11	2.5	7	2.0	4	1.2	4	1.0	47	1.9
NHLBI	4	0.9	7	1.6	11	2.5	4	1.1	7	0.3	11	2.7	44	1.8

Appendix Table C.2 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study Group by Cohort: Behavioral Sciences

Group	Fiscal Year of Doctorate													
	1981-82 (*n*=449)		**1983-84** (*n*=451)		**1985-86** (*n*=433)		**1987-88** (*n*=352)		**1989-90** (*n*=340)		**1991-92** (*n*=415)		**Total** (*n*=2,440)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Institute of support (*continued*)[d]														
NIMH	318	70.8	330	73.2	306	70.7	226	64.2	220	64.7	264	63.6	1,664	68.2
NINR							3	0.9	5	1.5	8	1.9	16	0.7
NINDS	4	0.9	4	0.9	3	0.7	3	0.9	2	0.6	3	0.7	19	0.8
DN/BHP	14	3.1	11	2.4	10	2.3	7	2.0	2	0.6	1	0.2	45	1.8
All other Institutes[e]	2	0.4	1	0.2	0	0.0	4	1.1	2	0.5	4	1.0	13	0.5
Supported by multiple training grants[f]	17	6.6	16	5.0	15	4.5	18	6.6	18	6.6	14	4.1	98	5.5
Estimated timing of first support (trainees only)[g]														
Within first 3 years of graduate program	241	53.7	272	60.3	304	70.2	220	62.5	227	66.8	278	67.0	1,542	63.2
In 4th or later years	205	45.7	175	38.8	126	29.1	130	36.9	113	33.2	133	32.1	882	36.2
Unknown	3	0.7	4	0.9	3	0.7	2	0.6	0	0.0	4	1.0	16	0.7

Appendix Table C.2 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study Group by Cohort: Behavioral Sciences

Group	Fiscal Year of Doctorate													
	1981-82 (*n*=449)		**1983-84** (*n*=451)		**1985-86** (*n*=433)		**1987-88** (*n*=352)		**1989-90** (*n*=340)		**1991-92** (*n*=415)		**Total** (*n*=2,440)	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
College/school in which training grant was located (trainees only)														
Medical school	30	8.4	37	9.3	41	10.9	32	10.7	44	15.4	54	15.5	238	11.5
Arts and sciences	302	84.1	338	85.4	320	84.7	253	84.6	215	75.2	265	76.2	1,693	82.0
Other health professional	2	0.6	4	1.0	2	0.5	1	0.3	3	1.1	3	7.9	15	0.7
Other	13	3.6	6	1.5	12	3.2	4	1.3	8	2.8	14	4.0	57	2.8
Unknown	12	3.3	11	2.8	3	0.8	9	3.0	16	5.6	12	3.5	63	3.1

Note. Data are from the NRC Doctorate Records File (1994) and the NIH Trainee and Fellow File (1994). Included are those who had at least nine months of F30, F31, or T32 predoctoral support. Percentages may not total to 100.0 due to rounding.

[a] Cognitive psychology was not listed as a separate field until the 1983 survey.

[b] Other fields in psychology include educational, industrial-organizational, psychometrics, quantitative, and other fields not otherwise mentioned.

[c] Although the majority of predoctoral support is NRSA support, some individuals also received other forms of predoctoral training support (i.e., training funded under mechanisms that predated those of the NRSA). This was particularly true for those in the earliest cohorts.

[d] Because some individuals received support from more than one Institute, this refers to the last Institute that provided NRSA predoctoral support.

[e] Included here are doctorates in the relevant fields who were supported by the NCI (*n* = 5), NIDR (*n* = 5), NIDCD (*n* = 1), NIEHS (*n* = 1), and AHRQ (*n* = 1).

[f] This refers to receiving support from two or more NRSA predoctoral training grants.

[g] These are estimates, given that only the calendar year of entry into the first graduate program was known (which may not be the same as the program that awarded the Ph.D.).

