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ABSTRACT

This 27th annual report summarizes results of the 1992-93 Survey of Earned Doctorates, which collected data from graduates as they completed requirements for their doctoral degrees. The survey included 39,754 research and applied research doctorates in physical sciences, engineering, life sciences, social sciences, humanities, education, and other professional (such as business) fields. Data are presented in 19 tables, covering number of doctorates awarded, gender of doctorate recipients, citizenship status, leading countries of origin of non-U.S. citizens, leading U.S. baccalaureate and doctoral institutions of minority doctorate recipients, major doctorate field, median years to doctorate, primary sources of support, levels of debt, postgraduation commitments, postdoctoral location of non-U.S. citizen doctorate recipients, and employment sector of doctorate recipients. The report also analyzes trends in doctorate production from 1963 to 1993; general demographic characteristics of doctorate recipients in terms of gender, citizenship, and racial/ethnic minority status; the field of doctorate; time-to-degree; financial support; and postgraduation plans. Appendices provide supplementary tables on 1993 doctorate recipients, trend data on 1983-1993 doctoral cohorts, technical notes, and a copy of the survey questionnaire. (JDD)

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# Summary Report 1993

## Doctorate Recipients from United States Universities

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# Summary Report 1993

## Doctorate Recipients from United States Universities

The Survey of Earned Doctorates is conducted  
for the following agencies of the U.S. government:

National Science Foundation  
U.S. Department of Education  
National Institutes of Health  
National Endowment for the Humanities  
U.S. Department of Agriculture

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OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL  
NATIONAL RESEARCH COUNCIL

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NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The survey project is part of the program of the Office of Scientific and Engineering Personnel (OSEP).

This report has been reviewed by a group of persons other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

The National Academy of Sciences is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Bruce M. Alberts is president of the National Academy of Sciences.

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The National Research Council (NRC) was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and of advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Bruce M. Alberts and Dr. Robert M. White are the chairman and vice-chairman, respectively, of the National Research Council.

This report is based on research conducted by OSEP with the support of the National Science Foundation (NSF), the National Institutes of Health (NIH), the National Endowment for the Humanities (NEH), the U.S. Department of Education (U.S. Dept. of Ed.), and the U.S. Department of Agriculture (USDA) under NSF Contract No. SRS-9309720. Opinions, findings, conclusions, or recommendations expressed in this publication are those of OSEP and do not necessarily reflect the views of the sponsoring agencies.

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## PREFACE AND ACKNOWLEDGMENTS

This report presents a summary of the results of the 1992-93 Survey of Earned Doctorates (SED), which has been conducted each year since 1958 by the National Research Council's (NRC's) Office of Scientific and Engineering Personnel (OSEP) and its predecessor organizations. Questionnaires, distributed with the cooperation of the graduate deans of U.S. universities, are filled in by graduates as they complete requirements for their doctoral degrees. The doctorates are reported by academic year (from July 1 of one year through June 30 of the following year) and include *research* and *applied-research doctorates* in all fields.<sup>1</sup> Doctoral degrees such as the Ph.D., D.Sc., and Ed.D. are covered by this survey; professional degrees (e.g., M.D., D.D.S., J.D., Psy.D.) are not covered. A full list of included degrees can be found inside the back cover. For convenience throughout this report, "Ph.D." is used to represent any of the doctoral degrees covered by the survey.

This *Summary Report* is the 27th in an annual series of reports that began in 1967.<sup>2</sup> All survey responses become part of the Doctorate Records File (DRF), a virtually complete database on doctorate recipients from 1920 to 1993. More than 88 percent of the 1,103,196 records now in the DRF were created from results of the 1958-1993 surveys. For doctorates granted during the 1920-1957 period, information was compiled from commencement bulletins, registrars' records, and other published material.

The conduct of the SED, the maintenance of the resulting data file, and the publication of this report are funded jointly by the National Science Foundation (NSF), the National Institutes of Health (NIH), the National Endowment for the Humanities (NEH), the U.S. Department of Education (U.S. Dept. of Ed.), and the U.S. Department of Agriculture (USDA). Susan Hill (NSF) serves as the project officer for the agencies. In addition, constructive reviews of the design and analysis of the survey by Mary Golladay (NSF), David Chananie (NIH), Jeffrey Thomas (NEH), Nancy Schantz (U.S. Dept. of Ed.), and Jay Jackman (USDA) have increased the survey's relevance to national policy issues. We would also like to acknowledge the graduate deans and their assistants in the doctorate-granting institutions for their interest and assistance. It is through their cooperation that the DRF continues to serve as a useful resource for monitoring developments in graduate education in the country. Finally, we would like to thank all of the doctorate recipients who have completed the SED over the years.

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<sup>1</sup> The Survey of Earned Doctorates collects information on *research* doctorates only. This differs from the institutional collection of numbers of degrees that is done by the U.S. Department of Education on *all* doctorates. For an evaluation of the differences, see: National Science Foundation. 1993. *Science and Engineering Doctorates 1960-1991*. NSF 93-301. Detailed Statistical Tables. Washington, D.C. Pp. 2-6.

<sup>2</sup> Trend data from earlier periods can be found in Hannon, Lindsey R. 1978. *A Century of Doctorates: Data Analysis of Growth and Change*. Washington, D.C. National Academy of Sciences.

The 1992-93 Survey of Earned Doctorates was conducted under the administrative supervision of Paula Ries. The production of this year's report was supervised by Delores Thurgood, Senior Research Associate. She and Julie Clarke collaborated on the development of the report and shared the responsibility of analyzing the data and drafting the text. George Orvis and Ms. Thurgood generated the data from the Doctorate Records File, and Ms. Thurgood drafted the technical notes. Martha Bohman, Ms. Clarke, and Mr. Orvis prepared the final tables and figures for the report.

Special appreciation is also expressed to the following people: Eileen Milner, manager of the unit responsible for collecting and processing the survey forms; John Hines, coding supervisor and institutional liaison; Gedamu Abraha and Daniel Fulwiler, coordinators of the follow-up effort; Frann Bell, Joyce Hendrickson, and Kevin Williams, full-time coders; Mary Wanyoike, senior administrative assistant; and the many hourly coders who contributed to the survey's processing. Thanks are also expressed to Maren Herman for her able service as project programmer, to Joseph Finan for his programming assistance, and to George Boyce for his supervision of computer operations.

The work of this project was overseen by the Advisory Committee of the Office of Scientific and Engineering Personnel, which is concerned with those activities of the NRC that contribute to the effective development and utilization of the nation's scholars and research personnel. In addition, an advisory panel made recommendations on the improvement of this important survey. Alan E. Fechter, Executive Director of OSEP, and Marilyn Baker, Associate Executive Director, also provided helpful guidance. Suggestions for improvement of the content or format of the report, other comments, and questions are welcome and may be directed to the authors of this report.

Linda Wilson, Chair  
Office of Scientific and Engineering Personnel  
Advisory Committee

## CONTENTS

	Page
INTRODUCTION	1
TRENDS IN DOCTORATE RECIPIENTS	3
Selected Demographic Characteristics	3
Field of Doctorate	6
Time-to-Degree	11
Financial Support	13
Postgraduation Plans	16
Tables	19
APPENDIXES	39
A The Seven Basic Tables, 1993	41
B Trend Tables, 1983-1993	71
C Technical Notes	81
D Survey of Earned Doctorates Questionnaire, 1992-93	97

## LIST OF FIGURES

	Page	
1	Doctorate recipients, total and by gender, 1963-1993	3
2	Doctorate recipients, by citizenship, 1963-1993	4
3	Percentage of doctorates earned by U.S. minorities, 1978 and 1993	5
4	Field of doctorate, 1963-1993	6
5	Field of doctorate, by gender of doctorate recipients, 1963-1993	7
6a	Citizenship status of doctorate recipients in all fields, 1993	8
6b	Broad field composition, by citizenship status of doctorate recipients, 1993	9
7	Broad field composition, by minority status of doctorate recipients, 1993	10
8	Median years to doctorate from baccalaureate award, 1963-1993	11
9	Median years to doctorate from baccalaureate award, by broad field, 1993	12
10a	Primary sources of financial support for doctorate recipients in all fields, 1993	13
10b	Primary sources of financial support for doctorate recipients, by broad field, 1993	14
11	Median level of educational debt and percentage of Ph.D.s with debt, total and by broad field, 1993	15
12	Postgraduation commitments of doctorate recipients for selected years, 1973-1993	16
13	Percentage of non-U.S. citizen doctorate recipients with definite plans to remain in the United States after graduation, by visa status for selected years, 1973-1993	17
14	Employment sector of doctorate recipients with postgraduation commitments in the United States for selected years, 1973-1993 (U.S. citizens and permanent residents)	18

## INTRODUCTION

*Summary Report 1993* is the 27th in a series of reports on research doctorates awarded by U.S. colleges and universities. Like its predecessors, this report presents trends in doctorate production in the United States, describing the general demographic characteristics of doctorate recipients and the seven broad fields in which they earned their degrees. Each of the seven broad fields consists of several "major" fields (e.g., biological sciences is a major field within the broad field of life sciences, and psychology is a major field within the broad field of social sciences). The doctorate recipients themselves report their field of study and are counted accordingly. For a list of the fields discussed in this report, see the inside back cover and the specialties list in Appendix D. (Note: These field groupings may differ from those used by federal sponsors of the survey.)

The front section of *Summary Report 1993* presents brief narratives of key survey findings, accompanied by figures showing selected trend data. The numbers and percentages from which the figures were drawn are provided in a set of tables following the front section; relevant tables are referenced at the bottom of the figures. The front section also includes major findings from data presented in tables but not in figures.

Although similar in content to last year's report, *Summary Report 1993* presents additional data on race/ethnicity. Three tables that were popular with readers of past reports have been reintroduced: Table 5 (and Figure 7) display the field distribution of U.S. minority Ph.D.s, and Tables 6 and 7 list the leading baccalaureate and doctorate institutions of minorities.

Supplementary tables on 1993 doctorate recipients are displayed in Appendix A, and trend data on the 1983-1993 Ph.D. cohorts are presented in Appendix B. Appendix C provides technical notes that include nonresponse rates and other information related to tables and figures in the body of the report. Appendix D contains a copy of the survey questionnaire.

Additional information is available from the Doctorate Records Project upon request. For a cost, the Project offers tables on the baccalaureate origins of Ph.D.s from 1920 to 1992 and tables on the doctoral specialties of 1976-1993 Ph.D.s, by citizenship, race/ethnicity, and gender. Customized tables can also be prepared at cost. In addition, a special issues brief on trends in postdoctoral appointments will soon be available free-of-charge. For more information, please contact:

Doctorate Records Project  
National Research Council  
OSEP—Room TJ 2006  
2101 Constitution Avenue, N.W.  
Washington, D.C. 20418

Phone: (202) 334-3161

\*\*\* IMPORTANT NOTICE \*\*\*

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information, with no adjustment for nonresponse. Thus, differences in response rates from year to year can produce numerical fluctuations that are unrelated to true trends.

Response to the SED has been 95 to 98 percent over the years, except during the 1980s when it gradually declined to 92 percent. In an effort to improve the response rate, the survey methodology has undergone some revision in the years since 1989. Response has risen as hoped, stabilizing at 95 percent during the last three years (1991 to 1993). (Note: These percentages represent *self-report rates*, i.e., the proportion of survey forms completed by doctorate recipients. Questionnaires filled in with partial information by either the doctoral institution or staff of the National Research Council are not included in these self-report rates *but are* included in tabulations in this report.) The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients. See page 82 in Appendix C for a table giving survey response rates from 1980 to 1993.

*Item* response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented, increasing coverage of several variables (birth year, gender, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans). Response rates for these variables have thus improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. Postsurvey adjustment to data was greatest in 1990 and 1991, with the largest impact on the number of black Ph.D.s. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended a month to allow receipt of additional follow-up information before closure; the same is expected for 1993 data.

All adjustments to data are presented in reports subsequent to the initial report for a survey. Thus, updates for 1990 appeared in *Summary Report 1991*; those for 1991 appeared in *Summary Report 1992*; and those for 1992 are included in this year's report (see Appendix Table B-2). The data for 1993 will likewise be subject to further revision, but as for 1992, adjustments are expected to be minimal. Updates to 1993 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

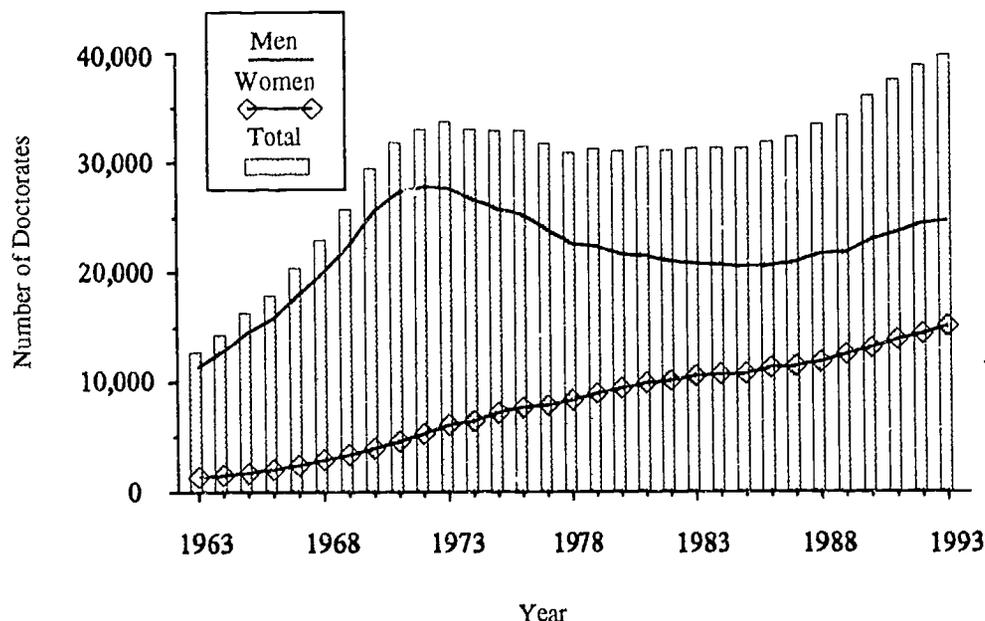
## TRENDS IN DOCTORATE RECIPIENTS

### Selected Demographic Characteristics

The number of new Ph.D.s increased to an all-time high of 39,754 in 1993. This record continues the upward trend in doctoral attainment that started in 1986 after a period of stagnation during the late 1970s and early 1980s. The doctorates awarded in 1993 were granted by 368 colleges and universities in the United States and Puerto Rico.

- Women continued to earn increasing numbers of Ph.D.s (15,108 in 1993), while men still fell short of their record number of doctorates in 1972 (24,646 in 1993 compared to 27,754 in 1972).
- Whereas the number of male Ph.D.s barely doubled from 11,336 to 24,646 over the last three decades, the number of female Ph.D.s increased nearly elevenfold from 1,392 to 15,108. Women's representation grew from 11 percent in 1963 to 38 percent in 1993.

FIGURE 1 Doctorate recipients, total and by gender, 1963-1993.



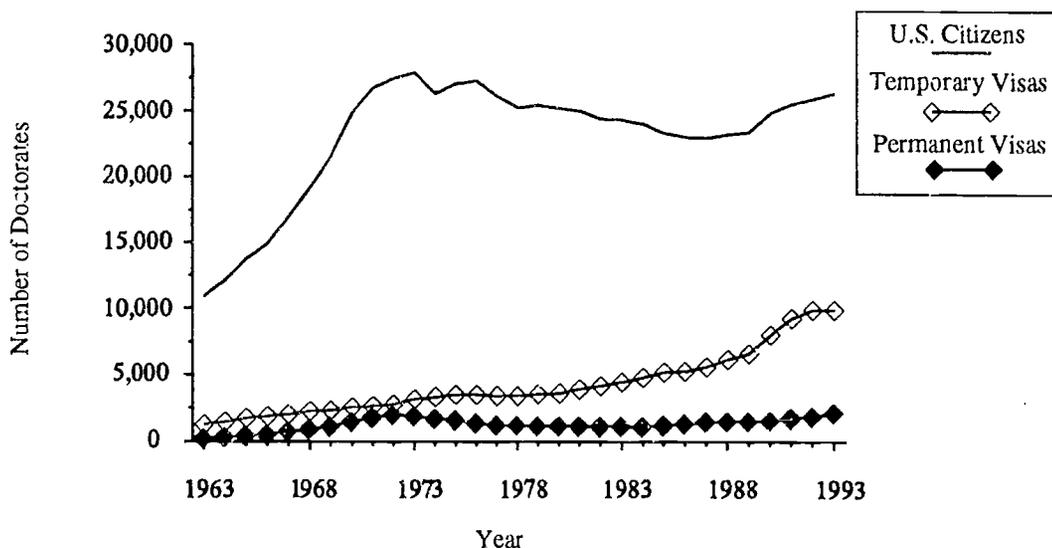
See Tables 1 and 2.

SOURCE: National Research Council, Survey of Earned Doctorates.

U.S. citizens earned more than two-thirds (26,386) of the doctorates awarded in 1993. However, the share for non-U.S. citizens has increased steadily over the last 30 years, rising from 13 percent (1,605 Ph.D.s) in 1963 to 32 percent (12,173 Ph.D.s) in 1993.

- In 1993, non-U.S. citizen Ph.D.s on temporary visas outnumbered those on permanent visas by more than four to one—9,923 compared to 2,250. Temporary residents earned 26 percent of all Ph.D.s, whereas permanent residents received only 6 percent. (Note: Temporary residents are nonimmigrants who are granted visas for a specified temporary period of time. Permanent residents are immigrants who are granted legal permanent residence in the United States.)
- After 14 years of significant annual increases, the number of doctorates earned by temporary residents appears to have leveled off. However, it is too early to determine if this is the beginning of a new trend. Both the number and the proportion of Ph.D.s received by temporary residents were about the same as last year. Since 1963, temporary residents have increased their share of Ph.D.s from 10 to 26 percent.
- Permanent residents doubled their representation among doctorate recipients from 3 percent in 1963 to 6 percent in 1993. Moreover, permanent residents earned 2,250 degrees in 1993, surpassing their previous high of 2,093 doctorates in 1972.
- Over half of all non-U.S. Ph.D. recipients originated from four Asian countries: the People's Republic of China (19 percent), Taiwan (12 percent), Korea (12 percent), and India (9 percent). (See Table 4.)

FIGURE 2 Doctorate recipients, by citizenship, 1963-1993.



See Tables 3 and 4.

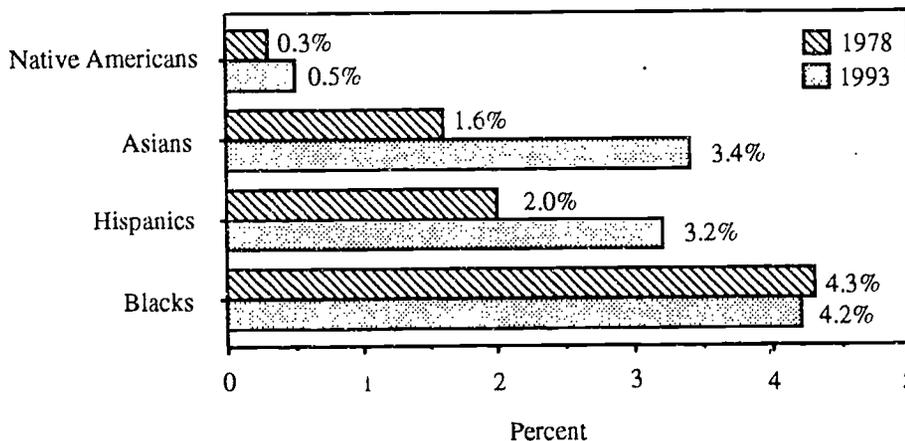
See technical notes in Appendix C for rates of nonresponse to the question on citizenship status.

SOURCE: National Research Council, Survey of Earned Doctorates.

Just over 11 percent of the doctorates awarded to U.S. citizens in 1993 were earned by racial/ethnic minorities—Asians, black Americans, Hispanics, and Native Americans. This represents an increase in minority representation of 3 percentage points since 1978 and a half-point increase since last year.

- Most U.S. minority groups increased their numbers and proportions of Ph.D.s since 1978 (except for blacks, whose 1993 proportion was just under that in 1978). Asian Ph.D.s experienced the largest growth, more than doubling their representation. (See Appendix Table B-2.)
- Black Americans received 1,106 degrees in 1993, continuing an increase in awards that began in 1988 (except for a dip of less than 4 percent between 1991 and 1992). This upward trend reversed a period of decline in the number of black Ph.D.s from 1972 to 1987. The 1,106 doctorates awarded in 1993 topped the 1,031 Ph.D.s earned by blacks in 1978 and nearly reached the all-time peak of 1,113 Ph.D.s in 1977. Blacks' 4.2 percent share of doctorates in 1993 was about the same as in 1978 (4.3 percent) and just slightly less than in the peak year of 1977 (4.4 percent).
- Of the top 21 institutions (ranked by number of Ph.D.s) that awarded bachelor's degrees to blacks who later received Ph.D.s between 1989 and 1993, 17 are Historically Black Colleges and Universities (HBCUs). Three of the leading Ph.D. institutions (ranked by the number of Ph.D.s) are also HBCUs. (See Tables 6 and 7.)

FIGURE 3 Percentage of doctorates earned by U.S. minorities, 1978 and 1993.



NOTE: Percentages are based on the number of U.S. citizen Ph.D.s with known race/ethnicity. "Native Americans" includes American Indians and Alaskan Natives.

See Appendix Table B-2.

See technical notes in Appendix C for rates of nonresponse to citizenship and race/ethnicity.

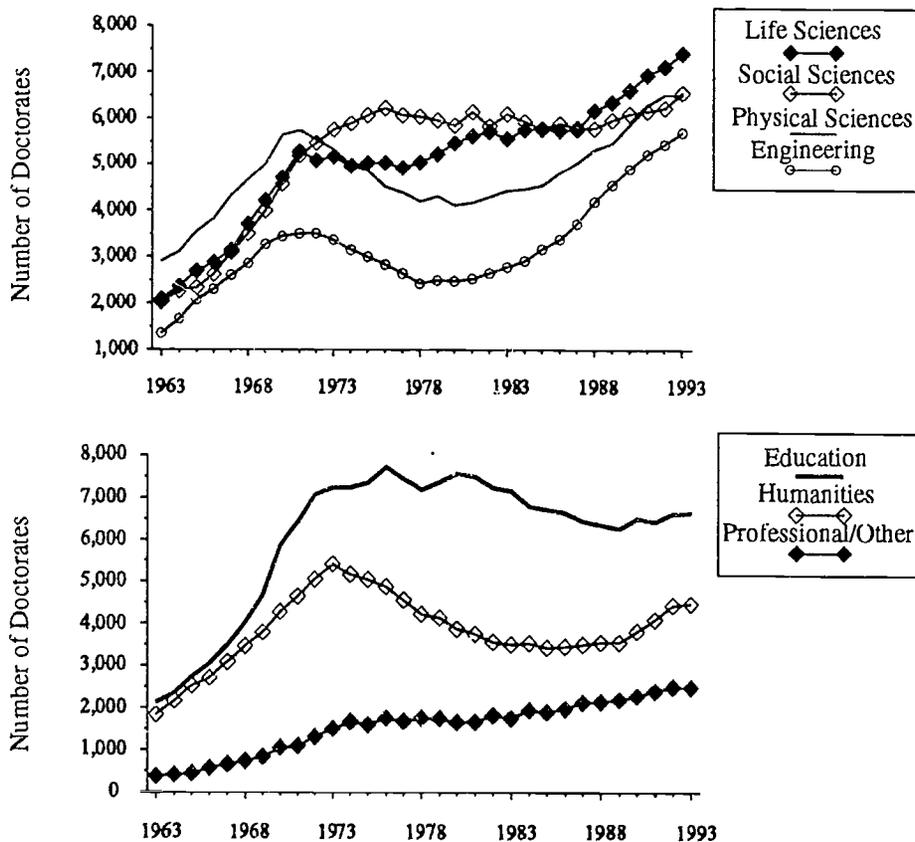
SOURCE: National Research Council, Survey of Earned Doctorates.

### Field of Doctorate

Of the seven broad fields of study profiled in this report, life sciences had the largest number of Ph.D.s—7,397 in 1993. (See Table 2.)

- Within science and engineering, life sciences outnumbered social sciences (6,545 Ph.D.s), physical sciences (6,496 Ph.D.s), and engineering (5,696 Ph.D.s). Engineering and physical sciences lost ground to the life and social sciences during the 1970s and early 1980s, but began to close the gap in the mid-1980s.
- Among the nonscience fields in 1993, education continued to outstrip humanities and professional/other fields, producing 6,647 doctorates compared to 4,481 in humanities and 2,492 in professional/other fields. However, the number of Ph.D.s in professional/other fields has increased at a fairly steady rate since 1963, and the number of doctorates in humanities is at its highest level since 1977.

FIGURE 4 Field of doctorate, 1963-1993.



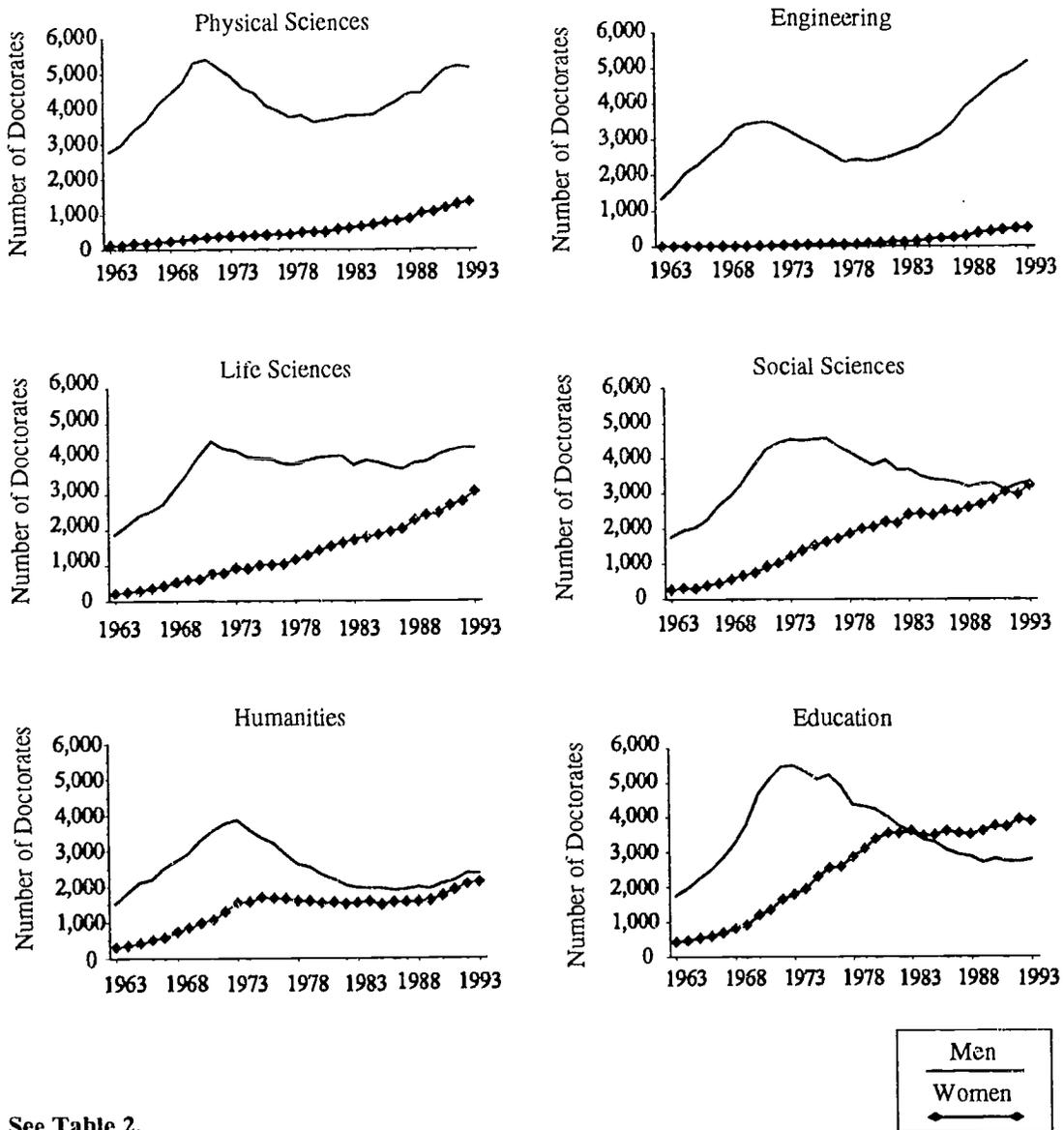
See Table 2.

SOURCE: National Research Council, Survey of Earned Doctorates.

In 1993, doctoral awards to men surpassed those to women in all but one broad field—education. Women predominated in the field of education with 59 percent of all doctorates and neared parity in social sciences and humanities. However, women remained underrepresented in the fields of engineering (9 percent of Ph.D.s), physical sciences (21 percent), and life sciences (42 percent).

- While women Ph.D.s increased in every broad field over the last 30 years, men experienced major declines after 1973 in social sciences, humanities, and education. Only half as many men received education doctorates in 1993 as in 1973.

FIGURE 5 Field of doctorate, by gender of doctorate recipients, 1963-1993.



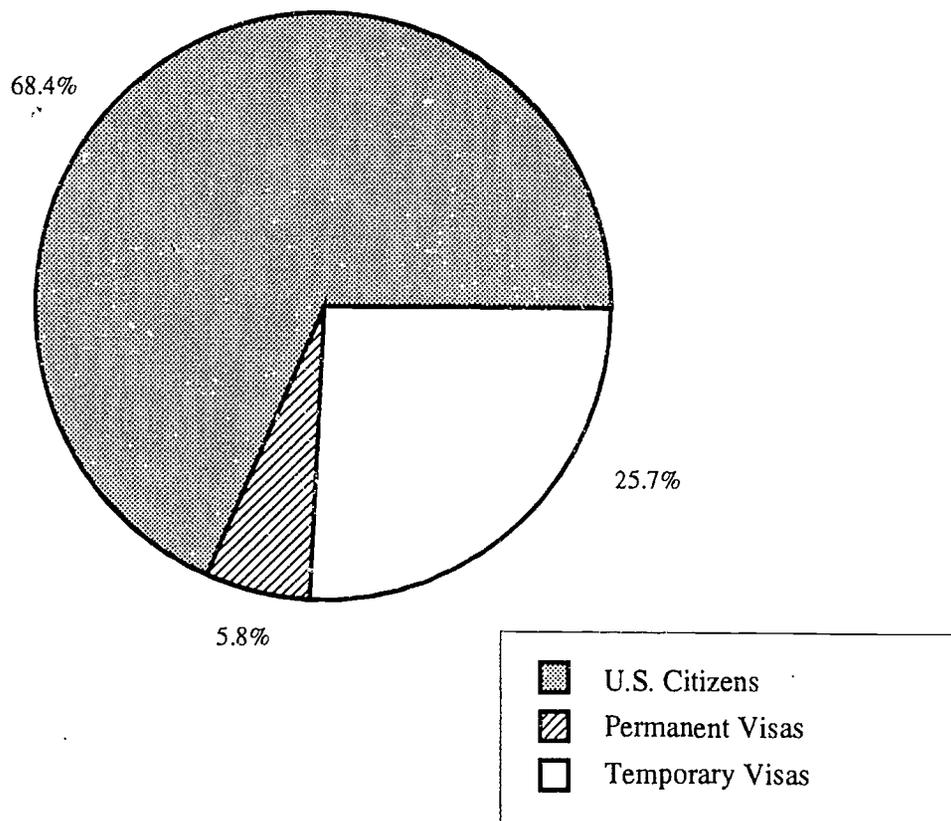
See Table 2.

SOURCE: National Research Council, Survey of Earned Doctorates.

Non-U.S. citizens earned 32 percent of all doctorates awarded in 1993. Their representation varied by field—accounting for 59 percent of Ph.D.s in engineering, 45 percent in physical sciences, and just 11 percent in education. U.S. citizens received more than three-quarters of the doctorates awarded in social sciences, humanities, and education.

- Among non-U.S. citizens, both permanent and temporary residents were most concentrated in engineering, followed by physical sciences and life sciences. U.S. citizens were most heavily concentrated in education, although they were highly represented in the fields of social and life sciences as well.

FIGURE 6a Citizenship status of doctorate recipients in all fields, 1993.

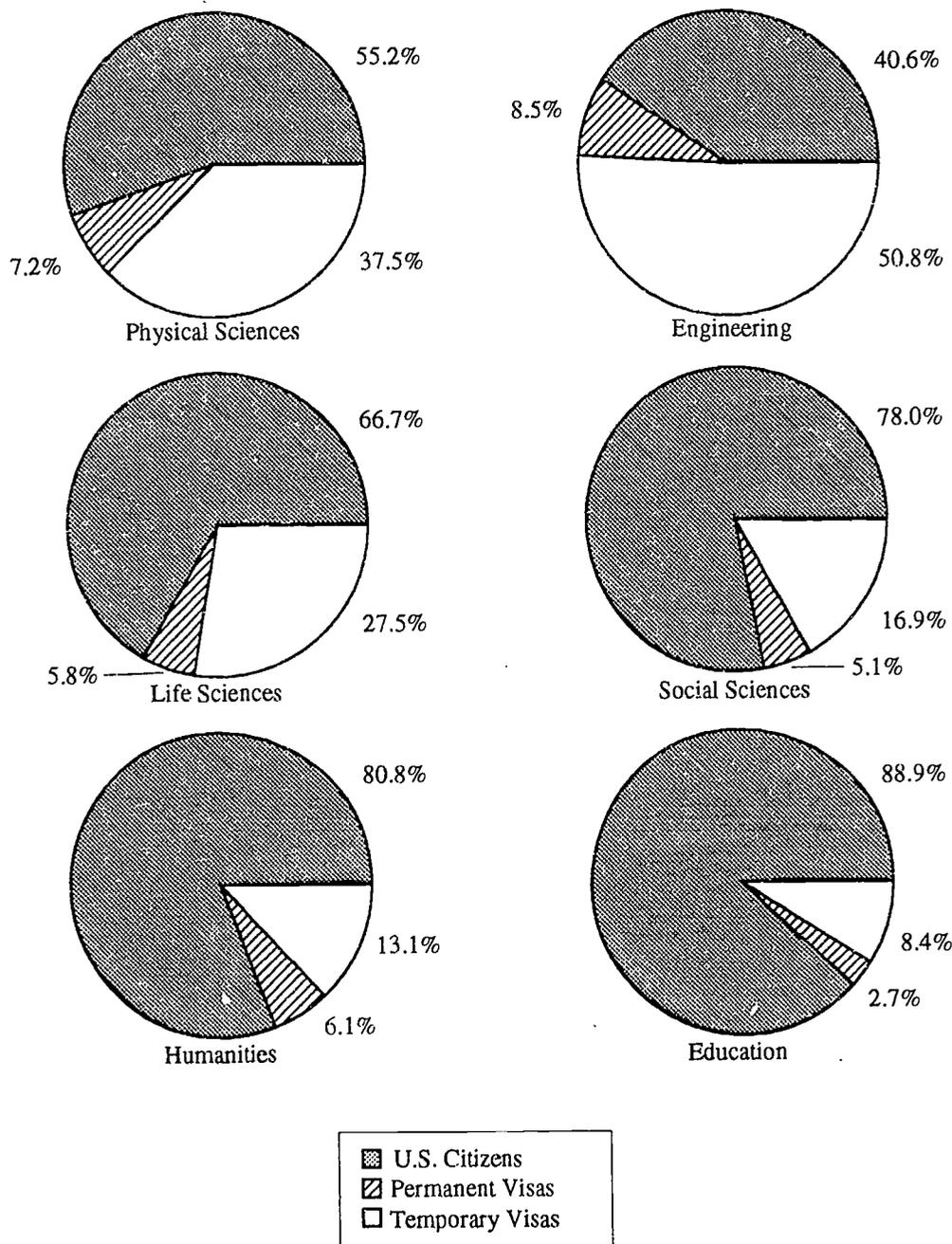


See Table 3.

See technical notes in Appendix C for rates of nonresponse to the question on citizenship status.

SOURCE: National Research Council, Survey of Earned Doctorates.

FIGURE 6b Broad field composition, by citizenship status of doctorate recipients, 1993.



See Table 3.

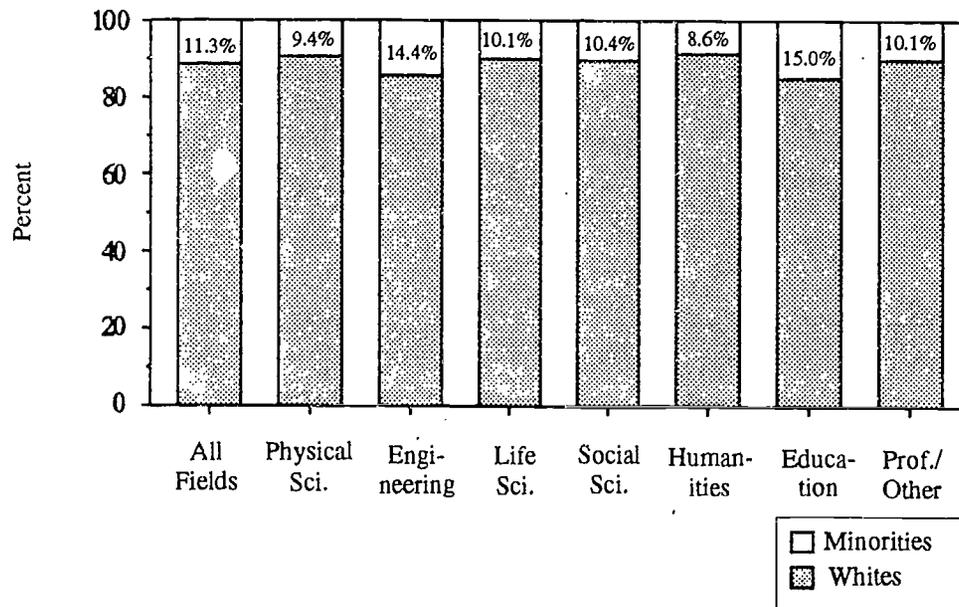
See technical notes in Appendix C for rates of nonresponse to the question on citizenship status.

SOURCE: National Research Council, Survey of Earned Doctorates.

Racial/ethnic minorities received 11 percent of all doctorates awarded to U.S. citizens in 1993. As a group, they accounted for 15 percent of the doctorates in education, 14 percent in engineering, and 9 to 10 percent in each of the other broad fields.

- In 1993, black, Hispanic, and Native American doctorate recipients were most concentrated in the field of education, followed by social sciences. Life sciences and engineering were the leading fields among Asian Americans. (See Table 5.)
- In 1993, black Americans received more than one-half of the doctorates awarded to minorities in the field of education and professional/other fields; blacks were also the predominant minority recipients of doctorates in the field of social sciences. Asian Americans accounted for well over one-half of minority Ph.D.s in engineering and physical sciences and also earned more doctorates in life sciences than any other minority group. Hispanics were the predominant minority group to receive doctorates in the field of humanities. (See Table 5.)

FIGURE 7 Broad field composition, by minority status of doctorate recipients, 1993.



NOTE: Percentages designate the nonwhite minority representation among U.S. citizens in each field.

See Table 5.

See technical notes in Appendix C for rates of nonresponse to the question on race/ethnicity.

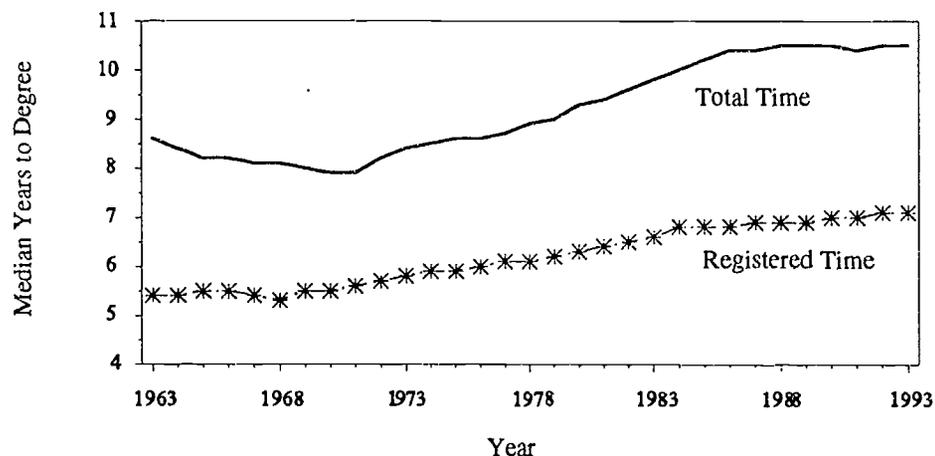
SOURCE: National Research Council, Survey of Earned Doctorates.

### Time-to-Degree

Total time-to-degree (TTD) measures the number of years elapsed between receipt of the baccalaureate and the Ph.D. Registered time-to-degree (RTD) gauges the amount of time actually enrolled in graduate school; RTD includes master's degrees, enrollment in nondegree programs, and time spent working on the dissertation.

- TTD has remained fairly level since the mid-1980s, while RTD has increased at a slow but steady pace. The median TTD in 1993 was 10.5 years, and the median RTD was 7.1 years.
- Both TTD and RTD varied considerably by field. In 1993, doctorate recipients in physical sciences had the shortest TTD (8.3 median years), while those in education had the longest (19.2 median years). The shortest RTD was in engineering (6.3 median years), and the longest RTD was in the humanities (8.3 median years).
- Time-to-degree was shorter for men than for women, though differences in RTD almost disappear for Ph.D.s in the same broad field. Temporary residents exhibited shorter time-to-degree than both permanent residents and U.S. citizens, and Asian Americans had the shortest time-to-degree of all U.S. racial/ethnic groups. (See Table 10.)

FIGURE 8 Median years to doctorate from baccalaureate award, 1963-1993.



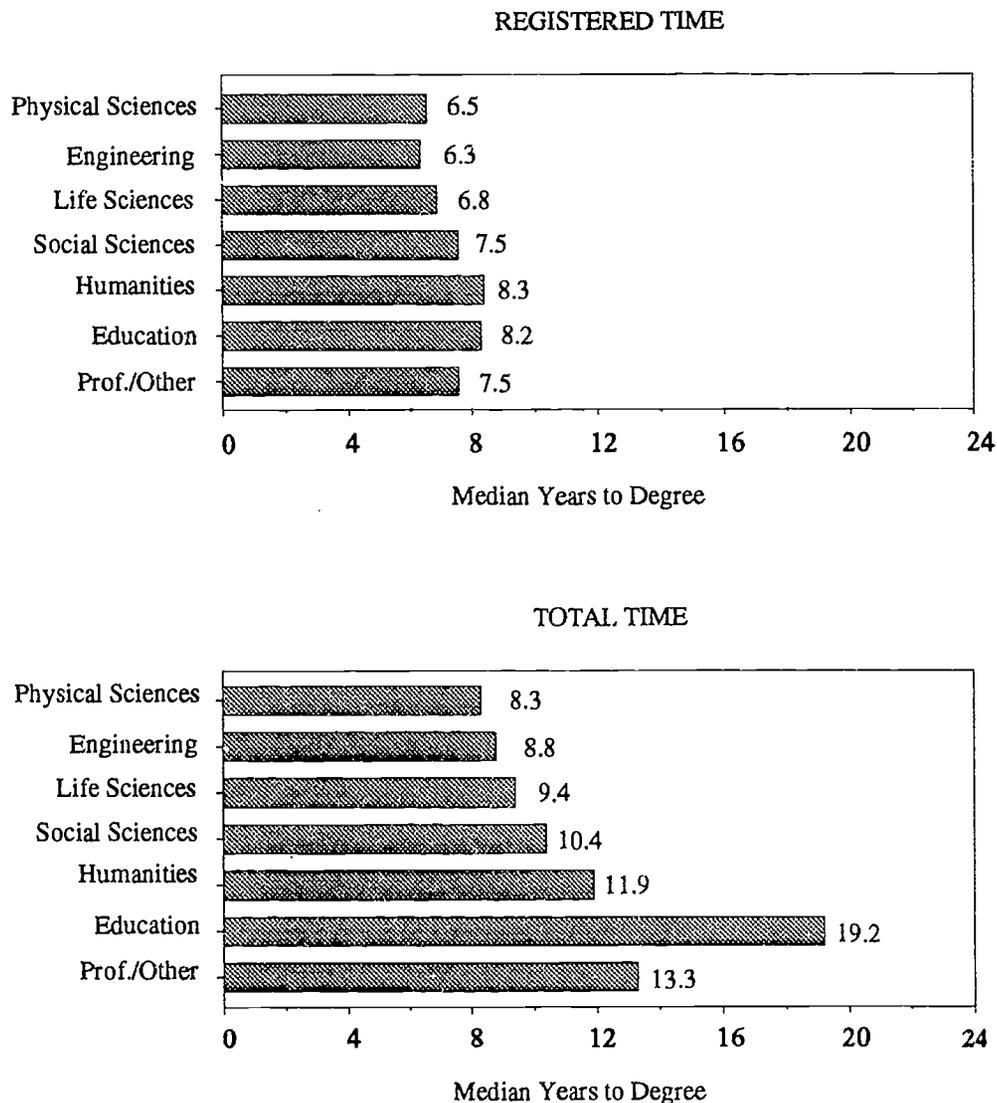
NOTE: A different method of computing TTD using baccalaureate-year cohorts rather than doctorate-year cohorts is discussed in Bowen, W., G. Lord, and J. A. Sosa. 1991. Measuring Time to the Doctorate: A Reinterpretation of the Evidence. *Proceedings of the National Academy of Sciences*, Vol. 88. Washington, D.C. Pp. 713-717.