Appendix Table C.3

Biomedical Ph.D.s With Baccalaureate Degrees From Highly Selective Undergraduate Institutions

Group		Fiscal Year of Doctorate						
		1981-82	1983-84	1985-86	1987-88	1989-90	1991-92	Total
NRSA								
Total	N	1,866	2,079	2,062	2,084	2,100	2,250	12,441
BA from selective institution	N	505	555	515	537	556	599	3,267
	%	27.1	26.7	25.0	25.8	26.5	26.6	26.3
NIH training institutions								
Total	N	2,705	2,425	2,536	2,679	2,852	2,795	15,992
BA from selective institution	N	389	316	320	357	385	373	2,140
	%	14.4	13.0	12.6	13.3	13.5	13.3	13.4
Non-NIH training institutions								
Total	N	2,523	2,465	2,178	2,329	2,565	2,977	15,037
BA from selective institution	N	196	207	151	178	167	202	1,101
	%	7.8	8.4	6.9	7.6	6.5	6.8	7.3
Total, all groups								
Total	N	7,094	6,969	6,776	7,092	7,517	8,022	43,470
BA from selective institution	N	1,090	1,078	986	1,072	1,108	1,174	6,508
	%	15.4	15.5	14.6	15.1	14.7	14.6	15.0

Appendix Table C.3 (*continued*)

Biomedical Ph.D.s With Baccalaureate Degrees From Highly Selective Undergraduate Institutions

Group	Fiscal Year of Doctorate						
	1981-82	1983-84	1985-86	1987-88	1989-90	1991-92	Total
Effect sizes:							
NRSA vs. NIH training institutions	*0.32*	*0.35*	*0.32*	*0.32*	*0.33*	*0.34*	*0.33*
NRSA vs. non-NIH training institutions	**0.53**	**0.50**	**0.51**	**0.50**	**0.56**	**0.56**	**0.53**
NIH vs. non-NIH training institutions	*0.21*	0.15	0.19	0.19	*0.24*	*0.22*	*0.21*

Note. Data are from the NRC Doctorate Records File (1994) and the NIH Trainee and Fellow File (1994). The NRSA group includes those who had at least nine months of F30, F31, or T32 predoctoral support. A selective undergraduate institution is one for which the average SAT/ACT score for incoming freshmen in 1991 was 1200 or higher (Astin, 1993). All pairwise group differences, based on the average scores for each institution, were statistically significant ($p < 0.001$). The use of italics indicates that the effect size represents a potentially meaningful difference considered small in magnitude (between |0.20| to |0.49|); bold typeface designates a potentially meaningful difference considered moderate in magnitude (between |0.50| to |0.79|), and both italics and bold typeface signify a potentially meaningful difference considered large ($\pm$ 0.80 or larger).

Appendix Table C.4

Behavioral Ph.D.s With Baccalaureate Degrees From Highly Selective Undergraduate Institutions

Group		Fiscal Year of Doctorate						
		1981-82	1983-84	1985-86	1987-88	1989-90	1991-92	Total
NRSA								
Total	N	413	413	390	306	288	334	2,144
BA from selective institution	N	77	92	74	57	51	52	403
	%	18.6	22.3	19.0	18.6	17.7	15.6	18.8
NIH training institutions								
Total	N	1,325	1,174	1,158	1,066	999	962	6,684
BA from selective institution	N	218	193	165	166	150	176	1,068
	%	16.5	16.4	14.2	15.6	15.0	18.3	16.0
Non-NIH training institutions								
Total	N	2,671	2,614	2,311	2,212	2,194	2,386	14,388
BA from selective institution	N	300	296	222	202	221	220	1,461
	%	11.2	11.3	9.6	9.1	10.1	9.2	10.2
Total, all groups								
Total	N	4,409	4,201	3,859	3,584	3,481	3,682	23,216
BA from selective institution	N	595	581	461	425	422	448	2,932
	%	13.5	13.8	11.9	11.9	12.1	12.2	12.6

Appendix Table C.4 (*continued*)