See Tables 9 and 10.

See technical notes in Appendix C for rates of nonresponse to the applicable questions.

SOURCE: National Research Council, Survey of Earned Doctorates.

FIGURE 9 Median years to doctorate from baccalaureate award, by broad field, 1993.



NOTE: A different method of computing TTD using baccalaureate-year cohorts rather than doctorate-year cohorts is discussed in Bowen, W., G. Lord, and J. A. Sosa. 1991. *Measuring Time to the Doctorate: A Reinterpretation of the Evidence. Proceedings of the National Academy of Sciences*, Vol. 88. Washington, D.C. Pp. 713-717.

See Tables 9 and 10.

See technical notes in Appendix C for rates of nonresponse to the applicable questions.

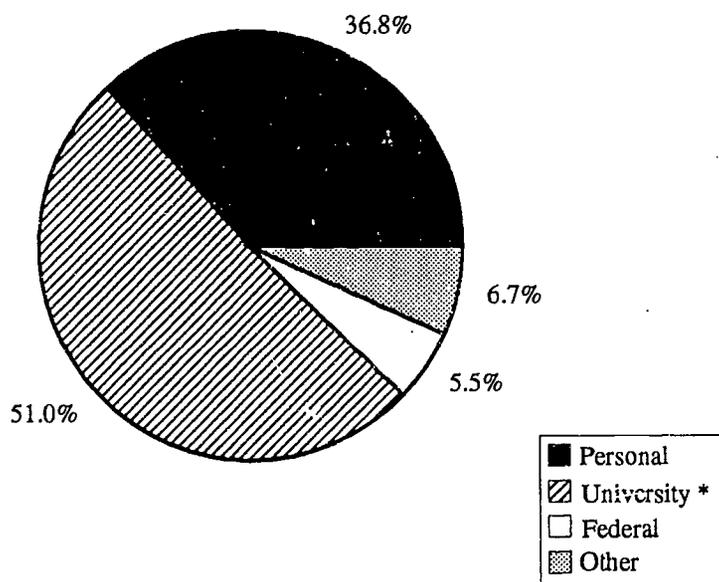
SOURCE: National Research Council, Survey of Earned Doctorates.

### Financial Support

As in the previous two years, university funding (mostly via teaching and research assistantships) was the primary source of graduate school support for the majority of 1993 Ph.D.s (51 percent). Another 37 percent were primarily supported by personal resources (own earnings; family contributions; loans) and the remaining 12 percent by "other" resources (federal or state governments; nonfederal competitive fellowships; businesses/employers).

- The type of primary support varied greatly by field. University sources were most common in the physical and life sciences and in engineering (reported by well over half of recipients). Personal resources were most typical in education (reported by 80 percent of recipients).
- Male Ph.D. recipients were primarily supported by their university; female recipients were more likely to be self-supporting. Over two-thirds of non-U.S. citizens reported university support as their primary source of financing, whereas U.S. citizens were somewhat more apt to be supported by their own resources. The largest proportion of Ph.D.s in most U.S. racial/ethnic groups also indicated personal funds as their primary source of financial support; however, university funding was the chief means of support for more than half of Asian Americans. These differences were due in part to the field concentrations of the various demographic groups. (See Table 11.)

FIGURE 10a Primary sources of financial support for doctorate recipients in all fields, 1993.



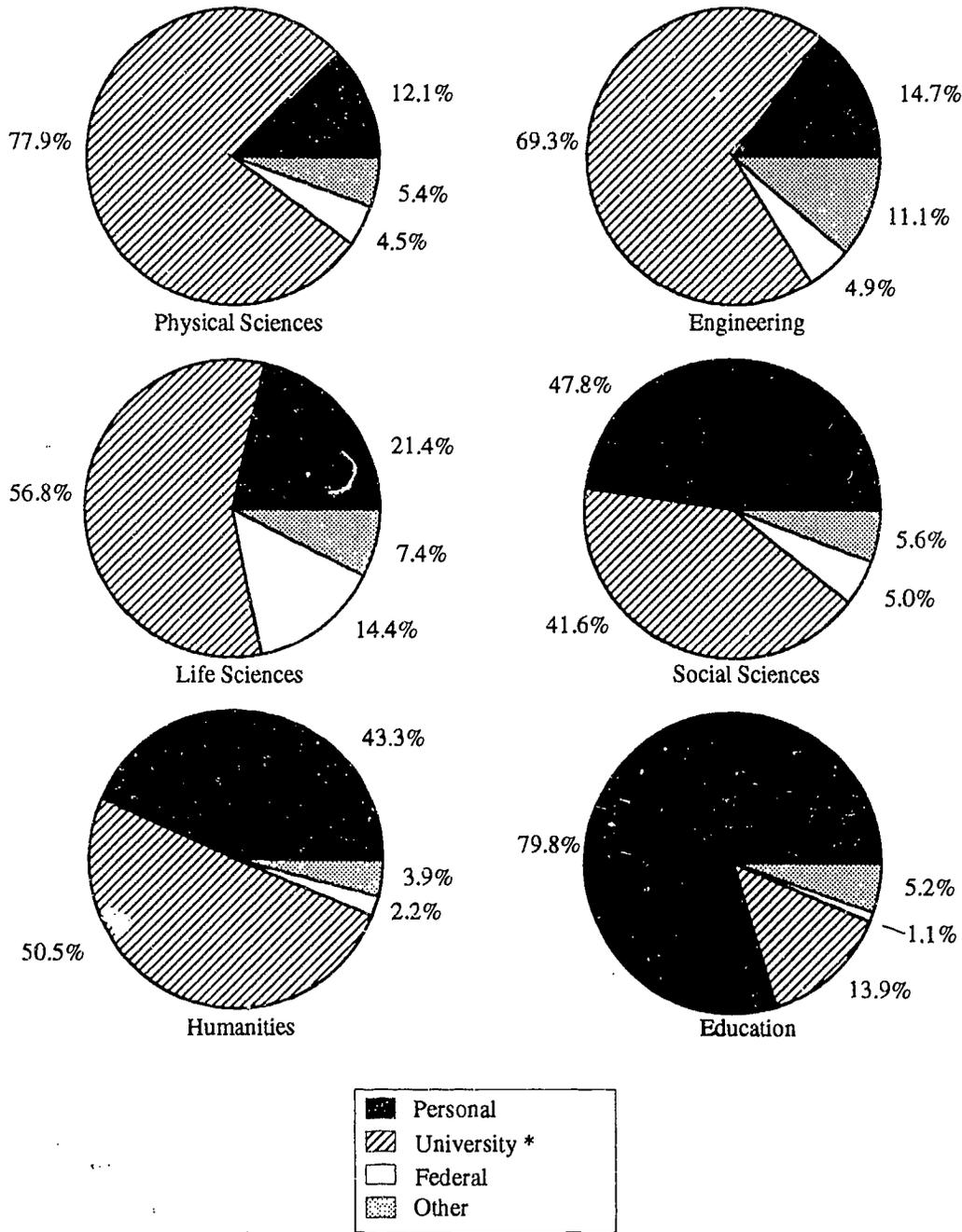
See Table 11.

See technical notes in Appendix C for rates of nonresponse to this question.

\*University support also includes research assistantships funded by the federal government.

SOURCE: National Research Council, Survey of Earned Doctorates.

FIGURE 10b Primary sources of financial support for doctorate recipients, by broad field, 1993.



See Table 11.

See technical notes in Appendix C for rates of nonresponse to this question.

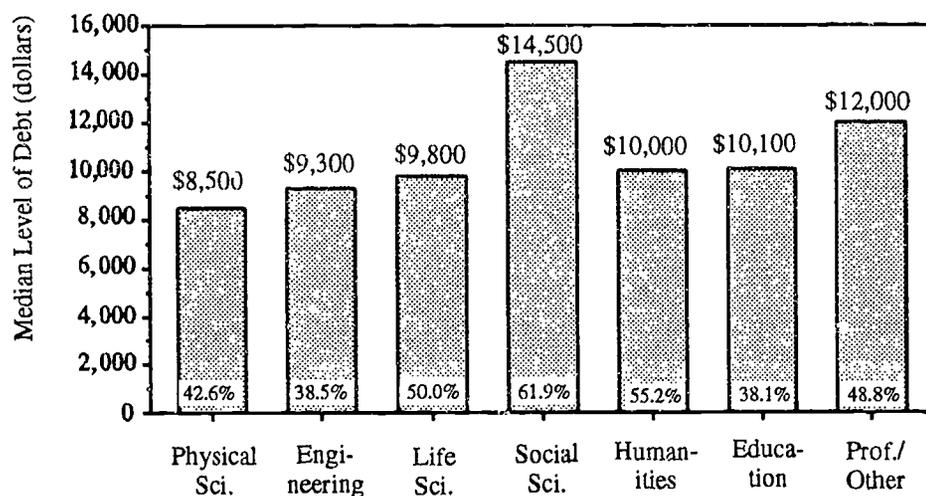
\*University support also includes research assistantships funded by the federal government.

SOURCE: National Research Council, Survey of Earned Doctorates.

Almost half (48 percent) of all Ph.D.s in 1993 reported debt related to their combined undergraduate and graduate education. Among those with debt, the median level of debt was \$10,500.

- Doctorate recipients in social sciences were the most likely to have incurred educational debt (62 percent), while those in education and engineering were the least likely (about 38 percent in each field). Social scientists also had the highest level of debt (median \$14,500); physical scientists had the lowest debt level (median \$8,500).
- Men and women reported debt in equal proportions and had about the same level of debt. Non-U.S. citizens were much less likely to have incurred debt than U.S. citizens, the majority of whom were indebted. Temporary residents reported lower levels of debt than both U.S. citizens and permanent residents. Black and Hispanic Americans were the most likely of U.S. racial/ethnic groups to have educational debt, and their debt levels were the highest. (See Tables 12 and 13.)

FIGURE 11 Median level of educational debt and percentage of Ph.D.s with debt, total and by broad field, 1993.



NOTE: Ph.D.s without debt are not included in the median computations.

See Tables 12 and 13.

See technical notes in Appendix C for rates of nonresponse to the question on debt.

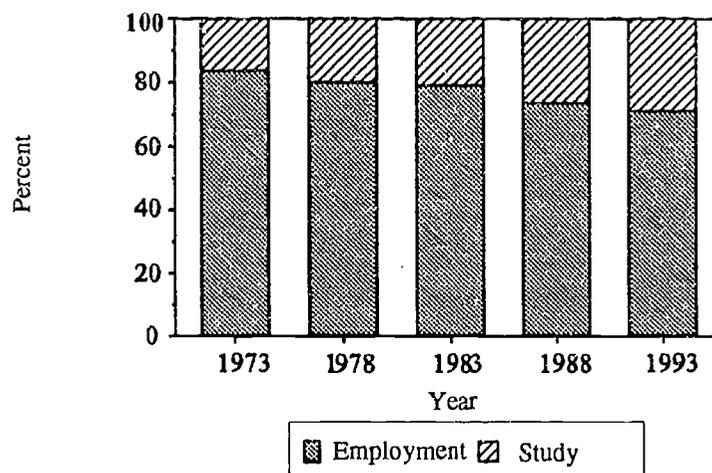
SOURCE: National Research Council, Survey of Earned Doctorates.

### Postgraduation Plans

Of those Ph.D.s in 1993 who reported definite postgraduation commitments, 71 percent planned to be employed while 29 percent planned postdoctoral study. (Note: Postdoctoral appointments are considered to be postdoctoral study rather than employment in this report.) The proportion of new Ph.D.s with employment plans was significantly lower than 20 years ago, when 84 percent intended to work after graduation and only 16 percent planned further study.

- Doctorate recipients in education and professional/other fields were the most likely to have work plans (97 percent), followed closely by Ph.D.s in the humanities (93 percent). Study plans were by far most common in the life sciences (64 percent).
- The majority of Ph.D.s in every demographic group planned to work rather than pursue further study after graduation. However, women were more inclined towards employment than were men, and U.S. citizens were more apt to work than were foreign citizens. A significant proportion of temporary residents (39 percent) planned to continue their education. Among the aggregate of U.S. citizens and permanent residents, Native Americans and blacks had the largest proportions with work plans (about 85 percent each), and Asians had the largest proportion with study plans (39 percent). (See Table 15.)

FIGURE 12 Postgraduation commitments of doctorate recipients for selected years, 1973-1993.



NOTE: Only Ph.D.s with definite commitments are included. Percentages are based on the number of Ph.D.s whose specific plans are known.

See Tables 14 and 15.

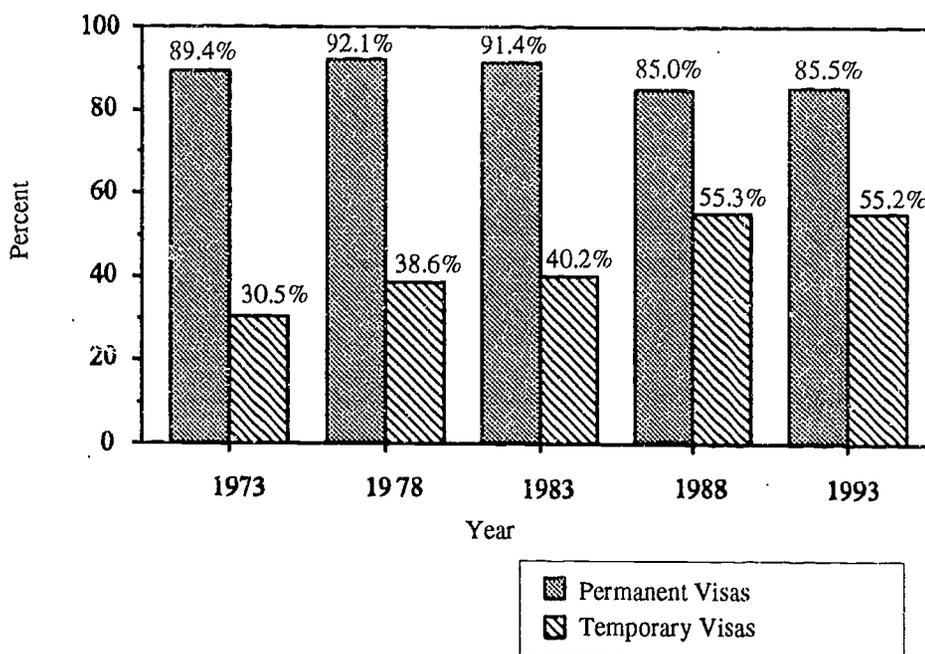
See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

SOURCE: National Research Council, Survey of Earned Doctorates.

In 1993, permanent residents who reported definite postdoctoral commitments were much more likely than temporary residents with commitments to have plans to remain in the United States (86 percent versus 55 percent). However, the proportion of temporary resident Ph.D.s intending to stay was nearly double the proportion in 1973 (31 percent). (Note: Temporary residents are allowed to extend their stay in the United States after receipt of the Ph.D. for additional study or work experience; however, they cannot remain indefinitely without a change in visa status.) Among permanent residents, the percentage of Ph.D.s with plans to stay in the United States was somewhat lower than 20 years ago.

- Postdoctoral study was planned by over half of the temporary residents who intended to remain in the United States, while permanent residents were nearly twice as apt to work as to study. (See Table 17.)

FIGURE 13 Percentage of non-U.S. citizen doctorate recipients with definite plans to remain in the United States after graduation, by visa status for selected years, 1973-1993.



NOTE: Only Ph.D.s with definite commitments are included in the percentage computations.

See Tables 16 and 17.

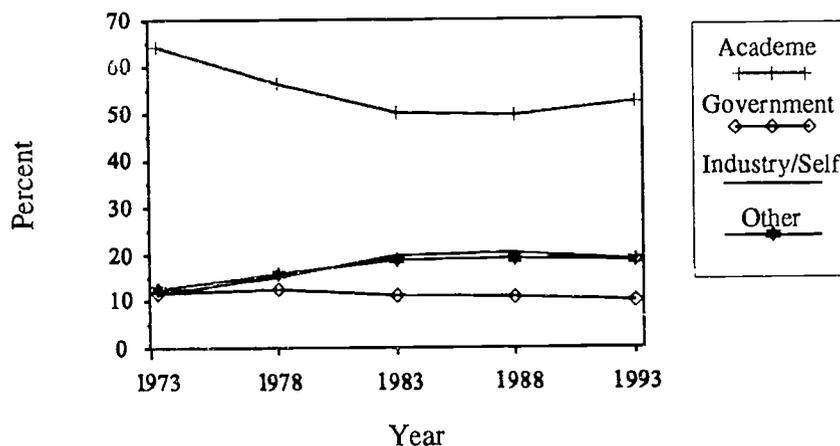
See technical notes in Appendix C for rates of nonresponse to the applicable questions.

SOURCE: National Research Council, Survey of Earned Doctorates.

In 1993 as in earlier years, academe was the primary employer of U.S. citizens and permanent residents who had definite commitments for employment in the United States after graduation. However, the proportion of Ph.D.s planning to work in academe was smaller than 20 years ago (53 percent in 1993 versus 64 percent in 1973).

- Plans for employment in industry (including self-employment) increased over the last two decades, from 12 percent of Ph.D.s in 1973 to 19 percent of Ph.D.s in 1993. "Other" employment sectors (namely K-12 schools and nonprofit organizations) attracted the same proportion of Ph.D.s as industry in 1993.
- The sector of planned employment varied by field. In 1993, academic employment plans were most common among Ph.D.s in the humanities (85 percent) and professional/other fields (76 percent). Industry was most frequently reported by engineers (56 percent) and physical scientists (50 percent). (See Table 18.)
- Whereas academic employment plans were more prevalent among women than men (58 percent versus 48 percent), the proportion of men in industry (24 percent) was twice that of women. The majority of Ph.D.s in every racial/ethnic group but Asians reported plans to work in academe. While Asians also favored academic employment (44 percent), their proportion in industry (41 percent) was nearly as large. Note that the sectors of concentration for the various demographic groups reflect the doctoral fields of the Ph.D.s. in these groups. (See Table 19.)

FIGURE 14 Employment sector of doctorate recipients with postgraduation commitments in the United States for selected years, 1973-1993 (U.S. citizens and permanent residents).



NOTE: Only Ph.D.s with definite commitments for employment are included. Foreign locations are excluded. Percentages are based on the number of Ph.D.s whose employment sector is known. Government includes U.S. federal, state, and local agencies.

See Tables 18 and 19.

See technical notes in Appendix C for rates of nonresponse to this question.

SOURCE: National Research Council, Survey of Earned Doctorates.

### Tables

		Page
1	Doctorates Awarded by U.S. Colleges and Universities, 1963-1993	20
2	Gender of Doctorate Recipients, by Broad Field for Selected Years, 1963-1993	20
3	Citizenship Status of Doctorate Recipients, by Broad Field for Selected Years, 1963-1993	21
4	Leading Countries of Origin of Non-U.S. Citizens Earning Ph.D.s at U.S. Colleges and Universities, 1993 (ranked on number of Ph.D.s)	22
5	Race/Ethnicity of U.S. Citizen Ph.D.s, by Major Doctorate Field, 1993	23
6	Leading U.S. Baccalaureate Institutions of U.S. Minority Ph.D.s, 1989-1993 (ranked on number of Ph.D.s)	24
7	Leading Ph.D. Institutions of U.S. Minority Ph.D.s, 1989-1993 (ranked on number of Ph.D.s)	25
8	Major Doctorate Field for Selected Years, 1963-1993	26
9	Median Years to Doctorate from Baccalaureate Award, by Broad Field for Selected Years, 1963-1993	27
10	Median Years to Doctorate from Baccalaureate Award, by Demographic Group and Broad Field, 1993	28
11	Primary Sources of Support for Doctorate Recipients, by Broad Field and Demographic Group, 1993	29
12	Median Level of Debt Related to the Education of Doctorate Recipients, 1993	30
13	Cumulative Level of Debt Related to the Education of Doctorate Recipients, 1993	31
14	Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Broad Field for Selected Years, 1973-1993	32
15	Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Demographic Group for Selected Years, 1973-1993	33
16	Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Visa Status for Selected Years, 1973-1993	34
17	Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Major Field and Visa Status, 1993	35
18	Employment Sector of Doctorate Recipients with Postgraduation Commitments in the United States, by Broad Field for Selected Years, 1973-1993 (U.S. citizens and permanent residents)	36
19	Employment Sector of Doctorate Recipients with Postgraduation Commitments in the United States, by Demographic Group for Selected Years, 1973-1993	37

TABLE 1 Doctorates Awarded by U.S. Colleges and Universities, 1963-1993

Year	Number	Year	Number	Year	Number	Year	Number
1963	12,728	1971	31,867	1979	31,239	1987	32,367
1964	14,325	1972	33,041	1980	31,020	1988	33,499
1965	16,340	1973	33,755	1981	31,356	1989	34,324
1966	17,949	1974	33,047	1982	31,111	1990	36,068
1967	20,403	1975	32,952	1983	31,282	1991	37,517
1968	22,937	1976	32,946	1984	31,337	1992	38,853
1969	25,743	1977	31,716	1985	31,298	1993	39,754
1970	29,498	1978	30,875	1986	31,899		

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 2 Gender of Doctorate Recipients, by Broad Field for Selected Years, 1963-1993

Field/Gender	1963	1968	1973	1978	1983	1988	1993
All Fields	12,728	22,937	33,755	30,875	31,282	33,499	39,754
Men	11,336	20,005	27,670	22,553	20,749	21,681	24,646
Women	1,392	2,932	6,085	8,322	10,533	11,818	15,108
Physical Sciences*	2,910	4,653	5,311	4,193	4,426	5,309	6,496
Men	2,786	4,420	4,929	3,754	3,809	4,430	5,152
Women	124	233	382	439	617	879	1,344
Engineering	1,357	2,855	3,364	2,423	2,781	4,187	5,696
Men	1,347	2,843	3,318	2,370	2,657	3,901	5,175
Women	10	12	46	53	124	286	521
Life Sciences	2,083	3,707	5,168	5,041	5,554	6,165	7,397
Men	1,876	3,197	4,246	3,882	3,833	3,894	4,311
Women	207	510	922	1,159	1,721	2,271	3,086
Social Sciences	2,027	3,495	5,757	6,038	6,095	5,781	6,545
Men	1,763	2,941	4,546	4,177	3,689	3,179	3,316
Women	264	554	1,211	1,861	2,406	2,602	3,229
Humanities	1,842	3,467	5,414	4,231	3,500	3,556	4,481
Men	1,538	2,735	3,864	2,635	1,969	1,981	2,351
Women	304	732	1,550	1,596	1,531	1,575	2,130
Education	2,137	4,029	7,238	7,194	7,174	6,359	6,647
Men	1,720	3,228	5,455	4,339	3,555	2,846	2,743
Women	417	801	1,783	2,855	3,619	3,513	3,904
Professional/Other	372	731	1,503	1,755	1,752	2,142	2,492
Men	306	641	1,312	1,396	1,237	1,450	1,598
Women	66	90	191	359	515	692	894

\*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 3 Citizenship Status of Doctorate Recipients, by Broad Field for Selected Years, 1963-1993

Field/Citizenship	1963	1968	1973	1978	1983	1988	1993
All Fields	12,728	22,937	33,755	30,875	31,282	33,499	39,754
U.S. Citizens	10,925	19,229	27,914	25,291	24,359	23,290	26,386
Permanent Residents	354	1,046	1,998	1,344	1,275	1,622	2,250
Temporary Residents	1,251	2,268	3,174	3,421	4,499	6,194	9,923
Unknown Citizenship	198	394	669	819	1,149	2,393	1,195
Physical Sciences*	2,910	4,653	5,311	4,193	4,426	5,309	6,496
U.S. Citizens	2,437	3,865	4,101	3,200	3,138	3,238	3,475
Permanent Residents	74	187	433	257	223	252	455
Temporary Residents	339	510	683	646	926	1,483	2,363
Unknown Citizenship	60	91	94	90	139	336	203
Engineering	1,357	2,855	3,364	2,423	2,781	4,187	5,696
U.S. Citizens	1,042	2,105	2,142	1,261	1,163	1,780	2,225
Permanent Residents	85	273	557	325	319	366	466
Temporary Residents	215	436	622	768	1,170	1,721	2,783
Unknown Citizenship	15	41	43	69	129	320	222
Life Sciences	2,083	3,707	5,168	5,041	5,554	6,165	7,397
U.S. Citizens	1,688	2,894	4,062	4,030	4,437	4,407	4,827
Permanent Residents	60	186	367	215	191	305	419
Temporary Residents	319	585	649	668	776	1,069	1,988
Unknown Citizenship	16	42	90	128	150	384	163
Social Sciences	2,027	3,495	5,757	6,038	6,095	5,781	6,545
U.S. Citizens	1,749	2,961	4,885	5,118	5,047	4,349	4,943
Permanent Residents	66	149	236	211	191	223	323
Temporary Residents	165	310	519	488	570	709	1,074
Unknown Citizenship	47	75	117	221	287	500	205
Humanities	1,842	3,467	5,414	4,231	3,500	3,556	4,481
U.S. Citizens	1,700	3,105	4,817	3,780	2,984	2,796	3,510
Permanent Residents	35	147	232	139	118	168	267
Temporary Residents	71	152	251	198	258	350	568
Unknown Citizenship	36	63	114	114	140	242	136
Education	2,137	4,029	7,238	7,194	7,174	6,359	6,647
U.S. Citizens	2,005	3,736	6,724	6,498	6,246	5,298	5,746
Permanent Residents	20	54	105	128	148	177	175
Temporary Residents	98	184	290	412	555	480	546
Unknown Citizenship	14	55	119	156	225	404	180
Professional/Other	372	731	1,503	1,755	1,752	2,142	2,492
U.S. Citizens	304	563	1,183	1,404	1,344	1,422	1,660
Permanent Residents	14	50	68	69	85	131	145
Temporary Residents	44	91	160	241	244	382	601
Unknown Citizenship	10	27	92	41	79	207	86

NOTE: See technical notes in Appendix C for rates of nonresponse to the question on citizenship status.

\*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 4 Leading Countries of Origin of Non-U.S. Citizens Earning Ph.D.s at U.S. Colleges and Universities, 1993 (ranked on number of Ph.D.s)

Country	Number	Country	Number
1. People's Republic of China*	2,254	16. France	136
2. Taiwan, Republic of China*	1,452	17. Pakistan	132
3. Republic of Korea†	1,405	18. Israel	126
4. India	1,134	19. Nigeria	117
5. Canada	485	20. Indonesia	107
6. Germany	249	21. Egypt	107
7. Iran	239	22. Italy	101
8. England	224	23. Malaysia	101
9. Greece	199	24. Spain	100
10. Japan	182	25. Jordan	98
11. Brazil	180	26. Sri Lanka	97
12. Mexico	162	27. The Philippines	92
13. Turkey	157	28. Australia	91
14. Hong Kong	137	29. Saudi Arabia	83
15. Thailand	137	30. The Netherlands	69
		<i>Top 30 Countries of Origin</i>	<i>10,153</i>
		<i>Total Countries Reported (145)</i>	<i>12,001</i>

NOTE: The total number of non-U.S. citizens who earned doctorates in 1993 was 12,173; nearly all (12,001 Ph.D.s) reported their country of origin. See technical notes in Appendix C for rates of nonresponse to the questions on country of citizenship and citizenship status.

\*An additional 176 Ph.D.s indicated "China" as their country of citizenship, but the specific origin could not be determined. Thus, data for these recipients were excluded from the table.

†Includes "Korea, unspecified." The Democratic People's Republic of Korea (North Korea) does not permit its citizens to study in the United States.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 5 Race/Ethnicity of U.S. Citizen Ph.D.s, by Major Doctorate Field, 1993

Field	Total Ph.D.s	Known					
		Race/ Ethnicity	Asians	Blacks	His- panics	Native Amers.*	Whites
All Fields	26,386	26,152	891	1,106	834	119	23,202
Physical Sciences	3,475	3,432	182	41	89	11	3,109
Physics/Astronomy	810	799	45	9	22	3	720
Chemistry	1,272	1,259	76	19	45	2	1,117
Earth, Atmos., & Marine Sci.	473	469	6	3	8	4	448
Mathematics	496	488	28	5	9	1	445
Computer Sciences	424	417	27	5	5	1	379
Engineering	2,225	2,205	218	41	56	2	1,888
Life Sciences	4,827	4,782	219	122	126	14	4,301
Biological Sciences	3,445	3,406	190	63	93	7	3,053
Health Sciences	860	877	19	52	19	6	781
Agricultural Sciences	502	499	10	7	14	1	467
Social Sciences	4,943	4,906	104	205	182	19	4,396
Psychology	3,066	3,050	52	117	120	15	2,746
Anthropology	279	279	3	7	10	2	257
Economics	388	386	17	13	10	0	346
Poli. Sci. & Int'l. Relations	389	384	9	18	13	0	344
Sociology	348	341	10	23	15	0	293
Other Social Sciences	473	466	13	27	14	2	410
Humanities	3,510	3,469	60	95	130	13	3,171
History	599	592	7	17	21	1	546
Amer. & Eng. Lang. & Lit.	819	813	15	18	20	1	759
Foreign Lang. & Lit.	376	374	4	2	51	1	316
Other Humanities	1,716	1,690	34	58	38	10	1,550
Education	5,746	5,716	82	512	211	50	4,861
Teacher Education	383	382	5	35	16	4	322
Teaching Fields	742	737	7	38	27	2	663
Other Education	4,621	4,597	70	439	168	44	3,876
Professional/Other	1,660	1,642	26	90	40	10	1,476
Business & Management	764	758	14	24	13	5	702
Communications	239	237	4	15	9	4	205
Other Professional Fields	642	632	8	50	17	1	556
Other Fields	15	15	0	1	1	0	13

NOTE: See technical notes in Appendix C for rates of nonresponse to the question on race/ethnicity.

\*"Native Americans" includes American Indians and Alaskan Natives.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 6 Leading U.S. Baccalaureate Institutions of U.S. Minority Ph.D.s, 1989-1993 (ranked on number of Ph.D.s)

Institution	Number	Institution	Number
<b>Asians</b>		<b>Hispanics</b>	
Univ. of California-Berkeley	239	Univ. of Puerto Rico-Rio Piedras	497
Univ. of Hawaii-Manoa	123	Univ. of Puerto Rico-Mayaguez	79
Univ. of California-Los Angeles	110	Univ. of California-Berkeley	62
Massachusetts Inst. of Technology	98	Univ. of Texas-Austin	54
Harvard Univ.	66	Univ. of New Mexico	50
Cornell Univ.	60	Univ. of Miami	47
Univ. of Illinois-Urbana/Champaign	57	Univ. of California-Los Angeles	46
California Inst. of Technology	53	Catholic Univ. of Puerto Rico	40
Univ. of California-Davis	52	California State Univ.-Los Angeles	35
Univ. of Washington	50	City Univ. of NY-City College	34
Stanford Univ.	41	Univ. of California-Santa Barbara	34
Yale Univ.	40	Univ. of Arizona	33
Univ. of Michigan	40	Princeton Univ.	30
Univ. of California-Irvine	39	Univ. of Florida	30
Univ. of Southern California	36	Inter American Univ.-San German	29
Univ. of Chicago	35	Cornell Univ.	27
Univ. of Maryland-College Park	34	New York Univ.	27
Univ. of Wisconsin-Madison	27	Florida International Univ.	27
Northwestern Univ.	25	Univ. of Texas-El Paso	27
Princeton Univ.	24	Univ. of California-Irvine	26
Johns Hopkins Univ.	24		
<i>Top 21 U.S. Institutions</i>	<i>1,273</i>	<i>Top 20 U.S. Institutions</i>	<i>1,234</i>
<i>Total U.S. Institutions Reported (456)</i>	<i>2,743</i>	<i>Total U.S. Institutions Reported (632)</i>	<i>3,398</i>
<b>Blacks</b>		<b>Native Americans</b>	
Howard Univ.*	123	Oklahoma State Univ.	16
Hampton Univ.*	67	Northeastern State Univ.	15
Spelman College*	67	Univ. of Oklahoma	13
North Carolina A & T St. Univ.*	63	Pembroke State Univ.	9
Tuskegee Univ.*	60	Univ. of Central Oklahoma	9
Wayne State Univ.	57	Univ. of Montana	8
Southern Univ. & A&M Univ.-Baton Rouge*	53	Univ. of California-Berkeley	8
North Carolina Central Univ.*	49	Northern Arizona Univ.	7
South Carolina State Univ.*	48	Univ. of Arkansas-Fayetteville	6
Fisk Univ.*	46	Univ. of Colorado-Boulder	6
Florida A & M Univ.*	44	Univ. of Arizona	6
Texas Southern Univ.*	44	California State Univ.-Long Beach	6
Morgan State Univ.*	43	Univ. of California-Los Angeles	6
Tennessee State Univ.*	43	Univ. of California-Santa Barbara	6
Chicago State Univ.	42	Syracuse Univ.	5
Jackson State Univ.*	42	Univ. of Michigan	5
Virginia State Univ.*	41	Western Washington Univ.	5
Univ. of the District of Columbia*	36		
Univ. of Michigan	35	<i>Top 17 U.S. Institutions</i>	<i>136</i>
Univ. of Maryland-College Park	33	<i>Total U.S. Institutions Reported (331)</i>	<i>587</i>
Clark Atlanta Univ.*	33		
<i>Top 21 U.S. Institutions</i>	<i>1,069</i>	<i>Note: Approximately 1,850 U.S. institutions</i>	
<i>Total U.S. Institutions Reported (809)</i>	<i>4,679</i>	<i>awarded baccalaureate degrees to Ph.D.</i>	
		<i>recipients from 1989 to 1993.</i>	

NOTE: See technical notes in Appendix C for total numbers of U.S. minority Ph.D.s in this period, numbers reporting foreign institutions, and nonresponse rates to baccalaureate institution, citizenship, and race/ethnicity.

\*This institution is one of the "Historically Black Colleges and Universities" (HBCUs) that were founded in the late 1800s and early 1900s during legal segregation for the specific purpose of educating blacks. There are currently 103 HBCUs, 90 of which award baccalaureates.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 7 Leading Ph.D. Institutions of U.S. Minority Ph.D.s, 1989-1993 (ranked on number of Ph.D.s)

Institution	Number	Institution	Number
<b>Asians</b>		<b>Hispanics</b>	
Univ. of California-Berkeley	201	Univ. of Texas-Austin	112
Univ. of California-Los Angeles	185	Univ. of California-Los Angeles	103
Stanford Univ.	151	Univ. of Puerto Rico-Rio Piedras	103
Univ. of Southern California	103	Univ. of California-Berkeley	97
Univ. of Illinois-Urbana/Champaign	101	Texas A & M Univ.	87
Massachusetts Inst. of Technology	81	Univ. of Massachusetts-Amherst	83
Harvard Univ.	79	New York Univ.	68
Univ. of Hawaii-Manoa	74	Univ. of Michigan	66
Univ. of Washington	69	Harvard Univ.	63
Univ. of Michigan	63	Univ. of Southern California	62
Cornell Univ.	60	Univ. of Wisconsin-Madison	58
Univ. of California-Davis	58	CUNY-Grad. School & Univ. Center	57
Univ. of Maryland-College Park	50	Univ. of Miami	55
Northwestern Univ.	49	Univ. of New Mexico	55
Univ. of Minnesota-Minneapolis	49	Stanford Univ.	54
Univ. of Pennsylvania	48	Fordham Univ.	52
Purdue Univ.	48	Penn State Univ.	51
Univ. of Texas-Austin	48	Columbia Teachers College	47
Univ. of California-Irvine	48	Cornell Univ.	46
Univ. of California-San Diego	48	Univ. of Arizona	45
<i>Top 20 Institutions</i>	<i>1,613</i>	<i>Top 20 Institutions</i>	<i>1,364</i>
<i>Total Institutions Reported (277)</i>	<i>3,781</i>	<i>Total Institutions Reported (268)</i>	<i>3,645</i>
<b>Blacks</b>		<b>Native Americans</b>	
Howard Univ.*	164	Oklahoma State Univ.	23
Clark Atlanta Univ.*	156	Univ. of Oklahoma	18
Nova Univ.	139	Penn State Univ.	13
Columbia Teachers College	130	Northern Arizona Univ.	13
Univ. of Maryland-College Park	121	Indiana Univ.-Bloomington	10
Ohio State Univ.	108	Univ. of Wisconsin-Madison	10
Wayne State Univ.	94	Univ. of California-Berkeley	10
Univ. of Massachusetts-Amherst	86	Stanford Univ.	10
Temple Univ.	79	Univ. of Illinois-Urbana/Champaign	9
Univ. of Michigan	77	Univ. of North Carolina-Chapel Hill	9
Univ. of Pittsburgh	73	Univ. of Washington	9
Florida State Univ.	71	Univ. of South Dakota	8
Univ. of North Carolina-Chapel Hill	69	North Carolina State Univ.-Raleigh	8
Texas Southern Univ.*	67	Univ. of Texas-Austin	8
George Washington Univ.	60	Arizona State Univ.	8
Univ. of California-Berkeley	57	Univ. of Oregon	8
Univ. of South Carolina	54	Univ. of California-Los Angeles	8
Michigan State Univ.	53		
Univ. of Texas-Austin	53	<i>Top 17 Institutions</i>	<i>182</i>
Harvard Univ.	52	<i>Total Institutions Reported (189)</i>	<i>588</i>
Univ. of Florida	52		
<i>Top 21 Institutions</i>	<i>1,815</i>	<i>Note: 377 institutions awarded doctorates</i>	
<i>Total Institutions Reported (268)</i>	<i>4,789</i>	<i>between 1989 and 1993.</i>	

NOTE: See technical notes in Appendix C for nonresponse rates to citizenship and race/ethnicity.

\*This institution is one of the "Historically Black Colleges and Universities" (HBCUs) that were founded in the late 1800s and early 1900s during legal segregation for the specific purpose of educating blacks. There are currently 103 HBCUs, 11 of which award doctorates.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 8 Major Doctorate Field for Selected Years, 1963-1993

Field	1963	1968	1973	1978	1983	1988	1993
All Fields	12,728	22,937	33,755	30,875	31,282	33,499	39,754
Physical Sciences	2,910	4,653	5,311	4,193	4,426	5,309	6,496
Physics/Astronomy	817	1,436	1,589	1,067	1,043	1,302	1,543
Chemistry	1,288	1,803	1,855	1,544	1,759	2,015	2,139
Earth, Atmos., & Marine Sci.	322	443	634	623	637	728	790
Mathematics	483	971	1,232	838	701	749	1,146
Computer Sciences*	N/A	N/A	1	121	286	515	878
Engineering	1,357	2,855	3,364	2,423	2,781	4,187	5,696
Life Sciences	2,083	3,707	5,168	5,041	5,554	6,165	7,397
Biological Sciences	1,510	2,827	3,648	3,516	3,741	4,112	5,090
Health Sciences	107	196	486	512	640	882	1,201
Agricultural Sciences	466	684	1,034	1,013	1,173	1,171	1,106
Social Sciences	2,027	3,495	5,757	6,038	6,095	5,781	6,545
Psychology	890	1,464	2,458	3,055	3,347	3,074	3,419
Anthropology	82	138	326	399	373	325	342
Economics	450	747	942	800	813	852	930
Poli. Sci. & Int'l. Relations	290	580	908	695	473	469	609
Sociology	211	370	599	610	525	449	513
Other Social Sciences	104	196	524	479	564	612	732
Humanities	1,842	3,467	5,414	4,231	3,500	3,556	4,481
History	389	741	1,216	852	616	603	728
Amer. & Eng. Lang. & Lit.	492	930	1,414	1,025	715	717	948
Foreign Lang. & Lit.	206	526	917	637	704	430	577
Other Humanities	755	1,270	1,867	1,717	1,665	1,806	2,228
Education	2,137	4,029	7,238	7,194	7,174	6,359	6,647
Teacher Education	206	493	675	551	483	473	428
Teaching Fields	578	984	1,536	1,352	1,327	988	940
Other Education	1,353	2,552	5,027	5,291	5,364	4,898	5,279
Professional/Other	372	731	1,503	1,755	1,752	2,142	2,492
Business & Management	224	440	785	713	750	1,033	1,280
Communications	13	49	199	292	250	247	322
Other Professional Fields	123	203	446	736	730	812	863
Other Fields	12	39	73	14	22	50	27

\*"Computer sciences" first appeared on the survey form in 1978. However, the number shown for 1978 may be lower than the actual number in the field because some Ph.D.s filled out questionnaires from earlier years. The single count in 1973 represents a late receipt of data on a survey form that included the computer science field.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 9 Median Years to Doctorate from Baccalaureate Award, by Broad Field for Selected Years, 1963-1993

Field	1963	1968	1973	1978	1983	1988	1993
All Fields							
Registered	5.4	5.3	5.8	6.1	6.6	6.9	7.1
Total	8.6	8.1	8.4	8.9	9.8	10.5	10.5
Physical Sciences*							
Registered	5.1	5.1	5.7	5.8	6.0	6.2	6.5
Total	6.3	6.0	6.8	7.0	7.1	7.4	8.3
Engineering							
Registered	5.1	5.1	5.6	5.6	5.7	5.9	6.3
Total	6.9	7.1	7.7	7.5	8.0	8.1	8.8
Life Sciences							
Registered	5.3	5.3	5.5	5.7	6.1	6.5	6.8
Total	7.6	7.1	7.2	7.3	7.9	8.9	9.4
Social Sciences							
Registered	5.4	5.1	5.7	6.0	6.8	7.4	7.5
Total	8.5	7.7	7.6	8.1	9.4	10.5	10.4
Humanities							
Registered	5.9	5.5	6.4	7.3	8.0	8.5	8.3
Total	10.2	9.5	9.2	10.2	11.1	12.1	11.9
Education							
Registered	6.7	5.8	6.1	6.5	7.4	8.1	8.2
Total	13.2	13.9	12.5	12.7	14.1	16.8	19.2
Professional/Other							
Registered	5.4	5.1	5.9	6.2	6.9	7.3	7.5
Total	11.4	10.9	10.0	10.7	12.0	13.0	13.3

NOTE: Medians are based on the number of individuals who provided complete information about their postbaccalaureate education. "Registered" time-to-degree gauges the amount of time actually enrolled in graduate school, including master's degrees and enrollment in nondegree programs. "Total" time-to-degree measures the number of years elapsed between receipt of the baccalaureate and the Ph.D. See technical notes in Appendix C for rates of nonresponse to the applicable questions.