Behavioral Ph.D.s With Baccalaureate Degrees From Highly Selective Undergraduate Institutions

Group	Fiscal Year of Doctorate						
	1981-82	1983-84	1985-86	1987-88	1989-90	1991-92	Total
Effect sizes:							
NRSA vs. NIH training institutions	0.06	0.15[b]	0.13[a]	0.08	0.07	-0.07	0.07[b]
NRSA vs. non-NIH training institutions	*0.21*[c]	*0.30*[c]	*0.27*[c]	*0.29*[c]	*0.22*[c]	*0.19*[c]	*0.25*[c]
NIH vs. non-NIH training institutions	0.15[c]	0.15[c]	0.14[c]	0.20[c]	0.15[c]	*0.27*[c]	0.17[c]

Note. Data were from the NRC Doctorate Records File (1994) and the NIH Trainee and Fellow File (1994). The NRSA group includes those who had at least nine months of F30, F31, or T32 predoctoral support. Not included are doctorates in speech and hearing sciences and clinical, counseling, and school psychology, along with those who also received an M.D. A selective undergraduate institution is one for which the average SAT/ACT score for incoming freshmen in 1991 was 1200 or higher (Astin, 1993). The use of italics indicates that the effect size represents a potentially meaningful difference considered small in magnitude (between |0.20| to |0.49|); bold typeface designates a potentially meaningful difference considered moderate in magnitude (between |0.50| to |0.79|), and both italics and bold typeface signify a potentially meaningful difference considered large ($\pm$ 0.80 or larger).

[a] $p < 0.05$ [b] $p < 0.01$ [c] $p < 0.001$

Appendix Table C.5

Biomedical Ph.D.s Who Received their Doctorates from the Top Quartile of Institutions with Doctoral Programs in the Biomedical Sciences

Group		Fiscal Year of Doctorate						
		1981-82	1983-84	1985-86	1987-88	1989-90	1991-92	Total
NRSA								
Total	N	1,866	2,079	2,062	2,084	2,100	2,250	12,441
Doctoral degree from top quartile	N	1,502	1,701	1,676	1,721	1,707	1,839	10,146
	%	80.5	81.8	81.3	82.6	81.3	81.7	81.6
Doctoral degree from top 25 institutions	%	(55.2)	(56.0)	(55.4)	(57.9)	(59.0)	(59.0)	(57.1)
NIH training institutions								
Total	N	2,705	2,425	2,536	2,679	2,852	2,795	15,992
Doctoral degree from top quartile	N	1,759	1,474	1,549	1,703	1,806	1,809	10,100
	%	65.0	60.8	61.1	63.6	63.3	64.7	63.2
Doctoral degree from top 25 institutions	%	(36.8)	(34.2)	(31.2)	(31.3)	(31.9)	(32.9)	(33.0)
Non-NIH training institutions								
Total	N	2,523	2,465	2,178	2,329	2,565	2,977	15,037
Doctoral degree from top quartile	N	414	435	334	310	384	480	2,357
	%	16.4	17.6	15.3	13.3	15.0	16.1	15.7
Doctoral degree from top 25 institutions	%	(4.6)	(4.4)	(2.8)	(3.2)	(3.6)	(3.6)	(371)
Total, all groups								
Total	N	7,094	6,969	6,776	7,092	7,517	8,022	43,470
Doctoral degree from top quartile	N	3,675	3,610	3,559	3,734	3,897	4,128	22,603
	%	51.8	51.8	52.5	52.7	51.8	51.5	52.0
Doctoral degree from top 25 institutions	%	(30.2)	(30.2)	(29.4)	(29.9)	(29.8)	(29.3)	(29.8)

Appendix Table C.5 (*continued*)
Biomedical Ph.D.s Who Received their Doctorates from the Top Quartile of Institutions with Doctoral Programs in the Biomedical Sciences

Group	Fiscal Year of Doctorate						
	1981-82	1983-84	1985-86	1987-88	1989-90	1991-92	Total
Effect sizes:							
For top quartile:							
NRSA vs. NIH training institutions	*0.35*	*0.47*	*0.45*	*0.43*	*0.41*	*0.39*	*0.42*
NRSA vs. non-NIH training institutions	**1.39**	**1.39**	**1.44**	**1.53**	**1.45**	**1.43**	**1.44**
NIH vs. non-NIH training institutions	**1.04**	**0.92**	**0.99**	**1.10**	**1.05**	**1.04**	**1.02**
Effect sizes:							
For top 25 institutions:							
NRSA vs. NIH training institutions	*0.37*	*0.44*	*0.49*	*0.54*	**0.55**	**0.53**	**0.49**
NRSA vs. non-NIH training institutions	**1.24**	**1.27**	**1.34**	**1.37**	**1.37**	**1.37**	**1.33**
NIH vs. non-NIH training institutions	**0.87**	**0.83**	**0.95**	**0.83**	**0.82**	**0.84**	**0.83**

Note. Data are from the NRC Doctorate Records File(1994) and the NIH Trainee and Fellow File (1994). The NRSA group includes those who had at least nine months of F30, F31, or T32 predoctoral support. Reputational ratings of institutions with biomedical science programs were derived, using the survey ratings from the study of Research Doctorate Programs in the United States (Goldberger, Maher, & Flattau, 1995). For each institution, the normalized scores for doctoral programs in six major biomedical science fields were averaged; programs included biochemistry and molecular biology, cell and developmental biology, molecular and general genetics, neuroscience, pharmacology, and physiology. All pairwise group differences, using the average score for each institution, were statistically significant ($p < 0.001$). The use of italics indicates that the effect size represents a potentially meaningful difference considered small in magnitude (between |0.20| to |0.49|); bold typeface designates a potentially meaningful difference considered moderate in magnitude (between |0.50| to |0.79|), and both italics and bold typeface signify a potentially meaningful difference considered large ($\pm$ 0.80 or larger).

Appendix Table 2.6

Behavioral Ph.D.s Who Received their Doctorates from the Top Quartile of Institutions with Doctoral Programs in the Behavioral Sciences

Group		Fiscal Year of Doctorate						
		1981-82	1983-84	1985-86	1987-88	1989-90	1991-92	Total
NRSA								
Total	N	413	413	390	306	288	334	2,144
Doctoral degree from top quartile	N	281	293	280	200	212	220	1,486
	%	68.0	70.9	71.8	65.4	73.6	65.9	69.3
Doctoral degree from top 25 institutions	%	(50.6)	(52.8)	(54.1)	(49.3)	(47.2)	(43.4)	(49.9)
NIH training institutions								
Total	N	1,325	1,174	1,158	1,066	999	962	6,684
Doctoral degree from top quartile	N	942	847	818	761	737	697	4,802
	%	71.1	72.2	70.6	71.4	73.8	72.5	71.8
Doctoral degree from top 25 institutions	%	(44.2)	(45.5)	(44.6)	(45.2)	(46.6)	(44.3)	(45.0)
Non-NIH training institutions								
Total	N	2,672	2,614	2,311	2,212	2,194	2,386	14,388
Doctoral degree from top quartile	N	866	798	680	664	652	707	4,367
	%	32.4	30.5	29.4	30.0	29.7	29.6	30.4
Doctoral degree from top 25 institutions	%	(18.2)	(16.3)	(16.1)	(16.6)	(18.0)	(17.6)	(17.1)
Total, all groups								
Total	N	4,409	4,201	3,859	3,584	3,481	3,682	23,216
Doctoral degree from top quartile	N	2,089	1,938	1,778	1,625	1,601	1,624	10,655
	%	47.4	46.1	46.1	45.3	46.0	44.1	45.9
Doctoral degree from top 25 institutions	%	(29.0)	(28.0)	(28.5)	(27.9)	(28.7)	(26.9)	(28.2)

Appendix Table C.6 (*continued*)