\*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 10 Median Years to Doctorate from Baccalaureate Award, by Demographic Group and Broad Field, 1993

	All Fields	Physical Sci.*	Eng.	Life Sci.	Social Sci.	Human- ities	Educa- tion	Prof./ Other
<b>Registered Time from Baccalaureate</b>								
All Ph.D.s	7.1	6.5	6.3	6.8	7.5	8.3	8.2	7.5
Men	6.9	6.5	6.3	6.8	7.4	8.2	8.1	7.4
Women	7.5	6.5	6.4	6.9	7.5	8.4	8.2	7.7
U.S. Citizens	7.3	6.3	6.3	6.9	7.4	8.4	8.4	7.8
Permanent Residents	7.4	7.3	6.8	7.0	8.3	8.2	7.1	7.5
Temporary Residents	6.6	6.8	6.2	6.6	7.3	7.5	6.3	6.8
U.S. Citizens								
Asians	6.8	6.2	6.6	6.5	7.4	7.7	9.6	7.5
Blacks	7.9	6.9	6.6	7.4	7.8	7.8	8.4	7.5
Hispanics	7.7	6.1	6.1	7.2	7.7	8.4	8.7	7.3
Native Americans	6.8	6.2	†	6.4	8.5	10.0	6.4	6.5
Whites	7.3	6.3	6.2	6.9	7.4	8.4	8.4	7.9
<b>Total Time from Baccalaureate</b>								
All Ph.D.s	10.5	8.3	8.8	9.4	10.4	11.9	19.2	13.3
Men	9.9	8.3	8.9	9.2	10.3	11.7	18.4	12.4
Women	12.2	8.1	8.0	9.7	10.7	12.0	19.7	15.2
U.S. Citizens	11.5	7.4	8.1	9.0	10.5	12.3	19.9	15.5
Permanent Residents	10.3	10.0	9.7	9.9	11.2	10.9	13.5	11.7
Temporary Residents	9.7	9.2	9.2	9.9	10.0	10.4	12.4	10.5
U.S. Citizens								
Asians	8.4	6.6	8.4	7.4	9.2	10.8	20.4	12.0
Blacks	16.5	8.4	8.6	12.4	12.6	14.0	20.0	17.4
Hispanics	12.0	8.0	7.4	9.1	10.8	12.9	18.7	15.5
Native Americans	13.9	10.0	†	8.5	10.7	13.3	19.0	10.5
Whites	11.4	7.4	8.0	9.0	10.5	12.2	19.9	15.5

NOTE: Medians are based on the number of individuals who provided complete information about their postbaccalaureate education. "Registered time" gauges the amount of time actually enrolled in graduate school, including master's degrees and enrollment in nondegree programs. "Total time" measures the number of years elapsed between receipt of the baccalaureate and the Ph.D. See technical notes in Appendix C for rates of nonresponse to the applicable questions.

\*Includes mathematics and computer sciences.

†A median was not computed because there were fewer than five Ph.D.s with known time-to-degree.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 11 Primary Sources of Support for Doctorate Recipients, by Broad Field and Demographic Group, 1993

Primary Source of Support (responses only)		All Ph.D.s	Men	Women	U.S. Cits.	Perm. Res.	Temp. Res.	U.S. Citizens				
								Asians	Blacks	Hispanics	Native Amers.	Whites
All Fields	N	26,260	16,227	10,033	18,433	1,345	6,452	614	676	510	77	16,455
Personal	%	36.8	29.9	48.0	46.2	26.4	12.2	25.1	58.3	46.9	62.3	46.5
University	%	51.0	56.7	41.7	42.3	65.8	72.7	56.8	25.3	38.0	19.5	42.6
Federal	%	5.5	5.4	5.8	7.2	2.0	1.6	10.6	8.4	10.2	7.8	6.9
Other	%	6.7	8.0	4.5	4.3	5.8	13.5	7.5	8.0	4.9	10.4	4.0
Physical Sciences*	N	4,385	3,469	916	2,603	289	1,489	126	27	56	6	2,366
Personal	%	12.1	12.0	12.7	16.5	11.4	4.6	9.5	11.1	17.9	33.3	16.8
University	%	77.9	78.1	77.3	72.0	83.7	87.4	77.8	55.6	66.1	50.0	71.9
Federal	%	4.5	4.3	5.3	7.2	0.7	0.7	6.3	14.8	12.5	16.7	7.1
Other	%	5.4	5.6	4.7	4.4	4.2	7.3	6.3	18.5	3.6	0.0	4.2
Engineering	N	3,995	3,609	386	1,745	290	1,954	170	27	47	2	1,487
Personal	%	14.7	15.0	12.2	18.2	21.0	10.7	14.7	22.2	31.9	50.0	18.0
University	%	69.3	69.2	70.2	60.3	72.1	76.9	67.1	25.9	44.7	50.0	60.8
Federal	%	4.9	4.5	8.3	10.4	0.7	0.6	6.5	18.5	12.8	0.0	10.6
Other	%	11.1	11.3	9.3	11.1	6.2	11.9	11.8	33.3	10.6	0.0	10.6
Life Sciences	N	4,982	2,861	2,121	3,395	265	1,315	150	78	83	11	3,055
Personal	%	21.4	18.3	25.6	26.9	17.0	7.9	15.3	29.5	22.9	45.5	27.5
University	%	56.8	59.3	53.5	49.6	70.2	72.9	51.3	34.6	54.2	36.4	49.8
Federal	%	14.4	13.5	15.5	19.6	5.7	2.6	26.0	26.9	18.1	18.2	19.1
Other	%	7.4	8.9	5.4	3.9	7.2	16.6	7.3	9.0	4.8	0.0	3.6
Social Sciences	N	4,124	2,049	2,075	3,289	186	645	66	108	115	12	2,974
Personal	%	47.8	42.5	53.0	53.8	41.4	19.4	42.4	46.3	49.6	50.0	54.5
University	%	41.6	45.0	38.3	37.9	47.3	59.2	43.9	35.2	27.8	25.0	38.2
Federal	%	5.0	5.2	4.7	5.3	2.7	3.6	7.6	10.2	16.5	16.7	4.6
Other	%	5.6	7.2	4.0	3.1	8.6	17.8	6.1	8.3	6.1	8.3	2.7
Humanities	N	2,824	1,461	1,363	2,324	141	354	36	53	70	8	2,135
Personal	%	43.3	43.8	42.8	47.4	32.6	21.2	44.4	32.1	40.0	50.0	48.0
University	%	50.5	49.7	51.4	48.1	61.7	62.1	50.0	60.4	54.3	37.5	47.9
Federal	%	2.2	2.0	2.5	1.9	0.7	4.8	2.8	1.9	1.4	0.0	1.9
Other	%	3.9	4.5	3.2	2.5	5.0	11.9	2.8	5.7	4.3	12.5	2.2
Education	N	4,351	1,760	2,591	3,932	91	324	48	325	115	31	3,404
Personal	%	79.8	77.4	81.4	83.3	65.9	41.0	85.4	81.5	84.3	80.6	83.4
University	%	13.9	14.3	13.6	11.9	29.7	32.4	8.3	11.4	8.7	0.0	12.3
Federal	%	1.1	1.4	1.0	1.1	2.2	1.2	2.1	3.4	3.5	3.2	0.8
Other	%	5.2	6.9	4.1	3.6	2.2	25.3	4.2	3.7	3.5	16.1	3.5
Professional/Other	N	1,599	1,018	581	1,145	83	371	18	58	24	7	1,034
Personal	%	51.5	49.4	55.1	62.7	39.8	19.4	50.0	51.7	54.2	71.4	63.8
University	%	38.8	39.4	37.7	30.8	55.4	59.6	50.0	25.9	45.8	14.3	30.6
Federal	%	1.8	1.6	2.2	2.4	0.0	0.5	0.0	6.9	0.0	0.0	2.0
Other	%	7.9	9.6	5.0	4.1	4.8	20.5	0.0	15.5	0.0	14.3	3.6

NOTE: Numbers represent those Ph.D.s with known primary support; percentages are based on these numbers. Because nonresponse to "primary" source of support is much greater than for other variables and fluctuates from year to year, the reader is advised *not* to compare percentages in this table with those published in earlier reports. The overall nonresponse rate to "primary" source of support was 33.9 percent in 1993, compared to 30.4 percent in 1992 and 22.5 percent in 1991. See technical notes in Appendix C for rates of nonresponse to this question by field and demographic group.

"Personal" includes loans as well as own earnings and contributions from the spouse/family. Federally funded research assistantships (RAs) are grouped under "University" because not all recipients of such support are aware of the actual source of funding. For further definition of "Federal" support, see item 17 on the survey questionnaire in Appendix D. "Other" support includes U.S. nationally competitive fellowships, business/employer funds, foreign government, state government, and other nonspecified sources.

\*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 12 Median Level of Debt Related to the Education of Doctorate Recipients, 1993

	All Ph.D.s	Responses to Debt Status	Percent with Debt	Median Dollars*
All Ph.D.s	39,754	36,861	47.6	10,500
Men	24,646	22,777	47.8	10,500
Women	15,108	14,084	47.4	10,600
U.S. Citizens	26,386	25,362	55.2	10,600
Permanent Residents	2,250	2,143	36.0	10,700
Temporary Residents	9,923	9,309	29.7	9,600
U.S. Citizens				
Asians	891	863	54.6	10,200
Blacks	1,106	1,033	61.7	11,800
Hispanics	834	799	65.5	12,500
Native Americans	119	112	55.4	8,000
Whites	23,202	22,415	54.6	10,600
Physical Sciences†	6,496	6,043	42.6	8,500
Engineering	5,696	5,275	38.5	9,300
Life Sciences	7,397	6,908	50.0	9,800
Social Sciences	6,545	6,020	61.9	14,500
Humanities	4,481	4,183	55.2	10,000
Education	6,647	6,142	38.1	10,100
Professional/Other	2,492	2,290	48.8	12,000

NOTE: "All Ph.D.s" includes recipients whose debt status is unknown; percentages are based on the number with "responses to debt status." See technical notes in Appendix C for rates of nonresponse to the question on debt.

\*Rounded to the nearest hundred dollars. Doctorate recipients who reported "no debt" are not included.

†Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 13 Cumulative Level of Debt Related to the Education of Doctorate Recipients, 1993

	Number of Ph.D.s with Debt	Percent owing:						
		\$1 to \$5,000	\$5,001 to \$10,000	\$10,001 to \$15,000	\$15,001 to \$20,000	\$20,001 to \$25,000	\$25,001 to \$30,000	\$30,001 or More
All Ph.D.s	17,557	26.9	21.5	16.2	10.3	7.2	5.6	12.5
Men	10,877	27.1	21.3	16.5	10.1	7.2	5.2	12.6
Women	6,680	26.5	21.8	15.6	10.6	7.1	6.2	12.2
U.S. Citizens	14,002	25.7	22.1	17.2	11.0	7.6	5.7	10.8
Permanent Residents	771	25.7	22.2	15.0	9.2	7.5	5.8	14.5
Temporary Residents	2,762	33.4	17.9	11.2	6.9	5.1	5.0	20.5
U.S. Citizens								
Asians	471	22.5	26.5	19.5	10.4	8.1	3.6	9.3
Blacks	637	26.2	18.7	14.4	11.3	6.3	7.1	16.0
Hispanics	523	21.0	20.7	16.6	12.6	8.8	7.1	13.2
Native Americans	62	35.5	24.2	11.3	6.5	4.8	3.2	14.5
Whites	12,234	25.9	22.2	17.3	11.0	7.6	5.6	10.4
Physical Sciences*	2,577	31.5	26.0	18.0	8.3	5.2	3.8	7.1
Engineering	2,030	30.8	22.1	14.7	9.1	6.3	4.5	12.4
Life Sciences	3,457	27.2	23.7	18.3	9.1	6.4	4.7	10.4
Social Sciences	3,725	18.9	17.6	15.0	12.5	8.5	7.7	19.9
Humanities	2,310	27.4	22.4	16.3	11.7	7.4	5.7	9.1
Education	2,340	29.8	19.8	15.3	10.0	8.0	5.5	11.5
Professional/Other	1,118	27.3	17.3	13.3	10.6	9.0	7.2	15.3

NOTE: See technical notes in Appendix C for rates of nonresponse to the question on debt.

\*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 14 Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Broad Field for Selected Years, 1973-1993

		All Fields	Physical Sci.*	Eng.	Life Sci.	Social Sci.	Human- ities	Educa- tion	Prof./ Other
<b>All Definite Commitments</b>									
1973	N	24,091	3,625	2,323	3,728	4,328	3,610	5,261	1,216
1978	N	20,849	2,992	1,688	3,610	3,914	2,393	4,870	1,382
1983	N	21,187	3,150	1,850	3,914	3,869	2,068	4,978	1,358
1988	N	22,202	3,661	2,495	4,297	3,691	2,113	4,389	1,556
1993	N	24,404	3,918	2,869	5,038	3,948	2,488	4,433	1,710
<b>Definite Commitments with Responses to Type of Plans</b>									
1973	N	23,931	3,616	2,317	3,708	4,301	3,569	5,217	1,203
1978	N	20,682	2,979	1,679	3,586	3,885	2,368	4,813	1,372
1983	N	21,127	3,139	1,844	3,908	3,857	2,061	4,966	1,352
1988	N	21,992	3,638	2,480	4,274	3,655	2,082	4,321	1,542
1993	N	24,236	3,893	2,857	5,016	3,922	2,458	4,391	1,699
<b>Employment</b>									
1973	%	83.8	60.9	87.1	58.1	91.9	96.2	98.0	98.6
1978	%	80.3	60.5	84.8	47.4	87.0	95.2	97.7	98.4
1983	%	79.3	62.0	87.5	44.8	86.3	95.4	97.4	97.2
1988	%	73.6	51.4	80.2	39.4	84.2	93.1	95.6	97.5
1993	%	71.1	50.3	74.8	35.9	80.0	93.1	97.1	97.2
<b>Study</b>									
1973	%	16.2	39.1	12.9	41.9	8.1	3.8	2.0	1.4
1978	%	19.7	39.5	15.2	52.6	13.0	4.8	2.3	1.6
1983	%	20.7	38.0	12.5	55.2	13.7	4.6	2.6	2.8
1988	%	26.4	48.6	19.8	60.6	15.8	6.9	4.4	2.5
1993	%	28.9	49.7	25.2	64.1	20.0	6.9	2.9	2.8

NOTE: Only Ph.D.s with definite commitments are included. "All definite commitments" includes recipients who reported definite commitments but not type of plans (employment or study). Percentages are based on the number of Ph.D.s with "responses to type of plans." See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

\*Includes mathematics and computer sciences.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 15 Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Demographic Group for Selected Years, 1973-1993

		All Ph.D.s	Men	Women	U.S. Citizens & Permanent Residents*							
					U.S. Cits.	Perm. Res.	Temp. Res.	Asians	Blacks	His- panics	Native Amers.	Whites
<b>All Definite Commitments</b>												
1973	N	24,091	20,282	3,809	20,798	1,131	2,113	N/A	N/A	N/A	N/A	N/A
1978	N	20,849	15,750	5,099	17,772	781	2,265	625	712	367	41	15,981
1983	N	21,187	14,399	6,788	17,496	759	2,885	647	668	420	45	16,192
1988	N	22,202	14,464	7,738	17,326	913	3,925	772	642	487	64	15,982
1993	N	24,404	14,878	9,526	18,006	1,099	5,273	1,089	766	624	75	16,459
<b>Definite Commitments with Responses to Type of Plans</b>												
1973	N	23,931	20,154	3,777	20,670	1,120	2,095	N/A	N/A	N/A	N/A	N/A
1978	N	20,682	15,638	5,044	17,656	773	2,225	616	699	366	41	15,890
1983	N	21,127	14,358	6,769	17,459	758	2,863	644	665	419	45	16,166
1988	N	21,992	14,335	7,657	17,182	899	3,874	762	634	479	63	15,855
1993	N	24,236	14,788	9,448	17,903	1,084	5,223	1,079	758	621	75	16,363
<b>Employment</b>												
1973	%	83.8	83.6	85.1	85.4	68.1	76.4	N/A	N/A	N/A	N/A	N/A
1978	%	80.3	79.2	83.7	81.0	78.3	75.8	71.3	94.0	89.3	90.2	80.7
1983	%	79.3	77.9	82.2	79.6	80.1	77.2	73.6	92.3	86.6	97.8	79.2
1988	%	73.6	71.8	77.2	75.8	72.0	64.7	70.3	87.9	73.7	82.5	75.5
1993	%	71.1	68.5	75.3	74.4	66.1	60.9	60.9	83.8	74.2	85.3	74.3
<b>Study</b>												
1973	%	16.2	16.4	14.9	14.6	31.9	23.6	N/A	N/A	N/A	N/A	N/A
1978	%	19.7	20.8	16.3	19.0	21.7	24.2	28.7	6.0	10.7	9.8	19.3
1983	%	20.7	22.1	17.8	20.4	19.9	22.8	26.4	7.7	13.4	2.2	20.8
1988	%	26.4	28.2	22.8	24.2	28.0	35.3	29.7	12.1	26.3	17.5	24.5
1993	%	28.9	31.5	24.7	25.6	33.9	39.1	39.1	16.2	25.8	14.7	25.7

NOTE: Only Ph.D.s with definite commitments are included. "All definite commitments" includes recipients who reported definite commitments but not type of plans (employment or study). Percentages are based on the number of Ph.D.s with "responses to type of plans." See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

\*Race/ethnicity was not available in 1973.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 16 Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Visa Status for Selected Years, 1973-1993

		All Non-U.S. Citizens	Permanent Residents	Temporary Residents
<b>All Definite Commitments</b>				
1973	N	3,244	1,131	2,113
1978	N	3,046	781	2,265
1983	N	3,644	759	2,885
1988	N	4,838	913	3,925
1993	N	6,372	1,099	5,273
<b>Definite Commitments with Responses to Location</b>				
1973	N	3,140	1,081	2,059
1978	N	2,892	744	2,148
1983	N	3,376	697	2,679
1988	N	4,372	834	3,538
1993	N	6,294	1,094	5,200
<b>U.S. Location</b>				
1973	%	50.8	89.4	30.5
1978	%	52.4	92.1	38.6
1983	%	50.7	91.4	40.2
1988	%	61.0	85.0	55.3
1993	%	60.5	85.5	55.2
<b>Foreign Location</b>				
1973	%	49.2	10.6	69.5
1978	%	47.6	7.9	61.4
1983	%	49.3	8.6	59.8
1988	%	39.0	15.0	44.7
1993	%	39.5	14.5	44.8

NOTE: Only non-U.S. citizen Ph.D.s with definite commitments are included. "All definite commitments" includes recipients who reported definite commitments but not location (U.S. or foreign). Percentages are based on the number with "responses to location." See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 17 Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Major Field and Visa Status, 1993

Field of Doctorate (responses only)	Postdoctoral Location									
	Permanent Visas					Temporary Visas				
	Resp. to Location/ Type of Plans (N)	U.S. Location		Foreign Location		Resp. to Location/ Type of Plans (N)	U.S. Location		Foreign Location	
		Empl. (%)	Study (%)	Empl. (%)	Study (%)		Empl. (%)	Study (%)	Empl. (%)	Study (%)
All Fields	1,080	55.0	30.5	11.1	3.4	5,154	25.7	29.5	35.5	9.2
Physical Sciences	220	55.0	34.1	5.9	5.0	1,267	25.0	41.5	19.8	13.7
Physics/Astronomy	45	31.1	55.6	0.0	13.3	297	10.8	61.6	7.7	19.9
Chemistry	55	43.6	45.5	3.6	7.3	379	15.8	60.7	11.3	12.1
Earth, Atmos., Marine	22	36.4	50.0	13.6	0.0	124	15.3	33.9	36.3	14.5
Mathematics	46	73.9	15.2	10.9	0.0	260	39.6	20.8	26.5	13.1
Computer Sciences	52	78.8	13.5	5.8	1.9	207	49.8	8.2	34.3	7.7
Engineering	193	63.7	22.8	10.9	2.6	1,207	34.1	23.3	35.8	6.9
Life Sciences	247	20.2	67.2	8.1	4.5	1,167	8.6	54.7	25.9	10.9
Biological Sciences	190	13.2	78.9	3.2	4.7	780	5.6	71.3	12.4	10.6
Health Sciences	34	52.9	20.6	26.5	0.0	123	26.8	22.8	42.3	8.1
Agricultural Sciences	23	30.4	39.1	21.7	8.7	264	8.7	20.5	58.0	12.9
Social Sciences*	147	66.7	19.0	11.6	2.7	600	30.0	7.7	56.2	6.2
Psychology	50	62.0	36.0	2.0	0.0	84	26.2	21.4	42.9	9.5
Economics	34	67.6	5.9	23.5	2.9	265	33.6	2.6	57.7	6.0
Poli. Sci./Int'l. Relat.	20	65.0	10.0	20.0	5.0	64	25.0	6.3	60.9	7.8
Sociology	16	68.8	18.8	12.5	0.0	63	33.3	3.2	58.7	4.8
Humanities	124	78.2	6.5	11.3	4.0	296	39.9	6.1	45.6	8.4
Education	64	62.5	6.3	29.7	1.6	250	15.6	2.8	73.2	8.4
Professional/Other*	85	76.5	4.7	18.8	0.0	367	43.9	1.9	51.8	2.5
Business & Mgmt.	55	85.5	1.8	12.7	0.0	259	52.1	1.2	45.9	0.8

NOTE: Only Ph.D.s with definite commitments are included; see Table 16 for numbers of non-U.S. citizens with commitments. Numbers represent those Ph.D.s who responded to both postdoctoral location and type of plans: percentages are based on these numbers. See technical notes in Appendix C for rates of nonresponse to these questions and for further explanation of postgraduation plans.

\*Totals include other fields not shown.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 18 Employment Sector of Doctorate Recipients with Postgraduation Commitments in the United States, by Broad Field for Selected Years, 1973-1993 (U.S. citizens and permanent residents)

		All Fields	Physical Sci.*	Eng.	Life Sci.	Social Sci.	Human- ities	Educa- tion	Prof./ Other
<b>All Employment Commitments</b>									
1973	N	17,931	1,947	1,712	1,778	3,479	3,148	4,833	1,034
1978	N	14,612	1,575	1,081	1,359	2,996	2,056	4,398	1,147
1983	N	14,269	1,607	979	1,347	2,981	1,764	4,476	1,115
1988	N	13,430	1,458	1,268	1,275	2,671	1,707	3,839	1,212
1993	N	13,619	1,349	1,234	1,336	2,531	1,954	3,981	1,234
<b>Employment Commitments with Responses to Sector</b>									
1973	N	17,847	1,942	1,707	1,773	3,464	3,130	4,800	1,031
1978	N	14,531	1,572	1,074	1,357	2,976	2,044	4,362	1,146
1983	N	14,122	1,604	978	1,339	2,946	1,743	4,400	1,112
1988	N	13,301	1,452	1,266	1,265	2,631	1,690	3,791	1,206
1993	N	13,415	1,342	1,229	1,324	2,467	1,937	3,892	1,224
<b>Academe†</b>									
1973	%	64.3	49.5	24.8	63.5	69.1	92.0	59.8	80.4
1978	%	56.4	37.9	23.5	59.0	58.5	82.6	51.9	74.1
1983	%	50.2	34.0	29.3	53.0	48.8	80.0	43.8	71.0
1988	%	49.7	36.1	28.6	52.2	44.9	79.3	43.7	73.5
1993	%	52.5	37.0	24.2	51.2	49.7	85.2	45.5	75.8
<b>Industry/Self-Employed</b>									
1973	%	11.5	29.0	51.1	13.6	5.2	1.4	1.8	6.4
1978	%	15.3	45.2	57.1	20.4	9.6	4.9	3.4	7.0
1983	%	19.8	52.7	55.8	25.2	17.2	6.5	7.5	10.5
1988	%	20.4	50.1	55.5	23.6	19.5	5.8	7.3	8.1
1993	%	18.7	49.6	56.1	24.2	18.2	3.8	5.4	8.6
<b>Government</b>									
1973	%	11.6	18.6	20.0	16.6	14.4	1.7	9.4	6.4
1978	%	12.5	14.4	17.5	16.4	15.9	3.8	12.5	7.2
1983	%	11.1	11.2	13.2	15.9	15.5	3.4	10.3	6.6
1988	%	10.8	11.9	15.0	16.7	14.2	3.7	9.0	6.6
1993	%	10.0	11.1	16.8	16.3	14.4	2.0	7.7	6.1
<b>Other‡</b>									
1973	%	12.5	2.9	4.0	6.3	11.2	4.9	29.0	6.8
1978	%	15.9	2.4	2.0	4.3	16.0	8.7	32.2	11.8
1983	%	18.9	2.0	1.6	5.8	18.5	10.1	38.5	12.0
1988	%	19.1	1.9	0.9	7.6	21.4	11.2	39.9	11.8
1993	%	18.8	2.3	3.0	8.3	17.8	8.9	41.5	9.5

NOTE: Only Ph.D.s with definite commitments for employment are included. Foreign locations are excluded. "All employment commitments" includes recipients whose employment sector is unknown; percentages are based on the number with "responses to sector." See technical notes in Appendix C for rates of nonresponse to this question.

\*Includes mathematics and computer sciences.

†Academe includes two- and four-year colleges and universities and medical schools. Elementary and secondary schools are included in "Other."

‡"Other" is mainly composed of elementary and secondary schools and nonprofit organizations.

SOURCE: National Research Council, Survey of Earned Doctorates.

TABLE 19 Employment Sector of Doctorate Recipients with Postgraduation Commitments in the United States, by Demographic Group for Selected Years, 1973-1993

		U.S. Citizens & Permanent Residents*								U.S. Cits.	Perm. Res.	Temp. Res.
		All Ph.D.s	Men	Women	Asians	Blacks	His-panics	Native Amers.	Whites			
All Employment Commitments												
1973	N	17,931	14,935	2,996	N/A	N/A	N/A	N/A	N/A	17,263	668	316
1978	N	14,612	10,677	3,935	419	650	319	37	12,575	14,061	551	424
1983	N	14,269	9,069	5,200	444	606	357	43	12,614	13,714	555	624
1988	N	13,430	7,988	5,442	498	544	341	49	11,808	12,871	559	924
1993	N	13,619	7,263	6,356	579	620	446	64	11,858	13,023	596	1,323
Employment Commitments with Responses to Sector												
1973	N	17,847	14,875	2,972	N/A	N/A	N/A	N/A	N/A	17,186	661	316
1978	N	14,531	10,624	3,907	413	637	313	37	12,524	13,986	545	423
1983	N	14,122	9,000	5,122	439	588	347	42	12,508	13,578	544	624
1988	N	13,301	7,930	5,371	496	534	337	49	11,700	12,747	554	924
1993	N	13,415	7,177	6,238	572	602	434	63	11,693	12,831	584	1,300
Academe†												
1973	%	64.3	62.3	74.7	N/A	N/A	N/A	N/A	N/A	64.6	57.3	66.5
1978	%	56.4	52.9	65.7	33.2	64.5	63.9	56.8	56.7	56.8	45.7	58.9
1983	%	50.2	47.4	55.2	37.6	48.6	53.6	50.0	50.6	50.4	46.0	63.5
1988	%	49.7	46.2	55.0	35.3	56.7	52.8	40.8	50.0	49.5	54.3	67.4
1993	%	52.5	47.5	58.3	44.1	57.3	59.4	57.1	52.4	52.3	57.2	53.6
Industry/Self-Employed												
1973	%	11.5	13.0	4.2	N/A	N/A	N/A	N/A	N/A	10.7	32.7	22.5
1978	%	15.3	18.1	7.4	51.6	4.9	9.6	10.8	14.6	14.2	43.3	31.7
1983	%	19.8	23.9	12.6	46.9	9.2	15.9	11.9	19.4	19.0	40.4	31.7
1988	%	20.4	25.1	13.5	45.0	9.6	16.9	12.2	19.9	19.9	32.5	28.2
1993	%	18.7	24.2	12.4	40.7	8.5	15.9	7.9	18.3	18.0	33.7	39.4
Government												
1973	%	11.6	12.4	7.8	N/A	N/A	N/A	N/A	N/A	11.9	3.9	1.9
1978	%	12.5	13.8	8.9	9.0	11.0	13.7	21.6	12.5	12.8	5.1	2.4
1983	%	11.1	12.3	8.8	8.2	13.8	12.7	11.9	11.0	11.3	4.6	2.1
1988	%	10.8	12.2	8.6	8.7	11.2	12.2	20.4	10.8	11.1	3.4	1.2
1993	%	10.0	11.5	8.2	8.0	9.5	12.2	17.5	10.0	10.3	3.6	2.2
Other‡												
1973	%	12.5	12.4	13.3	N/A	N/A	N/A	N/A	N/A	12.8	6.1	9.2
1978	%	15.9	15.1	18.1	6.3	19.6	12.8	10.8	16.2	16.3	5.9	7.1
1983	%	18.9	16.4	23.4	7.3	28.4	17.9	26.2	19.0	19.3	9.0	2.7
1988	%	19.1	16.6	22.9	11.1	22.5	18.1	26.5	19.4	19.5	9.7	3.1
1993	%	18.8	16.8	21.1	7.2	24.8	12.4	17.5	19.3	19.4	5.5	4.8

NOTE: Only doctorates with definite commitments for employment are included. Foreign locations are excluded. "All employment commitments" includes recipients whose employment sector is unknown; percentages are based on the number with "responses to sector." See technical notes in Appendix C for rates of nonresponse to this question.

\*Race/ethnicity was not available in 1973.

†Academe includes two- and four-year colleges and universities and medical schools. Elementary and secondary schools are included in "Other."

‡"Other" is mainly composed of elementary and secondary schools and nonprofit organizations.

SOURCE: National Research Council, Survey of Earned Doctorates.

## APPENDIXES

A	The Seven Basic Tables, 1993	41
	A-1 Number of Doctorate Recipients, by Gender and Subfield, 1993	48
	A-2 Number of Doctorate Recipients, by Citizenship, Race/Ethnicity, and Subfield, 1993	50
	A-3 Statistical Profile of Doctorate Recipients, by Major Field, 1993	54
	A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1993	60
	A-5 Sources of Graduate School Support for Doctorate Recipients, by Broad Field and Gender, 1993	62
	A-6 State of Doctoral Institution of Doctorate Recipients, by Broad Field and Gender, 1993	63
	A-7 Institutions Granting Doctorates, by Major Field, 1993	64
B	Trend Tables, 1983-1993	71
	B-1 Number of Doctorate Recipients, by Subfield, 1983-1993	74
	B-2 Number of Doctorate Recipients, by Gender, Race/Ethnicity, and Citizenship, 1978 and 1983-1993	78
C	Technical Notes	81
D	Survey of Earned Doctorates Questionnaire, 1992-93	97

## APPENDIX A: The Seven Basic Tables, 1993

Appendix A includes the following seven tables:

- A-1 Number of Doctorate Recipients, by Gender and Subfield, 1993
- A-2 Number of Doctorate Recipients, by Citizenship, Race/Ethnicity, and Subfield, 1993
- A-3 Statistical Profile of Doctorate Recipients, by Major Field, 1993
- A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1993
- A-5 Sources of Graduate School Support for Doctorate Recipients, by Broad Field and Gender, 1993
- A-6 State of Doctoral Institution of Doctorate Recipients, by Broad Field and Gender, 1993
- A-7 Institutions Granting Doctorates, by Major Field, 1993

### \*\*\* IMPORTANT NOTICE \*\*\*

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information, with no adjustment for nonresponse. Thus, differences in response rates from year to year can produce numerical fluctuations that are unrelated to true trends.

Response to the SED has been 95 to 98 percent over the years, except during the 1980s when it gradually declined to 92 percent. In an effort to improve the response rate, the survey methodology has undergone some revision in the years since 1989. Response has risen as hoped, stabilizing at 95 percent during the last three years (1991 to 1993). (Note: These percentages represent *self-report rates*, i.e., the proportion of survey forms completed by doctorate recipients. Questionnaires filled in with partial information by either the doctoral institution or staff of the National Research Council are not included in these self-report rates *but are* included in tabulations in this report.) The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients. See page 82 in Appendix C for a table giving survey response rates from 1980 to 1993.

*Item* response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented, increasing coverage of several variables (birth year, gender, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans). Response rates for these variables have thus improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. Postsurvey adjustment to data was greatest in 1990 and 1991, with the largest impact on the number of black Ph.D.s. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended a month to allow receipt of additional follow-up information before closure; the same is expected for 1993 data.

All adjustments to data are presented in reports subsequent to the initial report for a survey. Thus, updates for 1990 appeared in *Summary Report 1991*; those for 1991 appeared in *Summary Report 1992*; and those for 1992 are included in this year's report (see Appendix Table B-2). The data for 1993 will likewise be subject to further revision, but as for 1992, adjustments are expected to be minimal. Updates to 1993 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

**TABLE A-1 and TABLE A-2:** Tables A-1 and A-2 display data for the most recent year by subfield of doctorate. The subfields correspond to the fields on the questionnaire's Specialties List located at the back of this report. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates (SED). See inside the back cover for a description of field groupings as reported in these tables. The "general" field categories—e.g., "chemistry, general"—include individuals who either received the doctorate in the general subject area or did not indicate a particular specialty field. The "other" field categories—e.g., "chemistry, other"—include individuals whose specified doctoral discipline was not among the specialty fields.

Table A-1 presents data by doctoral specialty and gender. Table A-2 displays doctoral specialty by citizenship and race/ethnicity. For a detailed description of the racial/ethnic variable, see the explanatory note for Table A-4. *Refer to the notice on page 41 for important information on recent increases in response rates and their impact on time-series data.*

**TABLE A-3:** Table A-3 is composed of three two-page tables. The first table includes data on *all* doctorate recipients from the most recent year; the other two tables present the same data by gender. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in these tables; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included. Terms requiring definition are as follows:

- *Median Age at Doctorate:* One-half received the doctorate at or before this age. A recipient's age is obtained by subtracting the year of birth from the calendar year of doctorate. Months are not included in the computation.
- *Percentage with Master's:* The percentage of doctorate recipients in a field who received a master's degree in any field before earning the doctorate.
- *Median Time Lapse:* "Total Time" refers to the total calendar time elapsed between the year of baccalaureate and the year of doctorate; "Registered Time" refers to the actual time in attendance at colleges and universities between receipt of the baccalaureate and the doctorate. Enrollment includes years of attendance not related to a recipient's doctoral program. Months are excluded from the computations because they are rarely reported.

*Postgraduation Plans:* Each year's doctorate recipients provide information on postgraduation employment or study plans in response to items 20-24 on the survey form. Since the questionnaire is filled out around the time the doctorate is awarded, a recipient's plans are subject to change. However, comparisons with the longitudinal Survey of Doctorate Recipients (SDR) have shown SED data to be a reasonable indicator of actual employment status in the year following the doctorate, although results vary by sector. (The SDR, also conducted by the National Research Council, is a follow-up employment survey of a sample of doctorate recipients in science, engineering, and humanities fields.) For a comparison of the immediate postgraduation plans of Ph.D.s in the 1990 SED with their employment status

in the 1991 SDR, see the following table; refer to the footnote on page 90 in Appendix C for additional information on those Ph.D.s who reported *definite* commitments at the time they completed the SED questionnaire.

COMPARISON OF PH.D.S' IMMEDIATE POSTGRADUATION PLANS IN THE 1990 SED  
WITH THEIR EMPLOYMENT STATUS 1-2 YEARS LATER IN THE 1991 SDR

Plans in 1990 SED	Employment Status in 1991 SDR								
	Total	Postdoc.	Total Empl.	Acad.	Govt.	Indus./ Self	Other Empl.	Unkn. Sector	Not Empl.
Postdoctoral Study *	546	50.4	44.5	26.2	3.5	9.5	5.1	0.2	4.9
Employment	1,258	2.1	94.8	51.8	5.9	27.7	9.1	0.3	3.1
Academe	654	2.1	96.0	86.9	1.8	4.7	2.3	0.3	1.8
Government	96	2.1	94.8	16.7	47.9	13.5	16.7	0.0	3.1
Industry/Self-Employed	351	1.4	95.2	8.5	2.0	80.6	3.7	0.3	3.1
Other Sector	96	3.1	93.8	15.6	3.1	10.4	64.6	0.0	3.1
Unknown Sector	61	3.3	80.3	37.7	9.8	18.0	13.1	1.6	16.4

NOTE: SED = Survey of Earned Doctorates; SDR = Survey of Doctorate Recipients, whose sample is drawn from the SED. This table includes only 1990 Ph.D.s who were located in the United States in the 1991 SDR (total  $n = 1,901$ ). The shaded percentages represent the proportions of Ph.D.s whose employment status in the 1991 SDR was consistent with their postgraduation plans in the 1990 SED. For example, the table shows that 86.9% of 1990 SED respondents who had plans for employment in academe upon graduation were still working in academe 1-2 years later, according to SDR data.

\* This comparison may underestimate postdoctoral study because it is likely that some Ph.D.s who reported plans for postdoctoral study in the SED had completed their postdoctoral appointments by the time the 1991 SDR was distributed. There is a gap of 1-2 years between the Ph.D. graduation dates in the SED and the reference date for employment in the 1991 SDR.

In Table A-3, the postgraduation plans of doctorate recipients are grouped as follows: "Postdoctoral Study Plans" (fellowship, research associateship, traineeship, other), "Planned Employment After Doctorate" (educational institution, industry, etc.), and "Postdoctoral Plans Unknown." These categories include recipients who were still negotiating or seeking positions at the time of survey completion, as well as those whose plans were definite. The sum of these lines equals 100 percent for each column, with allowance for rounding: for example, 52.8 percent of all chemists had postdoctoral study plans, 39.1 percent planned to be employed, and 8.1 percent did not report their postgraduation plans, totaling 100 percent. The study and employment rows are further subdivided. The data on study plans show that 26.5 percent of all chemists planned to pursue postdoctoral fellowships; 25.1 percent, research associateships; 0.5 percent, traineeships; and 0.7 percent, some other form of postdoctoral study. These percentages sum to 52.8 percent, the proportion of chemists who reported plans

for postdoctoral study. The employment row is similarly subdivided by type of employer. The percentages for these rows add to 39.1 percent—the proportion of chemistry Ph.D.s who planned employment. The category for educational institutions includes elementary and secondary schools as well as colleges and universities, and the category for government includes military service.

The four lines of data beginning with "Definite Postdoctoral Study" distinguish between individuals who had definite postgraduation plans at the time of survey completion (item 20: "Am returning to, or continuing in, predoctoral employment" or "Have signed contract or made definite commitment") and those who were still seeking employment or postdoctoral study (item 20: "Am negotiating with one or more specific organizations," "Am seeking position but have no specific prospects," or "Other"). These four lines, when added to the prior line, "Postdoctoral Plans Unknown," total 100 percent with allowance for rounding. The two lines "Definite Postdoctoral Study" and "Seeking Postdoctoral Study" add to give the percentage for "Postdoctoral Study Plans"; the two lines "Definite Employment" and "Seeking Employment" add to give the percentage for "Planned Employment After Doctorate."

Percentages showing the distribution of doctorate recipients by postdoctoral work activity and region of employment are based only on the number of recipients who had *definite employment* commitments at the time they completed the questionnaire. These percentages exclude recipients who planned postdoctoral study (as described above) and recipients who were still *seeking* employment at the time they completed the questionnaire. (Note that the rows on specific postdoctoral study and employment plans discussed earlier include individuals whose plans were *not definite*). Revisions to the questionnaire format beginning in 1990 appear to have resulted in higher rates of nonresponse to the item on work activity in recent years. Nonresponse to this item was 15.1 percent in 1993 compared to only 6.2 percent in 1989.

The U.S. regions of employment shown in Table A-3 include the following states and territories:

<i>New England:</i>	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
<i>Middle Atlantic:</i>	New Jersey, New York, Pennsylvania
<i>East North Central:</i>	Illinois, Indiana, Michigan, Ohio, Wisconsin
<i>West North Central:</i>	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
<i>South Atlantic:</i>	Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
<i>East South Central:</i>	Alabama, Kentucky, Mississippi, Tennessee
<i>West South Central:</i>	Arkansas, Louisiana, Oklahoma, Texas
<i>Mountain:</i>	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
<i>Pacific &amp; Insular:</i>	Alaska, California, Hawaii, Oregon, Washington, American Samoa, Guam, Puerto Rico, Trust Territory, Virgin Islands

**TABLE A-4:** Table A-4 contains data by race/ethnicity and citizenship for selected variables included in Tables A-3 and A-5. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in these tables; refer to the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included. *See the notice on page 41 for important information on recent increases in response rates and their impact on time-series data.*

The racial/ethnic question has undergone several revisions over the years. In 1977, it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980, the item was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980, doctorate recipients could check more than one category to indicate their race.) The item was modified again in 1982 to separate the questions on race and ethnicity. Since then, respondents have been asked to first check one of the four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In Table A-4, Ph.D.s who reported Hispanic heritage, regardless of racial designation, are included in one of three Hispanic groups: Puerto Rican, Mexican American, or other Hispanic. The remaining survey respondents are then counted in the respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as Native American in this report.)

In the section on "Graduate School Support," a recipient counts in more than one category if support was received from multiple sources. Because a student counts once for each of his/her sources of support, the vertical percentages sum to more than 100 percent. See the explanatory note on Appendix Table A-5 for further detail. (Data on the *primary* source of support for doctorate recipients are presented in the body of the report.)

The other sections of Table A-4 correspond to many of those in Appendix Table A-3. The reader is referred to the explanatory note on Table A-3 for additional information.

**TABLE A-5:** Table A-5 displays data reported in item 17 on sources of financial support received during graduate school, by broad field and gender of recipient. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in this table; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included.

A recipient counts in more than one category in Table A-5 if support was received from multiple sources. Because a student counts once for each of his/her sources of support, the vertical percentages sum to more than 100 percent. (Data on the *primary* source of support for doctorate recipients are presented in the body of the report.)

Beginning with *Summary Report 1990*, federal research assistantships (RAs) have been aggregated with university RAs and shown under "University" in this table. (Focus groups of doctoral candidates have indicated uncertainty as to the source of their RA funding; it is therefore likely that some RAs have incorrectly identified their support as university rather

than federal.) The reader is advised *not* to compare results from the 1990-1993 surveys with results from earlier years because percentages for university support appear higher and percentages for federal support appear lower in recent tables where RAs are aggregated.

The data in Table A-5 should be interpreted as follows: 160 male doctorate recipients in the physical sciences in 1993 reported financial support from federal fellowships or traineeships during graduate school. This number is 3.3 percent of the male physical sciences Ph.D.s who answered the question on sources of support, and 13.2 percent of all males in any field who reported federal fellowship or traineeship support.

**TABLE A-6:** Table A-6 shows, by broad field and gender, the number of persons receiving a doctorate in the most recent year from institutions in each of the 50 states, the District of Columbia, and Puerto Rico. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in this table; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included.

**TABLE A-7:** Table A-7 displays data by doctorate-granting institution and major field. It includes all institutions in the United States (the 50 states, the District of Columbia, and Puerto Rico) that awarded doctoral degrees in the most recent year. Field groupings may differ from those in reports published by federal sponsors of the SED and from departmental designations at institutions. See inside the back cover for a description of field groupings as reported in this table; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included.