Behavioral Ph.D.s Who Received their Doctorates from the Top Quartile of Institutions with Doctoral Programs in the Behavioral Sciences

Group	Fiscal Year of Doctorate						
	1981-82	1983-84	1985-86	1987-88	1989-90	1991-92	Total
Effect sizes:							
For top quartile:							
NRSA vs. NIH training institutions	-0.07	-0.03	0.03	-0.13[c]	0.00	-0.14[a]	-0.06[a]
NRSA vs. non-NIH training institutions	**0.73**[c]	**0.83**[c]	**0.88**[c]	**0.72**[c]	**0.91**[c]	**0.74**[c]	**0.72**[c]
NIH vs. non-NIH training institutions	**0.79**[c]	**0.86**[c]	**0.85**[c]	**0.85**[c]	**0.91**[c]	**0.89**[c]	**0.62**[c]
Effect sizes:							
For top 25 institutions:							
NRSA vs. NIH training institutions	0.12[a]	0.15[a]	0.19[c]	0.08	0.01	-0.02	0.10[c]
NRSA vs. non-NIH training institutions	**0.70**[c]	**0.80**[c]	**0.83**[c]	**0.72**[c]	**0.64**[c]	**0.57**[c]	**0.72**[c]
NIH vs. non-NIH training institutions	**0.57**[c]	**0.65**[c]	**0.64**[c]	**0.64**[c]	**0.63**[c]	**0.59**[c]	**0.62**[c]

Note. Data are from the NRC Doctorate Records File (1994) and the NIH Trainee and Fellow File (1994). The NRSA group includes those who had at least nine months of F30, F31, or T32 predoctoral support. Not included are doctorates in speech and hearing sciences and clinical, counseling, and school psychology, along with those who also received an M.D. Reputational ratings of institutions with behavioral science programs were derived, using the survey ratings from the study of Research Doctorate Programs in the United States (Goldberger, Maher, & Flattau, 1995). For each institution, the normalized scores for doctoral programs in psychology, sociology, and anthropology were averaged. The use of italics indicates that the effect size represents a potentially meaningful difference considered small in magnitude (between |0.20| to |0.49|); bold typeface designates a potentially meaningful difference considered moderate in magnitude (between |0.50| to |0.79|), and both italics and bold typeface signify a potentially meaningful difference considered large ($\pm$ 0.80 or larger).

[a] $p < 0.05$ [b] $p < 0.01$ [c] $p < 0.001$

Appendix Table C.7

Selected Characteristics of the NRSA Predoctoral Study and Comparison Groups: Biomedical Sciences

Group	Group							
	Ph.D.s with NRSA Predoctoral Support (*n*=12,441)		**Ph.D.s from NIH Training Institutions** (*n*=15,992)		**Ph.D.s from Non-NIH Training Institutions** (*n*=15,037)		**Total, All Ph.D.s** (*n*=43,470)	
	N	%	N	%	N	%	N	%
Demographic characteristics								
Gender								
Female	4,965	39.9	6,601	41.3	6,081	40.4	17,647	40.6
Race/ethnicity								
American Indian or Alaskan Native	33	0.3	51	0.3	50	0.3	134	0.3
Asian or Pacific Islander	583	4.7	1,152	7.2	895	6.0	2,630	6.1
Black	122	1.0	387	2.4	370	2.5	879	2.0
Hispanic	182	1.5	357	2.2	314	2.1	853	2.0
White	11,218	90.2	13,702	85.7	13,096	87.1	38,016	87.5
Other/no report	303	2.4	343	2.1	312	2.1	958	2.2
Age at time of doctorate								
28 years or younger	3,009	24.2	2,584	16.2	2,025	13.5	7,618	17.5
29-30 years	4,073	32.7	3,578	22.4	2,821	18.8	10,472	24.1
31-35 years	3,911	31.4	5,767	36.1	5,385	35.8	15,063	34.7
36 years or older	1,125	9.0	3,370	21.1	4,068	27.1	8,563	19.7
No report	323	2.6	693	4.3	738	4.9	1,754	4.0

Appendix Table C.7 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study and Comparison Groups: Biomedical Sciences

Group	Group							
	Ph.D.s with NRSA Predoctoral Support (*n*=12,441)		**Ph.D.s from NIH Training Institutions** (*n*=15,992)		**Ph.D.s from Non-NIH Training Institutions** (*n*=15,037)		**Total, All Ph.D.s** (*n*=43,470)	
	N	%	N	%	N	%	N	%
Age at time of doctorate								
Median	29.5		31.3		32.2		30.8	
Mean	30.6		32.7		33.7		32.4	
Standard deviation	3.9		5.5		6.0		5.5	
Educational characteristics								
Field of doctorate								
Anatomy	177	1.4	390	2.4	497	3.3	1,064	2.5
Biochemistry, cellular/ molecular biology, immunology, and microbiology	5,569	44.8	6,183	38.7	4,363	29.0	16,115	37.1
Bioengineering	192	1.5	352	2.2	269	1.8	813	1.9
Endocrinology	59	0.5	49	0.3	83	0.6	191	0.4
General biological sciences	481	3.9	708	4.4	880	5.9	2,069	4.8
Genetics	624	5.0	298	1.9	350	2.3	1,272	2.9
Neurosciences	844	6.8	507	3.2	247	1.6	1,598	3.7
Nursing	382	3.1	786	4.9	1,229	8.2	2,397	5.5
Nutritional sciences	123	1.0	321	2.0	655	4.4	1,099	2.5
Pathology	168	1.4	503	3.2	356	2.4	1,027	2.4
Pharmacology/toxicology	1,471	11.8	1,072	6.7	884	5.9	3,427	7.9
Physiology and biophysics	1,060	8.5	1,234	7.7	1,205	8.0	3,499	8.1

Appendix Table C.7 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study and Comparison Groups: Biomedical Sciences

Group	Group							
	Ph.D.s with NRSA Predoctoral Support (*n*=12,441)		**Ph.D.s from NIH Training Institutions** (*n*=15,992)		**Ph.D.s from Non-NIH Training Institutions** (*n*=15,037)		**Total, All Ph.D.s** (*n*=43,470)	
	N	%	N	%	N	%	N	%
Field of doctorate (*continued*)								
Public health, epidemiology, and biostatistics	481	3.9	1,364	8.5	476	3.2	2,321	5.3
Other biological sciences[a]	679	5.5	1,395	8.7	1,980	13.2	3,856	9.3
Other health sciences[b]	231	1.9	830	5.2	1,563	10.4	2,624	6.0
M.D./Ph.D. recipient								
Coterminous[c]	1,319	2.5	370	2.3	253	1.7	1,942	4.4
Not coterminous	122	1.0	178	1.1	111	0.7	411	0.9
Received a master's degree								
Same institution as Ph.D.	1,841	14.8	3,557	22.2	3,902	26.0	9,300	21.4
Different institution than Ph.D.	2,230	17.9	4,627	28.9	5,550	36.9	12,407	28.5

Note. Data are from the NRC Doctorate Records File (1994), the NIH Trainee and Fellow File (1994), and Association of American Medical Colleges Master Information System (1994). The NRSA group are those who had at least nine months of F30, F31, or T32 predoctoral support. Percentages may not total to 100.0 due to rounding.

[a] Other biological sciences include environmental sciences, medicinal chemistry, zoology, and fields not otherwise mentioned.

[b] Other health sciences include such fields as environmental health, pharmacy, and veterinary medicine.

[c] These individuals earned both an M.D. and a Ph.D. by 1992, with no more than four years having elapsed between receipt of the two degrees.