APPENDIX TABLE A-1 Number of Doctorate Recipients, by Gender and Subfield, 1993

Subfield of Doctorate	Number of Doctorates			Subfield of Doctorate	Number of Doctorates		
	Total	Men	Women		Total	Men	Women
<b>TOTAL ALL FIELDS</b>	<b>39,754</b>	<b>24,646</b>	<b>15,108</b>				
<b>PHYSICAL SCIENCES</b>	<b>6,496</b>	<b>5,152</b>	<b>1,344</b>				
<b>MATHEMATICS</b>	1,146	882	264	<b>Engineering Mechanics</b>	128	117	11
Applied Mathematics	188	145	43	<b>Engineering Physics</b>	21	18	3
Algebra	84	56	28	<b>Engineering Science</b>	55	52	3
Analysis and Functional Analysis	105	82	23	<b>Environmental Health Engineering</b>	61	52	9
Geometry	44	37	7	<b>Industrial/Manufacturing</b>	236	209	27
Logic	19	15	4	<b>Materials Science</b>	416	349	67
Number Theory	42	38	4	<b>Mechanical</b>	901	855	46
Mathematical Statistics	228	171	57	<b>Metallurgical</b>	77	72	5
Topology	54	45	9	<b>Mining and Mineral</b>	24	23	1
Computing Theory and Practice	18	15	3	<b>Nuclear</b>	108	103	5
Operations Research	37	28	9	<b>Ocean</b>	24	23	1
Mathematics, General	276	220	56	<b>Operations Research</b>	56	46	10
Mathematics, Other	51	30	21	<b>Petroleum</b>	52	47	5
				<b>Polymer/Plastics</b>	61	55	6
<b>COMPUTER SCIENCE</b>	878	741	137	<b>Systems</b>	57	53	4
Computer Science	823	701	122	<b>Engineering, General</b>	47	44	3
Information Sciences and Systems	55	40	15	<b>Engineering, Other</b>	116	104	12
<b>PHYSICS AND ASTRONOMY</b>	1,543	1,349	194	<b>LIFE SCIENCES</b>	<b>7,397</b>	<b>4,311</b>	<b>3,086</b>
Astronomy	76	64	12	<b>BIOLOGICAL SCIENCES</b>	5,090	3,040	2,050
Astrophysics	69	56	13	<b>Biochemistry</b>	845	527	318
Acoustics	27	26	1	<b>Biophysics</b>	103	82	21
Chemical and Atomic/Molecular	95	81	14	<b>Biotechnology Research</b>	8	4	4
Elementary Particles	170	152	18	<b>Bacteriology</b>	14	8	6
Fluids	19	17	2	<b>Plant Genetics</b>	41	29	12
Nuclear	81	73	8	<b>Plant Pathology</b>	41	26	15
Optics	96	82	14	<b>Plant Physiology</b>	48	29	19
Plasma and High-Temperature	62	58	4	<b>Botany, Other</b>	105	62	43
Polymer	29	24	5	<b>Anatomy</b>	76	42	34
Solid State and Low-Temperature	335	293	42	<b>Biometrics and Biostatistics</b>	74	53	21
Physics, General	340	294	46	<b>Cell Biology</b>	231	115	116
Physics, Other	144	129	15	<b>Ecology</b>	176	110	66
				<b>Developmental Biology/Embryology</b>	57	32	25
<b>CHEMISTRY</b>	2,139	1,554	585	<b>Endocrinology</b>	16	4	12
Analytical	286	195	91	<b>Entomology</b>	114	86	28
Inorganic	238	178	60	<b>Biological Immunology</b>	169	96	73
Nuclear	8	8	0	<b>Molecular Biology</b>	582	345	237
Organic	517	386	131	<b>Microbiology</b>	433	250	183
Medicinal/Pharmaceutical	98	60	38	<b>Neuroscience</b>	275	165	110
Physical	337	248	89	<b>Nutritional Sciences</b>	134	35	99
Polymer	107	85	22	<b>Parasitology</b>	17	10	7
Theoretical	53	37	16	<b>Toxicology</b>	99	57	42
Chemistry, General	433	320	113	<b>Human and Animal Genetics</b>	172	96	76
Chemistry, Other	62	37	25	<b>Human and Animal Pathology</b>	130	85	45
				<b>Human and Animal Pharmacology</b>	273	152	121
<b>EARTH, ATMOS., &amp; MARINE SCI.</b>	790	626	164	<b>Human and Animal Physiology</b>	271	171	100
Atmospheric Physics and Chemistry	13	11	2	<b>Zoology, Other</b>	114	82	32
Atmospheric Dynamics	23	18	5	<b>Biological Sciences, General</b>	308	192	116
Meteorology	34	31	3	<b>Biological Sciences, Other</b>	164	95	69
Atmos. Sci./Meteorology, General	22	15	7	<b>HEALTH SCIENCES</b>	1,201	424	777
Atmos. Sci./Meteorology, Other	7	6	1	<b>Speech-Lang. Pathology &amp; Audiology</b>	98	20	78
Geology	197	162	35	<b>Environmental Health</b>	38	26	12
Geochemistry	50	37	13	<b>Health Systems/Services Admin.</b>	35	15	20
Geophysics and Seismology	101	87	14	<b>Public Health</b>	155	61	94
Paleontology	21	16	5	<b>Epidemiology</b>	120	47	73
Mineralogy, Petrology	9	8	1	<b>Nursing</b>	373	15	358
Stratigraphy, Sedimentation	28	23	5	<b>Pharmacy</b>	148	102	46
Geomorphology and Glacial Geology	16	13	3	<b>Rehabilitation/Therapeutic Services</b>	36	16	20
Geological & Related Sci., General	15	13	2	<b>Veterinary Medicine</b>	61	45	16
Geological & Related Sci., Other	17	15	2	<b>Health Sciences, General</b>	38	22	16
Environmental Science	68	50	18	<b>Health Sciences, Other</b>	99	55	44
Hydrology and Water Resources	25	16	9	<b>AGRICULTURAL SCIENCES</b>	1,106	847	259
Oceanography	99	72	27	<b>Agricultural Economics</b>	137	106	31
Marine Sciences	27	19	8	<b>Agricultural Business &amp; Management</b>	1	1	0
Misc. Physical Sciences, Other	18	14	4	<b>Animal Breeding and Genetics</b>	18	14	4
				<b>Animal Nutrition</b>	52	45	7
<b>ENGINEERING</b>	<b>5,696</b>	<b>5,175</b>	<b>521</b>	<b>Dairy Science</b>	11	9	2
Aerospace, Aeronautic. & Astronautic.	228	220	8	<b>Poultry Science</b>	16	10	6
Agricultural	86	80	6	<b>Fisheries Science and Management</b>	38	34	4
Bioengineering and Biomedical	171	140	31	<b>Animal Sciences, Other</b>	74	55	19
Ceramic Sciences	42	36	6	<b>Agronomy and Crop Science</b>	104	85	19
Chemical	624	541	83	<b>Plant Breeding and Genetics</b>	68	54	14
Civil	563	518	45	<b>Plant Pathology</b>	58	43	15
Communications	22	20	2	<b>Plant Sciences, Other</b>	28	19	9
Computer	167	152	15	<b>Food Engineering</b>	9	7	2
Electrical, Electronics	1,353	1,246	107	<b>Food Sciences, Other</b>	140	83	57
				<b>Soil Chemistry/Microbiology</b>	26	21	5
				<b>Soil Sciences, Other</b>	59	55	4
				<b>Horticulture Science</b>	62	47	15
				<b>Forest Biology</b>	18	11	7

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

APPENDIX TABLE A-1 (Continued)

Subfield of Doctorate	Number of Doctorates			Subfield of Doctorate	Number of Doctorates		
	Total	Men	Women		Total	Men	Women
Forest Engineering	3	3	0	<b>EDUCATION</b>	<b>6,647</b>	<b>2,743</b>	<b>3,904</b>
Forest Management	17	17	0	Curriculum and Instruction	853	290	563
Wood Sci. and Pulp/Paper Tech.	20	17	3	Educational Admin. and Supervision	1,339	668	671
Conservation/Renewable Nat. Res.	13	9	4	Educational Leadership	762	346	416
Forestry and Related Sci., Othe.	55	46	9	Educ./Instruct. Media Design	95	49	46
Wildlife/Range Management	54	37	17	Educ. Stat./Research Methods	64	26	38
Agricultural Sciences, General	10	8	2	Educ. Assess., Test., & Meas.	23	11	12
Agricultural Sciences, Other	15	11	4	Educational Psychology	288	93	195
<b>SOCIAL SCIENCES (INCL. PSYCH.)</b>	<b>6,545</b>	<b>3,316</b>	<b>3,229</b>	School Psychology	86	32	54
Anthropology	342	129	213	Social/Phil. Found. of Educ.	108	54	54
Area Studies	36	25	11	Special Education	276	73	203
Criminology	39	24	15	Counseling Educ./Couns. & Guidance	287	101	186
Demography/Population Studies	22	10	12	Educ. Eval. & Res./Higher Educ.	359	155	204
Economics	906	699	207	Pre-elementary/Early Childhood	97	12	85
Econometrics	24	17	7	Elementary Education:	65	16	49
Geography	137	97	40	Secondary Education	33	17	16
International Relations/Affairs	102	74	28	Adult and Continuing Education	233	78	155
Political Science and Government	507	378	129	<b>TEACHING FIELDS</b>	<b>940</b>	<b>430</b>	<b>510</b>
Public Policy Analysis	98	50	48	Agricultural Education	54	42	12
Sociology	513	270	243	Art Education	38	12	26
Statistics	48	34	14	Business Education	27	12	15
Urban Affairs/Studies	123	79	44	English Education	53	16	37
Social Sciences, General	32	19	13	Foreign Languages Education	48	14	34
Social Sciences, Other	197	81	116	Health Education	82	26	56
<b>PSYCHOLOGY</b>	<b>3,419</b>	<b>1,330</b>	<b>2,089</b>	Home Economics Education	14	0	14
Clinical	1,372	499	873	Technical/Industrial Arts Education	16	12	4
Cognitive and Psycholinguistics	104	56	48	Mathematics Education	69	27	42
Comparative	5	2	3	Music Education	80	36	44
Counseling	488	204	284	Nursing Education	19	0	19
Developmental and Child	202	47	155	Physical Education and Coaching	161	102	59
Experimental	143	75	68	Reading Education	95	14	81
Educational	91	24	67	Science Education	73	46	27
Industrial and Organizational	158	85	73	Social Science Education	9	3	6
Personality	22	10	12	Technical Education	21	14	7
Physiological/Psychobiology	85	35	50	Trade and Industrial Education	24	22	2
Psychometrics	9	7	2	Teacher Ed./Spec. Acad. & Voc., Other	57	32	25
Quantitative	16	5	11	Education, General	410	168	242
School	94	29	65	Education, Other	329	124	205
Social	125	58	67	<b>PROFESSIONAL/OTHER FIELDS</b>	<b>2,492</b>	<b>1,598</b>	<b>894</b>
Psychology, General	308	122	186	<b>BUSINESS AND MANAGEMENT</b>	<b>1,280</b>	<b>926</b>	<b>354</b>
Psychology, Other	197	72	125	Accounting	183	117	66
<b>HUMANITIES</b>	<b>4,481</b>	<b>2,351</b>	<b>2,130</b>	Banking/Financial Support Services	170	139	31
History, American	269	172	97	Business Admin. and Management	323	239	84
History, European	162	102	60	Business/Managerial Economics	33	30	3
History/Philosophy of Sci. & Tech.	37	21	16	Mgmt. Info. Sys./Bus. Data Proc.	101	75	26
History, General	117	86	31	Marketing Management and Research	166	120	46
History, Other	143	90	53	Operations Research	63	50	13
Classics	61	34	27	Organizational Behavior	73	32	41
Comparative Literature	153	66	87	Bus. Mgmt./Admin. Serv., General	88	65	23
Linguistics	214	96	118	Bus. Mgmt./Admin. Serv., Other	80	59	21
Speech and Rhetorical Studies	111	51	60	<b>COMMUNICATIONS</b>	<b>322</b>	<b>164</b>	<b>158</b>
Letters, General	18	8	10	Communications Research	33	16	17
Letters, Other	37	16	21	Mass Communications	117	68	49
American Studies	101	44	57	Communication Theory	41	16	25
Archeology	38	20	18	Communications, General	69	33	36
Art History/Criticism/Conservation	158	51	107	Communications, Other	62	31	31
Music	616	366	250	<b>OTHER PROFESSIONAL FIELDS</b>	<b>863</b>	<b>488</b>	<b>375</b>
Philosophy	274	201	73	Architectural Environmental Design	54	41	13
Religion	255	194	61	Home Economics	57	7	50
Drama/Theater Arts	91	54	37	Law	29	20	9
<b>LANGUAGE AND LITERATURE</b>	<b>1,525</b>	<b>631</b>	<b>894</b>	Library Science	70	24	46
American	293	135	158	Parks/Recreation/Leisure/Fitness	44	27	17
English	655	262	393	Public Administration	116	76	40
French	137	50	87	Social Work	237	75	158
German	105	40	65	Theology/Religious Education	240	205	35
Italian	19	4	15	Professional Fields, General	1	0	1
Spanish	180	65	115	Professional Fields, Other	15	9	6
Russian	28	14	14	<b>OTHER FIELDS</b>	<b>27</b>	<b>20</b>	<b>7</b>
Slavic	13	8	5				
Chinese	21	11	10				
Japanese	11	7	4				
Hebrew	15	11	4				
Arabic	10	5	5				
Other Language and Literature	38	19	19				
Humanities, General	30	13	17				
Humanities, Other	71	35	36				

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX TABLE A-2 Number of Doctorate Recipients, by Citizenship, Race/Ethnicity, and Subfield, 1993

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	Native Amer.	Asian	Black	White	Puerto Rican	Mex-ican Amer.	Other His-panic	Unkn. Race
<b>TOTAL ALL FIELDS</b>	<b>39,754</b>	<b>9,923</b>	<b>28,636</b>	<b>119</b>	<b>2,009</b>	<b>1,275</b>	<b>23,993</b>	<b>238</b>	<b>247</b>	<b>487</b>	<b>268</b>
<b>PHYSICAL SCIENCES</b>	<b>6,496</b>	<b>2,363</b>	<b>3,930</b>	<b>11</b>	<b>442</b>	<b>59</b>	<b>3,249</b>	<b>21</b>	<b>19</b>	<b>77</b>	<b>52</b>
<b>MATHEMATICS</b>	1,146	517	590	1	79	8	476	1	4	11	10
Applied Mathematics	188	92	95	0	18	3	70	0	1	2	1
Algebra	84	27	57	0	3	1	52	0	0	1	0
Analysis and Functional Analysis	105	52	53	0	6	0	44	0	1	2	0
Geometry	44	24	20	0	4	0	14	1	0	1	0
Logic	19	8	11	1	0	0	10	0	0	0	0
Number Theory	42	16	26	0	3	1	21	0	0	0	1
Mathematical Statistics	228	117	109	0	18	1	85	0	2	1	2
Topology	54	17	37	0	3	0	34	0	0	0	0
Computing Theory and Practice	18	9	9	0	0	0	9	0	0	0	0
Operations Research	37	13	24	0	2	0	21	0	0	1	0
Mathematics, General	276	125	116	0	20	2	86	0	0	2	6
Mathematics, Other	51	17	33	0	2	0	30	0	0	1	0
<b>COMPUTER SCIENCE</b>	878	349	508	1	77	6	410	1	1	5	7
Computer Science	823	333	471	1	73	6	379	1	1	3	7
Information Sciences and Systems	55	16	37	0	4	0	31	0	0	2	0
<b>PHYSICS AND ASTRONOMY</b>	1,543	583	916	3	106	9	756	3	4	21	14
Astronomy	76	17	59	0	3	1	52	0	0	1	2
Astrophysics	69	17	52	1	1	1	48	0	0	1	0
Acoustics	27	7	19	0	0	0	15	0	0	1	0
Chemical and Atomic/Molecular	95	38	57	0	4	1	48	0	0	3	1
Elementary Particles	170	71	99	0	8	0	86	0	1	4	0
Fluids	19	7	12	0	0	1	9	0	0	1	1
Nuclear	81	23	58	0	8	0	47	0	0	0	3
Optics	96	35	60	0	8	2	47	0	2	0	1
Plasma and High-Temperature	62	21	40	0	3	0	36	0	0	1	0
Polymer	29	15	14	0	0	0	14	0	0	0	0
Solid State and Low-Temperature	335	140	194	1	38	0	147	2	1	3	2
Physics, General	340	149	159	1	22	2	125	1	0	5	3
Physics, Other	144	43	93	0	11	1	79	0	0	1	1
<b>CHEMISTRY</b>	2,139	674	1,400	2	157	31	1,143	15	8	30	14
Analytical	286	78	206	0	15	5	178	1	1	4	2
Inorganic	238	48	185	0	16	6	156	2	1	4	0
Nuclear	8	0	8	0	0	0	8	0	0	0	0
Organic	517	164	351	1	40	10	280	5	1	12	2
Medicinal/Pharmaceutical	98	31	66	0	15	1	48	0	1	1	0
Physical	337	89	244	0	23	2	207	2	3	4	3
Polymer	107	40	67	0	14	0	53	0	0	0	0
Theoretical	53	15	38	0	2	0	33	1	0	1	1
Chemistry, General	433	194	192	1	27	6	146	3	0	3	6
Chemistry, Other	62	15	43	0	5	1	34	1	1	1	0
<b>EARTH, ATMOS., &amp; MARINE SCI.</b>	790	240	516	4	23	5	464	1	2	10	7
Atmospheric Physics and Chemistry	13	5	8	0	2	0	6	0	0	0	0
Atmospheric Dynamics	23	9	14	0	3	0	11	0	0	0	0
Meteorology	34	20	12	0	1	0	11	0	0	0	0
Atmos. Sci./Meteorology, General	22	8	12	0	1	0	8	0	0	2	1
Atmos. Sci./Meteorology, Other	7	2	4	0	0	0	4	0	0	0	0
Geology	197	49	141	2	5	3	127	0	0	0	4
Geochemistry	50	20	29	1	2	0	25	0	0	1	0
Geophysics and Seismology	101	31	62	0	0	0	59	0	1	1	1
Paleontology	21	3	18	0	0	0	18	0	0	0	0
Mineralogy, Petrology	9	2	7	0	0	0	7	0	0	0	0
Stratigraphy, Sedimentation	28	6	22	0	0	0	21	0	0	1	0
Geomorphology and Glacial Geology	16	5	11	0	1	0	10	0	0	0	0
Geological & Relat. Sci., General	15	9	5	0	0	0	4	0	0	1	0
Geological & Relat. Sci., Other	17	9	8	0	0	0	7	0	0	1	0
Environmental Science	68	12	54	1	2	1	48	1	0	1	0
Hydrology and Water Resources	25	7	18	0	2	0	15	0	0	1	0
Oceanography	99	31	59	0	3	0	54	0	1	1	0
Marine Sciences	27	8	19	0	0	0	19	0	0	0	0
Misc. Physical Sciences, Other	18	4	13	0	1	1	10	0	0	0	1
<b>ENGINEERING</b>	<b>5,696</b>	<b>2,783</b>	<b>2,691</b>	<b>2</b>	<b>525</b>	<b>50</b>	<b>2,022</b>	<b>10</b>	<b>12</b>	<b>43</b>	<b>27</b>
Aerospace, Aeronautic. & Astronautic.	228	99	120	0	12	4	101	0	1	2	0
Agricultural	86	57	29	0	3	0	25	0	1	0	0
Bioengineering and Biomedical	171	51	113	0	12	0	99	0	1	1	0
Ceramic Sciences	42	23	18	0	5	0	13	0	0	0	0
Chemical	624	275	330	1	49	6	263	2	1	6	2
Civil	563	346	202	0	39	5	147	1	0	9	1
Communications	22	12	10	0	1	0	8	0	0	0	1
Computer	167	85	80	0	20	2	54	1	0	2	1

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

\*Includes individuals who did not report their citizenship at time of doctorate.

APPENDIX TABLE A-2 (Continued)

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	Native Amer.	Asian	Black	White	Puerto Rican	Mexican Amer.	Other Hispanic	Unkn. Race
Electrical, Electronics	1,353	605	702	0	177	13	489	4	2	8	9
Engineering Mechanics	128	75	49	0	9	0	39	0	0	1	0
Engineering Physics	21	6	15	0	3	0	12	0	0	0	0
Engineering Science	55	32	21	0	2	1	17	0	1	0	0
Environmental Health Engineering	61	33	26	0	3	0	21	0	0	2	0
Industrial/Manufacturing	236	125	105	0	25	9	68	0	0	3	0
Materials Science	416	185	222	0	39	4	172	1	1	2	3
Mechanical	901	478	383	0	84	3	288	1	0	2	5
Metallurgical	77	41	27	0	4	0	21	0	1	1	0
Mining and Mineral	24	18	6	0	0	0	6	0	0	0	0
Nuclear	108	45	47	1	7	1	33	0	2	2	1
Ocean	24	15	6	0	1	0	5	0	0	0	0
Operations Research	56	19	35	0	6	0	28	0	0	1	0
Petroleum	52	29	19	0	7	0	11	0	0	0	1
Polymer/Plastics	61	34	26	0	4	0	21	0	0	1	0
Systems	57	14	41	0	4	2	33	0	0	0	2
Engineering, General	47	25	18	0	2	0	15	0	0	0	1
Engineering, Other	116	56	41	0	7	0	33	0	1	0	0
<b>LIFE SCIENCES</b>	<b>7,397</b>	<b>1,988</b>	<b>5,246</b>	<b>14</b>	<b>451</b>	<b>152</b>	<b>4,423</b>	<b>40</b>	<b>36</b>	<b>82</b>	<b>48</b>
<b>BIOLOGICAL SCIENCES</b>	<b>5,090</b>	<b>1,246</b>	<b>3,747</b>	<b>7</b>	<b>369</b>	<b>74</b>	<b>3,143</b>	<b>27</b>	<b>24</b>	<b>63</b>	<b>40</b>
Biochemistry	845	253	579	2	77	11	461	3	2	13	10
Biophysics	103	31	70	0	10	0	55	0	0	3	2
Biotechnology Research	8	1	7	0	0	0	7	0	0	0	0
Bacteriology	14	3	11	0	2	0	9	0	0	0	0
Plant Genetics	41	18	23	0	3	0	17	0	1	1	1
Plant Pathology	41	17	24	0	1	0	22	0	0	0	1
Plant Physiology	48	23	24	0	2	0	22	0	0	0	0
Botany, Other	105	36	69	0	1	0	65	1	1	0	1
Anatomy	76	13	62	0	9	1	48	0	1	3	0
Biometrics and Biostatistics	74	24	45	0	6	2	37	0	0	0	0
Cell Biology	231	41	187	0	13	4	163	2	0	4	1
Ecology	176	29	147	0	2	4	135	2	2	2	0
Developmental Biology/Embryology	57	9	48	0	3	1	44	0	0	0	0
Endocrinology	16	3	13	0	1	0	10	0	2	0	0
Entomology	114	40	73	0	3	1	66	1	0	1	0
Biological Immunology	169	36	131	0	17	1	106	1	0	3	3
Molecular Biology	582	126	452	0	57	8	372	5	2	4	4
Microbiology	433	114	313	1	28	7	263	5	3	6	0
Neuroscience	275	45	224	1	20	2	193	1	2	3	2
Nutritional Sciences	134	34	90	0	8	4	76	0	0	2	0
Parasitology	17	2	15	0	0	3	11	0	0	1	0
Toxicology	99	22	74	0	7	1	63	0	2	1	0
Human and Animal Genetics	172	29	142	0	9	1	129	0	1	1	1
Human and Animal Pathology	130	27	99	0	12	1	83	0	0	2	1
Human and Animal Pharmacology	273	64	202	2	19	9	165	0	2	3	2
Human and Animal Physiology	271	72	194	1	18	7	162	1	0	4	1
Zoology, Other	114	27	87	0	3	2	76	2	2	2	0
Biological Sciences, General	308	74	220	0	22	2	181	3	1	3	8
Biological Sciences, Other	164	33	122	0	16	2	102	0	0	1	1
<b>HEALTH SCIENCES</b>	<b>1,201</b>	<b>214</b>	<b>941</b>	<b>6</b>	<b>48</b>	<b>59</b>	<b>799</b>	<b>3</b>	<b>8</b>	<b>13</b>	<b>5</b>
Speech-Lang. Pathology & Audiology	98	12	84	0	1	7	72	1	2	1	0
Environmental Health	38	6	32	1	2	2	26	0	0	0	1
Health Systems/Services Admin.	35	5	25	0	2	4	18	0	1	0	0
Public Health	155	32	114	0	7	10	95	0	0	1	1
Epidemiology	120	28	90	0	5	4	76	1	1	3	0
Nursing	373	17	349	4	3	19	315	0	4	3	1
Pharmacy	148	63	76	0	17	2	54	1	0	1	1
Rehabilitation/Therapeutic Services	36	4	32	0	1	6	25	0	0	0	0
Veterinary Medicine	61	24	34	0	1	1	32	0	0	0	0
Health Sciences, General	38	11	26	0	5	1	20	0	0	0	0
Health Sciences, Other	99	12	79	1	4	3	66	0	0	4	1
<b>AGRICULTURAL SCIENCES</b>	<b>1,106</b>	<b>528</b>	<b>558</b>	<b>1</b>	<b>34</b>	<b>19</b>	<b>491</b>	<b>10</b>	<b>4</b>	<b>6</b>	<b>3</b>
Agricultural Economics	137	80	52	0	5	3	44	0	0	0	0
Agricultural Business & Management	1	1	0	0	0	0	0	0	0	0	0
Animal Breeding and Genetics	18	13	5	0	0	0	5	0	0	0	0
Animal Nutrition	52	20	32	0	2	1	28	1	0	0	0
Dairy Science	11	6	5	0	0	0	4	0	1	0	0
Poultry Science	16	8	8	0	1	1	6	0	0	0	0
Fisheries Science and Management	38	12	25	0	0	0	25	0	0	0	0
Animal Sciences, Other	74	22	48	0	3	2	43	0	0	0	0
Agronomy and Crop Science	104	53	48	0	5	1	40	2	0	0	0
Plant Breeding and Genetics	68	28	40	0	2	0	34	2	1	0	1
Plant Pathology	58	33	24	0	2	0	20	1	0	0	0
Plant Sciences, Other	28	10	18	0	4	0	13	1	0	0	0
Food Engineering	9	6	3	0	0	0	2	1	0	0	0
Food Sciences, Other	140	87	50	1	5	4	38	2	0	0	0
Soil Chemistry/Microbiology	26	11	15	0	0	0	15	0	0	0	0
Soil Sciences, Other	59	24	35	0	1	2	30	0	0	2	0

APPENDIX TABLE A-2 (Continued)

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	Native Amer.	Asian	Black	White	Puerto Rican	Mex-ican Amer.	Other His-panic	Unkn. Race
Horticulture Science	62	35	26	0	0	0	24	0	1	1	0
Forest Biology	18	5	13	0	1	0	12	0	0	0	0
Forest Engineering	3	2	1	0	1	0	0	0	0	0	0
Forest Management	17	6	11	0	1	0	9	0	0	1	0
Wood Sci. and Pulp/Paper Tech.	20	8	12	0	0	0	12	0	0	0	0
Conservation/Renewable Nat. Res.	13	4	9	0	0	0	9	0	0	0	0
Forestry and Related Sci., Other	55	19	35	0	1	3	31	0	0	0	0
Wildlife/Range Management	54	18	35	0	0	0	34	0	1	0	0
Agricultural Sciences, General	10	7	3	0	0	1	1	0	0	1	0
Agricultural Sciences, Other	15	10	5	0	0	1	2	0	0	0	2
<b>SOCIAL SCIENCES (INCL. PSYCH.)</b>	<b>6,545</b>	<b>1,074</b>	<b>5,266</b>	<b>19</b>	<b>209</b>	<b>243</b>	<b>4,536</b>	<b>43</b>	<b>61</b>	<b>109</b>	<b>46</b>
Anthropology	342	36	300	2	10	8	263	3	3	9	2
Area Studies	36	13	22	0	3	3	14	0	0	1	1
Criminology	39	8	31	0	0	4	25	0	0	1	1
Demography/Population Studies	22	8	13	0	2	0	10	1	0	0	0
Economics	906	425	447	0	43	20	365	2	2	10	5
Econometrics	24	13	11	0	3	0	7	1	0	0	0
Geography	137	38	98	1	5	1	85	1	0	2	3
International Relations/Affairs	102	32	70	0	3	6	54	0	1	3	3
Political Science and Government	507	110	366	0	23	20	309	3	3	4	4
Public Policy Analysis	98	11	87	0	3	10	72	1	0	1	0
Sociology	513	124	382	0	19	29	306	5	7	8	8
Statistics	48	32	15	0	3	0	12	0	0	0	0
Urban Affairs/Studies	123	40	77	0	10	13	49	1	1	2	1
Social Sciences, General	32	10	22	1	0	2	19	0	0	0	0
Social Sciences, Other	197	26	169	0	9	8	144	1	2	3	2
<b>PSYCHOLOGY</b>	<b>3,419</b>	<b>148</b>	<b>3,156</b>	<b>15</b>	<b>73</b>	<b>119</b>	<b>2,802</b>	<b>24</b>	<b>42</b>	<b>65</b>	<b>16</b>
Clinical	1,372	19	1,302	6	30	52	1,141	13	23	34	3
Cognitive and Psycholinguistics	104	10	94	0	4	2	85	0	1	1	1
Comparative	5	0	5	0	0	0	5	0	0	0	0
Counseling	488	9	474	2	6	18	432	2	7	5	2
Developmental and Child	202	19	183	0	7	3	166	2	0	4	1
Experimental	143	17	126	1	2	4	117	1	0	1	0
Educational	91	11	80	0	3	4	70	0	1	2	0
Industrial and Organizational	158	8	148	2	3	6	128	5	3	1	0
Personality	22	2	20	0	2	3	14	0	1	0	0
Physiological/Psychobiology	85	7	78	0	2	4	69	1	0	2	0
Psychometrics	9	1	8	0	0	0	8	0	0	0	0
Quantitative	16	4	12	0	1	0	11	0	0	0	0
School	94	0	92	1	0	2	85	0	0	3	1
Social	125	12	113	0	6	7	97	0	0	2	1
Psychology, General	308	18	250	2	4	10	218	0	5	6	5
Psychology, Other	197	11	171	1	3	4	156	0	1	4	2
<b>HUMANITIES</b>	<b>4,481</b>	<b>568</b>	<b>3,777</b>	<b>13</b>	<b>133</b>	<b>112</b>	<b>3,319</b>	<b>38</b>	<b>36</b>	<b>81</b>	<b>45</b>
History, American	269	14	255	1	2	5	238	2	3	2	2
History, European	162	13	149	0	3	2	141	0	0	1	2
History/Philosophy of Sci. & Tech.	37	8	27	0	1	1	22	1	1	1	0
History, General	117	15	87	0	2	6	71	1	2	4	1
History, Other	143	27	114	0	6	5	94	3	0	4	2
Classics	61	5	55	1	2	0	51	0	0	0	1
Comparative Literature	153	40	113	0	8	3	90	2	3	4	3
Linguistics	214	85	117	1	22	6	82	0	0	4	2
Speech and Rhetorical Studies	111	5	105	0	2	9	91	0	2	0	1
Letters, General	18	1	17	1	0	0	15	0	0	1	0
Letters, Other	37	1	36	0	0	3	30	0	0	2	1
American Studies	101	9	87	1	1	6	77	0	0	2	0
Archeology	38	4	33	1	1	1	29	1	0	0	0
Art History/Criticism/Conservation	158	8	146	0	5	2	134	0	0	1	4
Music	616	66	522	1	31	15	458	2	4	5	6
Philosophy	274	47	213	1	3	6	191	1	1	5	5
Religion	255	22	228	0	2	5	215	0	3	1	2
Drama/Theater Arts	91	6	83	0	3	3	75	1	0	1	0
<b>LANGUAGE AND LITERATURE</b>	<b>1,525</b>	<b>176</b>	<b>1,309</b>	<b>2</b>	<b>37</b>	<b>28</b>	<b>1,148</b>	<b>24</b>	<b>17</b>	<b>43</b>	<b>10</b>
American	293	24	269	0	9	11	240	1	3	3	2
English	655	58	577	1	17	7	535	2	3	8	4
French	137	15	119	1	0	7	110	0	0	0	1
German	105	21	80	0	1	0	77	0	1	0	1
Italian	19	5	13	0	0	0	13	0	0	0	0
Spanish	180	36	140	0	2	0	80	21	7	30	0
Russian	28	3	25	0	0	0	25	0	0	0	0
Slavic	13	1	11	0	0	0	11	0	0	0	0
Chinese	21	4	17	0	5	0	10	0	1	0	1
Japanese	11	1	10	0	2	0	8	0	0	0	0
Hebrew	15	0	12	0	0	0	12	0	0	0	0
Arabic	10	1	9	0	0	2	7	0	0	0	0
Other Language and Literature	38	7	27	0	1	1	20	0	2	2	1
Humanities, General	30	4	26	1	0	1	23	0	0	0	1
Humanities, Other	71	12	55	2	2	5	44	0	0	0	2

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

\*Includes individuals who did not report their citizenship at time of doctorate.

APPENDIX TABLE A-2 (Continued)

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	Native Amer.	Asian	Black	White	Puerto Rican	Mex-ican Amer.	Other His-panic	Unkn. Race
<b>EDUCATION</b>	<b>6,647</b>	<b>546</b>	<b>5,921</b>	<b>50</b>	<b>140</b>	<b>553</b>	<b>4,928</b>	<b>75</b>	<b>69</b>	<b>76</b>	<b>30</b>
Curriculum and Instruction	853	74	766	9	27	56	633	26	5	9	1
Educational Adm. and Supervision	1,339	46	1,284	8	19	137	1,074	7	24	12	3
Educational Leadership	762	25	725	9	11	86	594	1	10	11	3
Educ./Instruct. Media Design	95	24	70	1	2	6	60	0	0	1	0
Educ. Stat./Research Methods	64	8	55	0	4	3	48	0	0	0	0
Educ. Assess., Test., & Meas.	23	7	16	0	0	1	14	1	0	0	0
Educational Psychology	288	23	263	2	9	15	224	5	4	3	1
School Psychology	86	1	84	1	0	3	75	2	1	2	0
Social/Phil. Found. of Educ.	108	17	87	1	6	7	67	2	1	3	0
Special Education	276	20	248	2	4	18	217	1	3	1	2
Counseling Educ./Couns. & Guidance	287	12	264	4	1	33	220	1	2	3	0
Educ. Eval. & Res./Higher Educ.	359	33	316	5	13	33	256	1	4	3	1
Pre-elementary/Early Childhood	97	9	85	1	4	14	61	2	1	2	0
Elementary Education	65	4	61	0	2	4	54	1	0	0	0
Secondary Education	33	5	28	0	1	1	25	0	0	1	0
Adult and Continuing Education	233	12	220	3	4	17	186	6	1	2	1
<b>TEACHING FIELDS</b>	<b>940</b>	<b>146</b>	<b>777</b>	<b>2</b>	<b>14</b>	<b>49</b>	<b>679</b>	<b>11</b>	<b>7</b>	<b>10</b>	<b>5</b>
Agricultural Education	54	15	39	0	0	-8	26	1	2	2	0
Art Education	38	6	32	0	1	2	27	1	0	0	1
Business Education	27	2	24	0	1	0	20	2	0	0	1
English Education	53	5	48	0	0	0	47	0	0	0	1
Foreign Languages Education	48	19	28	0	2	3	16	3	2	2	0
Health Education	82	5	72	0	0	10	61	0	0	1	0
Home Economics Education	14	3	11	0	0	2	9	0	0	0	0
Technical/Industrial Arts Education	16	4	12	0	0	1	11	0	0	0	0
Mathematics Education	69	13	55	0	0	4	51	0	0	0	1
Music Education	80	8	70	1	2	1	62	1	1	1	0
Nursing Education	19	0	19	0	1	0	18	0	0	0	0
Physical Education and Coaching	161	35	124	0	0	5	116	1	0	2	0
Reading Education	95	5	85	0	1	3	78	2	0	1	0
Science Education	73	14	59	0	2	4	53	0	0	0	0
Social Science Education	9	1	8	0	1	1	6	0	0	0	0
Technical Education	21	5	16	0	0	1	15	0	0	0	0
Trade and Industrial Education	24	3	21	1	1	2	15	0	1	1	0
Teacher Ed./Spec. Acad. & Voc., Other	57	3	54	0	2	2	48	0	1	0	1
Education, General	410	48	295	1	11	42	216	4	1	9	11
Education, Other	329	32	277	1	8	28	225	4	5	4	2
<b>PROFESSIONAL/OTHER FIELDS</b>	<b>2,492</b>	<b>601</b>	<b>1,805</b>	<b>10</b>	<b>109</b>	<b>106</b>	<b>1,516</b>	<b>11</b>	<b>14</b>	<b>19</b>	<b>20</b>
<b>BUSINESS AND MANAGEMENT</b>	<b>1,280</b>	<b>393</b>	<b>841</b>	<b>5</b>	<b>68</b>	<b>26</b>	<b>721</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>7</b>
Accounting	183	37	144	0	7	5	130	0	1	0	1
Banking/Financial Support Services	170	71	99	0	10	1	83	0	0	2	3
Business Adm. and Management	323	87	218	2	11	8	193	2	1	1	0
Business/Managerial Economics	33	12	21	0	0	1	18	0	0	1	1
Mgmt. Info. Sys./Bus. Data Proc.	101	41	59	0	13	1	45	0	0	0	0
Marketing Management and Research	166	57	108	0	13	4	88	1	1	0	1
Operations Research	63	36	25	0	4	0	21	0	0	0	0
Organizational Behavior	73	14	59	1	1	2	53	1	0	1	0
Bus. Mgmt./Admin. Serv., General	88	17	51	2	4	1	42	0	1	1	0
Bus. Mgmt./Admin. Serv., Other	80	21	57	0	5	3	48	0	0	0	1
<b>COMMUNICATIONS</b>	<b>322</b>	<b>55</b>	<b>258</b>	<b>4</b>	<b>10</b>	<b>20</b>	<b>212</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>2</b>
Communications Research	33	5	28	0	0	3	24	0	1	0	0
Mass Communications	117	26	89	1	2	10	71	1	2	1	1
Communication Theory	41	6	35	0	1	1	32	0	1	0	0
Communications, General	69	9	57	1	3	2	47	0	0	3	1
Communications, Other	62	9	49	2	4	4	38	0	1	0	0
<b>OTHER PROFESSIONAL FIELDS</b>	<b>863</b>	<b>145</b>	<b>690</b>	<b>1</b>	<b>31</b>	<b>59</b>	<b>569</b>	<b>6</b>	<b>5</b>	<b>8</b>	<b>11</b>
Architectural Environmental Design	54	20	33	0	4	5	24	0	0	0	0
Home Economics	57	14	43	0	1	2	40	0	0	0	0
Law	29	15	13	0	2	0	10	0	0	0	1
Library Science	70	14	56	0	3	8	43	0	0	2	0
Parks/Recreation/Leisure/Fitness	44	12	30	0	1	0	28	1	0	0	0
Public Administration	116	12	93	0	2	8	77	0	1	3	2
Social Work	237	28	201	0	9	29	152	2	3	1	5
Theology/Religious Education	240	29	206	1	8	6	183	3	0	2	3
Professional Fields, General	1	1	0	0	0	0	0	0	0	0	0
Professional Fields, Other	15	0	15	0	1	1	12	0	1	0	0
<b>OTHER FIELDS</b>	<b>27</b>	<b>8</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX TABLE A-3 Statistical Profile of Doctorate Recipients, by Major Field, 1993

Total All Doctorates

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos. and Marine Sci.	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Biosciences Subtotal	Health Sciences	Agricultural Sciences	LIFE SCIENCES
<b>Number in Field</b>	<b>39,754</b>	<b>1,543</b>	<b>2,139</b>	<b>790</b>	<b>1,146</b>	<b>878</b>	<b>6,496</b>	<b>5,696</b>	<b>845</b>	<b>4,245</b>	<b>5,090</b>	<b>1,201</b>	<b>1,106</b>	<b>7,397</b>
Men	62.0	87.4	72.7	79.2	77.0	84.4	79.3	90.9	62.4	59.2	59.7	35.3	76.6	58.3
Women	38.0	12.6	27.3	20.8	23.0	15.6	20.7	9.1	37.6	40.8	40.3	64.7	23.4	41.7
U.S. Citizenship	66.4	52.5	59.5	59.9	43.3	48.3	53.5	39.1	63.1	68.6	67.7	73.3	45.4	65.3
Non-U.S., Permanent Visa	5.7	6.9	6.0	5.4	8.2	9.6	7.0	8.2	5.4	6.0	5.9	5.1	5.1	5.7
Non-U.S., Temporary Visa	25.0	37.8	31.5	30.4	45.1	39.7	36.4	48.9	29.9	23.4	24.5	17.8	47.7	26.9
Unknown	3.0	2.9	3.0	4.3	3.4	2.4	3.1	3.9	1.5	2.0	1.9	3.8	1.8	2.2
Married	57.4	49.7	52.7	61.4	54.4	57.6	54.0	60.8	54.3	56.6	56.2	58.0	67.7	58.2
Not Married	34.0	43.1	39.4	29.9	37.3	31.5	37.7	31.1	39.2	36.8	37.2	31.6	25.6	34.6
Unknown	8.6	6.9	7.9	8.7	8.4	10.8	8.2	8.1	6.5	6.6	6.6	10.4	6.7	7.2
Median Age at Doct.	Yrs 34.1	30.4	29.7	33.4	31.1	32.3	30.9	31.6	30.4	31.6	31.4	38.2	34.5	32.5
Percent with Bacc. in Same Field as Doctorate	% 55.6	76.3	76.9	55.2	73.3	35.2	67.9	80.1	25.4	55.3	50.4	50.8	60.4	51.9
Percent with Masters	% 78.6	66.2	42.9	79.7	75.9	86.4	64.6	86.7	34.8	49.0	46.7	83.9	91.9	59.5
Median Time Lapse from Bacc. to Doct.	Yrs 10.5	7.8	7.2	10.3	8.5	9.5	8.3	8.8	7.9	8.7	8.6	13.9	10.7	9.4
Total Time Registered Time	7.1	6.7	5.8	7.5	6.7	7.0	6.5	6.3	6.4	6.8	6.8	7.6	6.6	6.8
Postdoctoral Study Plans	% 26.4	62.9	52.8	44.1	24.3	13.2	43.8	25.1	82.0	72.1	73.8	17.8	33.1	58.6
Fellowship	13.8	23.7	26.5	19.9	12.7	5.7	19.8	8.5	54.1	43.7	45.4	9.7	12.1	34.6
Research Assoc. Traineeship	10.1	37.2	25.1	22.9	9.0	6.6	22.4	15.1	20.6	20.3	20.3	5.5	19.3	17.8
Other Study	0.9	0.9	0.5	0.8	1.4	0.6	0.8	0.8	1.8	2.0	2.0	0.7	0.9	1.6
Planned Employment After Doctorate	% 65.6	29.2	39.1	47.3	66.1	79.0	47.9	66.7	13.3	22.8	21.2	73.6	58.6	35.3
Educ. Institution*	39.3	9.4	7.1	18.9	48.6	38.4	20.6	20.5	4.5	10.8	9.7	44.0	24.4	17.5
Industry/Business	12.9	12.7	27.8	11.9	10.0	32.3	19.8	34.0	6.4	5.3	5.5	9.9	14.6	7.6
Government	5.4	3.2	1.8	11.5	2.3	2.8	3.5	6.8	1.1	3.5	3.1	8.6	12.7	5.4
Nonprofit	3.4	0.6	0.3	1.0	1.0	1.1	0.7	1.1	0.7	1.3	1.2	6.2	1.4	2.1
Other & Unknown	4.6	3.3	2.1	4.1	4.2	4.3	3.3	4.4	0.6	1.9	1.7	4.9	5.5	2.8
Postdoc. Plans Unknown	% 8.0	7.8	8.1	8.6	9.6	7.7	8.3	8.3	4.7	5.1	5.0	8.6	8.3	6.1
Definite Postdoc. Study	% 17.6	41.3	38.8	27.7	14.4	9.6	29.8	12.7	63.2	55.4	56.7	11.1	17.7	43.5
Seeking Postdoc. Study	8.8	21.6	14.0	16.3	9.9	3.6	14.0	12.4	18.8	16.7	17.0	6.7	15.4	15.1
Definite Employment	43.4	14.5	26.8	32.4	39.1	52.1	30.1	37.5	8.8	15.4	14.3	53.8	38.5	24.3
Seeking Employment	22.2	14.7	12.3	14.9	27.0	27.0	17.8	29.2	4.5	7.4	6.9	19.8	20.1	11.0
<b>Employment Commitments After Doctorate</b>	<b>17,235</b>	<b>224</b>	<b>573</b>	<b>256</b>	<b>448</b>	<b>457</b>	<b>1,958</b>	<b>2,136</b>	<b>74</b>	<b>654</b>	<b>728</b>	<b>646</b>	<b>426</b>	<b>1,800</b>
Primary Activity†	% 27.1	58.5	70.0	51.6	34.8	56.7	55.1	63.4	55.4	45.6	46.6	32.0	53.1	42.9
R & D	33.4	21.4	11.5	20.3	46.2	26.7	25.3	15.3	14.9	23.1	22.3	34.4	18.5	25.7
Teaching	11.4	1.3	1.2	2.0	0.9	1.1	1.2	2.1	1.4	3.5	3.3	11.9	4.5	6.7
Administration	10.3	4.0	4.4	10.9	4.7	2.0	4.7	5.2	12.2	9.3	9.6	10.1	9.2	9.7
Prof. Services	2.7	4.0	1.6	3.1	1.3	0.9	1.8	2.8	5.4	4.0	4.1	1.5	5.2	3.4
Other	% 25.1	15.2	10.6	23.4	40.8	22.3	22.5	16.4	16.2	21.4	20.9	29.7	19.0	23.6
R & D	12.9	7.6	4.2	14.1	17.6	19.3	12.5	13.0	8.1	12.5	12.1	17.5	14.8	14.7
Teaching	8.2	12.9	18.2	9.8	3.8	6.1	10.4	10.8	13.5	11.3	11.5	8.0	11.3	10.2
Administration	6.7	5.8	6.5	7.4	3.1	6.6	5.8	7.9	2.7	8.0	7.4	10.5	7.7	8.6
Prof. Services	2.3	4.0	1.7	1.6	0.7	0.7	1.5	2.2	1.4	2.1	2.1	2.6	1.9	2.2
Other	29.7	43.8	47.5	31.6	21.9	32.4	35.6	38.6	47.3	30.1	31.9	21.5	35.7	29.1
No Secondary Activity	% 15.1	10.7	11.3	12.1	12.1	12.7	11.8	11.2	10.8	14.5	14.1	10.1	9.6	11.6
Activity(ies) Unknown														
<b>Region of Employment After Doctorate‡</b>	<b>%</b>	<b>5.8</b>	<b>11.6</b>	<b>8.0</b>	<b>3.5</b>	<b>4.9</b>	<b>7.0</b>	<b>6.9</b>	<b>6.2</b>	<b>8.1</b>	<b>5.5</b>	<b>5.8</b>	<b>4.3</b>	<b>2.6</b>
New England	13.4	13.4	18.3	7.0	12.1	21.0	15.5	11.9	9.5	12.2	12.0	11.5	4.7	10.1
Middle Atlantic	12.8	9.4	17.6	7.0	15.0	10.1	12.9	11.5	12.2	8.7	9.1	16.4	7.0	11.2
East No. Central	6.9	5.4	7.3	4.3	6.0	6.3	6.2	4.4	5.4	5.2	5.2	5.6	9.2	6.3
West No. Central	15.4	11.2	12.7	15.6	16.5	9.2	13.0	11.0	6.8	16.7	15.7	19.0	10.8	15.7
South Atlantic	4.4	1.8	4.7	4.3	3.8	2.6	3.6	4.1	0.0	4.7	4.3	5.4	3.5	4.5
East So. Central	8.3	4.9	4.5	14.8	5.6	6.1	6.5	6.5	9.5	6.9	7.1	11.3	5.2	8.2
West So. Central	4.7	5.8	2.4	11.3	6.0	3.9	5.2	5.8	5.4	4.3	4.4	3.9	5.4	4.4
Mountain	11.0	18.8	11.2	10.5	9.6	11.8	11.7	13.0	20.3	13.1	13.9	8.0	10.6	11.0
Pacific & Insular	3.9	5.4	4.5	2.3	2.7	2.6	3.5	2.5	9.5	4.7	5.2	3.6	1.6	3.8
U.S., Region Unknown	13.1	12.1	8.6	19.1	17.4	18.8	14.8	22.6	13.5	17.4	17.0	10.5	39.2	19.9
Foreign	0.3	0.4	0.0	0.0	0.4	0.4	0.3	0.5	0.0	0.5	0.4	0.5	0.2	0.4
Region Unknown														

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note about this table in front of Appendix A.