Appendix Table C.8

Selected Characteristics of the NRSA Predoctoral Study and Comparison Groups: Behavioral Sciences

Group	Group							
	Ph.D.s with NRSA Predoctoral Support (*n*=2,144)		**Ph.D.s from NIH Training Institutions** (*n*=6,684)		**Ph.D.s from Non-NIH Training Institutions** (*n*=14,388)		**Total, All Ph.D.s** (*n*=23,216)	
	N	%	N	%	N	%	N	%
Demographic characteristics								
Gender								
Female	1,223	57.0	3,422	51.2	7,294	50.7	11,939	51.4
Race/ethnicity								
American Indian or Alaskan Native	9	0.4	31	0.5	51	0.4	91	0.4
Asian or Pacific Islander	50	2.3	189	2.8	305	2.1	544	2.3
Black	117	5.5	279	4.2	457	3.2	853	3.7
Hispanic	99	4.6	262	3.9	394	2.7	755	3.3
White	1,834	85.5	5,747	86.0	12,858	89.4	20,439	88.0
Other/no report	35	1.7	176	2.6	323	2.2	534	2.3
Age at time of doctorate								
28 years or younger	333	15.5	626	9.4	1,317	9.2	2,276	9.8
29-30 years	446	20.8	920	13.8	1,984	13.8	3,350	14.4
31-35 years	794	37.0	2,400	35.9	4,680	32.5	7,874	33.9
36 years or older	482	22.5	2,353	35.2	5,601	38.9	8,436	36.3
No report	89	4.2	385	5.8	806	5.6	1,280	5.5

Appendix Table C.8 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study and Comparison Groups: Behavioral Sciences

Group	Group							
	Ph.D.s with NRSA Predoctoral Support (*n*=2,144)		**Ph.D.s from NIH Training Institutions** (*n*=6,684)		**Ph.D.s from Non-NIH Training Institutions** (*n*=14,388)		**Total, All Ph.D.s** (*n*=23,216)	
	N	%	N	%	N	%	N	%
Age at time of doctorate								
Median	31.4		33.6		34.0		33.7	
Mean	32.8		35.1		35.6		35.2	
Standard deviation	5.5		6.6		7.1		6.9	
Educational characteristics								
Field of doctorate								
Anthropology	183	8.5	1,134	17.0	2,266	15.8	3,583	15.4
Psychology								
Cognitive[a]	88	4.1	98	1.5	529	3.7	715	3.1
Comparative and physiological	178	8.3	294	4.4	454	3.2	926	4.0
Developmental	371	17.3	654	9.8	1,055	7.3	2,080	9.0
Experimental	205	9.6	496	7.4	1,224	8.5	1,925	8.3
Social and personality	312	14.6	571	8.5	1,120	7.8	2,003	8.6
Psychology, general	133	6.2	646	9.7	1,820	12.7	2,599	11.2
Psychology, other[b]	142	6.6	436	6.5	1,246	8.7	1,824	7.9
Sociology	481	22.4	2,137	32.0	2,073	14.4	4,691	20.2

Appendix Table C.8 (*continued*)

Selected Characteristics of the NRSA Predoctoral Study and Comparison Groups: Behavioral Sciences

Group	Group							
	Ph.D.s with NRSA Predoctoral Support (*n*=2,144)		**Ph.D.s from NIH Training Institutions** (*n*=6,684)		**Ph.D.s from Non-NIH Training Institutions** (*n*=14,388)		**Total, All Ph.D.s** (*n*=23,216)	
	N	%	N	%	N	%	N	%
Received a master's degree								
Same institution as Ph.D.	1,013	47.3	3,139	47.0	6,638	46.1	10,790	46.5
Different institution than Ph.D.	643	30.0	2,323	34.8	5,802	40.3	8,768	37.8

Note. Data are from the NRC Doctorate Records File (1994) and the NIH Trainee and Fellow File (1994). The NRSA group includes those who had at least nine months of F30, F31, or T32 predoctoral support. Not included are doctorates in speech and hearing sciences and clinical, counseling, and school psychology, along with those who also received an M.D. Percentages may not total to 100.0 due to rounding.

[a] Cognitive psychology was not listed as a separate field until the 1983 survey.

[b] Other fields in psychology include educational, industrial-organizational, psychometrics, quantitative, and all other nonclinical fields not otherwise mentioned.