\*Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.

†Includes only recipients with definite employment plans. Revisions to the survey form in 1990 appear to have resulted in a higher rate of nonresponse to the item on work activity than in previous years. The nonresponse rate in 1993 was 15.1% compared to 6.2% in 1989.

‡Includes only recipients with definite employment plans. See Table A-3 explanatory note for regional definitions.

APPENDIX TABLE A-3 (Continued)

Psychology	Economics	Anthropology and Sociology	Political Sci./Internat'l Rel.	Other Social Sciences	SOCIAL SCI. INCL. PSYCH.	TOTAL SCIENCES & ENGINEERING	History	Eng. and Amer. Lang. and Lit.	Foreign Lang. and Lit.	Other Humanities	HUMANITIES	EDUCATION	Business and Management	Other Professional Fields	Other Fields <sup>§</sup>	PROFESSIONAL/OTHER FIELDS	TOTAL NONSCIENCES
<b>3,419</b>	<b>930</b>	<b>855</b>	<b>609</b>	<b>732</b>	<b>6,545</b>	<b>26,134</b>	<b>728</b>	<b>948</b>	<b>577</b>	<b>2,228</b>	<b>4,481</b>	<b>6,647</b>	<b>1,280</b>	<b>1,185</b>	<b>27</b>	<b>2,492</b>	<b>13,620</b>
38.9	77.0	46.7	74.2	57.2	50.7	68.7	64.7	41.9	40.6	56.1	52.5	41.3	72.3	55.0	74.1	64.1	49.1
61.1	23.0	53.3	25.8	42.8	49.3	31.3	35.3	58.1	59.4	43.9	47.5	58.7	27.7	45.0	25.9	35.9	50.9
89.7	41.7	73.3	63.9	64.6	75.5	59.2	82.3	86.4	65.2	77.0	78.3	86.4	59.7	74.3		66.6	80.1
2.6	7.5	6.4	7.7	8.3	4.9	6.4	4.5	2.8	15.1	5.4	6.0	2.6	6.0	5.7		5.8	4.3
4.3	47.1	18.7	23.3	25.4	16.4	31.4	10.6	8.6	16.3	14.1	12.7	8.2	30.7	16.9		24.1	12.6
3.4	3.7	1.5	5.1	1.6	3.1	3.0	2.6	2.1	3.5	3.5	3.0	2.7	3.6	3.1		3.5	3.0
50.0	34.5	55.2	53.9	58.2	52.6	56.3	55.8	52.2	48.9	52.2	52.4	63.7	62.6	61.3		61.6	59.6
40.4	37.2	37.5	35.1	33.1	38.3	35.5	35.3	39.0	43.5	38.6	38.8	26.8	28.4	28.5		28.7	31.1
9.7	8.3	7.3	11.0	8.7	9.2	8.1	8.9	8.8	7.6	9.2	8.9	9.5	9.0	10.2		9.8	9.3
33.8	32.0	36.7	34.1	36.9	34.3	32.1	35.6	36.0	34.9	35.6	35.6	43.0	35.5	39.6		37.4	39.7
61.3	59.5	47.8	49.4	21.0	53.7	62.5	58.7	66.6	52.2	52.4	56.4	37.4	36.6	26.2		31.4	42.5
78.9	75.7	89.2	83.3	90.6	81.5	72.2	88.3	88.9	87.9	86.6	87.5	93.9	84.1	93.0		88.2	90.8
10.0	9.0	12.6	10.6	12.5	10.4	9.2	12.1	11.9	11.1	12.0	11.9	19.2	11.9	15.5		13.3	15.7
7.2	6.8	8.9	8.0	7.9	7.5	6.7	8.6	8.2	8.2	8.2	8.3	8.2	7.2	8.0		7.5	8.1
24.4	7.3	17.1	9.7	11.5	18.2	37.5	10.0	5.9	6.1	7.2	7.3	4.1	2.7	5.5		4.2	5.1
16.8	3.9	12.0	6.9	6.3	12.3	19.7	6.3	3.0	2.9	4.1	4.1	1.8	0.8	3.0		1.9	2.6
3.8	2.8	3.7	1.6	4.4	3.5	14.8	1.2	0.4	1.0	1.2	1.0	1.2	1.2	1.2		1.3	1.2
2.2	0.1	0.2	0.7	0.3	1.3	1.1	0.4	0.2	0.7	0.3	0.4	0.3	0.6	0.8		0.7	0.4
1.6	0.5	1.1	0.5	0.5	1.1	1.9	2.1	2.3	1.4	1.6	1.8	0.7	0.2	0.5		0.3	1.0
66.7	84.7	76.8	79.0	80.3	73.3	54.8	82.0	86.1	84.7	83.8	84.1	87.5	89.7	84.0		87.0	86.3
26.0	50.1	57.0	60.8	50.3	39.4	24.4	67.9	78.0	76.3	66.6	70.4	67.7	74.7	53.3		64.1	68.0
14.1	9.0	5.0	4.4	7.5	10.5	17.1	2.5	3.1	2.4	4.6	3.7	4.6	9.6	6.5		8.2	4.9
8.5	12.3	4.3	6.4	8.7	8.3	6.0	3.7	0.4	0.5	1.4	1.5	5.8	2.0	7.5		4.7	4.2
11.0	3.3	4.2	3.4	6.0	7.8	2.9	2.5	0.4	0.7	6.1	3.6	3.8	0.8	12.3		6.3	4.2
7.1	10.0	6.3	3.9	7.8	7.2	4.4	5.5	4.2	4.9	5.2	5.0	5.5	2.6	4.9		3.7	5.0
8.9	8.0	6.1	11.3	8.2	8.5	7.7	8.0	8.0	9.2	8.9	8.6	8.5	7.6	10.0		8.8	8.6
17.2	5.4	9.0	4.3	6.0	12.0	25.5	5.4	2.8	3.1	3.8	3.8	1.9	0.9	3.0		1.9	2.5
7.2	1.9	8.1	5.4	5.5	6.2	12.0	4.7	3.1	2.9	3.4	3.5	2.2	1.8	2.5		2.3	2.6
44.4	58.6	45.1	52.2	50.4	47.9	34.6	49.9	52.3	53.6	50.3	51.1	64.1	71.1	61.8		66.3	60.2
22.3	26.1	31.7	26.8	29.9	25.3	20.2	32.1	33.8	31.2	33.5	33.1	23.3	18.6	22.8		20.7	26.0
<b>1,519</b>	<b>545</b>	<b>386</b>	<b>318</b>	<b>369</b>	<b>3,137</b>	<b>9,031</b>	<b>363</b>	<b>496</b>	<b>309</b>	<b>1,121</b>	<b>2,289</b>	<b>4,264</b>	<b>910</b>	<b>732</b>		<b>1,651</b>	<b>8,204</b>
13.2	46.1	27.2	20.1	28.2	23.1	43.5	9.6	4.8	8.7	8.1	7.7	5.7	26.9	10.0		19.5	9.1
16.4	27.5	43.3	48.1	35.5	27.1	23.6	58.1	72.6	70.6	62.9	65.3	31.2	51.0	44.0		47.8	44.1
4.0	3.7	6.0	5.7	7.9	4.8	3.8	4.7	4.4	2.9	3.9	4.0	32.5	3.8	15.8		9.1	19.9
50.8	5.9	5.7	2.8	7.9	27.5	13.7	1.4	1.2	1.3	4.8	3.0	8.1	2.2	12.4		6.8	6.4
2.7	3.7	3.1	2.5	2.2	2.8	2.7	4.1	1.4	1.3	4.3	3.2	2.2	2.0	4.6		3.1	2.7
21.4	28.3	33.7	40.9	26.8	26.7	22.7	40.8	41.5	53.1	35.1	39.8	16.8	45.5	32.0		39.4	27.8
13.2	22.0	16.1	13.8	16.8	15.6	14.1	6.9	6.0	8.1	9.5	8.1	10.7	23.5	13.3		18.8	11.6
8.2	4.8	4.4	4.7	6.8	6.6	9.1	5.2	7.7	5.8	6.9	6.6	8.0	3.6	7.0		5.1	7.1
7.6	4.6	3.1	2.8	5.7	5.8	6.9	2.2	2.8	1.0	5.7	3.9	8.6	3.6	6.1		4.8	6.5
3.4	2.4	2.3	1.6	2.4	2.8	2.3	0.3	2.4	0.6	5.5	3.4	2.1	0.9	2.2		1.5	2.4
33.1	24.8	23.6	15.4	23.0	27.8	32.3	22.6	24.0	16.2	21.3	21.4	33.6	8.8	26.4		16.7	26.8
13.0	13.2	14.8	20.8	18.4	14.7	12.6	22.0	15.5	15.2	16.0	16.7	20.1	14.1	13.1		13.6	17.9
5.6	4.0	9.6	6.3	4.9	5.8	5.9	11.6	5.2	8.1	6.2	7.1	5.2	5.5	4.8		5.1	5.7
18.8	9.5	11.1	15.1	10.8	15.0	13.4	14.0	15.9	19.7	13.6	15.0	12.5	12.5	14.1		13.2	13.4
12.9	8.6	14.8	11.9	13.0	12.3	12.0	14.0	15.9	14.9	13.9	14.5	13.6	13.1	12.4		12.9	13.7
8.2	3.3	6.7	7.2	7.3	6.9	6.0	6.1	6.5	7.8	7.8	7.2	8.5	7.0	6.4		6.7	7.8
14.8	23.9	13.0	15.7	15.7	16.4	14.2	16.8	17.1	11.7	15.6	15.6	17.8	15.4	13.9		14.9	16.6
3.5	1.3	2.3	3.1	3.8	3.0	3.7	5.2	5.6	4.9	4.0	4.7	5.4	5.1	4.8		4.9	5.1
7.9	4.6	4.4	4.4	6.5	6.4	6.8	8.0	8.1	6.5	8.7	8.1	10.3	10.1	13.5		11.6	9.9
4.3	1.7	6.2	5.0	5.7	4.3	4.9	2.8	4.4	4.9	4.3	4.2	5.0	4.2	3.8		4.0	4.6
14.1	7.3	11.4	12.3	9.3	11.9	11.9	9.6	9.1	10.7	11.4	10.5	10.6	7.5	8.2		3.3	4.2
6.1	2.0	3.1	1.9	4.3	4.4	3.6	3.6	4.8	2.3	2.9	3.3	5.0	2.9	3.8		15.4	8.7
3.5	33.8	16.8	16.7	17.9	13.4	17.2	8.0	6.9	8.1	11.4	9.4	5.7	16.6	14.1		0.2	8.7
0.3	0.0	0.5	0.3	0.3	0.3	0.3	0.3	0.4	0.6	0.3	0.3	0.2	0.2	0.1		0.2	0.3

§Statistics are not presented for this group because too few records contained the specific data.

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APPENDIX TABLE A-3 (Continued)

Doctorates: Men

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos. and Marine Sci.	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Biosciences Subtotal	Health Sciences	Agricultural Sciences	LIFE SCIENCES	
<b>Total Men</b>	<b>24,646</b>	<b>1,349</b>	<b>1,554</b>	<b>626</b>	<b>882</b>	<b>741</b>	<b>5,152</b>	<b>5,175</b>	<b>527</b>	<b>2,513</b>	<b>3,040</b>	<b>424</b>	<b>847</b>	<b>4,311</b>	
Men as a Percent of Total Doctorates	%	62.0	87.4	72.7	79.2	77.0	84.4	79.3	90.9	62.4	59.2	59.7	35.3	76.6	58.3
U.S. Citizenship	%	58.8	53.3	59.1	57.3	42.2	46.2	52.6	37.3	62.4	66.5	65.8	53.8	43.2	60.1
Non-U.S., Permanent Visa		5.9	5.9	5.1	5.6	6.1	7.7	5.9	8.0	4.9	5.6	5.5	8.3	5.1	5.7
Non-U.S., Temporary Visa		31.9	37.7	32.3	32.9	47.8	43.6	38.1	50.7	39.6	25.8	26.6	32.5	49.9	31.8
Unknown		3.4	3.1	3.5	4.2	3.9	2.6	3.4	4.0	2.1	2.1	2.1	5.4	1.8	2.4
Married	%	60.4	49.3	53.5	65.0	54.3	57.4	54.5	61.4	56.0	59.0	58.5	62.7	73.1	61.7
Not Married		31.4	44.3	38.7	26.7	36.7	32.5	37.5	30.4	37.2	34.7	35.1	25.2	20.7	31.3
Unknown		8.3	6.4	7.8	8.3	9.0	10.1	8.0	8.2	6.8	6.4	12.0	6.3	7.0	
Median Age at Doct.	Yrs	33.2	30.4	29.9	33.6	31.1	32.1	30.9	31.7	30.5	31.8	31.5	34.9	34.7	32.4
Percent with Bacc. in Same Field as Doctorate	%	58.2	75.4	76.1	56.2	71.5	36.2	67.0	81.0	25.8	53.0	48.3	36.8	65.4	50.5
Percent with Masters	%	77.4	65.0	42.3	79.9	74.7	86.8	64.8	86.9	36.2	48.7	46.5	73.6	92.7	58.3
Median Time Lapse from Bacc. to Doct.	Yrs	9.9	7.8	7.3	10.5	8.6	9.3	8.3	8.9	8.0	8.7	8.6	11.0	10.8	9.2
Total Time Registered Time		6.9	6.7	5.9	7.4	6.7	6.8	6.5	6.3	6.4	6.9	6.8	7.1	6.5	6.8
Postdoctoral Study Plans	%	28.8	63.8	54.8	44.2	24.1	12.6	44.5	24.9	82.4	71.7	73.5	23.8	33.3	60.7
Fellowship		13.9	23.4	27.5	19.6	12.7	5.3	19.7	8.2	52.9	41.5	43.5	12.3	11.7	34.2
Research Assoc. Traineeship		12.3	38.3	26.2	23.2	8.5	6.2	23.1	15.3	20.5	20.2	20.3	8.5	19.8	19.0
Other Study		0.9	1.0	0.4	1.0	1.6	0.7	0.9	0.9	1.9	2.1	2.0	1.2	0.7	1.7
Planned Employment After Doctorate	%	1.7	1.1	0.7	0.5	1.4	0.4	0.9	0.5	7.0	7.9	7.7	1.9	1.1	5.8
Educ. Institution*		63.0	29.0	36.9	47.4	65.0	79.8	47.1	66.8	12.1	22.9	21.1	65.6	58.7	32.8
Industry/Business		34.8	9.0	5.7	19.2	47.1	36.7	19.7	20.2	3.0	10.7	9.4	30.7	23.8	14.3
Government		15.6	13.0	27.5	12.0	10.4	34.1	19.9	34.4	6.6	5.5	5.7	16.0	15.1	8.6
Nonprofit		5.9	3.1	2.0	11.5	2.4	3.2	3.7	6.9	1.1	3.9	3.4	9.0	14.0	6.1
Other & Unknown		2.9	0.6	0.2	1.3	0.9	1.2	0.7	1.1	0.8	1.4	1.3	3.5	0.9	1.4
Postdoc. Plans Unknown	%	3.9	3.2	1.6	3.5	4.2	4.5	3.1	4.2	0.6	1.4	1.2	6.4	4.7	2.4
Definite Postdoc. Study Seeking Postdoc. Study	%	8.2	7.3	8.3	8.3	10.9	7.7	8.4	8.3	5.5	5.4	5.4	10.6	8.0	6.4
Definite Employment Seeking Employment		18.9	41.6	40.7	28.4	13.8	9.2	30.3	12.5	64.1	55.1	56.7	15.6	17.9	45.0
Definite Employment Seeking Employment		9.9	22.2	14.0	15.8	10.3	3.4	14.2	12.4	18.2	16.6	16.8	8.3	15.3	15.7
Definite Employment Seeking Employment		41.1	14.7	25.7	33.7	37.4	52.2	29.6	37.6	8.5	16.0	14.7	47.6	40.0	22.9
Definite Employment Seeking Employment		22.0	14.3	11.3	13.7	27.6	27.5	17.5	29.2	3.6	7.0	6.4	17.9	18.7	9.9
<b>Employment Commitments After Doctorate†</b>		<b>10,123</b>	<b>198</b>	<b>399</b>	<b>211</b>	<b>330</b>	<b>387</b>	<b>1,945</b>	<b>45</b>	<b>401</b>	<b>446</b>	<b>202</b>	<b>339</b>	<b>987</b>	
Primary Activity‡	%														
R & D		34.2	58.6	72.2	53.6	37.3	58.1	56.7	64.1	60.0	48.1	49.3	42.6	54.3	49.6
Teaching		28.9	20.2	9.0	19.0	43.3	25.6	23.5	15.0	8.9	22.2	20.9	17.3	17.4	18.9
Administration		9.7	1.5	1.3	2.4	0.9	1.0	1.3	2.2	0.0	3.7	3.4	9.9	3.8	4.9
Prof. Services		8.8	4.5	4.8	10.4	5.2	1.8	4.9	5.2	13.3	8.2	8.7	14.9	8.8	10.0
Other		3.0	3.5	1.3	2.8	1.2	1.0	1.7	2.8	8.9	3.0	3.6	3.0	5.3	4.1
Secondary Activity	%														
R & D		22.9	14.6	9.8	21.8	37.6	20.4	20.8	16.0	13.3	21.4	20.6	19.3	18.0	19.5
Teaching		13.9	8.1	4.0	16.1	19.1	19.1	13.3	12.8	8.9	13.0	12.6	22.3	15.6	15.6
Administration		8.8	13.6	19.5	10.4	3.3	7.0	10.8	11.3	15.6	11.5	11.9	8.9	12.4	11.4
Prof. Services		6.3	5.1	7.5	8.1	3.6	7.2	6.4	8.2	2.2	7.7	7.2	10.4	8.0	8.1
Other		2.1	3.0	1.5	1.4	0.3	0.8	1.2	2.0	2.2	2.2	2.2	0.5	1.8	1.7
No Secondary Activity		30.5	43.9	46.1	30.3	23.9	33.1	35.5	39.0	48.9	29.4	31.4	26.2	33.9	31.2
Activity(ies) Unknown	%	15.5	11.6	11.5	11.8	12.1	12.4	11.9	10.8	8.9	14.7	14.1	12.4	10.3	12.5
<b>Region of Employment After Doctorate‡</b>															
New England	%	5.8	13.1	9.5	2.8	4.2	7.2	7.3	6.0	11.1	4.7	5.4	5.0	2.1	4.2
Middle Atlantic		12.5	14.1	17.0	6.6	11.8	20.2	14.9	11.5	8.9	11.0	10.8	9.4	4.4	8.3
East No. Central		12.4	8.6	18.3	8.1	14.8	8.8	12.5	11.5	11.1	7.5	7.8	16.3	7.1	9.3
West No. Central		6.7	1.6	7.0	4.3	6.1	5.4	5.8	4.0	8.9	7.0	7.2	6.9	10.9	8.4
South Atlantic		14.1	11.1	13.5	15.2	15.5	9.8	12.9	11.0	6.7	16.5	15.5	19.8	8.8	14.1
East So. Central		3.9	1.0	5.0	5.2	3.0	2.6	3.5	4.0	0.0	4.0	3.6	3.0	2.9	3.2
West So. Central		7.6	4.5	3.8	14.2	5.8	5.4	6.2	6.2	11.1	4.7	5.4	10.4	5.3	6.4
Mountain		4.8	4.5	2.8	11.8	5.7	3.6	5.3	5.9	4.4	4.5	4.5	2.5	5.3	4.4
Pacific & Insular		11.1	20.2	9.5	8.1	10.3	12.9	11.7	13.3	17.8	13.5	13.9	5.9	9.4	10.7
U.S., Region Unknown		3.3	5.1	4.0	2.4	2.7	2.3	3.2	2.6	8.9	5.0	5.4	3.5	1.2	3.5
Foreign		17.6	11.6	9.5	21.3	18.5	21.2	16.3	23.7	11.1	20.9	20.0	16.3	42.2	26.8
Region Unknown		0.4	0.5	0.0	0.0	0.6	0.5	0.5	0.0	0.7	0.7	1.0	0.3	0.6	

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note about this table in front of Appendix A.

\*Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.

†Includes only recipients with definite employment plans. Revisions to the survey form in 1990 appear to have resulted in a higher rate of nonresponse to the item on work activity than in previous years. Among men, the nonresponse rate in 1993 was 15.5% compared to 6.8% in 1989.

‡Includes only recipients with definite employment plans. See Table A-3 explanatory note for regional definitions.

APPENDIX TABLE A-3 (Continued)

Psychology	Economics	Anthropology and Sociology	Political Sci./Internat'l Rel.	Other Social Sciences	SOCIAL SCI. INCL. PSYCH.	TOTAL SCIENCES & ENGINEERING	History	Eng. and Amer. Lang. and Lit.	Foreign Lang. and Lit.	Other Humanities	HUMANITIES	EDUCATION	Business and Management	Other Professional Fields	Other Fields <sup>§</sup>	PROFESSIONAL/OTHER FIELDS	TOTAL NONSCIENCES
1,330	716	399	452	419	3,316	17,954	471	397	234	1,249	2,351	2,743	926	652	20	1,598	6,692
38.9	77.0	46.7	74.2	57.2	50.7	68.7	64.7	41.9	40.6	56.1	52.5	41.3	72.3	55.0	74.1	64.1	49.1
90.2	38.8	67.7	60.8	55.6	68.0	52.8	80.0	83.4	58.1	76.6	76.6	82.4	51.8	68.4		58.6	74.7
1.6	7.0	5.3	8.4	9.8	5.2	6.3	5.1	2.5	14.5	4.6	5.3	3.4	6.6	7.1		6.7	4.9
4.8	49.9	25.3	25.9	32.9	23.4	37.5	11.7	11.1	21.3	14.3	14.0	11.1	37.6	21.0		30.9	16.8
3.5	4.3	1.8	4.9	1.7	3.4	3.3	3.2	3.0	5.6	4.5	4.1	3.1	4.0	3.5		3.9	3.6
53.5	56.8	59.1	56.2	61.6	56.3	58.6	58.2	58.7	47.9	53.5	54.7	73.1	65.1	70.4		66.9	65.2
37.5	35.8	33.1	33.8	29.4	35.1	33.5	32.7	33.5	41.0	36.4	35.6	17.9	25.9	20.6		23.9	25.6
9.0	7.4	7.8	10.0	9.1	8.7	7.9	9.1	7.8	11.1	10.1	9.6	9.0	9.0	9.0		9.2	9.3
33.7	32.3	36.3	34.1	36.0	34.1	32.0	35.6	35.4	34.3	35.6	35.5	42.3	35.1	38.9		36.5	38.5
63.0	58.5	45.9	50.2	24.8	53.4	64.6	61.4	67.8	43.2	52.0	55.7	33.2	37.5	26.1		32.5	41.0
79.1	76.7	88.2	84.5	90.0	81.8	72.7	88.5	88.4	85.9	85.3	86.5	94.1	84.8	92.6		87.9	90.0
9.9	9.2	12.3	10.4	11.7	10.3	9.0	11.8	11.6	10.7	12.0	11.7	18.4	11.5	14.7		12.4	14.3
7.1	6.8	8.4	8.0	7.8	7.4	6.6	8.4	8.0	7.9	8.2	8.2	8.1	7.1	8.1		7.4	8.0
24.1	7.3	17.0	10.0	11.9	16.1	37.5	10.6	5.0	4.7	6.3	6.8	4.6	3.3	6.3		4.8	5.4
15.5	3.6	12.0	7.3	6.7	10.3	18.1	6.4	3.0	2.1	3.7	4.0	2.1	0.9	3.2		1.9	2.7
4.9	2.9	3.5	1.8	4.3	3.8	16.3	1.3	0.3	0.9	1.3	1.1	1.5	1.4	1.7		1.6	1.4
2.0	0.1	0.5	0.4	0.5	1.0	1.1	0.6	0.0	0.9	0.3	0.4	0.4	0.9	0.9		0.9	0.5
1.7	0.6	1.0	0.4	0.5	1.1	2.0	2.3	1.8	0.9	1.0	1.4	0.7	0.2	0.5		0.3	0.9
67.6	84.4	76.4	79.4	80.2	75.5	54.6	80.5	86.1	83.3	83.7	83.4	87.1	89.1	84.0		86.7	85.7
26.2	49.4	59.9	59.5	48.2	42.6	22.8	67.5	78.3	76.9	65.6	69.2	67.6	73.1	48.3		62.4	66.9
14.8	9.6	3.5	4.2	8.4	10.1	19.5	1.7	3.5	2.1	4.2	3.4	4.3	10.8	6.1		9.1	5.1
10.5	12.8	4.8	6.6	11.7	9.9	6.3	4.7	0.5	0.9	1.8	2.0	6.6	1.9	8.4		4.6	4.5
10.2	3.2	3.8	4.0	5.7	6.5	2.0	2.1	0.8	0.4	7.8	4.8	3.9	0.9	17.0		7.4	5.0
5.9	9.2	4.5	5.1	6.2	6.4	3.9	4.5	3.0	3.0	4.2	4.0	4.7	2.4	4.1		3.1	4.0
8.3	8.4	6.5	10.6	7.9	8.4	7.9	8.9	8.8	12.0	10.0	9.8	8.3	7.6	9.7		8.6	8.9
17.0	5.2	8.8	4.0	6.0	10.3	25.0	5.7	2.3	2.6	3.5	3.7	2.2	1.1	3.1		1.9	2.6
7.1	2.1	8.3	6.0	6.0	5.9	12.5	4.9	2.8	2.1	2.8	3.1	2.5	2.3	3.2		2.8	2.8
47.4	58.0	45.4	49.3	48.7	49.9	34.0	47.8	51.6	51.3	50.2	50.1	64.7	70.1	62.0		66.3	60.0
20.2	26.4	31.1	30.1	31.5	25.6	20.5	32.7	34.5	32.1	33.5	33.3	22.4	19.0	22.1		20.3	25.7
631	415	181	223	204	1,654	6,111	225	205	120	627	1,177	1,775	649	404		1,060	4,012
14.4	46.3	23.8	22.0	30.9	26.5	49.7	9.8	5.9	10.0	9.6	9.0	5.4	27.6	9.7		20.8	10.5
14.6	25.3	43.6	43.9	33.8	26.8	20.9	52.9	71.7	69.2	56.9	60.0	25.7	48.4	41.3		45.6	41.0
3.0	4.1	7.7	5.4	8.3	4.8	3.1	5.3	3.9	0.8	4.8	4.3	36.7	3.9	14.9		8.0	19.6
51.3	6.5	4.4	2.7	6.4	22.9	10.7	1.3	1.0	0.8	6.2	3.8	7.2	2.3	12.6		6.3	6.0
2.7	3.6	3.3	2.7	3.4	3.1	2.8	4.4	1.5	2.5	4.8	3.9	2.0	2.5	7.7		4.4	3.2
19.0	26.3	34.3	37.2	27.5	26.0	20.5	36.9	39.0	50.0	30.9	35.4	15.0	43.5	25.5		36.4	26.7
14.4	22.2	14.9	14.3	17.2	16.7	14.4	8.4	5.9	9.2	11.2	9.5	11.2	24.0	15.1		20.5	13.2
9.8	5.3	3.9	5.4	4.9	6.8	10.0	4.4	9.8	6.7	7.8	7.4	7.4	4.0	8.9		5.9	7.0
7.3	4.6	3.3	2.7	4.9	5.3	6.9	2.2	1.5	0.8	6.4	4.2	6.8	3.1	5.9		4.2	5.3
2.7	2.4	1.1	2.2	3.4	2.5	1.9	0.0	3.4	0.8	5.1	3.4	1.8	0.9	3.2		1.9	2.3
32.8	25.1	25.4	14.8	25.0	26.7	33.5	21.8	24.4	15.8	20.9	21.2	34.8	9.1	27.5		16.2	25.9
13.9	14.2	17.1	23.3	17.2	16.0	12.8	26.2	16.1	16.7	17.7	18.9	22.9	15.4	13.9		14.8	19.6
5.1	3.1	8.8	6.3	6.4	5.3	5.8	12.0	5.9	6.7	5.6	7.0	5.4	5.4	3.2		4.5	5.6
17.0	10.1	9.4	15.7	8.3	13.2	12.3	12.4	14.6	16.7	11.8	12.9	12.9	13.3	10.9		12.4	12.8
13.0	9.2	12.7	10.8	11.8	11.5	11.4	14.2	17.1	15.0	14.8	15.1	14.3	12.3	10.6		11.8	13.9
9.5	3.9	6.6	8.1	4.9	7.0	5.0	7.6	6.3	8.3	8.1	7.7	8.8	6.9	6.2		6.6	7.9
14.1	22.4	13.3	13.9	13.7	16.0	13.3	16.0	15.6	7.5	15.9	15.0	15.5	14.8	14.9		15.0	15.2
4.0	1.0	1.7	2.7	4.9	2.9	3.4	3.6	3.9	5.0	3.5	3.7	4.8	5.5	5.2		5.4	4.6
8.7	4.3	5.5	3.6	7.4	6.4	6.3	8.4	9.8	9.2	9.4	9.3	9.4	8.2	15.1		10.8	9.7
5.1	1.4	5.5	4.0	4.4	4.0	5.0	2.2	3.9	5.0	3.3	3.4	5.5	3.5	3.7		3.6	4.4
12.7	6.7	11.0	12.6	12.3	10.9	11.9	9.3	8.3	12.5	12.3	11.0	10.9	7.1	6.2		6.7	9.8
6.0	1.4	2.8	2.2	4.4	3.8	3.2	4.0	3.9	1.7	2.7	3.1	3.7	2.8	3.5		3.1	3.3
4.4	36.4	22.1	19.7	21.1	18.5	20.9	9.8	10.2	12.5	12.1	11.4	8.6	20.0	20.5		20.1	12.4
0.5	0.0	0.6	0.4	0.5	0.4	0.4	0.4	0.5	0.0	0.3	0.3	0.3	0.2	0.0		0.1	0.3

§Statistics are not presented for this group because too few records contained the specific data.



APPENDIX TABLE A-3 (Continued)

Doctorates: Women

	Total	Physics and Astronomy	Chemistry	Earth, Atmos. and Marine Sci.	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Biosciences Subtotal	Health Sciences	Agricultural Sciences	LIFE SCIENCES	
<b>Total Women</b>	<b>15,108</b>	<b>194</b>	<b>585</b>	<b>164</b>	<b>264</b>	<b>137</b>	<b>1,344</b>	<b>521</b>	<b>318</b>	<b>1,732</b>	<b>2,050</b>	<b>777</b>	<b>259</b>	<b>3,086</b>	
Women as a Percent of Total Doctorates	%	38.0	12.6	27.3	20.8	23.0	15.6	20.7	9.1	37.6	40.8	40.3	64.7	23.4	41.7
U.S. Citizenship	%	78.8	46.9	60.5	69.5	47.0	59.9	56.9	56.6	64.2	71.7	70.5	83.9	52.5	72.4
Non-U.S., Permanent Visa		5.2	13.4	8.4	4.9	15.2	19.7	11.2	10.0	6.3	6.6	6.6	3.3	5.0	5.6
Non-U.S., Temporary Visa		13.7	38.7	29.4	20.7	36.0	19.0	29.9	30.9	28.9	19.9	21.3	9.8	40.5	20.0
Unknown		2.3	1.0	1.7	4.9	1.9	1.5	2.0	2.5	0.6	1.7	1.6	3.0	1.9	1.9
Married	%	52.7	52.6	50.6	47.6	54.5	59.1	52.2	55.3	51.6	53.1	52.8	55.5	50.2	53.3
Not Married		38.3	37.1	41.4	42.1	39.0	26.3	38.8	37.8	42.5	40.0	40.4	35.0	41.7	39.1
Unknown		9.0	10.3	8.0	10.4	6.4	14.6	9.0	6.9	6.0	6.9	6.9	9.5	8.1	7.6
Median Age at Doct.	Yrs	36.1	30.8	29.3	32.5	30.8	34.3	30.5	30.2	30.1	31.4	31.1	40.0	33.7	32.6
Percent with Bacc. in Same Field as Doctorate	%	51.5	83.0	79.0	51.2	79.2	29.9	71.2	70.6	24.8	58.8	53.5	58.4	44.0	54.0
Percent with Masters	%	80.5	74.2	44.4	79.3	79.9	84.7	64.1	85.4	32.4	49.5	46.8	89.6	89.2	61.1
Median Time Lapse from Bacc. to Doct.															
Total Time	Yrs	12.2	8.4	6.9	9.9	8.4	11.2	8.1	8.0	7.7	8.7	8.5	15.3	10.5	9.7
Registered Time		7.5	7.0	5.6	7.8	6.8	7.9	6.5	6.4	6.3	6.8	6.7	7.8	6.9	6.9
Postdoctoral Study Plans	%	22.5	57.2	47.5	43.3	25.0	16.8	40.8	27.1	81.4	72.7	74.1	14.5	32.4	55.6
Fellowship		13.6	25.8	23.9	20.7	12.5	8.0	19.9	11.9	56.0	46.8	48.2	8.4	13.5	35.3
Research Assoc.		6.6	29.9	22.2	22.0	10.6	8.8	19.6	13.2	20.8	20.4	3.9	17.4	16.0	
Traineeship		0.8	0.5	0.7	0.0	0.8	0.0	0.5	0.6	1.6	1.9	1.9	0.4	1.5	
Other Study		1.5	1.0	0.7	0.6	1.1	0.0	0.7	1.3	3.1	3.6	3.6	1.9	0.0	
Planned Employment After Doctorate	%	69.7	30.9	45.0	47.0	69.7	75.2	51.1	65.6	15.1	22.6	21.4	78.0	58.3	38.8
Educ. Institution*		46.7	11.9	10.9	17.7	53.8	47.4	24.0	23.0	6.9	10.8	10.2	51.2	26.3	21.9
Industry/Business		8.6	10.3	28.7	11.6	8.7	22.6	19.4	30.5	6.0	5.1	5.3	6.6	13.1	6.3
Government		4.6	4.1	1.2	11.6	1.9	0.7	3.0	5.6	0.9	2.9	2.6	8.4	8.1	4.5
Nonprofit		4.2	0.5	0.7	0.0	1.1	0.7	0.7	1.0	0.7	1.2	1.1	7.7	2.7	2.9
Other & Unknown		5.6	4.1	3.4	6.1	4.2	3.6	4.0	5.6	0.6	2.5	2.2	4.1	8.1	3.2
Postdoc. Plans Unknown	%	7.8	11.9	7.5	9.8	5.3	8.0	8.0	7.3	5.5	4.7	4.5	7.5	9.3	5.6
Definite Postdoc. Study Seeking Postdoc. Study	%	15.5	39.7	33.5	25.0	16.3	11.7	27.8	14.6	61.6	55.9	56.8	8.6	17.0	41.3
Definite Employment Seeking Employment		7.0	17.5	14.0	18.3	8.7	5.1	13.1	12.5	19.8	16.9	17.3	5.9	15.4	14.3
Definite Employment Seeking Employment		47.1	13.4	29.7	27.4	44.7	51.1	32.2	36.7	9.1	14.6	13.8	57.1	33.6	26.3
Definite Employment Seeking Employment		22.6	17.5	15.2	19.5	25.0	24.1	18.9	29.0	6.0	8.0	7.7	20.8	24.7	12.4
<b>Employment Commitments After Doctorate</b>		<b>7,112</b>	<b>26</b>	<b>174</b>	<b>45</b>	<b>118</b>	<b>70</b>	<b>433</b>	<b>191</b>	<b>29</b>	<b>253</b>	<b>282</b>	<b>444</b>	<b>87</b>	<b>813</b>
Primary Activity†															
R & D	%	17.0	57.7	64.9	42.2	28.0	48.6	49.4	57.1	48.3	41.5	42.2	27.3	48.3	34.7
Teaching		39.7	30.8	17.2	26.7	54.2	32.9	31.6	18.3	24.1	24.5	24.5	42.1	23.0	33.9
Administration		13.9	0.0	1.1	0.0	0.8	1.4	0.9	1.0	3.4	3.2	3.2	12.8	6.9	8.9
Prof. Services		12.3	0.0	3.4	13.3	3.4	2.9	4.2	5.2	10.3	11.1	11.0	7.9	10.3	9.2
Other		2.3	7.7	2.3	4.4	1.7	0.0	2.3	3.1	0.0	5.5	5.0	0.9	4.6	2.7
Secondary Activity															
R & D	%	28.2	19.2	12.6	31.1	50.0	32.9	28.4	19.9	20.7	21.3	21.3	34.5	23.0	28.7
Teaching		11.5	3.8	4.6	4.4	13.6	20.0	9.5	15.2	6.9	11.9	11.3	15.3	11.5	13.5
Administration		7.2	7.7	14.9	6.7	5.1	1.4	8.8	5.8	10.3	11.1	11.0	7.7	6.9	8.7
Prof. Services		7.3	11.5	4.0	4.4	1.7	2.9	3.7	4.7	3.4	8.3	7.8	10.6	6.9	9.2
Other		2.7	11.5	2.3	2.2	1.7	0.0	2.3	4.2	0.0	2.0	1.8	3.6	2.3	2.8
No Secondary Activity		28.5	42.3	50.6	37.8	16.1	28.6	35.8	35.1	44.8	31.2	32.6	19.4	42.5	26.4
Activity(ies) Unknown	%	14.6	3.8	10.9	13.3	11.9	14.3	11.5	15.2	13.8	14.2	14.2	9.0	6.9	10.6
<b>Region of Employment After Doctorate‡</b>															
New England	%	5.9	0.0	4.6	6.7	6.8	5.7	5.3	8.9	3.4	6.7	6.4	4.1	4.6	4.9
Middle Atlantic		14.6	7.7	21.3	8.9	12.7	25.7	17.6	15.7	10.3	14.2	13.8	12.4	5.7	12.2
East No. Central		13.5	15.4	16.1	2.2	15.3	17.1	14.5	11.5	13.8	10.7	11.0	16.4	6.9	13.5
West No. Central		7.1	3.8	8.0	4.4	5.9	11.4	7.4	8.4	0.0	2.4	2.1	5.0	2.3	3.7
South Atlantic		17.2	11.5	10.9	17.8	19.5	5.7	13.2	11.5	6.9	17.0	16.0	18.7	18.4	17.7
East So. Central		5.0	7.7	4.0	0.0	5.9	2.9	4.2	5.8	0.0	5.9	5.3	6.5	5.7	6.0
West So. Central		9.2	7.7	6.3	17.8	5.1	10.0	7.9	9.4	6.9	10.3	9.9	11.7	4.6	10.3
Mountain		4.7	15.4	1.7	8.9	4.2	5.7	4.6	4.7	6.9	4.0	4.3	4.5	5.7	4.6
Pacific & Insular		11.0	7.7	14.9	22.2	7.6	5.7	11.8	9.9	24.1	12.6	13.8	9.0	14.9	11.3
U.S., Region Unknown		4.8	7.7	5.7	2.2	2.5	4.3	4.4	2.1	10.3	4.3	5.0	3.6	3.4	4.1
Foreign		6.8	15.4	6.3	8.9	14.4	5.7	9.2	11.5	17.2	11.9	12.4	7.9	27.6	11.6
Region Unknown		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note about this table in front of Appendix A.

\*Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.

†Includes only recipients with definite employment plans. Revisions to the survey form in 1990 appear to have resulted in a higher rate of nonresponse to the item on work activity than in previous years. Among women, the nonresponse rate in 1993 was 14.6% compared to 5.3% in 1989.

‡Includes only recipients with definite employment plans. See Table A-3 explanatory note for regional definitions.

## Appendix A

APPENDIX TABLE A-3 (Continued)

Psychology	Economics	Anthropology and Sociology	Political Sci./Internat'l Rel.	Other Social Sciences	SOCIAL SCI. INCL. PSYCH.	TOTAL SCIENCES & ENGINEERING	History	Eng. and Amer. Lang. and Lit.	Foreign Lang. and Lit.	Other Humanities	HUMANITIES	EDUCATION	Business and Management	Other Professional Fields	Other Fields <sup>s</sup>	PROFESSIONAL/OTHER FIELDS	TOTAL NONSCIENCES
<b>2,089</b>	<b>214</b>	<b>456</b>	<b>157</b>	<b>313</b>	<b>3,229</b>	<b>8,180</b>	<b>257</b>	<b>551</b>	<b>343</b>	<b>979</b>	<b>2,130</b>	<b>3,904</b>	<b>354</b>	<b>533</b>	<b>7</b>	<b>894</b>	<b>6,928</b>
61.1	23.0	53.3	25.8	42.8	49.3	31.3	35.3	58.1	59.4	43.9	47.5	58.7	27.7	45.0	25.9	35.9	50.9
89.4	51.4	78.3	72.6	76.7	83.2	73.1	86.4	88.6	70.0	77.5	80.2	89.3	80.2	81.6		81.0	85.5
3.3	9.3	7.5	5.7	6.4	4.7	6.5	3.5	3.1	15.5	6.4	6.7	2.1	4.5	3.9		4.3	3.8
4.0	37.9	12.9	15.9	15.3	9.2	18.1	8.6	6.9	12.5	13.9	11.2	6.2	12.7	11.8		12.1	8.5
3.3	1.4	1.3	5.7	1.6	2.8	2.3	1.6	1.5	2.0	2.1	1.9	2.4	2.5	2.6		2.7	2.3
47.7	46.7	51.8	47.1	53.7	48.8	51.4	51.4	47.5	49.6	50.6	49.7	57.1	55.9	50.1		52.1	54.2
42.2	42.1	41.4	38.9	38.0	41.5	40.0	40.1	43.0	45.2	41.3	42.2	33.1	35.0	38.3		37.1	36.4
10.1	11.2	6.8	14.0	8.3	9.7	8.6	8.6	9.4	5.2	8.2	8.1	9.9	9.0	11.6		10.7	9.4
33.9	30.5	37.2	34.1	38.4	34.4	32.6	35.9	36.8	35.3	35.6	35.8	43.6	37.6	40.6		39.0	41.0
60.2	62.6	49.6	47.1	16.0	53.9	57.8	53.7	65.7	58.3	52.9	57.2	40.3	34.5	26.3		29.3	44.1
78.7	72.4	90.1	79.6	91.4	81.2	71.1	87.9	89.3	89.2	88.3	88.6	93.8	82.2	93.4		88.8	91.6
10.0	8.3	13.0	11.3	14.0	10.7	9.6	12.5	12.3	11.3	12.0	12.0	19.7	13.1	16.9		15.2	17.1
7.2	6.7	9.2	8.0	7.9	7.5	7.0	8.9	8.3	8.4	8.3	8.4	8.2	7.4	7.9		7.7	8.2
24.6	7.5	17.1	8.9	10.9	20.3	37.4	8.9	6.5	7.0	8.4	7.7	3.7	1.1	4.5		3.2	4.9
17.7	4.7	12.1	5.7	5.8	14.3	23.0	6.2	2.9	3.5	4.7	4.2	1.6	0.6	2.6		1.8	2.4
3.2	2.3	3.9	1.3	4.5	3.3	11.4	1.2	0.5	1.2	1.1	1.0	1.1	0.6	0.6		0.7	1.0
2.3	0.0	0.0	1.3	0.0	1.6	1.3	0.0	0.4	0.6	0.3	0.3	0.0	0.0	0.8		0.4	0.3
1.4	0.5	1.1	0.6	0.6	1.2	1.8	1.6	2.7	1.7	2.2	2.2	0.8	0.0	0.6		0.3	1.2
66.2	86.0	77.2	77.7	80.5	71.0	55.2	84.8	86.0	85.7	84.1	84.9	87.7	91.2	85.2		87.5	86.8
25.8	52.3	54.4	64.3	53.0	36.1	27.9	68.5	77.7	75.8	67.8	71.7	67.9	78.3	59.5		67.1	69.0
13.6	7.0	6.4	5.1	6.4	11.0	11.8	3.9	2.7	2.6	5.1	3.9	4.8	6.5	6.9		6.7	4.8
7.3	10.3	3.9	5.7	4.8	6.7	5.2	1.9	0.4	0.3	1.0	0.8	5.2	2.3	6.4		4.7	3.8
11.6	3.7	4.6	1.9	6.4	9.1	4.9	3.1	0.2	0.9	3.8	2.3	3.7	0.6	6.6		4.1	3.3
7.9	12.6	7.9	0.6	9.9	8.0	5.4	7.4	5.1	6.1	6.3	6.1	6.1	3.1	5.8		4.8	5.9
9.2	6.5	5.7	13.4	8.6	8.7	7.3	6.2	7.4	7.3	7.6	7.3	8.6	7.6	10.3		9.3	8.3
17.3	6.1	9.2	5.1	6.1	13.8	26.5	4.7	3.3	3.5	4.2	3.9	1.7	0.6	2.8		1.9	2.4
7.3	1.4	7.9	3.8	4.8	6.6	10.9	4.3	3.3	3.5	4.2	3.8	1.9	0.6	1.7		1.3	2.4
42.5	60.7	45.0	60.5	52.7	45.9	35.7	53.7	52.8	55.1	50.5	52.2	63.8	73.7	61.5		66.1	60.5
23.6	25.2	32.2	17.2	27.8	25.1	19.5	31.1	33.2	30.6	33.6	32.7	23.9	17.5	23.6		21.4	26.3
<b>888</b>	<b>130</b>	<b>205</b>	<b>95</b>	<b>165</b>	<b>1,483</b>	<b>2,920</b>	<b>138</b>	<b>291</b>	<b>189</b>	<b>494</b>	<b>1,112</b>	<b>2,489</b>	<b>261</b>	<b>328</b>		<b>591</b>	<b>4,192</b>
12.3	45.4	30.2	15.8	24.8	19.3	30.5	9.4	4.1	7.9	6.3	6.4	6.0	25.3	10.4		17.1	7.7
17.7	34.6	42.9	57.9	37.6	27.4	29.3	66.7	73.2	71.4	70.4	70.9	35.2	57.5	47.3		51.8	47.0
4.7	2.3	4.4	6.3	7.3	4.9	5.1	3.6	4.8	4.2	2.8	3.7	29.5	3.8	17.1		11.2	20.1
50.3	3.8	6.8	3.2	9.7	32.7	20.1	1.4	1.4	1.6	3.0	2.2	8.8	1.9	12.2		7.6	6.9
2.7	3.8	2.9	2.1	0.6	2.6	2.6	3.6	1.4	0.5	3.6	2.5	2.3	0.8	0.9		0.8	2.2
23.1	34.6	33.2	49.5	26.1	27.5	27.5	47.1	43.3	55.0	40.5	44.5	18.0	50.6	39.9		44.7	28.8
12.4	21.5	17.1	12.6	16.4	14.3	13.4	4.3	6.2	7.4	7.3	6.7	10.4	22.2	11.0		15.9	10.2
7.1	3.1	4.9	3.2	9.1	6.4	7.4	6.5	6.2	5.3	5.7	5.8	8.5	2.7	4.6		3.7	7.1
7.9	4.6	2.9	3.2	6.7	6.5	6.7	2.2	3.8	1.1	4.9	3.6	9.9	5.0	6.4		5.8	7.6
3.9	2.3	3.4	0.0	1.2	3.2	3.0	0.7	1.7	0.5	6.1	3.3	2.4	0.8	0.9		0.8	2.4
33.3	23.8	25.9	16.8	20.6	29.0	29.7	23.9	23.7	16.4	21.9	21.7	32.7	8.0	25.0		17.6	27.7
12.3	10.0	12.7	14.7	20.0	13.1	12.3	15.2	15.1	14.3	13.8	14.4	18.2	10.7	12.2		11.5	16.2
6.0	6.9	10.2	6.3	3.0	6.3	6.0	10.9	4.8	9.0	6.9	7.2	5.1	5.7	6.7		6.3	5.8
20.2	7.7	12.7	13.7	13.9	10.9	15.6	16.7	16.8	21.7	16.0	17.3	12.3	10.7	18.0		14.7	14.0
12.8	6.9	16.6	14.7	14.5	13.1	13.4	13.8	15.1	14.8	12.8	13.8	13.2	14.9	14.6		14.9	13.6
7.2	1.5	6.8	5.3	10.3	6.9	6.2	3.6	6.5	7.4	7.3	6.7	8.4	7.3	6.7		6.9	7.7
15.3	28.5	12.7	20.0	18.2	16.7	16.1	18.1	18.2	14.3	15.2	16.2	19.5	16.9	12.8		14.7	18.0
3.2	2.3	2.9	4.2	2.4	3.0	4.2	8.0	6.9	4.8	4.7	5.7	5.8	3.8	4.3		4.1	5.5
7.3	5.4	3.4	6.3	5.5	6.3	7.9	7.2	6.9	4.8	4.8	7.7	6.9	11.0	11.6		13.0	10.2
3.8	2.3	6.8	7.4	7.3	4.7	4.7	3.6	4.8	4.8	5.5	4.9	4.6	5.7	4.0		4.7	4.7
15.1	9.2	11.7	11.6	6.7	12.9	12.1	10.1	9.6	9.5	10.3	10.0	10.4	8.4	10.7		9.6	10.2
6.2	3.8	3.4	1.1	4.2	5.1	4.5	2.9	5.5	2.6	3.0	3.6	6.0	3.1	4.3		3.7	5.0
2.8	25.4	12.2	9.5	13.9	7.8	9.3	5.1	4.5	5.3	10.5	7.4	3.6	8.0	6.1		6.9	5.1
0.1	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.3	1.1	0.2	0.4	0.2	0.4	0.3		0.3	0.2

<sup>s</sup>Statistics are not presented for this group because too few records contained the specific data.

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX TABLE A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1993

	Total				Native American	Asian				Black				
	Total*	Non-U.S.				Total	Total*	Non-U.S.			Total*	Non-U.S.		
		U.S.	Perm.	Temp.				U.S.	Perm.	Temp.		U.S.	Perm.	Temp.
<b>Total Number</b>	<b>39,754</b>	<b>26,386</b>	<b>2,250</b>	<b>9,923</b>	<b>120</b>	<b>8,653</b>	<b>891</b>	<b>1,118</b>	<b>6,595</b>	<b>1,606</b>	<b>1,106</b>	<b>169</b>	<b>319</b>	
Male	% 62.0	54.9	64.9	79.2	50.8	76.3	62.2	64.9	80.2	52.2	39.8	81.7	78.4	
Female	% 38.0	45.1	35.1	20.8	49.2	23.7	37.8	35.1	19.8	47.8	60.2	18.3	21.6	
<b>Doctoral Field</b>														
Physical Sciences	% 16.3	13.2	20.2	23.8	9.2	24.3	20.4	23.3	25.0	5.5	3.7	10.7	9.4	
Engineering	14.3	8.4	20.7	28.0	1.7	30.0	24.5	27.5	31.2	5.1	3.7	5.3	9.7	
Life Sciences	18.6	18.3	18.6	20.0	12.5	20.5	24.6	20.8	20.0	15.6	11.0	17.8	30.4	
Social Sciences	16.5	18.7	14.4	10.8	15.8	9.6	11.7	9.4	9.3	18.7	18.5	22.5	17.2	
Humanities	11.3	13.3	11.9	5.7	10.8	4.4	6.7	6.5	3.7	9.5	8.6	10.1	12.5	
Education	16.7	21.8	7.8	5.5	41.7	5.2	9.2	5.2	4.7	37.8	46.3	24.3	15.4	
Professional/Other	6.3	6.3	6.4	6.1	8.3	6.0	2.9	7.4	6.1	7.8	8.1	9.5	5.3	
<b>Median Age at Doct.</b>	Yrs 34.1	35.1	33.9	32.6	39.9	32.7	31.3	33.6	32.6	39.5	41.0	37.5	36.9	
<b>Median Time Lapse from Bacc. to Doct.</b>														
Total Time	Yrs 10.5	11.5	10.3	9.7	13.8	9.8	8.4	10.4	9.8	14.1	16.5	11.1	11.4	
Registered Time	7.1	7.3	7.4	6.6	6.8	6.8	6.8	7.4	6.7	7.4	7.9	7.2	6.6	
<b>Graduate School Support†</b>														
GI Bill	% 1.0	1.5	0.1	0.0	0.8	0.1	1.1	0.0	0.0	1.4	2.0	0.0	0.0	
Other Federal‡	9.6	13.0	5.0	3.0	18.3	3.4	17.1	3.2	1.6	13.4	13.2	5.9	18.2	
State Government	1.0	1.3	0.4	0.5	2.5	0.4	0.8	0.3	0.4	2.1	2.7	0.6	0.6	
Foreign Government	4.1	0.5	6.0	13.8	0.8	7.0	0.2	3.0	8.6	4.9	0.1	7.7	19.7	
National Fellow (nonfed.)	4.9	5.6	5.0	3.5	10.0	3.0	7.1	3.2	2.5	11.1	10.8	6.5	15.0	
Univ. Teaching Asst.	% 48.8	49.1	55.5	52.3	36.7	52.0	47.1	53.3	52.7	32.8	28.9	45.0	40.4	
Univ. Research Asst.‡	49.2	44.4	58.0	65.7	34.2	69.1	61.4	66.4	70.9	30.1	25.0	41.4	42.0	
Other University	24.6	28.1	23.9	18.4	21.7	18.5	25.8	20.5	17.2	29.6	33.4	24.9	19.7	
Business/Employer	6.4	8.3	3.6	2.6	5.8	2.7	7.5	3.8	1.9	5.6	6.8	3.6	2.8	
Self/Family Sources	69.0	80.7	63.5	47.0	88.3	49.7	70.4	55.7	46.2	70.6	80.3	66.3	41.4	
GSL (Stafford) Loan	% 21.4	31.2	12.0	0.2	28.3	3.1	22.8	5.5	0.1	28.6	35.6	37.3	0.6	
Other Loans	8.1	11.2	5.4	1.4	10.8	1.6	8.8	2.2	0.6	10.9	14.2	8.3	1.3	
Other Sources	4.1	4.4	3.4	3.8	6.7	2.6	3.1	2.7	2.5	4.0	4.1	1.8	5.3	
Unknown Sources	6.1	3.2	2.9	3.6	4.2	3.0	2.1	3.3	2.6	5.0	5.3	1.2	4.4	
<b>Postdoctoral Plans</b>														
Postdoctoral Study	% 26.4	23.3	30.3	36.8	14.2	38.1	37.1	31.9	39.5	17.0	14.5	21.9	23.8	
Planned Employment	% 65.6	71.9	63.0	56.8	80.0	55.7	58.4	60.2	54.8	75.8	78.5	71.6	69.9	
Educ. Institution§	39.3	44.2	35.4	31.9	56.7	28.9	24.6	29.9	29.5	52.6	56.7	45.0	43.3	
Industry/Business	12.9	12.7	17.2	14.0	7.5	17.3	22.8	21.4	15.9	6.2	5.5	11.2	6.0	
Government	5.4	6.0	2.5	4.9	11.7	4.1	5.3	2.0	4.3	7.4	7.3	6.5	7.8	
Nonprofit	3.4	4.4	2.3	1.2	2.5	1.2	2.2	1.8	1.0	3.1	3.5	3.0	1.9	
Other & Unknown	4.6	4.6	5.6	4.8	1.7	4.2	3.5	5.2	4.1	6.6	5.4	5.9	11.0	
Postdoc. Plans Unknown	% 8.0	4.8	6.7	6.4	5.8	6.2	4.5	7.9	5.7	7.2	7.1	6.5	6.3	
Definite Postdoc. Study	% 17.6	17.4	16.4	20.6	9.2	21.1	26.3	16.8	21.2	9.8	9.9	7.7	11.0	
Seeking Postdoc. Study	8.8	5.9	13.9	16.2	5.0	17.0	10.9	15.1	18.2	7.2	4.5	14.2	12.9	
Definite Employment	43.4	50.5	31.8	32.0	54.2	29.7	37.3	29.1	28.9	48.0	53.3	27.2	41.4	
Seeking Employment	22.2	21.5	31.2	24.8	25.8	26.0	21.1	31.1	25.9	27.8	25.2	44.4	28.5	
<b>Employment Location After Doctorate   </b>														
U.S.	17,235	13,321	716	3,179	65	2,569	332	325	1,906	771	589	46	132	
% 86.6	97.6	83.0	41.7	98.5	57.3	91.3	84.0	47.0	85.7	98.8	76.1	32.6		
Foreign	13.1	2.2	16.8	57.6	1.5	42.0	8.4	15.4	52.3	13.6	0.7	23.9	65.9	
Unknown	0.3	0.2	0.3	0.7	0.0	0.7	0.3	.6	0.8	0.6	0.5	0.0	1.5	

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A for a discussion of past changes in the survey question on race/ethnicity.

\*Includes individuals who did not report their citizenship at time of doctorate.

†In this table a recipient counts once in each source category from which he or she received support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent. (Data on the "primary" source of support for doctorate recipients are presented in the body of the report.)

‡Because federal support obtained through the university cannot always be determined, no distinction is made between federal and university research assistants in this table. Both types of support are grouped under "University Research Assistant." Federal loans are counted in the categories for loans.

§Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.

|| Includes only recipients with definite employment plans.

APPENDIX TABLE A-4 (Continued)

White				Puerto Rican	Mexican American				Other Hispanic				Unknown Race		
Total*	Non-U.S.				Total	Total*	Non-U.S.			Total*	Non-U.S.			Total*	U.S.
	U.S.	Perm.	Temp.	U.S.			Perm.	Temp.	U.S.		Perm.	Temp.			
26,386	23,202	791	2,293	238	281	225	22	34	910	371	116	419	1,560	234	296
57.3	55.3	60.6	76.4	51.7	56.6	51.6	68.2	82.4	64.8	49.3	67.2	78.3	73.8	73.5	80.1
42.7	44.7	39.4	23.6	48.3	43.4	48.4	31.8	17.6	35.2	50.7	32.8	21.7	26.2	26.5	19.9
14.4	13.4	17.7	23.4	8.8	8.5	5.3	31.8	14.7	17.3	15.1	18.1	19.1	18.7	18.4	23.6
9.8	8.1	16.9	24.4	4.2	6.0	4.4	9.1	14.7	12.6	9.7	6.0	17.2	18.0	8.5	22.0
18.2	18.5	15.4	16.5	16.8	19.2	13.8	22.7	52.9	22.3	14.8	23.3	28.9	15.8	19.2	19.3
18.4	18.9	17.7	13.2	18.1	22.4	24.4	27.3	5.9	19.6	22.6	21.6	16.0	16.2	15.8	14.5
13.5	13.7	18.7	9.8	16.0	13.5	15.6	4.5	5.9	13.6	15.4	20.7	10.0	11.8	17.5	7.8
19.3	21.0	8.5	6.2	31.5	24.9	30.2	4.5	2.9	10.4	18.3	6.9	4.5	12.8	12.8	8.4
6.3	6.4	5.1	6.5	4.6	5.3	6.2	0.0	2.9	4.2	4.0	3.4	4.3	6.7	7.7	4.4
34.5	35.0	33.8	31.7	37.1	36.2	37.0	33.3	35.5	34.6	34.5	34.6	34.7	33.8	34.9	33.4
11.0	11.4	9.9	8.5	13.9	12.1	12.8	9.5	10.4	10.4	10.7	10.3	10.3	10.1	10.0	10.0
7.2	7.3	7.2	6.3	7.9	7.6	7.7	7.8	6.3	6.9	7.5	7.3	6.4	7.0	7.0	6.9
1.4	1.6	0.3	0.0	0.4	2.1	2.7	0.0	0.0	0.4	0.8	0.9	0.0	0.1	0.4	0.0
11.7	12.7	6.6	3.7	16.4	16.0	18.2	9.1	5.9	11.9	15.4	9.5	9.5	2.2	9.4	3.7
1.1	1.2	0.4	0.5	5.0	2.5	2.7	4.5	0.0	1.1	0.8	1.7	1.2	0.3	0.9	1.0
2.7	0.5	8.5	23.4	0.4	6.8	0.4	18.2	41.2	16.2	0.3	10.3	32.0	3.7	1.7	17.9
5.2	5.2	6.7	4.7	11.3	10.0	12.0	0.0	2.9	7.0	6.5	11.2	6.4	1.0	4.3	1.7
51.1	50.5	60.8	56.1	38.2	43.4	43.1	63.6	32.4	48.4	47.2	58.6	47.0	12.5	37.2	35.8
46.4	45.1	52.2	59.3	28.6	38.8	34.2	63.6	52.9	47.7	42.6	45.7	53.2	12.9	35.0	40.2
27.3	27.9	27.3	22.0	36.6	32.7	34.2	31.8	23.5	24.9	29.1	29.3	20.3	4.4	14.5	11.1
8.0	8.6	3.5	4.2	7.1	4.6	4.9	4.5	2.9	5.1	6.7	2.6	4.3	1.0	3.4	2.4
78.5	81.5	75.0	51.9	75.2	76.2	82.7	77.3	32.4	60.9	76.0	62.1	47.7	13.7	47.9	33.4
28.0	31.3	14.0	0.4	40.3	33.1	37.8	36.4	0.0	16.7	33.2	22.4	0.7	2.2	14.5	0.3
10.4	11.1	8.5	3.5	12.2	13.2	14.7	13.6	2.9	8.0	13.7	10.3	2.4	1.1	5.6	1.4
4.7	4.5	4.0	6.8	5.9	3.2	3.1	0.0	5.9	7.0	4.9	9.5	8.4	0.8	2.1	2.7
3.1	2.8	2.1	2.9	2.9	2.5	2.2	0.0	5.9	4.0	3.5	1.7	4.1	77.5	38.5	31.1
24.3	23.3	30.3	33.9	20.6	23.1	21.3	31.8	29.4	27.5	25.3	29.3	29.1	7.8	19.2	25.0
71.0	72.4	65.0	61.1	76.1	73.3	75.6	68.2	61.8	67.4	68.2	67.2	67.3	13.0	38.5	37.5
43.5	44.4	40.5	36.4	51.3	51.6	53.8	40.9	44.1	40.3	38.0	40.5	42.7	7.5	21.8	21.6
12.8	12.9	13.7	12.0	10.9	7.8	7.6	18.2	2.9	10.9	13.7	13.8	7.6	2.1	6.4	5.7
5.8	5.9	2.4	5.3	7.6	5.0	5.3	0.0	5.9	7.9	8.1	3.4	9.1	1.4	3.4	4.7
4.3	4.6	2.5	1.4	0.4	4.3	4.0	4.5	5.9	3.2	3.5	4.3	2.6	0.4	1.7	1.0
4.7	4.6	5.9	6.0	5.9	4.6	4.9	4.5	2.9	5.1	4.9	5.2	5.3	1.6	5.1	4.4
4.7	4.3	4.7	5.0	3.4	3.6	3.1	0.0	8.8	5.2	6.5	3.4	3.6	79.2	42.3	37.5
17.8	17.5	17.8	21.3	11.8	16.4	16.0	13.6	20.6	18.6	18.9	19.8	18.1	4.6	14.5	12.2
6.6	5.8	12.5	12.6	8.8	6.8	5.3	18.2	8.8	8.9	6.5	9.5	11.0	3.2	4.7	12.8
49.4	51.2	36.0	38.1	55.0	49.8	51.1	40.9	47.1	44.2	43.9	37.1	46.8	7.3	20.9	21.3
21.6	21.2	29.0	23.0	21.0	23.5	24.4	27.3	14.7	23.2	24.3	30.2	20.5	5.7	17.5	16.2
13,043	11,878	285	873	131	140	115	9	16	402	163	43	196	114	49	63
93.2	97.7	83.5	37.1	99.2	86.4	98.3	77.8	6.2	61.4	98.2	83.7	26.0	57.0	95.9	27.0
6.5	2.2	16.5	62.3	0.8	13.6	1.7	22.2	93.8	38.3	1.8	16.3	73.5	43.0	4.1	73.0
0.2	0.2	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.5	0.0	0.0	0.0

SOURCE: National Research Council, Survey of Eamed Doctorates.

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APPENDIX TABLE A-5 Sources of Graduate School Support for Doctorate Recipients, by Broad Field and Gender, 1993

		Total		Physical Sciences		Engineering		Life Sciences		Social Sciences		Humanities		Education		Prof./Other Fields	
		Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
		N	V*	N	V*	N	V*	N	V*	N	V*	N	V*	N	V*	N	V*
Federal Fellow/Trainee	N	1,209	1,143	160	55	95	37	674	686	195	250	56	58	16	41	13	16
	V*	5.2	8.0	3.3	4.3	2.0	7.4	16.6	23.4	6.3	8.3	2.6	2.8	0.6	1.1	0.9	1.9
	H†	100.0	100.0	13.2	4.8	7.9	3.2	55.7	60.0	16.1	21.9	4.6	5.1	1.3	3.6	1.1	1.4
GI Bill	N	323	89	32	3	34	2	28	25	66	39	35	2	89	14	39	4
	V	1.4	0.6	0.7	0.2	0.7	0.4	0.7	0.9	2.1	1.3	1.6	0.1	3.5	0.4	2.6	0.5
	H	100.0	100.0	9.9	3.4	10.5	2.2	8.7	28.1	20.4	43.8	10.8	2.2	27.6	15.7	12.1	4.5
Other Federal Support†	N	1,014	633	245	69	208	26	177	143	162	163	131	100	55	95	36	37
	V	4.4	4.4	5.0	5.4	4.3	5.2	4.3	4.9	5.3	5.4	6.0	4.9	2.2	2.6	2.4	4.4
	H	100.0	100.0	24.2	10.9	20.5	4.1	17.5	22.6	16.0	25.8	12.9	15.8	5.4	15.0	3.6	5.8
State Government	N	228	165	33	14	34	3	58	36	40	39	24	10	31	52	8	11
	V	1.0	1.2	0.7	1.1	0.7	0.6	1.4	1.2	1.3	1.3	1.1	0.5	1.2	1.4	0.5	1.3
	H	100.0	100.0	14.5	8.5	14.9	1.8	25.4	21.8	17.5	23.6	10.5	6.1	13.6	31.5	3.5	6.7
Foreign Government	N	1,281	350	197	39	389	13	264	75	165	82	89	71	87	46	90	24
	V	5.6	2.5	4.1	3.0	8.0	2.6	6.5	2.6	5.4	2.7	4.1	3.5	3.4	1.3	6.1	2.9
	H	100.0	100.0	15.4	11.1	30.4	3.7	20.6	21.4	12.9	23.4	6.9	20.3	6.8	13.1	7.0	6.9
National Fellow (nonfed.)	N	1,045	908	153	70	149	40	201	150	226	215	221	296	31	96	64	41
	V	4.5	6.4	3.1	5.5	3.1	8.0	4.9	5.1	7.3	7.1	10.1	14.4	1.2	2.6	4.3	4.9
	H	100.0	100.0	14.6	7.7	14.3	4.4	19.2	16.5	21.6	23.7	21.1	32.6	3.0	10.6	6.1	4.5
University Teaching Assistant	N	12,225	7,182	3,509	1,001	2,134	258	1,577	1,212	1,907	1,743	1,676	1,594	603	923	819	451
	V	53.0	50.3	72.2	78.3	44.0	51.6	38.7	41.3	62.0	57.6	76.8	77.8	23.6	25.3	55.3	53.9
	H	100.0	100.0	28.7	13.9	17.5	3.6	12.9	16.9	15.6	24.3	13.7	22.2	4.9	12.9	6.7	6.3
University Research Assistant†	N	13,362	6,202	3,739	975	3,817	394	2,763	1,841	1,458	1,476	456	442	488	720	641	354
	V	57.9	43.5	76.9	76.2	78.7	78.8	67.9	62.7	47.4	48.8	20.9	21.6	19.1	19.7	43.3	42.3
	H	100.0	100.0	28.0	15.7	28.6	6.4	20.7	29.7	10.9	23.8	3.4	7.1	3.7	11.6	4.8	5.7
University Fellow	N	3,812	2,516	763	204	551	92	617	471	717	630	730	710	174	246	260	163
	V	16.5	17.6	15.7	15.9	11.4	18.4	15.2	16.1	23.3	20.8	33.5	34.7	6.8	6.7	17.5	19.5
	H	100.0	100.0	20.0	8.1	14.5	3.7	16.2	18.7	18.8	25.0	19.2	28.2	4.6	9.8	6.8	6.5
Other University	N	2,095	2,050	225	87	243	39	340	302	432	543	386	405	313	546	156	128
	V	9.1	14.4	4.6	6.8	5.0	7.8	8.4	10.3	14.0	18.0	17.7	19.8	12.3	15.0	10.5	15.3
	H	100.0	100.0	10.7	4.2	11.6	1.9	16.2	14.7	20.6	26.5	18.4	19.8	14.9	26.6	7.4	6.2
Business/Employer	N	1,558	980	284	67	417	36	150	158	174	163	104	107	287	376	142	73
	V	6.8	6.9	5.8	5.2	8.6	7.2	3.7	5.4	5.7	5.4	4.8	5.2	11.2	10.3	9.6	8.7
	H	100.0	100.0	18.2	6.8	26.8	3.7	9.6	16.1	11.2	16.6	6.7	10.9	18.4	38.4	9.1	7.4
Own Earnings	N	12,068	9,469	1,637	436	1,745	167	1,704	1,384	2,120	2,211	1,639	1,470	2,235	3,173	988	628
	V	52.3	66.4	33.7	34.1	36.0	33.4	41.9	47.2	68.9	73.1	75.1	71.7	87.5	87.0	66.7	75.0
	H	100.0	100.0	13.6	4.6	14.5	1.8	14.1	14.6	17.6	23.3	13.6	15.5	18.5	33.5	8.2	6.6
Spouse's Earnings	N	5,725	5,064	870	310	761	117	1,023	824	915	1,167	762	783	915	1,526	479	337
	V	24.8	35.5	17.9	24.2	15.7	23.4	25.1	28.1	29.7	38.6	34.9	38.2	35.8	41.8	32.3	40.3
	H	100.0	100.0	15.2	6.1	13.3	2.3	17.9	16.3	16.0	23.0	13.3	15.5	16.0	30.1	8.4	6.7
Family Support	N	6,089	3,570	1,043	273	1,439	87	970	635	1,050	995	754	709	409	662	424	209
	V	26.4	25.0	11.5	21.3	29.7	17.4	23.8	21.6	34.1	32.9	34.6	34.6	16.0	18.2	28.7	25.0
	H	100.0	100.0	17.1	7.6	23.6	2.4	15.9	17.8	17.2	27.9	12.4	19.9	6.7	18.5	7.7	5.9
Guaranteed Student Loan (Stafford)	N	4,746	3,776	640	187	414	55	835	593	1,187	1,287	763	715	573	705	334	234
	V	20.6	26.5	13.2	14.6	8.5	11.0	20.5	20.2	38.6	42.5	35.0	34.9	22.4	19.3	22.5	28.0
	H	100.0	100.0	13.5	5.0	8.7	1.5	17.6	15.7	25.0	34.1	16.1	18.9	12.1	18.7	7.0	6.2
Perkins Loan (NDSL)	N	1,169	1,024	121	31	83	10	151	124	371	409	245	220	119	176	79	54
	V	5.1	7.2	2.5	2.4	1.7	2.0	3.7	4.2	12.1	13.5	11.2	10.7	4.7	4.8	5.3	6.5
	H	100.0	100.0	10.4	3.0	7.1	1.0	12.9	12.1	31.7	39.9	21.0	21.5	10.2	17.2	6.8	5.3
Other Loans	N	662	687	85	31	74	18	97	84	170	241	97	112	74	154	65	47
	V	2.9	4.8	1.7	2.4	1.5	3.6	2.4	2.9	5.5	8.0	4.4	5.5	2.9	4.2	4.4	5.6
	H	100.0	100.0	12.8	4.5	11.2	2.6	14.7	12.2	25.7	35.1	14.7	16.3	11.2	22.4	9.8	6.8
Other Sources	N	813	808	115	44	152	27	161	204	133	174	99	108	74	194	79	57
	V	3.5	5.7	2.4	3.4	3.1	5.4	4.0	7.0	4.3	5.8	4.5	5.3	2.9	5.3	5.3	6.8
	H	100.0	100.0	14.1	5.4	18.7	3.3	19.8	25.2	16.4	21.5	12.2	13.4	9.1	24.0	9.7	7.1
Unduplicated Total‡		23,073	14,271	4,861	1,279	4,849	500	4,070	2,934	3,076	3,025	2,182	2,049	2,553	3,647	1,482	837

NOTE: In this table a recipient counts once in each source category from which he or she received support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent. (Data on the "primary" source of support for doctorate recipients are presented in the body of the report.) Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

\*V denotes vertical percentage; H denotes horizontal percentage.

†Because federal support obtained through the university cannot always be determined, no distinction is made between federal and university research assistants in this table. Both types of support are grouped under "University Research Assistant." Federal loans are counted in the categories for loans.

‡The 2,410 Ph.D.s who did not report sources of support are omitted from this total. Percentages are based only on known responses.

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX TABLE A-6 State of Doctoral Institution of Doctorate Recipients, by Broad Field and Gender, 1993

	Total		Physical Sciences		Engineering		Life Sciences		Social Sciences		Humanities		Education		Prof./Other Fields	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
U.S. Total*	24,646	15,108	5,152	1,344	5,175	521	4,311	3,086	3,316	3,229	2,351	2,130	2,743	3,904	1,598	894
Alabama	246	160	41	6	61	7	69	50	14	16	6	8	31	60	24	13
Alaska	7	3	4	1	0	0	3	2	0	0	0	0	0	0	0	0
Arizona	426	261	101	33	100	7	56	40	38	43	33	33	54	88	44	17
Arkansas	73	47	8	4	4	4	28	9	3	1	3	2	25	25	2	2
California	2,956	1,783	672	181	699	80	462	309	513	605	282	245	195	292	133	71
Colorado	464	231	119	30	142	12	70	57	42	44	27	29	41	47	23	12
Connecticut	365	240	90	21	28	4	74	64	62	45	79	77	16	24	16	5
Delaware	102	42	34	10	39	5	5	4	11	9	9	9	3	5	1	0
Dist. of Columbia	292	239	45	14	34	1	40	42	66	72	55	51	19	42	33	17
Florida	771	583	129	35	120	9	100	60	98	82	44	46	214	309	66	42
Georgia	477	348	68	24	112	14	92	52	63	54	31	46	65	130	46	28
Hawaii	96	52	28	6	4	1	29	14	21	14	10	12	4	5	0	0
Idaho	50	15	7	0	13	0	20	2	3	2	2	3	5	8	0	0
Illinois	1,437	799	308	64	280	31	197	168	206	184	200	118	154	195	92	39
Indiana	714	354	149	41	163	16	97	70	94	73	91	63	67	64	53	27
Iowa	479	201	105	25	90	7	96	41	52	34	33	36	76	50	27	8
Kansas	214	169	30	21	45	1	58	31	30	26	13	19	30	62	8	9
Kentucky	202	88	24	13	27	1	50	18	21	19	25	9	21	16	34	12
Louisiana	267	155	51	19	37	2	68	45	23	23	40	24	24	32	24	10
Maine	22	18	4	2	4	0	9	7	1	3	2	0	2	6	0	0
Maryland	552	402	123	26	125	17	136	109	73	93	42	61	30	73	23	23
Massachusetts	1,403	761	368	85	302	41	197	158	200	153	146	103	119	172	71	49
Michigan	891	518	148	48	260	24	154	112	116	113	56	73	115	116	42	32
Minnesota	492	286	82	17	76	11	112	65	61	53	33	35	68	74	60	31
Mississippi	172	109	19	4	13	1	37	15	23	16	8	11	41	58	31	4
Missouri	415	229	56	14	85	2	87	37	47	58	40	23	55	77	45	18
Montana	46	11	12	3	5	0	21	0	2	3	0	0	6	5	0	0
Nebraska	143	95	18	4	14	2	44	13	20	20	7	11	22	40	18	5
Nevada	24	15	7	1	5	0	2	2	4	3	2	0	4	9	0	0
New Hampshire	79	25	33	6	19	3	21	7	4	6	1	2	1	1	0	0
New Jersey	483	302	130	39	107	16	63	66	64	66	63	64	31	38	25	13
New Mexico	148	99	37	17	38	3	22	15	17	20	12	8	21	35	1	1
New York	2,259	1,636	505	120	379	34	371	329	397	431	306	314	182	312	119	96
North Carolina	623	367	130	36	130	10	161	104	65	68	55	57	56	82	26	10
North Dakota	49	25	17	2	5	1	9	4	8	8	4	1	6	9	0	0
Ohio	1,018	645	186	74	256	21	169	118	101	106	98	93	139	185	69	48
Oklahoma	238	167	34	13	48	7	42	17	30	25	14	17	48	69	22	19
Oregon	308	203	63	17	21	2	98	59	30	29	16	19	63	65	17	12
Pennsylvania	1,258	810	262	59	340	29	153	165	160	162	106	123	142	207	95	65
Puerto Rico	23	37	4	4	0	0	2	0	7	7	0	4	9	21	1	1
Rhode Island	168	103	63	9	33	5	22	22	30	24	20	43	0	0	0	0
South Carolina	233	162	55	12	32	3	58	39	19	18	20	19	33	56	16	5
South Dakota	27	22	4	0	2	0	5	3	4	2	0	0	12	17	0	0
Tennessee	370	277	38	9	73	13	69	49	53	45	32	23	68	119	37	19
Texas	1,584	941	334	85	347	37	251	225	145	152	139	83	202	293	166	66
Utah	274	102	54	10	75	0	51	25	42	26	12	3	32	23	8	15
Vermont	28	25	6	0	1	1	13	11	5	10	0	0	3	3	0	0
Virginia	615	391	122	35	151	18	91	83	92	72	31	34	86	127	42	22
Washington	401	217	79	17	86	7	91	61	52	41	35	27	43	51	15	13
West Virginia	78	38	6	1	17	0	18	6	12	7	3	0	22	24	0	0
Wisconsin	550	285	125	23	126	11	111	79	68	40	65	49	32	68	23	15
Wyoming	34	15	15	4	2	0	7	3	4	3	0	0	6	5	0	0

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

\*Includes the 50 states, the District of Columbia, and Puerto Rico.

SOURCE: National Research Council, Survey of Earned Doctorates.

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
<b>TOTAL ALL INSTITUTIONS*</b>	<b>39,754</b>	<b>1,543</b>	<b>2,139</b>	<b>790</b>	<b>2,024</b>	<b>5,696</b>	<b>5,090</b>	<b>1,201</b>	<b>1,106</b>	<b>3,419</b>	<b>3,126</b>	<b>728</b>	<b>948</b>	<b>2,805</b>	<b>6,647</b>	<b>2,492</b>
<b>ALABAMA</b>	<b>406</b>	<b>12</b>	<b>17</b>	<b>3</b>	<b>15</b>	<b>68</b>	<b>72</b>	<b>32</b>	<b>15</b>	<b>26</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>91</b>	<b>37</b>
Alabama A & M University	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auburn University	123	3	4	1	3	22	16	6	14	13	2	3	2	0	30	4
United States Sports Academy	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Univ of Alabama-Birmingham	108	2	2	0	5	6	50	0	0	5	0	0	0	0	12	0
Univ of Alabama-Huntsville	33	6	0	0	3	24	0	0	0	0	0	0	0	0	0	0
Univ of Alabama-University	133	1	11	2	4	16	0	0	0	8	2	2	3	4	47	33
Univ of South Alabama	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
<b>ALASKA</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Univ of Alaska	10	1	0	3	1	0	4	0	1	0	0	0	0	0	0	0
<b>ARIZONA</b>	<b>687</b>	<b>45</b>	<b>36</b>	<b>23</b>	<b>30</b>	<b>107</b>	<b>62</b>	<b>19</b>	<b>15</b>	<b>35</b>	<b>46</b>	<b>10</b>	<b>11</b>	<b>45</b>	<b>142</b>	<b>61</b>
Arizona State Univ	270	10	13	6	14	58	10	4	0	15	16	4	4	18	64	34
Northern Arizona Univ	48	0	0	0	0	0	4	0	0	0	2	4	0	0	38	0
Univ of Arizona	369	35	23	17	16	49	48	15	15	20	28	2	7	27	40	27
<b>ARKANSAS</b>	<b>120</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>12</b>	<b>0</b>	<b>25</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>50</b>	<b>4</b>
U of Arkansas-Fayetteville	117	0	9	0	3	7	10	0	25	3	1	1	3	1	50	4
U of Arkansas-Little Rock	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
U of Arkansas-Med Sci Campus	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
<b>CALIFORNIA</b>	<b>4,739</b>	<b>217</b>	<b>269</b>	<b>114</b>	<b>253</b>	<b>779</b>	<b>628</b>	<b>82</b>	<b>61</b>	<b>683</b>	<b>435</b>	<b>91</b>	<b>103</b>	<b>333</b>	<b>487</b>	<b>204</b>
Biola Univ	12	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0
Cal Inst of Integral Studies	29	0	0	0	0	0	0	0	0	25	0	0	0	4	0	0
Cal Inst of Technology	158	33	29	12	7	52	19	0	0	0	0	0	0	0	0	0
Cal Sch Prof Psych-Alameda	61	0	0	0	0	0	0	0	0	61	0	0	0	0	0	0
Cal Sch Prof Psych-Alhambra	84	0	0	0	0	0	0	0	0	84	0	0	0	0	0	0
Cal Sch Prof Psych-Fresno	60	0	0	0	0	0	0	0	0	60	0	0	0	0	0	0
Cal Sch Prof Psych-San Diego	61	0	0	0	0	0	0	0	0	61	0	0	0	0	0	0
Claremont Graduate School	68	0	0	0	0	0	2	0	0	9	18	0	2	10	19	8
Fielding Institute	53	0	0	0	0	0	0	0	0	37	1	0	0	1	3	11
Fuller Theological Seminary	45	0	0	0	0	0	0	0	0	34	0	2	0	5	0	4
Golden Gate Baptist Theol Sem	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
Graduate Theological Union	28	0	0	0	0	0	0	0	0	1	2	0	0	14	0	11
Hebrew Union College	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
La Sierra Univ	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Loma Linda Univ	16	0	0	0	0	0	8	7	0	0	0	0	0	0	8	0
Naval Postgraduate School	11	1	0	4	3	3	0	0	0	0	0	0	0	0	1	0
Pacific Grad Sch of Psych	23	0	0	0	0	0	0	0	0	23	0	0	0	0	0	0
Pepperdine Univ	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0
Rand Grad Sch Policy Studies	11	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0
San Diego State Univ	27	0	4	0	0	5	0	0	8	0	0	0	0	0	10	0
Saybrook Institute	16	0	0	0	1	0	0	0	14	1	0	0	0	0	0	0
Stanford Univ	578	27	32	21	45	197	54	0	4	19	52	7	10	51	27	22
U.S. International Univ	100	0	0	0	0	0	0	0	0	75	1	0	0	0	1	13
Univ of California-Berkeley	806	47	51	10	65	171	101	16	28	20	101	33	24	71	36	32
Univ of California-Davis	307	9	30	6	14	46	123	3	21	5	26	8	4	11	0	1
Univ of California-Irvine	154	10	21	0	13	26	39	1	0	5	11	3	12	5	0	8
Univ of Calif-Los Angeles	655	33	33	19	47	89	88	22	1	38	84	18	20	67	65	31
Univ of Calif-Riverside	104	5	5	1	10	0	36	0	7	7	12	2	4	6	9	0
Univ of Calif-San Diego	263	23	26	22	19	45	62	0	0	9	22	4	11	17	0	3
Univ of Calif-San Francisco	87	0	13	0	3	29	28	0	1	12	1	0	0	0	0	0
Univ of Calif-Santa Barbara	205	11	8	5	7	56	15	1	0	11	34	7	3	24	23	0
Univ of Calif-Santa Cruz	71	12	5	9	6	0	13	0	0	6	6	6	4	4	0	0
Univ of La Verne	65	0	0	0	0	0	0	0	0	1	0	0	0	0	45	19
Univ of the Pacific	15	0	1	0	0	0	1	0	0	0	0	0	0	0	13	0
Univ of San Diego	11	0	0	0	0	0	0	2	0	0	0	0	0	0	9	0
Univ of San Francisco	69	0	0	0	0	0	0	0	0	0	0	0	0	0	69	0
Univ of Santa Clara	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Univ of Southern California	418	6	11	5	16	88	33	2	0	34	34	0	9	39	103	38
Wright Institute, The	30	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0
<b>COLORADO</b>	<b>695</b>	<b>22</b>	<b>35</b>	<b>51</b>	<b>41</b>	<b>154</b>	<b>80</b>	<b>21</b>	<b>26</b>	<b>41</b>	<b>45</b>	<b>4</b>	<b>13</b>	<b>39</b>	<b>88</b>	<b>35</b>
Colorado School of Mines	33	1	3	9	3	16	0	0	0	0	1	0	0	0	0	0
Colorado State Univ	197	2	9	18	16	53	31	5	26	11	7	0	0	0	18	1
Univ of Colorado	358	19	22	23	20	85	46	15	0	12	25	3	8	27	26	27
Univ of Denver	64	0	1	1	0	0	3	0	0	17	11	1	5	5	13	7
Univ of Northern Colorado	43	0	0	0	2	0	0	1	0	1	1	0	0	7	31	0
<b>CONNECTICUT</b>	<b>605</b>	<b>33</b>	<b>39</b>	<b>8</b>	<b>31</b>	<b>32</b>	<b>115</b>	<b>19</b>	<b>4</b>	<b>41</b>	<b>66</b>	<b>28</b>	<b>15</b>	<b>113</b>	<b>40</b>	<b>21</b>
Univ of Connecticut	216	3	16	1	11	20	38	10	2	23	23	5	8	10	40	6
Univ of Hartford	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Univ of New Haven	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Wesleyan Univ	17	3	6	0	1	0	4	0	0	0	0	0	0	3	0	0
Yale Univ	367	27	17	7	19	12	73	9	2	18	43	23	7	99	0	11
<b>DELAWARE</b>	<b>144</b>	<b>8</b>	<b>14</b>	<b>10</b>	<b>12</b>	<b>44</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>12</b>	<b>4</b>	<b>5</b>	<b>9</b>	<b>8</b>	<b>1</b>
Univ of Delaware	144	8	14	10	12	44	6	0	3	8	12	4	5	9	8	1

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.  
\*Includes the 50 states, the District of Columbia, and Puerto Rico.

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Compute. Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
<b>DISTRICT OF COLUMBIA</b>																
American Univ	69	3	9	0	2	0	2	0	0	13	20	2	0	3	13	2
Catholic Univ of America	117	5	2	0	2	7	5	10	0	14	10	2	1	41	4	16
Gallaudet Univ	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
George Washington Univ	168	3	2	0	15	28	22	2	0	11	20	3	2	5	39	18
Georgetown Univ	87	0	7	0	0	0	22	0	0	1	18	8	0	29	0	0
Howard Univ	88	1	7	0	3	0	18	1	0	13	18	1	2	7	3	14
<b>FLORIDA</b>																
Barry Univ	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Caribbean Ctr Adv Stud-Miami	5	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
Florida Atlantic Univ	34	2	0	0	2	15	0	0	0	2	0	0	0	0	10	3
Florida Inst of Technology	21	1	0	0	5	9	1	0	0	0	0	0	0	0	20	5
Florida International Univ	26	0	0	0	0	0	0	0	0	1	0	0	0	0	79	34
Florida State Univ	263	13	8	10	16	1	7	1	0	25	22	6	6	35	29	36
Nova Univ	362	0	0	2	10	0	0	0	0	21	3	0	0	0	290	36
Univ of Central Florida	33	2	0	0	4	9	0	0	0	0	0	0	0	0	16	2
Univ of Florida	372	9	29	3	14	80	51	17	45	19	31	3	3	5	46	17
Univ of Miami	124	5	6	7	2	8	17	5	1	21	8	3	3	13	24	1
Univ of South Florida	108	0	4	3	7	7	12	3	0	17	5	0	11	2	33	4
<b>GEORGIA</b>																
Clark Atlanta Univ	34	0	1	0	0	0	1	0	0	3	7	1	0	2	17	2
Emory Univ	110	2	20	0	2	0	18	1	0	9	6	6	14	20	8	4
Georgia Inst of Technology	198	10	13	5	20	125	8	0	0	5	1	0	0	0	0	11
Georgia State Univ	119	0	3	0	0	0	6	7	0	19	4	2	4	1	58	15
Inst of Paper Sci & Tech	4	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0
Medical College of Georgia	12	0	0	0	0	0	8	4	0	0	0	0	0	0	0	0
Univ of Georgia	348	2	12	2	0	0	54	10	24	39	24	3	6	18	112	42
<b>HAWAII</b>																
Univ of Hawaii at Manoa	148	9	8	12	5	5	29	6	8	6	29	1	2	19	9	0
	148	9	8	12	5	5	29	6	8	6	29	1	2	19	9	0
<b>IDAHO</b>																
Idaho State Univ	65	1	5	1	0	13	12	1	9	1	4	3	2	0	13	0
Univ of Idaho	7	0	0	0	0	0	2	1	0	0	1	0	2	0	1	0
	58	1	5	1	0	13	10	0	9	1	3	3	0	0	12	0
<b>ILLINOIS</b>																
DePaul Univ	18	0	0	0	0	0	0	0	0	16	0	0	0	2	0	0
Illinois Inst of Technology	67	4	1	0	16	20	2	0	0	21	0	0	0	0	0	3
Illinois State Univ-Normal	42	0	0	0	1	0	8	0	0	0	0	0	4	1	28	0
Loyola Univ of Chicago	97	0	2	0	0	0	12	1	0	21	2	1	2	5	48	3
Lutheran Sch of Theol-Chicago	5	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2
Northern Illinois Univ	122	0	5	2	7	0	4	0	0	4	11	4	6	1	78	0
Northwestern Univ	364	10	36	2	33	91	49	3	0	21	27	7	6	51	7	21
Rush Univ	18	0	0	0	0	0	10	7	0	1	0	0	0	0	0	0
Southern Ill Univ-Carbondale	184	2	5	2	0	6	13	8	1	21	23	0	10	11	63	19
Southern Ill Univ-Edwardsville	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
Univ of Chicago	346	27	24	8	21	0	40	0	0	12	78	34	7	52	12	31
Univ of Health Sci-Chicago Med	11	1	0	0	0	0	4	0	0	6	0	0	0	0	0	0
Univ of Ill-Chicago	245	5	13	0	29	34	44	39	0	14	31	5	6	6	14	5
Univ of Ill-Urbana/Champaign	706	34	28	6	46	160	79	9	32	30	51	16	15	63	88	47
<b>INDIANA</b>																
Ball State Univ	45	0	0	0	0	0	0	3	0	16	1	1	6	6	12	0
Grace Theological Seminary	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Indiana State Univ	29	0	0	0	0	0	4	0	1	8	2	0	0	0	14	0
Indiana Univ-Bloomington	365	9	23	11	17	0	29	7	0	25	38	14	17	65	70	40
Indiana Univ Sch of Medicine	14	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0
Purdue Univ	503	18	46	11	31	159	68	9	24	29	20	2	5	17	34	30
Univ of Notre Dame	111	11	7	0	6	20	8	0	0	10	18	2	6	13	1	9
<b>IOWA</b>																
Drake Univ	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
Iowa State Univ	322	6	30	5	27	57	23	2	55	11	36	2	0	0	64	4
Maharishi International Univ	5	0	0	0	0	0	2	1	0	2	0	0	0	0	0	0
Univ of Iowa	334	5	24	4	29	38	32	22	0	16	21	6	23	38	48	28
Univ of Northern Iowa	10	0	0	0	0	2	0	0	0	0	0	0	0	0	5	3
<b>KANSAS</b>																
Kansas State Univ	383	5	28	4	14	46	58	6	25	34	22	2	3	27	92	17
Univ of Kansas	155	2	10	0	8	13	24	0	25	7	8	0	1	0	51	6
Wichita State Univ	209	3	15	4	4	21	34	5	0	27	14	2	2	27	40	11
	19	0	3	0	2	12	0	1	0	0	0	0	0	0	1	0
<b>KENTUCKY</b>																
Southern Bapt Theol Seminary	290	6	14	4	13	28	43	8	17	22	18	3	5	26	37	46
Univ of Kentucky	44	0	0	0	0	0	0	0	0	1	0	1	0	13	6	23
Univ of Louisville	192	6	9	4	11	24	22	7	17	13	16	2	3	11	24	23
	54	0	5	0	2	4	21	1	0	8	2	0	2	2	7	0
<b>LOUISIANA</b>																
Grambling St Univ	422	5	22	10	33	39	73	27	13	34	12	6	25	33	56	34
Louisiana St U & A&M College	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Louisiana St U Med-New Orleans	188	4	7	8	12	16	31	6	13	17	4	3	9	17	29	12
Louisiana St U Med-Shreveport	13	0	0	0	0	0	12	1	0	0	0	0	0	0	0	0
Louisiana Tech Univ	12	0	0	0	0	0	12	0	0	0	0	0	0	0	0	4
New Orleans Bapt Theol Seminary	11	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0
Northeast Louisiana Univ	35	0	0	0	0	0	0	0	0	5	0	0	0	9	6	15
	10	0	1	0	0	0	4	5	0	0	0	0	0	0	0	0



	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos- and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
<b>LOUISIANA (continued)</b>																
Tulane Univ of Louisiana	84	1	5	2	10	10	11	15	0	6	3	3	8	7	0	3
Univ of New Orleans	38	0	9	0	0	0	0	0	0	6	5	0	0	0	18	0
Univ of Southwestern Louisiana	28	0	0	0	11	6	3	0	0	0	0	0	8	0	0	0
<b>MAINE</b>																
Univ of Maine	40	2	4	0	0	4	10	0	6	3	1	1	0	1	8	0
	40	2	4	0	0	4	10	0	6	3	1	1	0	1	8	0
<b>MARYLAND</b>																
Johns Hopkins Univ	954	41	27	21	60	142	160	71	14	68	98	19	13	71	103	46
Loyola College in Maryland	317	12	17	5	7	43	84	54	0	4	47	12	2	26	4	0
Morgan State Univ	11	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0
Peabody Inst of Johns Hopkins	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Uniformed Serv U of Hlth Sci	11	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0
U of Maryland-Baltimore County	14	0	0	0	0	0	8	0	0	6	0	0	0	4	0	0
U of Maryland-College Park	49	0	2	0	10	8	12	0	0	6	6	0	0	4	0	1
U of Maryland-Eastern Shore	486	29	6	15	43	90	28	1	14	41	45	7	11	30	94	32
U of Maryland-Sch of Med	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	59	0	1	0	0	1	28	16	0	0	0	0	0	0	0	13
<b>MASSACHUSETTS</b>																
American Internat College	2,164	159	141	41	112	343	295	52	8	98	255	44	43	162	291	120
Boston College	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0
Boston Univ	119	4	6	0	0	1	7	0	17	16	4	4	13	38	9	0
Brandeis Univ	260	16	12	2	6	12	50	11	0	21	30	6	3	26	48	17
Clark Univ	86	6	6	0	9	0	15	1	0	4	20	4	9	4	0	8
Harvard Univ	26	1	3	0	0	0	3	0	0	9	5	0	0	0	5	0
Mass Coll Pharm & Health Sci	528	30	40	6	24	6	93	21	1	9	87	24	15	77	59	36
Mass Inst of Technology	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Northeastern Univ	516	58	33	27	43	212	49	0	1	3	54	0	0	15	0	21
Simmons College	60	8	3	0	6	19	4	1	0	3	5	0	0	0	6	5
Smith College	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Springfield College	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Tufts Univ	73	6	4	0	0	12	28	1	0	6	12	0	0	4	0	0
Univ of Mass-Amherst	370	14	21	4	19	50	28	7	6	26	25	6	12	23	113	16
Univ of Mass-Boston	3	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0
Univ of Mass-Lowell	56	11	11	0	5	14	6	0	0	0	0	0	0	0	9	0
Univ of Mass-Worcester	15	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0
Worcester Polytechnic Inst	28	5	2	0	0	18	3	0	0	0	0	0	0	0	0	0
<b>MICHIGAN</b>																
Andrews Univ	1,409	43	79	17	57	284	184	32	50	123	106	18	26	85	231	74
Michigan State Univ	19	0	0	0	0	0	0	0	0	4	0	0	0	1	9	5
Michigan Technological Univ	390	14	22	3	20	45	61	4	47	26	34	3	7	12	72	20
Oakland Univ	21	1	1	0	0	16	2	0	1	0	0	0	0	0	0	0
Univ of Detroit Mercy	15	3	1	0	0	6	1	0	0	0	0	0	0	4	0	0
Univ of Michigan	22	0	5	0	0	3	0	0	0	14	0	0	0	0	0	0
Wayne State Univ	662	20	28	13	26	193	75	25	2	44	56	14	16	67	38	45
Western Michigan Univ	226	5	21	1	7	21	45	3	0	26	11	1	3	5	74	3
	54	0	1	0	4	0	0	0	0	9	5	0	0	0	34	1
<b>MINNESOTA</b>																
Luther Northwestern Theol Sem	778	18	38	8	35	87	90	47	40	67	47	7	15	46	142	91
Mayo Graduate School	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Univ of Minnesota-Minneapolis	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
Univ of St. Thomas	628	18	38	8	34	87	81	34	40	35	45	7	15	45	91	50
Walden Univ	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
	129	0	0	1	0	1	13	0	32	2	0	0	0	0	41	39
<b>MISSISSIPPI</b>																
Delta State Univ	281	3	15	0	5	14	22	5	25	34	5	5	8	6	99	35
Jackson State Univ	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Mississippi State Univ	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Univ of Mississippi	101	0	2	0	2	11	10	2	25	2	3	0	0	0	32	12
U of Mississippi-Med Center	77	3	4	0	3	3	5	1	0	11	2	5	5	1	17	17
Univ of Southern Mississippi	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
	92	0	9	0	0	0	4	2	0	21	0	0	3	5	42	6
<b>MISSOURI</b>																
Concordia Seminary	644	14	29	7	20	87	91	10	23	70	35	11	12	40	132	63
Midwest Bapt Theol Seminary	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
St. Louis Univ	25	0	0	0	0	0	0	0	0	0	0	0	0	9	0	16
U of Missouri-Columbia	82	0	0	1	0	0	13	2	0	13	3	0	0	4	36	10
U of Missouri-Kansas City	260	1	9	0	4	29	30	0	23	25	21	6	11	4	74	23
U of Missouri-Rolla	51	0	2	0	0	0	3	6	0	12	0	0	0	13	15	0
U of Missouri-Sr. Louis	58	3	6	1	8	39	0	0	0	0	0	0	0	0	0	1
Washington University	19	0	4	0	0	1	0	0	7	2	0	0	0	0	5	0
	146	10	8	5	8	19	44	2	0	13	9	5	1	10	2	10
<b>MONTANA</b>																
Montana State Univ	57	4	11	0	0	5	11	0	10	5	0	0	0	0	11	0
Univ of Montana	43	4	9	0	0	5	10	0	7	0	0	0	0	0	8	0
	14	0	2	0	0	0	1	0	3	5	0	0	0	0	3	0
<b>NEBRASKA</b>																
Creighton Univ	238	5	9	4	4	16	30	7	20	25	15	1	9	8	62	23
Univ of Nebraska-Lincoln	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
	233	5	9	4	4	16	25	7	20	25	15	1	9	8	62	23
<b>NEVADA</b>																
Univ of Nevada-Las Vegas	39	1	3	4	0	5	4	0	0	4	3	0	2	0	13	0
Univ of Nevada-Reno	7	0	0	0	0	0	0	0	0	0	0	0	1	0	6	0
	32	1	3	4	0	5	4	0	0	4	3	0	1	0	7	0

Appendix A  
APPENDIX TABLE A-7 (Continued)

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
<b>NEW HAMPSHIRE</b>	104	7	9	11	12	22	25	0	3	9	1	2	1	0	2	0
Dartmouth College	54	5	4	6	9	13	14	0	0	3	0	0	0	0	0	0
Univ of New Hampshire	50	2	5	5	3	9	11	0	3	6	1	2	1	0	2	0
<b>NEW JERSEY</b>	785	42	49	16	62	123	112	3	14	56	74	21	25	81	69	38
Drew Univ	25	0	0	0	0	0	0	0	0	0	0	1	2	13	0	9
Fairleigh Dickinson Univ	16	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0
New Jersey Inst of Technology	20	0	0	0	3	17	0	0	0	0	0	0	0	0	0	0
Princeton Theol Seminary	7	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4
Princeton Univ	249	25	17	7	24	47	18	0	4	4	42	9	8	46	0	2
Rutgers St U-New Brunswick	349	12	19	9	29	44	67	3	14	17	30	11	15	19	49	11
Rutgers St U-Newark	41	0	2	0	0	14	0	0	6	2	0	0	0	0	0	12
Seton Hall Univ	32	0	0	0	0	0	0	0	10	0	0	0	0	0	20	0
Stevens Inst of Technology	33	5	4	0	6	15	0	0	0	3	0	0	0	0	0	0
Univ of Med & Dent of NJ	13	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0
<b>NEW MEXICO</b>	247	21	13	7	13	41	20	4	13	21	16	4	4	12	56	2
New Mexico Inst of Mining & Tech	22	4	2	5	1	10	0	0	0	0	0	0	0	0	0	0
New Mexico State Univ	61	8	3	0	4	13	6	0	13	4	0	0	0	1	8	1
Univ of New Mexico	164	9	8	2	8	18	14	4	0	17	16	4	4	11	48	1
<b>NEW YORK</b>	3,895	190	173	63	199	413	548	88	64	445	383	97	126	397	494	215
Adelphi Univ	44	0	0	0	0	0	0	10	0	26	0	0	0	0	0	8
Albany Medical College	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
Alfred Univ	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
City U of NY-Grad Sch/U Ctr	316	15	28	7	23	20	44	5	0	55	45	5	13	34	2	20
Clarkson Univ	34	2	4	0	3	19	6	0	0	0	0	0	0	0	0	0
Columbia Univ	469	25	17	13	12	52	64	13	0	39	67	35	24	72	9	27
Columbia U-Teachers College	213	0	0	0	0	0	0	0	0	0	0	0	0	0	213	0
Cornell Univ	494	34	26	5	33	76	82	8	54	5	58	15	24	50	17	7
Cornell Univ Medical College	29	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0
Fordham Univ	116	0	0	0	1	2	0	0	0	34	8	2	1	8	44	16
Hofstra Univ	66	0	0	0	0	0	0	0	0	51	0	0	0	0	15	0
Jewish Theol Sem of America	9	0	0	0	0	0	0	0	0	0	0	1	0	6	1	1
Juilliard School, The	9	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0
Long Island U-Brooklyn Campus	10	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0
Manhattan School of Music	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0
New School for Social Research	36	0	0	0	0	0	0	0	16	17	0	0	0	3	0	0
New York Medical College	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
New York Univ	406	6	7	0	29	3	47	28	0	42	26	7	8	89	56	58
Pace Univ	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Polytechnic Univ	49	9	7	0	5	27	0	1	0	0	0	0	0	0	0	9
Rensselaer Polytechnic Inst	134	12	9	0	16	84	1	0	0	0	3	0	0	0	0	0
Rockefeller Univ	19	0	0	0	0	18	1	0	0	0	0	0	0	0	0	0
St. John's Univ-Queens	34	0	1	0	0	7	7	0	8	0	1	3	0	0	7	0
State Univ of NY-Albany	144	11	4	2	4	10	0	0	23	31	0	6	10	30	13	0
State Univ of NY-Binghamton Univ	88	0	4	7	8	5	7	0	10	20	12	8	6	6	0	1
State Univ of NY-Buffalo	322	9	26	1	13	52	51	8	36	31	7	19	16	41	12	0
State Univ of NY-Stony Brook	280	30	18	13	28	18	54	2	10	31	28	4	12	40	2	0
SUNY Coll-Environ Sci & Forestry	26	0	3	5	0	1	7	0	0	0	0	0	0	0	0	0
SUNY-Hlth Sci Ctr-Brooklyn	12	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0
SUNY-Hlth Sci Ctr-Syracuse	8	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0
Syracuse Univ	191	12	6	3	13	28	4	0	0	26	29	1	0	12	36	21
Union College	4	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Union Theological Seminary	10	0	0	0	0	0	0	0	0	0	0	0	0	3	0	7
Univ of Rochester	224	25	13	7	11	22	45	5	0	9	20	7	8	27	18	7
Yeshiva Univ	31	0	0	0	0	0	0	0	24	0	0	0	0	0	3	4
Yeshiva U-Einstein Coll of Med	33	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0
<b>NORTH CAROLINA</b>	990	29	65	16	56	140	193	31	41	63	70	19	43	50	138	36
Campbell Univ	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
Duke Univ	208	11	12	3	13	53	0	0	12	21	6	16	24	0	10	0
East Carolina U-Sch of Med	5	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0
North Carolina St U-Raleigh	286	9	9	4	19	106	42	4	41	6	13	0	0	0	32	1
U of N Carolina-Chapel Hill	388	9	40	9	24	7	79	27	0	34	33	13	23	23	43	24
U of N Carolina-Greensboro	73	0	0	0	0	1	0	0	11	3	0	4	3	50	1	0
Wake Forest Univ	18	0	4	0	0	14	0	0	0	0	0	0	0	0	0	0
<b>NORTH DAKOTA</b>	74	6	10	1	2	6	3	0	10	16	0	2	2	1	15	0
North Dakota State Univ	32	3	9	0	2	6	2	0	10	0	0	0	0	0	0	0
Univ of North Dakota	42	3	1	1	0	0	1	0	0	16	0	2	2	1	15	0
<b>OHIO</b>	1,663	61	122	16	61	277	185	68	34	105	102	35	47	109	324	117
Air Force Inst of Technology	13	6	0	0	0	7	0	0	0	0	0	0	0	0	0	0
Bowling Green State Univ	78	0	0	0	4	0	5	0	0	13	5	4	4	20	11	12
Case Western Reserve Univ	157	9	14	0	6	61	24	9	0	4	5	1	3	2	0	19
Cleveland State Univ	28	0	5	0	0	10	4	0	0	1	1	0	0	0	7	0
Hebrew Union College	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
Kent State Univ	120	6	7	2	3	0	7	5	0	9	9	4	2	3	42	21
Medical College of Ohio-Toledo	14	1	0	0	0	12	1	0	0	0	0	0	0	0	0	0
Miami Univ	54	0	7	1	0	6	0	0	9	0	4	3	0	0	24	0
Ohio State Univ	683	18	32	11	35	100	64	36	34	34	62	19	25	48	129	36
Ohio Univ	92	6	0	1	2	7	11	0	0	9	0	1	2	6	28	19
Univ of Akron	110	4	29	0	0	31	5	0	12	6	0	0	0	0	23	0
Univ of Cincinnati	224	7	23	1	4	45	41	15	0	6	14	2	4	26	26	10
Univ of Dayton	13	0	0	0	0	7	1	0	0	0	0	0	0	0	5	0
Univ of Toledo	63	4	5	0	2	8	2	1	0	8	0	0	4	0	29	0
Wright State Univ	10	0	0	0	5	1	3	1	0	0	0	0	0	0	0	0

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
<b>OKLAHOMA</b>	405	11	11	10	15	55	31	5	23	37	18	9	10	12	117	41
Oklahoma State Univ	226	6	7	3	9	29	10	0	23	21	10	3	6	2	71	26
Univ of Oklahoma	154	5	4	4	6	20	21	5	0	8	8	6	1	10	41	15
Univ of Tulsa	25	0	0	3	0	6	0	0	0	8	0	0	3	0	5	0
<b>OREGON</b>	511	26	18	16	20	23	81	28	48	21	38	3	12	20	128	29
Oregon Graduate Inst of Sci & Tech	16	0	0	6	3	5	2	0	0	0	0	0	0	0	0	0
Oregon Health Sciences Univ	30	0	0	0	0	0	20	10	0	0	0	0	0	0	0	0
Oregon State Univ	189	6	9	8	9	12	40	10	48	2	11	0	0	0	29	5
Portland State Univ	39	4	3	0	0	6	2	0	0	0	12	0	0	0	9	3
Univ of Oregon	237	16	6	2	8	0	17	8	0	19	15	3	12	20	90	21
<b>PENNSYLVANIA</b>	2,068	72	106	25	118	369	229	75	14	154	168	37	45	147	349	160
Bryn Mawr College	32	0	0	0	0	0	0	0	0	8	2	2	3	8	0	9
Carnegie-Mellon Univ	155	9	5	0	26	73	10	0	0	8	7	3	0	4	0	10
Drexel Univ	71	6	4	1	4	44	1	0	0	3	0	0	0	0	0	8
Duquesne Univ	22	0	2	0	0	0	0	0	0	10	0	0	2	5	0	3
Hahnemann Univ	18	0	0	0	0	0	11	3	0	4	0	0	0	0	0	0
Indiana Univ of Pennsylvania	40	0	0	0	0	0	0	0	0	0	4	0	8	13	15	0
Lehigh Univ	95	8	11	0	8	34	2	0	0	5	3	0	5	0	15	4
Med College of Pennsylvania	10	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0
Pennsylvania State Univ	511	18	29	19	29	139	53	11	14	29	32	1	5	25	73	34
Phila Coll of Pharm & Sci	9	0	2	0	0	3	4	0	0	0	0	0	0	0	0	0
Temple Univ	282	4	12	0	15	0	15	6	0	44	16	10	3	18	125	14
Thomas Jefferson Univ	12	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0
Univ of Pennsylvania	453	16	13	1	22	49	75	14	0	24	79	18	17	52	32	41
Univ of Pittsburgh	332	11	25	4	14	30	37	28	0	19	25	3	2	21	77	36
Villanova Univ	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Westminster Theol Seminary	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Widener Univ	21	0	0	0	0	0	0	9	0	0	0	0	0	0	12	0
<b>PUERTO RICO</b>	60	0	8	0	0	0	2	0	0	14	0	2	0	2	30	2
Caribbean Ctr for Adv Studies	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
Inter Amer U PR-Metro Campus	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
Univ of Puerto Rico	39	0	8	0	0	0	2	0	0	7	0	2	0	2	16	2
<b>RHODE ISLAND</b>	271	16	13	17	26	38	23	9	12	29	25	10	16	37	0	0
Brown Univ	169	14	10	5	25	16	13	1	0	7	25	9	8	36	0	0
Providence College	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Univ of Rhode Island	101	2	3	12	1	22	10	8	12	22	0	0	8	1	0	0
<b>SOUTH CAROLINA</b>	395	9	20	17	21	35	63	25	9	20	17	7	12	20	99	21
Clemson Univ	85	4	8	2	12	20	18	0	9	0	2	0	0	0	9	1
Medical Univ of South Carolina	18	0	0	0	1	0	16	1	0	0	0	0	0	0	0	0
South Carolina State Univ	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
Univ of South Carolina	281	5	12	15	8	15	29	24	0	20	15	7	12	20	79	20
<b>SOUTH DAKOTA</b>	49	0	1	3	0	2	3	0	5	3	3	0	0	0	29	0
S Dakota Sch of Mines & Tech	5	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0
South Dakota State Univ	10	0	1	0	0	1	0	5	0	3	0	0	0	0	0	0
Univ of South Dakota	34	0	0	0	0	0	2	0	0	3	0	0	0	0	29	0
<b>TENNESSEE</b>	647	10	20	4	13	86	82	20	16	63	35	7	16	32	187	56
East Tennessee State Univ	22	0	0	0	0	0	4	0	0	0	0	0	0	0	18	0
Geo Peabody Coll for Teachers	68	0	0	0	0	0	0	0	0	0	0	0	0	0	68	0
Meary Medical College	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
Memphis State Univ	103	0	2	0	3	7	1	4	0	19	0	1	0	4	43	19
Mid-America Bapt Theol Sem	8	0	0	0	0	0	0	0	0	0	0	0	0	3	0	5
Middle Tennessee State Univ	14	0	0	0	0	0	0	0	0	0	0	1	4	0	9	0
Tennessee Technological Univ	7	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0
Univ of Tennessee-Knoxville	249	9	10	4	2	44	21	9	16	26	19	2	8	9	40	30
Univ of Tennessee-Memphis	25	0	0	0	0	0	20	5	0	0	0	0	0	0	0	0
Vanderbilt Univ	144	1	8	0	8	28	29	2	0	18	16	3	4	16	9	2
<b>TEXAS</b>	2,525	97	129	60	133	384	308	109	59	174	123	27	38	157	495	232
Baylor College of Medicine	41	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0
Baylor Univ	18	1	3	0	0	0	1	0	0	1	0	0	0	3	7	2
Dallas Theological Seminary	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	6
East Texas State Univ	47	0	0	0	0	0	0	0	0	1	0	0	0	0	46	0
Lamar Univ	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Rice Univ	110	12	11	6	13	28	10	0	0	5	9	1	6	8	1	0
St. Mary's Univ	4	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0
Sam Houston State Univ	6	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0
Southern Methodist Univ	46	0	0	1	10	21	3	0	0	4	6	0	0	1	0	0
Southwestern Bapt Theol Sem	74	0	0	0	0	0	0	0	0	0	0	2	0	22	11	39
Stephen F Austin St Univ	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Texas A&M Univ-College Station	498	15	43	24	20	107	45	10	47	32	20	4	6	2	92	31
Texas A&M Univ-Kingsville	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Texas Christian Univ	21	4	4	0	0	0	0	0	0	4	0	1	7	1	0	0
Texas Southern Univ	29	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0
Texas Tech Univ	138	3	6	1	4	23	27	0	11	12	4	3	1	9	13	21
Texas Woman's Univ	109	0	0	0	0	0	8	37	1	7	10	0	0	3	32	11

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix A.

	1993 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Math and Computer Sci.	Engineering	Biosciences	Health Sciences	Agricultural Sciences	Psychology	Other Social Sciences	History	Eng. and Amer. Lang. and Lit.	Other Humanities	Education	Professional/ Other Fields
<b>TEXAS (continued)</b>																
Univ of Dallas	3	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0
Univ of Houston	209	10	18	3	12	34	11	2	0	23	11	0	4	4	65	12
Univ of North Texas	202	5	7	0	9	0	30	0	0	26	6	5	3	11	83	17
Univ of Texas-Arlington	83	3	6	0	16	27	0	0	0	3	1	0	1	4	0	22
Univ of Texas-Austin	694	40	30	12	38	137	46	35	0	36	45	11	10	79	114	61
Univ of Texas-Dallas	52	4	1	0	11	4	1	3	0	6	3	0	0	3	0	10
Univ of Texas-El Paso	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U Tex-Hlth Sci Ctr-Houston	52	0	0	2	0	0	29	21	0	0	0	0	0	0	0	0
U Tex-Hlth Sci Ctr-San Antonio	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
U Tex-Med Branch-Galveston	21	0	0	0	0	0	19	0	0	0	0	0	0	2	0	0
U Tex-Southwestern Med Ctr	37	0	0	0	0	1	25	1	0	10	0	0	0	0	0	0
<b>UTAH</b>																
Brigham Young Univ	376	11	26	8	19	75	43	15	18	45	23	2	6	7	55	23
Univ of Utah	74	2	7	0	4	7	6	1	0	16	4	1	0	4	22	0
Utah State Univ	211	7	16	6	13	49	25	14	0	11	18	1	6	3	19	23
	91	2	3	2	2	19	12	0	18	18	1	0	0	0	14	0
<b>VERMONT</b>																
Univ of Vermont	53	0	6	0	0	2	21	0	3	15	0	0	0	0	6	0
	53	0	6	0	0	2	21	0	3	15	0	0	0	0	6	0
<b>VIRGINIA</b>																
College of William & Mary	1,006	28	41	26	62	169	113	35	26	84	80	15	15	35	213	64
George Mason Univ	54	7	0	6	3	0	0	0	1	0	0	6	0	1	30	0
Old Dominion Univ	70	0	0	1	11	7	0	9	0	11	21	0	0	1	4	5
Regent Univ	61	2	0	8	6	16	8	1	0	3	6	0	0	0	8	3
Union Theological Seminary	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Univ of Virginia	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Virginia Commonwealth Univ	314	14	16	6	20	38	36	10	0	15	32	9	15	31	67	5
Virginia Polytech Inst & St U	102	0	3	0	0	1	38	11	0	23	5	0	0	0	6	15
	402	5	22	5	22	107	31	4	25	32	16	0	0	1	98	34
<b>WASHINGTON</b>																
Gonzaga Univ	618	25	26	18	27	93	83	29	40	41	52	11	17	34	94	28
Seattle Univ	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0
Univ of Washington	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0
Washington State Univ	415	22	24	17	21	69	55	27	23	19	38	6	15	31	26	22
	163	3	2	1	6	24	28	2	17	22	14	5	2	3	28	6
<b>WEST VIRGINIA</b>																
Marshall Univ	116	0	4	1	2	17	15	0	9	12	7	1	1	1	46	0
West Virginia Univ	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
	114	0	4	1	2	17	13	0	9	12	7	1	1	1	46	0
<b>WISCONSIN</b>																
Marquette Univ	835	37	48	17	46	137	125	26	39	32	76	19	27	68	100	38
Medical College of Wisconsin	61	0	5	0	1	13	1	0	0	3	0	3	2	10	19	4
Univ of Wisconsin-Madison	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
Univ of Wisconsin-Milwaukee	674	35	40	14	39	113	108	22	39	1	58	16	21	53	65	30
	89	2	3	3	6	11	5	4	0	8	18	0	4	5	16	4
<b>WYOMING</b>																
Univ of Wyoming	49	1	2	10	6	2	8	0	2	7	0	0	0	0	11	0
	49	1	2	10	6	2	8	0	2	7	0	0	0	0	11	0

Top 50 Doctorate-Granting Institutions, 1993

1. Univ of California-Berkeley	806	26. Univ of Massachusetts-Amherst	370
2. Univ of Illinois-Urbana/Champaign	706	27. Univ of Arizona	369
3. Univ of Texas-Austin	694	28. Yale Univ	367
4. Ohio State Univ	683	29. Indiana Univ-Bloomington	365
5. Univ of Wisconsin-Madison	674	30. Northwestern Univ	364
6. Univ of Michigan	662	31. Nova Univ	362
7. Univ of California-Los Angeles	655	32. Univ of Colorado	358
8. Univ of Minnesota-Minneapolis	628	33. Rutgers State Univ-New Brunswick	349
9. Stanford Univ	578	34. Univ of Georgia	348
10. Harvard Univ	528	35. Univ of Chicago	346
11. Massachusetts Inst of Technology	516	36. Univ of Iowa	334
12. Pennsylvania State Univ	511	37. Univ of Pittsburgh	332
13. Purdue Univ	503	38. State Univ of New York-Buffalo	327
14. Texas A&M Univ-College Station	498	39. Iowa State Univ	322
15. Cornell Univ	494	40. Johns Hopkins Univ	317
16. Univ of Maryland-College Park	486	41. City U of NY-Grad Sch/Univ Ctr	316
17. Columbia Univ	469	42. Univ of Virginia	314
18. Univ of Pennsylvania	453	43. Univ of California-Davis	307
19. Univ of Southern California	418	44. North Carolina State Univ-Raleigh	286
20. Univ of Washington	415	45. Temple Univ	282
21. New York Univ	406	46. Univ of South Carolina	281
22. Virginia Polytech Inst & State Univ	402	47. State Univ of New York-Stony Brook	280
23. Michigan State Univ	390	48. Arizona State Univ	270
24. Univ of North Carolina-Chapel Hill	388	49. Florida State Univ	263
25. Univ of Florida	372	50. Univ of California-San Diego	263

SOURCE: National Research Council, Survey of Earned Doctorates.

## APPENDIX B: Trend Tables, 1983-1993

Appendix B includes the following two tables:

- B-1 Number of Doctorate Recipients, by Subfield, 1983-1993
- B-2 Number of Doctorate Recipients, by Gender, Race/Ethnicity, and Citizenship, 1978 and 1983-1993

### \*\*\* IMPORTANT NOTICE \*\*\*

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information, with no adjustment for nonresponse. Thus, differences in response rates from year to year can produce numerical fluctuations that are unrelated to true trends.

Response to the SED has been 95 to 98 percent over the years, except during the 1980s when it gradually declined to 92 percent. In an effort to improve the response rate, the survey methodology has undergone some revision in the years since 1989. Response has risen as hoped, stabilizing at 95 percent during the last three years (1991 to 1993). (Note: These percentages represent *self-report rates*, i.e., the proportion of survey forms completed by doctorate recipients. Questionnaires filled in with partial information by either the doctoral institution or staff of the National Research Council are not included in these self-report rates *but are* included in tabulations in this report.) The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients. See page 82 in Appendix C for a table giving survey response rates from 1980 to 1993.

*Item* response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented, increasing coverage of several variables (birth year, gender, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans). Response rates for these variables have thus improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. Postsurvey adjustment to data was greatest in 1990 and 1991, with the largest impact on the number of black Ph.D.s. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended a month to allow receipt of additional follow-up information before closure; the same is expected for 1993 data.

All adjustments to data are presented in reports subsequent to the initial report for a survey. Thus, updates for 1990 appeared in *Summary Report 1991*; those for 1991 appeared in *Summary Report 1992*; and those for 1992 are included in this year's report (see Appendix Table B-2). The data for 1993 will likewise be subject to further revision, but as for 1992, adjustments are expected to be minimal. Updates to 1993 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

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**TABLE B-1:** Table B-1 presents data for the most recent decade by subfield of doctorate. In general, the subfields correspond to the fields on the questionnaire's Specialties List located at the back of this report; some, however, do not appear on the current Specialties List because they are no longer included in the survey taxonomy. A dash (-) in a column indicates that the field was not on the Specialties List for that year.

Field groupings in this table may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates (SED); see inside the back cover for a description of field groupings as reported in these tables. The "general" field categories—e.g., "chemistry, general"—include individuals who either received the doctorate in the general subject area or did not indicate a particular specialty field. The "other" field categories—e.g., "chemistry, other"—include individuals whose specified doctoral discipline was not among the specialty fields.

The seven tables in Appendix A present additional information on the most recent cohort of Ph.D.s by field of doctorate.

**TABLE B-2:** Table B-2 displays data on the race/ethnicity of doctorate recipients for 1978 and the last decade by gender and citizenship. (The year 1978 is included because it serves as the earliest point of comparison for racial/ethnic data presented in the body of the report.) Table B-2 contains three panels, each displayed on a separate page. The first panel includes all doctorates; the others disaggregate the data by gender.

*The reader should note that numbers in Table B-2 have been revised since publication of Summary Report 1992. Because of late questionnaire returns and responses to follow-ups for missing information, data are subject to revision in the year after survey closure. New follow-up procedures first implemented in 1990 have increased coverage of several variables, including citizenship and race/ethnicity. One result has been greater postsurvey adjustment to racial/ethnic data than in earlier years. (Note: The greatest adjustment was to the numbers of black Ph.D.s in 1990 and 1991—an increase of about 7.5 percent each year.) Updates to 1992 racial/ethnic data are shown in Table B-2 in this year's report. See the notice on page 71 for additional information on recent increases in response rates and their impact on time-series data.*

The racial/ethnic question has undergone several revisions over the years. In 1977, it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980, the item was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980, doctorate recipients could check more than one category to indicate their race.) The item was modified again in 1982 to separate the questions on race and ethnicity. Since then, respondents have been asked to first check one of the four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In Table B-2, Ph.D.s who reported Hispanic heritage, regardless of racial designation, are counted as Hispanic. The remaining survey respondents

are then counted in the respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as Native American in this report.)

Tables A-2 and A-4 in Appendix A present additional information on the most recent cohort of Ph.D.s by race/ethnicity.

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1983-1993

	Year of Doctorate										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<b>TOTAL ALL FIELDS</b>	<b>31,282</b>	<b>31,337</b>	<b>31,298</b>	<b>31,899</b>	<b>32,367</b>	<b>33,499</b>	<b>34,324</b>	<b>36,068</b>	<b>37,517</b>	<b>38,853</b>	<b>39,754</b>
<b>PHYSICAL SCIENCES</b>	<b>4,426</b>	<b>4,452</b>	<b>4,531</b>	<b>4,807</b>	<b>5,030</b>	<b>5,309</b>	<b>5,455</b>	<b>5,859</b>	<b>6,279</b>	<b>6,502</b>	<b>6,496</b>
<b>MATHEMATICS</b>	701	698	688	729	740	749	859	892	1,039	1,058	1,146
Applied Mathematics	125	108	116	135	131	142	158	185	193	213	188
Algebra	55	65	55	46	57	54	50	39	72	69	84
Analysis and Functional Analysis	76	71	83	81	86	76	103	90	132	105	105
Geometry	44	27	35	38	30	44	47	42	66	45	44
Logic	21	25	30	23	18	20	12	19	23	28	19
Number Theory	19	27	18	20	15	26	23	26	30	25	42
Mathematical Statistics	151	181	150	141	143	152	167	157	206	217	228
Topology	44	42	35	34	41	27	37	50	57	58	54
Computing Theory and Practice	12	13	15	10	14	12	12	12	19	12	18
Operations Research	20	27	22	29	22	29	22	29	16	22	37
Mathematics, General	86	78	85	125	137	134	177	191	180	209	276
Mathematics, Other	48	34	44	47	46	33	51	52	45	55	51
<b>COMPUTER SCIENCE</b>	286	295	310	399	450	515	612	705	800	869	878
Computer Science	264	256	249	355	384	442	519	612	720	791	823
Information Sciences and Systems	22	39	61	44	66	73	93	93	80	78	55
<b>PHYSICS AND ASTRONOMY</b>	1,043	1,080	1,080	1,187	1,237	1,302	1,274	1,393	1,411	1,537	1,543
Astronomy	50	42	43	52	46	66	49	52	50	55	76
Astrophysics	65	56	57	57	54	64	64	76	75	79	69
Acoustics	14	21	10	15	17	16	15	21	13	18	27
Chemical and Atomic/Molecular	71	77	58	70	79	77	74	87	76	85	95
Electron	1	2	4	2	6	2	4	2	1	-	-
Elementary Particles	136	138	154	147	159	174	135	163	182	153	170
Fluids	15	11	16	6	21	17	14	17	14	17	19
Nuclear	90	72	86	89	74	88	81	73	66	86	81
Optics	50	53	51	58	50	65	78	76	85	94	96
Plasma and High-Temperature	72	73	55	61	72	65	61	42	58	65	62
Polymer	10	8	11	11	15	20	7	11	17	17	29
Solid State and Low-Temperature	222	258	248	280	287	252	296	306	372	408	335
Physics, General	150	170	176	222	238	271	269	323	247	297	340
Physics, Other	97	99	111	117	119	125	127	144	155	163	144
<b>CHEMISTRY</b>	1,759	1,765	1,836	1,903	1,975	2,015	1,970	2,100	2,193	2,214	2,139
Analytical	264	228	285	257	314	301	289	293	304	304	286
Inorganic	215	233	251	260	240	250	256	242	260	268	238
Nuclear	13	18	7	18	13	7	6	13	14	7	8
Organic	503	525	494	511	511	531	511	452	538	512	517
Medicinal/Pharmaceutical	78	56	60	58	65	73	64	48	82	68	98
Physical	311	329	304	293	302	318	310	325	364	399	337
Polymer	62	63	84	72	96	81	78	81	111	83	107
Theoretical	48	37	48	41	46	50	46	55	45	59	53
Chemistry, General	177	183	213	289	297	310	312	524	400	449	433
Chemistry, Other	88	93	90	104	91	94	98	67	75	65	62
<b>EARTH, ATMOS., &amp; MARINE SCI.</b>	637	614	617	589	628	728	740	769	836	824	790
Atmospheric Physics and Chemistry	21	11	16	21	24	19	15	18	20	36	13
Atmospheric Dynamics	16	25	21	16	17	25	16	20	21	23	23
Meteorology	17	28	23	27	17	35	27	20	31	28	34
Atmos. Sci./Meteorology, General	16	5	10	7	16	14	14	23	26	27	22
Atmos. Sci./Meteorology, Other	27	12	10	7	13	10	15	2	10	6	7
Geology	105	124	111	118	114	144	165	166	192	166	197
Geochemistry	48	43	48	37	31	46	39	56	64	62	50
Geophysics and Seismology	75	68	92	89	75	83	87	91	117	108	101
Paleontology	17	35	23	16	21	24	17	21	24	25	21
Mineralogy, Petrology	24	28	28	17	24	19	36	26	36	29	9
Stratigraphy, Sedimentation	25	16	23	14	22	30	24	25	29	23	28
Geomorphology and Glacial Geology	10	9	13	11	18	9	10	14	18	12	16
Applied Geology	8	7	8	4	5	7	6	6	1	-	-
Geological & Related Sci., General	15	10	11	12	18	8	19	31	30	18	15
Geological & Related Sci., Other	21	25	11	12	29	31	28	28	33	31	17
Environmental Science	50	45	42	35	29	58	68	50	35	57	68
Hydrology and Water Resources	20	18	17	16	18	24	24	13	16	29	25
Oceanography	87	78	68	78	73	81	87	89	85	82	99
Marine Sciences	22	21	24	22	38	28	26	39	27	32	27
Misc. Physical Sciences, Other	13	6	18	30	26	33	17	31	21	30	18
<b>ENGINEERING</b>	<b>2,781</b>	<b>2,913</b>	<b>3,166</b>	<b>3,376</b>	<b>3,712</b>	<b>4,187</b>	<b>4,543</b>	<b>4,894</b>	<b>5,215</b>	<b>5,439</b>	<b>5,696</b>
Aerospace, Aeronautic. & Astronautic.	106	119	124	118	142	150	178	192	207	234	228
Agricultural	58	74	60	52	74	70	102	101	84	84	86
Bioengineering and Biomedical	74	70	69	67	75	114	115	129	149	147	171
Ceramic Sciences	24	25	19	25	42	30	35	43	58	42	42
Chemical	349	361	440	476	527	624	625	561	621	607	624
Civil	354	351	358	387	441	488	498	505	509	541	563
Communications	25	11	30	23	26	24	25	35	21	30	22
Computer	83	56	55	77	62	100	117	131	178	175	167

73

NOTE: Dash (-) indicates that the field was not on the questionnaire's Specialties List that year. Field groupings may differ from those in reports published by federal sponsors of the Survey of Eamed Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix B.

	Year of Doctorate										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Electrical, Electronics	517	593	631	706	691	886	995	1,110	1,206	1,278	1,353
Engineering Mechanics	68	91	89	94	113	105	110	111	113	132	128
Engineering Physics	10	8	12	13	13	9	16	16	23	25	21
Engineering Science	30	28	31	30	26	32	27	37	42	51	55
Environmental Health Engineering	43	57	33	42	36	43	40	48	66	54	61
Industrial/Manufacturing	86	84	92	101	120	127	162	151	165	196	236
Materials Science	157	168	188	187	238	252	257	307	361	365	416
Mechanical	311	336	424	442	544	610	650	773	762	855	901
Metallurgical	87	78	96	93	112	92	88	90	70	78	77
Mining and Mineral	22	16	16	22	27	17	33	39	38	26	24
Naval Architecture, Marine Eng.	4	5	8	9	7	9	9	8	5	-	-
Nuclear	103	120	96	98	84	104	86	114	107	120	108
Ocean	12	11	25	14	24	21	20	17	21	21	24
Operations Research	44	50	54	54	51	44	68	46	76	56	56
Petroleum	22	17	24	18	23	33	29	49	28	54	52
Polymer/Plastics	21	31	40	37	34	28	58	48	42	64	61
Systems	57	52	57	33	47	44	30	51	48	37	57
Engineering, General	30	29	26	55	54	49	61	75	78	64	47
Engineering, Other	84	72	69	103	79	82	109	107	137	103	116
<b>LIFE SCIENCES</b>	<b>5,554</b>	<b>5,758</b>	<b>5,781</b>	<b>5,734</b>	<b>5,754</b>	<b>6,165</b>	<b>6,341</b>	<b>6,604</b>	<b>6,929</b>	<b>7,114</b>	<b>7,397</b>
<b>BIOLOGICAL SCIENCES</b>	<b>3,741</b>	<b>3,880</b>	<b>3,793</b>	<b>3,807</b>	<b>3,839</b>	<b>4,112</b>	<b>4,115</b>	<b>4,327</b>	<b>4,645</b>	<b>4,798</b>	<b>5,090</b>
Biochemistry	647	606	581	576	573	613	669	678	765	715	845
Biophysics	88	90	69	72	86	97	87	103	100	125	103
Biotechnology Research	-	-	-	-	-	-	-	-	-	-	8
Bacteriology	10	12	17	12	13	7	11	15	11	13	14
Plant Genetics	19	20	31	20	26	26	18	31	23	33	41
Plant Pathology	29	30	38	28	33	30	22	37	50	32	41
Plant Physiology	67	70	58	52	62	74	47	51	65	68	48
Botany, Other	116	126	120	121	106	112	117	104	105	107	105
Anatomy	107	103	135	86	92	88	80	70	77	75	76
Biometrics and Biostatistics	45	49	40	30	37	47	46	47	59	63	74
Cell Biology	118	123	100	130	127	118	133	145	149	188	231
Ecology	183	202	200	183	158	155	161	166	189	180	176
Developmental Biology/Embryology	13	15	15	9	6	7	10	22	37	48	57
Endocrinology	28	30	17	17	19	21	21	24	33	27	16
Entomology	141	156	173	170	123	133	139	147	138	139	114
Biological Immunology	154	133	124	146	136	179	152	153	177	181	169
Molecular Biology	225	275	277	298	303	364	413	413	480	527	582
Microbiology	309	346	289	326	301	333	340	335	372	377	433
Neuroscience	134	145	156	120	153	163	181	192	238	238	275
Nutritional Sciences	111	109	113	122	141	127	128	118	106	132	134
Parasitology	9	30	21	25	16	20	20	13	20	17	17
Toxicology	60	97	99	104	115	108	111	91	86	105	99
Human and Animal Genetics	95	82	105	91	113	118	112	153	160	142	172
Human and Animal Pathology	97	88	110	91	127	112	105	101	122	114	130
Human and Animal Pharmacology	218	237	235	245	234	252	241	243	262	278	273
Human and Animal Physiology	246	237	245	240	248	225	272	278	272	266	271
Zoology, Other	192	158	147	155	139	167	132	122	125	134	114
Biological Sciences, General	174	190	190	213	229	256	231	333	278	315	308
Biological Sciences, Other	106	121	88	125	123	160	116	142	146	159	164
<b>HEALTH SCIENCES</b>	<b>640</b>	<b>722</b>	<b>729</b>	<b>770</b>	<b>800</b>	<b>882</b>	<b>974</b>	<b>956</b>	<b>1,042</b>	<b>1,112</b>	<b>1,201</b>
Speech-Lang. Pathology & Audiology	113	104	99	82	107	93	91	93	90	82	98
Environmental Health	38	40	31	39	29	52	35	38	38	44	38
Health Systems/Services Admin.	-	-	-	-	-	-	-	-	-	-	35
Public Health	54	53	103	103	96	121	129	123	132	157	155
Epidemiology	76	103	76	80	86	97	107	102	115	108	120
Nursing	126	161	183	216	218	247	308	261	326	338	373
Pharmacy	81	102	106	104	133	95	111	116	115	160	148
Rehabilitation/Therapeutic Services	-	-	-	-	-	-	-	-	17	25	36
Veterinary Medicine	45	46	51	41	31	48	48	70	56	63	61
Health Sciences, General	20	14	13	27	12	29	19	36	28	30	38
Health Sciences, Other	87	99	67	78	88	100	126	117	125	105	99
<b>AGRICULTURAL SCIENCES</b>	<b>1,173</b>	<b>1,156</b>	<b>1,259</b>	<b>1,157</b>	<b>1,115</b>	<b>1,171</b>	<b>1,252</b>	<b>1,321</b>	<b>1,242</b>	<b>1,204</b>	<b>1,106</b>
Agricultural Economics	158	159	148	160	139	150	164	145	168	141	137
Agricultural Business & Management	-	-	-	-	-	0	-	2	1	0	1
Animal Breeding and Genetics	25	28	28	25	23	27	23	22	18	23	18
Animal Nutrition	56	71	78	65	82	54	67	54	57	41	52
Dairy Science	-	-	-	-	-	12	16	20	19	14	11
Poultry Science	-	-	-	-	-	10	11	17	13	22	16
Fisheries Science and Management	36	45	36	31	32	42	34	42	39	26	38
Animal Sciences, Other	92	90	95	91	76	86	95	90	92	97	74
Agronomy and Crop Science	149	137	158	159	143	141	140	143	117	123	104
Plant Breeding and Genetics	71	78	88	78	70	83	64	87	69	82	68
Plant Pathology	92	57	89	85	76	46	63	64	90	63	58
Plant Protection-Pest Management	-	-	-	-	-	1	6	4	2	-	-
Plant Sciences, Other	16	20	21	22	20	23	15	23	17	29	28
Food Sciences	141	113	136	121	131	16	1	-	-	-	-
Food Engineering	-	-	-	-	-	6	11	10	12	14	9
Food Sciences, Other	-	-	-	-	-	119	147	141	137	151	140
Soil Sciences	85	99	97	103	74	18	-	-	-	-	-
Soil Chemistry/Microbiology	-	-	-	-	-	33	28	27	24	24	26
Soil Sciences, Other	-	-	-	-	-	62	75	91	78	63	59
Horticulture Science	72	66	76	60	71	61	75	101	78	65	62

APPENDIX TABLE B-1 (Continued)

	Year of Doctorate										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Wildlife Management	31	31	38	20	23	3	-	-	-	-	-
Forestry Science	90	94	105	88	100	15	-	-	-	-	-
Forest Biology	-	-	-	-	-	21	22	27	17	29	18
Forest Engineering	-	-	-	-	-	3	1	2	2	2	3
Forest Management	-	-	-	-	-	18	21	14	22	16	17
Wood Sci. and Pulp/Paper Tech.	-	-	-	-	-	7	16	16	16	21	20
Conservation/Renewable Nat. Res.	-	-	-	-	-	7	12	16	19	9	13
Forestry and Related Sci., Other	-	-	-	-	-	35	57	62	45	62	55
Wildlife/Range Management	-	-	-	-	-	36	52	58	59	55	54
Agricultural Sciences, General	7	1	5	4	5	9	7	5	3	9	10
Agricultural Sciences, Other	52	67	61	45	50	21	27	38	28	23	15
<b><u>SOCIAL SCIENCES (INCL. PSYCH.)</u></b>	<b><u>6,095</u></b>	<b><u>5,929</u></b>	<b><u>5,765</u></b>	<b><u>5,893</u></b>	<b><u>5,790</u></b>	<b><u>5,781</u></b>	<b><u>5,961</u></b>	<b><u>6,094</u></b>	<b><u>6,152</u></b>	<b><u>6,217</u></b>	<b><u>6,545</u></b>
Anthropology	373	335	353	381	352	325	325	324	341	320	342
Area Studies	20	23	19	28	17	16	17	22	24	33	36
Criminology	49	41	38	24	29	43	32	42	35	37	39
Demography/Population Studies	26	19	25	15	26	19	22	20	28	17	22
Economics	792	766	784	834	796	825	872	836	861	885	906
Econometrics	21	27	27	25	25	27	26	26	24	25	24
Geography	121	114	120	120	111	129	105	131	108	111	137
International Relations/Affairs	76	95	78	76	82	77	94	97	88	76	102
Political Science and Government	397	419	406	414	404	392	430	462	434	513	507
Public Policy Analysis	69	54	70	81	83	73	79	87	111	107	98
Sociology	525	515	461	491	423	449	436	428	465	495	513
Statistics	47	39	60	65	49	47	69	69	31	29	48
Urban Affairs/Studies	74	81	75	50	72	86	62	67	90	86	123
Social Sciences, General	17	17	17	36	30	28	26	23	36	33	32
Social Sciences, Other	141	127	114	127	118	171	158	178	226	186	197
<b>PSYCHOLOGY</b>	<b>3,347</b>	<b>3,257</b>	<b>3,118</b>	<b>3,126</b>	<b>3,173</b>	<b>3,074</b>	<b>3,208</b>	<b>3,282</b>	<b>3,250</b>	<b>3,264</b>	<b>3,419</b>
Clinical	1,241	1,195	1,181	1,173	1,214	1,095	1,259	1,338	1,305	1,310	1,372
Cognitive and Psycholinguistics	65	77	76	70	80	83	79	76	94	101	104
Comparative	11	13	11	14	9	7	8	8	7	2	5
Counseling	432	464	431	449	486	482	501	466	497	507	488
Developmental and Child	219	207	175	184	200	176	148	159	155	170	202
Experimental	209	169	165	147	146	135	146	143	142	154	143
Educational	154	210	127	106	89	103	105	98	110	91	91
Industrial and Organizational	90	106	102	110	107	118	104	126	142	138	158
Personality	32	25	21	16	25	18	28	20	13	17	22
Physiological/Psychobiology	94	73	79	73	69	85	62	46	45	55	85
Psychometrics	10	6	10	11	9	11	6	8	9	5	9
Quantitative	14	17	16	23	13	12	11	15	7	10	16
School	121	89	92	116	93	115	107	82	82	88	94
Social	191	157	167	141	133	140	128	145	147	139	125
Psychology, General	292	267	266	309	343	368	364	371	324	295	308
Psychology, Other	172	182	199	184	157	126	152	181	171	182	197
<b><u>HUMANITIES</u></b>	<b><u>3,500</u></b>	<b><u>3,536</u></b>	<b><u>3,429</u></b>	<b><u>3,461</u></b>	<b><u>3,500</u></b>	<b><u>3,556</u></b>	<b><u>3,553</u></b>	<b><u>3,822</u></b>	<b><u>4,098</u></b>	<b><u>4,443</u></b>	<b><u>4,481</u></b>
History, American	224	240	176	197	198	209	206	211	251	277	269
History, European	168	150	143	121	121	127	107	151	127	176	162
History/Philosophy of Sci. & Tech.	13	24	23	24	25	22	20	26	27	28	37
History, General	58	76	85	83	94	103	85	111	121	103	117
History, Other	153	127	116	138	148	142	120	113	137	141	143
Classics	44	57	44	51	55	56	51	58	55	58	61
Comparative Literature	124	133	133	101	121	139	103	97	150	163	153
Linguistics	164	160	176	189	199	166	188	167	227	266	214
Speech and Rhetorical Studies	48	41	38	30	37	37	35	38	86	98	111
Letters, General	3	14	13	19	25	16	13	19	17	18	18
Letters, Other	19	31	26	37	39	43	60	52	44	38	37
American Studies	99	76	87	68	75	70	76	72	92	81	101
Archeology	30	31	24	28	31	23	26	22	33	33	38
Art History/Criticism/Conservation	150	141	137	126	143	134	145	135	125	154	158
Music	391	445	447	476	499	505	522	572	589	641	616
Philosophy	241	215	238	248	233	222	270	243	285	279	274
Religion	177	183	181	182	182	217	215	219	187	231	255
Drama/Theater Arts	108	101	92	88	82	92	79	106	91	95	91
<b>LANGUAGE AND LITERATURE</b>	<b>1,219</b>	<b>1,225</b>	<b>1,164</b>	<b>1,164</b>	<b>1,112</b>	<b>1,147</b>	<b>1,152</b>	<b>1,308</b>	<b>1,350</b>	<b>1,465</b>	<b>1,525</b>
American	173	190	204	215	190	186	192	229	253	291	293
English	542	543	525	504	478	531	528	567	599	612	655
French	121	108	86	102	103	101	106	123	100	124	137
German	77	80	62	79	77	76	73	78	71	96	105
Italian	22	17	14	15	21	14	20	25	32	20	19
Spanish	161	144	145	122	133	137	134	173	173	179	180
Russian	24	33	28	28	19	13	13	19	25	28	28
Slavic	9	12	10	8	5	5	7	7	14	15	13
Chinese	16	13	14	13	13	12	9	16	19	20	21
Japanese	5	12	13	9	9	6	13	9	7	12	11
Hebrew	11	13	9	11	13	12	10	14	11	20	15
Arabic	8	8	5	9	8	14	6	7	4	12	10
Other Language and Literature	50	52	49	49	43	40	41	41	42	36	38
Humanities, General	17	22	27	23	23	25	19	28	29	21	30
Humanities, Other	50	44	59	68	58	61	61	74	75	77	71

NOTE: Dash (-) indicates that the field was not on the questionnaire's Specialties List that year. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See inside the back cover for a description of fields as reported in this table. Refer also to the explanatory note about this table in front of Appendix B.

	Year of Doctorate										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<b>EDUCATION</b>	<b>7,174</b>	<b>6,808</b>	<b>6,733</b>	<b>6,646</b>	<b>6,450</b>	<b>6,359</b>	<b>6,278</b>	<b>6,511</b>	<b>6,442</b>	<b>6,640</b>	<b>6,647</b>
Curriculum and Instruction	861	869	825	794	762	815	841	839	807	899	853
Educational Admin. and Supervision	1,632	1,569	1,625	1,637	1,686	1,749	1,632	1,663	1,428	1,287	1,339
Educational Leadership	-	-	-	1	-	-	-	1	483	681	762
Educ./Instruct. Media Design	88	83	101	79	68	67	76	55	73	62	95
Educ. Stat./Research Methods	86	105	74	58	73	51	59	59	80	61	64
Educ. Assess., Test., & Meas.	51	56	44	47	37	55	42	40	32	45	23
Educational Psychology	274	233	388	330	320	323	301	323	323	346	288
School Psychology	88	110	102	92	95	98	85	87	90	88	86
Social/Phil. Found. of Educ.	142	151	135	124	114	122	110	86	109	101	108
Special Education	349	312	270	273	248	257	259	225	226	260	276
Counseling Educ./Couns. & Guidance	-	506	391	397	315	315	324	264	301	270	289
Educ. Eval. & Res./Higher Educ.	635	657	589	612	570	399	373	424	344	380	359
Pre-elementary/Early Childhood	63	54	65	86	73	83	63	42	85	98	97
Elementary Education	111	97	122	94	105	93	99	110	73	73	65
Junior High Education	1	0	1	0	1	1	-	-	-	-	-
Secondary Education	87	62	68	86	65	67	53	56	40	28	33
Adult and Continuing Education	221	218	207	223	203	229	236	211	210	208	233
<b>TEACHING FIELDS</b>	<b>1,327</b>	<b>1,170</b>	<b>1,118</b>	<b>1,142</b>	<b>1,064</b>	<b>988</b>	<b>968</b>	<b>923</b>	<b>970</b>	<b>1,006</b>	<b>940</b>
Agricultural Education	47	47	40	39	39	32	35	38	49	43	54
Art Education	58	41	43	43	52	42	39	44	28	46	38
Business Education	62	52	52	50	36	44	40	34	32	16	27
English Education	76	72	68	79	72	57	51	52	58	61	53
Foreign Languages Education	25	25	30	37	37	53	33	31	46	50	48
Health Education	99	93	89	81	91	86	100	95	78	98	82
Home Economics Education	25	26	21	17	17	10	19	10	21	12	14
Technical/Industrial Arts Education	19	27	13	20	24	11	17	18	13	11	16
Mathematics Education	62	64	65	72	74	56	69	65	73	62	69
Music Education	112	92	81	94	109	76	97	78	96	96	80
Nursing Education	17	21	21	40	36	34	29	24	18	29	19
Physical Education and Coaching	235	219	220	210	192	184	176	191	185	167	161
Reading Education	169	142	113	134	94	74	95	82	102	121	95
Science Education	78	77	88	65	63	67	48	72	72	73	73
Social Science Education	39	22	24	22	17	23	13	11	19	19	9
Speech Education	2	10	7	5	5	5	1	5	1	-	-
Technical Education	-	-	-	-	-	13	28	15	25	35	21
Trade and Industrial Education	138	117	82	86	68	67	47	18	17	11	24
Teacher Ed./Spec. Acad. & Voc., Other	64	23	61	48	38	47	31	40	37	56	57
Education, General	349	311	294	354	366	350	414	535	421	426	410
Education, Other	303	360	308	299	285	280	403	531	378	332	329
<b>PROFESSIONAL/OTHER FIELDS</b>	<b>1,752</b>	<b>1,941</b>	<b>1,893</b>	<b>1,982</b>	<b>2,131</b>	<b>2,142</b>	<b>2,193</b>	<b>2,284</b>	<b>2,402</b>	<b>2,498</b>	<b>2,492</b>
<b>BUSINESS AND MANAGEMENT</b>	<b>750</b>	<b>869</b>	<b>790</b>	<b>902</b>	<b>982</b>	<b>1,033</b>	<b>1,067</b>	<b>1,036</b>	<b>1,163</b>	<b>1,248</b>	<b>1,280</b>
Accounting	163	164	150	157	161	175	186	172	172	180	183
Banking/Financial Support Services	94	123	104	126	156	148	151	134	172	172	170
Business Admin. and Management	179	175	174	222	225	265	245	277	204	241	323
Business/Managerial Economics	25	30	20	28	26	27	27	21	19	21	33
Mgmt. Info. Sys./Business Data Proc.	-	-	-	-	-	-	-	-	72	103	101
Marketing Management and Research	73	126	94	110	113	126	130	120	134	139	166
Business Statistics	8	7	9	3	8	6	15	10	5	-	-
Operations Research	38	46	45	46	64	50	52	46	58	67	63
Organizational Behavior	53	70	68	57	66	74	95	64	72	81	73
Business Mgmt./Admin. Serv., General	35	49	49	56	75	75	57	70	123	112	88
Business Mgmt./Admin. Serv., Other	82	79	77	97	88	87	109	122	132	132	80
<b>COMMUNICATIONS</b>	<b>250</b>	<b>255</b>	<b>266</b>	<b>258</b>	<b>309</b>	<b>247</b>	<b>306</b>	<b>323</b>	<b>332</b>	<b>330</b>	<b>322</b>
Communications Research	51	66	55	79	90	72	85	87	72	45	33
Journalism	20	17	22	18	7	21	15	21	7	-	-
Mass Communications	-	-	-	-	-	-	-	-	68	85	117
Radio and Television	27	20	19	13	16	12	29	17	6	-	-
Communication Theory	-	-	-	-	-	-	-	-	25	47	41
Communications, General	60	68	89	75	102	70	79	86	70	76	69
Communications, Other	92	84	81	73	94	72	98	112	84	77	62
<b>OTHER PROFESSIONAL FIELDS</b>	<b>730</b>	<b>802</b>	<b>812</b>	<b>796</b>	<b>778</b>	<b>812</b>	<b>766</b>	<b>858</b>	<b>836</b>	<b>880</b>	<b>863</b>
Architectural Environmental Design	34	25	36	27	33	31	43	41	67	60	54
Home Economics	79	107	90	88	67	58	55	74	29	58	57
Law	19	24	25	31	29	33	26	34	23	20	29
Library Science	51	68	71	57	48	57	60	42	52	51	70
Parks/Recreation/Leisure/Fitness	-	-	-	-	-	-	-	-	-	-	44
Public Administration	113	127	112	88	78	92	97	88	107	108	116
Social Work	190	231	220	235	214	241	206	246	240	248	237
Theology/Religious Education	227	212	240	240	254	251	232	231	273	292	240
Professional Fields, General	0	2	0	0	1	2	0	3	3	1	1
Professional Fields, Other	17	6	18	30	54	47	47	59	42	42	15
<b>OTHER FIELDS</b>	<b>22</b>	<b>15</b>	<b>25</b>	<b>26</b>	<b>62</b>	<b>50</b>	<b>54</b>	<b>67</b>	<b>71</b>	<b>40</b>	<b>27</b>

SOURCE: National Research Council, Survey of Earned Doctorates.

APPENDIX TABLE B-2 Number of Doctorate Recipients, by Gender, Race/Ethnicity, and Citizenship, 1978 and 1983-1993

Total All Doctorates

	Year of Doctorate											
	1978	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<b>TOTAL MEN AND WOMEN</b>	30,875	31,282	31,337	31,298	31,899	32,367	33,499	34,324	36,068	37,517	38,853	39,754
U.S. Citizens	25,291	24,359	24,027	23,370	23,083	22,983	23,290	23,400	24,906	25,559	25,975	26,386
Permanent Visas	1,344	1,275	1,224	1,324	1,433	1,578	1,622	1,626	1,698	1,856	1,978	2,250
Temporary Visas	3,421	4,499	4,832	5,228	5,276	5,610	6,194	6,646	8,093	9,309	9,950	9,923
Unknown Citizenship	819	1,149	1,254	1,376	2,107	2,196	2,393	2,652	1,371	793	950	1,195
<b>Total Known Race/Ethnicity</b>	28,451	29,398	29,280	29,058	28,924	29,216	30,345	30,940	33,868	35,751	37,128	38,194
U.S. Citizens	23,778	23,739	23,423	22,848	22,653	22,504	22,900	23,014	24,525	25,063	25,601	26,152
Permanent Visas	1,313	1,249	1,194	1,291	1,357	1,509	1,545	1,564	1,636	1,794	1,901	2,216
Temporary Visas	3,246	4,254	4,509	4,848	4,837	5,141	5,838	6,293	7,555	8,783	9,531	9,661
Unknown Citizenship	114	156	154	71	77	62	62	69	152	111	95	165
<b>Native Americans</b>	61	82	74	96	100	116	94	94	97	132	152	120
U.S. Citizens	60	81	74	96	99	115	94	94	96	130	149	119
Permanent Visas*	0	1	0	0	0	0	0	0	0	2	0	0
Temporary Visas*	1	0	0	0	1	1	0	0	1	0	2	1
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	1	0
<b>Asians</b>	2,394	3,125	3,394	3,642	3,727	4,126	4,778	5,181	6,291	7,521	8,276	8,653
U.S. Citizens	390	492	512	516	530	542	614	626	641	786	837	891
Permanent Visas	642	551	507	553	528	625	621	635	664	741	914	1,118
Temporary Visas	1,311	2,007	2,295	2,526	2,645	2,933	3,516	3,903	4,930	5,946	6,504	6,595
Unknown Citizenship	51	75	80	47	24	26	27	17	56	48	21	49
<b>Blacks</b>	1,381	1,384	1,494	1,440	1,270	1,218	1,263	1,246	1,349	1,458	1,421	1,606
U.S. Citizens	1,031	922	953	912	823	768	814	821	898	1,003	961	1,106
Permanent Visas	73	83	102	131	126	139	152	141	149	155	143	169
Temporary Visas	269	365	419	395	313	305	291	273	290	293	310	319
Unknown Citizenship	8	14	20	2	8	6	6	11	12	7	7	12
<b>Hispanics</b>	861	969	916	1,000	1,056	1,054	1,048	1,062	1,228	1,318	1,400	1,429
U.S. Citizens	486	539	534	561	572	617	595	581	721	731	778	834
Permanent Visas	67	69	71	73	107	91	98	112	116	136	130	138
Temporary Visas	293	342	300	360	372	338	349	363	386	445	481	453
Unknown Citizenship	15	19	11	6	5	8	6	6	5	6	11	4
<b>Whites</b>	23,754	23,838	23,402	22,880	22,771	22,702	23,162	23,357	24,903	25,322	25,879	26,386
U.S. Citizens	21,811	21,705	21,350	20,763	20,629	20,462	20,783	20,892	22,169	22,413	22,876	23,202
Permanent Visas	531	545	514	534	596	654	674	676	707	760	714	791
Temporary Visas	1,372	1,540	1,495	1,567	1,506	1,564	1,682	1,754	1,948	2,099	2,234	2,293
Unknown Citizenship	40	48	43	16	40	22	23	35	79	50	55	100
<b>Unknown Race/Ethnicity</b>	2,424	1,884	2,057	2,240	2,975	3,151	3,154	3,384	2,200	1,766	1,725	1,560
U.S. Citizens	1,513	620	604	522	430	479	390	386	381	496	374	234
Permanent Visas	31	26	30	33	76	69	77	62	62	62	77	34
Temporary Visas	175	245	323	380	439	469	356	353	538	526	419	262
Unknown Citizenship	705	993	1,100	1,305	2,030	2,134	2,331	2,583	1,219	682	855	1,030

NOTE: The reader is referred to the explanatory note about this table in front of Appendix B.

\*In most cases, non-U.S. Native Americans are citizens of Canada or of Latin America.

## Doctorates: MEN

	Year of Doctorate											
	1978	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<b>TOTAL MEN</b>	22,553	20,749	20,638	20,554	20,594	20,939	21,681	21,812	22,962	23,647	24,433	24,646
U.S. Citizens	17,936	15,120	14,730	14,223	13,637	13,575	13,725	13,396	14,166	14,375	14,500	14,484
Permanent Visas	1,052	953	892	999	1,068	1,117	1,164	1,139	1,190	1,224	1,291	1,461
Temporary Visas	2,966	3,872	4,134	4,395	4,414	4,722	5,133	5,442	6,632	7,516	7,960	7,857
Unknown Citizenship	599	804	882	937	1,475	1,525	1,659	1,835	974	531	682	844
<b>Total Known Race/Ethnicity</b>	20,747	19,377	19,131	18,944	18,432	18,673	19,405	19,395	21,336	22,343	23,142	23,495
U.S. Citizens	16,822	14,676	14,303	13,858	13,338	13,248	13,445	13,112	13,899	14,017	14,234	14,312
Permanent Visas	1,029	931	867	971	1,004	1,064	1,097	1,094	1,150	1,176	1,233	1,436
Temporary Visas	2,817	3,649	3,844	4,057	4,037	4,313	4,820	5,139	6,172	7,076	7,611	7,645
Unknown Citizenship	79	121	117	58	53	48	43	50	115	74	64	102
<b>Native Americans</b>	51	51	54	40	59	63	52	49	52	74	82	61
U.S. Citizens	50	50	54	40	58	62	52	49	52	74	82	60
Permanent Visas*	0	1	0	0	0	0	0	0	0	0	0	0
Temporary Visas*	1	0	0	0	1	1	0	0	0	0	0	1
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	0	0
<b>Asians</b>	1,972	2,543	2,780	2,945	3,040	3,349	3,843	4,154	5,030	5,875	6,422	6,605
U.S. Citizens	287	312	338	329	347	369	414	441	427	481	528	554
Permanent Visas	531	431	389	437	417	455	456	459	482	488	603	726
Temporary Visas	1,114	1,732	1,982	2,137	2,258	2,505	2,955	3,241	4,076	4,870	5,273	5,287
Unknown Citizenship	40	68	71	42	18	20	18	13	45	36	18	38
<b>Blacks</b>	900	835	903	851	707	701	697	684	731	784	765	839
U.S. Citizens	582	413	427	379	323	317	315	327	351	417	392	440
Permanent Visas	65	73	81	117	106	118	126	125	128	131	122	138
Temporary Visas	251	341	382	354	275	261	251	222	242	232	245	250
Unknown Citizenship	2	8	13	1	3	5	5	10	10	4	6	11
<b>Hispanics</b>	649	635	620	646	665	677	678	662	760	805	858	872
U.S. Citizens	330	288	313	300	302	332	321	307	380	370	410	422
Permanent Visas	54	45	47	50	71	50	64	69	69	88	71	93
Temporary Visas	254	288	252	294	289	288	288	283	309	343	370	356
Unknown Citizenship	11	14	8	2	3	7	5	2	2	4	7	1
<b>Whites</b>	17,175	15,313	14,774	14,462	13,961	13,883	14,135	13,846	14,763	14,805	15,015	15,118
U.S. Citizens	15,573	13,613	13,171	12,810	12,308	12,168	12,343	11,988	12,689	12,675	12,822	12,836
Permanent Visas	379	381	350	367	410	441	451	441	471	469	437	479
Temporary Visas	1,197	1,288	1,228	1,272	1,214	1,258	1,326	1,393	1,545	1,631	1,723	1,751
Unknown Citizenship	26	31	25	13	29	16	15	24	58	30	33	52
<b>Unknown Race/Ethnicity</b>	1,806	1,372	1,507	1,610	2,162	2,266	2,276	2,417	1,626	1,304	1,291	1,151
U.S. Citizens	1,114	444	427	365	299	327	280	284	267	359	266	172
Permanent Visas	23	22	25	28	64	53	67	45	40	48	58	25
Temporary Visas	149	223	290	338	377	409	313	303	460	440	349	212
Unknown Citizenship	520	683	765	879	1,422	1,477	1,616	1,785	859	457	618	742

APPENDIX TABLE B-2 (Continued)

Doctorates: WOMEN

	Year of Doctorate											
	1978	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<b>TOTAL WOMEN</b>	8,322	10,533	10,699	10,744	11,305	11,428	11,818	12,512	13,106	13,870	14,420	15,108
U.S. Citizens	7,355	9,239	9,297	9,147	9,446	9,408	9,565	10,004	10,740	11,183	11,475	11,902
Permanent Visas	292	322	332	325	365	461	458	487	508	632	687	789
Temporary Visas	455	627	698	833	862	888	1,061	1,204	1,461	1,793	1,990	2,066
Unknown Citizenship	220	345	372	439	632	671	734	817	397	262	268	351
<b>Total Known Race/Ethnicity</b>	7,704	10,021	10,149	10,114	10,492	10,543	10,940	11,545	12,532	13,408	13,986	14,699
U.S. Citizens	6,956	9,063	9,120	8,990	9,315	9,256	9,455	9,902	10,626	11,046	11,367	11,840
Permanent Visas	284	318	327	320	353	415	448	470	486	618	668	780
Temporary Visas	429	605	665	791	800	828	1,018	1,154	1,383	1,707	1,920	2,016
Unknown Citizenship	35	35	37	13	24	14	19	19	37	37	31	63
<b>Native Americans</b>	10	31	20	56	41	53	42	45	45	58	70	59
U.S. Citizens	10	31	20	56	41	53	42	45	44	56	67	59
Permanent Visas*	0	0	0	0	0	0	0	0	0	2	0	0
Temporary Visas*	0	0	0	0	0	0	0	0	1	0	2	0
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	1	0
<b>Asians</b>	422	582	614	697	687	777	935	1,027	1,261	1,646	1,854	2,048
U.S. Citizens	103	180	174	187	183	173	200	185	214	305	309	337
Permanent Visas	111	120	118	116	111	170	165	176	182	253	311	392
Temporary Visas	197	275	313	389	387	428	561	662	854	1,076	1,231	1,308
Unknown Citizenship	11	7	9	5	6	6	9	4	11	12	3	11
<b>Blacks</b>	481	549	591	589	563	517	566	562	618	674	656	767
U.S. Citizens	449	509	526	533	500	451	499	494	547	586	569	666
Permanent Visas	8	10	21	14	20	21	26	16	21	24	21	31
Temporary Visas	18	24	37	41	38	44	40	51	48	61	65	69
Unknown Citizenship	6	6	7	1	5	1	1	1	2	3	1	1
<b>Hispanics</b>	212	334	296	354	391	377	370	400	468	513	542	557
U.S. Citizens	156	251	221	261	270	285	274	274	341	361	368	412
Permanent Visas	13	24	24	23	36	41	34	43	47	48	59	45
Temporary Visas	39	54	48	66	83	50	61	80	77	102	111	97
Unknown Citizenship	4	5	3	4	2	1	1	3	3	2	4	3
<b>Whites</b>	6,579	8,525	8,628	8,418	8,810	8,819	9,027	9,511	10,140	10,517	10,864	11,268
U.S. Citizens	6,25	8,092	8,179	7,953	8,321	8,294	8,440	8,904	9,480	9,738	10,054	10,366
Permanent Visas	152	164	164	167	186	213	223	235	236	291	277	312
Temporary Visas	175	252	267	295	292	306	356	361	403	468	511	542
Unknown Citizenship	14	17	18	3	11	6	8	11	21	20	22	48
<b>Unknown Race/Ethnicity</b>	618	512	550	630	813	885	878	967	574	462	434	409
U.S. Citizens	399	176	177	157	131	152	110	102	114	137	108	62
Permanent Visas	8	4	5	5	12	16	10	17	22	14	19	9
Temporary Visas	26	22	33	42	62	60	43	50	78	86	70	50
Unknown Citizenship	185	310	335	426	608	657	715	798	360	225	237	288

NOTE: The reader is referred to the explanatory note about this table in front of Appendix B.

\*In most cases, non-U.S. Native Americans are citizens of Canada or of Latin American countries.

SOURCE: National Research Council, Survey of Earned Doctorates.

## APPENDIX C: Technical Notes

## \*\*\* IMPORTANT NOTICE \*\*\*

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information, with no adjustment for nonresponse. Thus, differences in response rates from year to year can produce numerical fluctuations that are unrelated to true trends.

Response to the SED has been 95 to 98 percent over the years, except during the 1980s when it gradually declined to 92 percent. In an effort to improve the response rate, the survey methodology has undergone some revision in the years since 1989. Response has risen as hoped, stabilizing at 95 percent during the last three years (1991 to 1993). (Note: These percentages represent *self-report rates*, i.e., the proportion of survey forms completed by doctorate recipients. Questionnaires filled in with partial information by either the doctoral institution or staff of the National Research Council are not included in these self-report rates *but are* included in tabulations in this report.) The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients. See page 82 for a table giving survey response rates from 1980 to 1993.

*Item* response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented, increasing coverage of several variables (birth year, gender, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans). Response rates for these variables have thus improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. Postsurvey adjustment to data was greatest in 1990 and 1991, with the largest impact on the number of black Ph.D.s. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended a month to allow receipt of additional follow-up information before closure; the same is expected for 1993 data.

All adjustments to data are presented in reports subsequent to the initial report for a survey. Thus, updates for 1990 appeared in *Summary Report 1991*; those for 1991 appeared in *Summary Report 1992*; and those for 1992 are included in this year's report (see Appendix Table B-2). The data for 1993 will likewise be subject to further revision, but as for 1992, adjustments are expected to be minimal. Updates to 1993 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

SED RESPONSE RATES *			
Year	Self-Report Rate	Nonresponse Rate	
		Basic Information Provided by:	
		Institution**	NRC/OSEP**
1980	96.2	1.6	2.1
1981	95.7	1.4	2.8
1982	95.3	1.5	3.2
1983	95.5	1.6	3.0
1984	95.1	1.8	3.1
1985	94.8	2.5	2.7
1986	93.5	0.9	5.6
1987	93.1	0.9	6.0
1988	92.9	0.3	6.8
1989	92.3	0.4	7.4
1990	93.6	0.3	6.1
1991	94.6	0.6	4.9
1992	95.1	0.6	4.3
1993	94.6	0.5	4.9

\* These rates may not sum to 100.0 because of rounding. The rates for 1980-1992 reflect late responses. The self-report rate for 1993 may increase somewhat in the next year if additional questionnaires are received from doctorate recipients.

\*\* The National Research Council's Office of Scientific and Engineering Personnel (NRC/OSEP) enters information from commencement programs, such as name, Ph.D. field and year, and earlier educational history if available. Gender is assumed from the name of the recipient wherever possible. Institutions provide similar information and, occasionally, other demographic variables such as citizenship and race/ethnicity.

As shown on the previous page, 94.6 percent of all doctorate recipients in 1993 completed survey forms; this percentage is referred to as the "self-report" rate. For the remaining 5.4 percent of recipients, "skeletal" forms were created using information from doctorate-granting institutions or commencement programs. Whether or not individuals completed the survey questionnaire, the following four data items are available for all recipients: gender, Ph.D. institution, Ph.D. field, and Ph.D. year.

This report presents data obtained from *all* survey forms, both self-reported and skeletal. The reader should note that nonresponse in a tabulation varies according to the *combination* of selected variables. Higher nonresponse rates occur when any of the four above-mentioned variables are cross-tabulated with another variable (e.g., educational debt) because the universe consists of the entire doctoral cohort. In other words, the 5.4 percent of Ph.D.s who did not respond to the survey are included, even though their records contain minimal information. Nonresponse is generally lower when citizenship or race/ethnicity is cross-tabulated with a variable such as debt because the population is restricted to a group (e.g., U.S. citizens) largely drawn from self-reported forms and thus more likely to have responses to the debt question. To be more precise, information on debt was not available for only 3.9 percent of U.S. citizens in 1993; nonresponse was low because information on both citizenship and debt was obtained mostly from self-reported forms. Nonresponse was higher for the entire 1993 cohort (7.3 percent) because it included the 5.4 percent of forms that were only partially filled in by institutions or staff of the National Research Council. The same was true for men (7.6 percent) and women (6.8 percent) because gender was known even for Ph.D.s who did not complete a survey form. Cross-tabulating debt with field of doctorate would yield similarly high nonresponse rates because Ph.D. field is available for all recipients.

For the most part, the tables and figures in this report display percentages that are based only on the number of doctorate recipients who *responded* to the applicable survey questions; recipients who did not respond are excluded.<sup>1</sup> The technical notes in this appendix provide rates of *nonresponse* for questions covered in the body of the report. Rates for selected populations and years are presented, along with descriptive explanations of the data as needed. There are six technical notes in all, pertaining to the following tables and figures and focusing on the topics indicated in parentheses:

- Technical Note 1: Figures 2 and 6, Tables 3 and 4 (citizenship)
- Technical Note 2: Figures 3 and 7, Tables 5-7 (race/ethnicity)
- Technical Note 3: Figures 8 and 9, Tables 9 and 10 (time-to-doctorate)
- Technical Note 4: Figure 10, Table 11 (primary source of graduate school support)
- Technical Note 5: Figure 11, Tables 12 and 13 (educational debt)
- Technical Note 6: Figures 12-14, Tables 14-19 (postgraduation plans)

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<sup>1</sup>Appendix Tables A-3 and A-4 are exceptions. Because these tables include categories for "unknown" responses, percentages are based on the total doctoral cohort.

The 1993 *nonresponse* rates for items discussed in this report are shown below.

ITEM NONRESPONSE RATES: 1993

Data Item	Nonresponse Rate (%)
Baccalaureate Field	8.2
Baccalaureate Institution	3.7*
Baccalaureate Year (for time-to-Ph.D.)	4.4*
Birth Year (for age)	2.7*
Citizenship	3.0*
Country of Citizenship	1.4 (of non-U.S. citizens)
Debt	7.3
Doctorate Field	0.0
Doctorate Institution	0.0
Doctorate Year	0.0
Gender	0.0
Marital Status	8.6
Master's Institution	21.5 (includes non-M.A.s)
Postdoctoral Employer Type	6.5 (of employed Ph.D.s)
Postdoctoral Location	6.3
Postdoctoral Plans (employment vs. study)	8.0
Postdoctoral Status (definite vs. seeking)	8.3
Race/Ethnicity	3.4*
Sources of Graduate School Support	6.1
<i>Primary</i> Source of Graduate School Support	33.9
Year of Graduate Entry into Ph.D. Institution	13.2
Years Not Enrolled from (for time-to-Ph.D.):	
Baccalaureate to Graduate Entrance	11.5
Graduate Entrance to Doctorate	17.0

NOTE: In 1993, 94.6 percent of new doctorate recipients completed the survey form. The item nonresponse rates in this table include the 5.4 percent of recipients who were not self-reporting. Basic information for the missing group was obtained from the doctorate-granting institutions or commencement programs. Field, institution, and year of doctorate are available for all recipients, as is gender.

\* The nonresponse rate for this item is less than the overall nonresponse rate of 5.4 percent because institutions are asked to provide this information for doctorate recipients who either did not complete a survey form or did not respond to the survey question. Commencement programs are an additional source of baccalaureate institution data.

1. **Figures 2 and 6; Tables 3 and 4:** Percentages in **Figure 6** are based on the number of doctorate recipients who reported their citizenship status. Nonresponses are excluded from the computations (see below).

*Citizenship Status: Nonresponse Rates (%)*

	1963	1968	1973	1978	1983	1988	1993
All Ph.D.s	1.6	1.7	2.0	2.7	3.7	7.1	3.0
Physical Sciences	2.1	2.0	1.8	2.1	3.1	6.3	3.1
Engineering	1.1	1.4	1.3	2.8	4.6	7.6	3.9
Life Sciences	0.8	1.1	1.7	2.5	2.7	6.2	2.2
Social Sciences	2.3	2.1	2.0	3.7	4.7	8.6	3.1
Humanities	2.0	1.8	2.1	2.7	4.0	6.8	3.0
Education	0.7	1.4	1.6	2.2	3.1	6.4	2.7
Professional/Other	2.7	3.7	6.1	2.3	4.5	9.7	3.5

NOTE: See Table 3 for total numbers of Ph.D.s in each field. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

**Table 3** displays the numbers of Ph.D.s in each citizenship group. See the table above for rates of nonresponse to the question on citizenship status. **Table 4** lists the leading countries of origin of non-U.S. Ph.D.s. Of the 12,173 non-U.S. Ph.D.s in 1993, 172 (or 1.4 percent) did not report their country of citizenship.

2. **Figures 3 and 7; Tables 5-7:** **Figure 3** compares the representation of minorities among U.S. citizen Ph.D.s in 1993 with their representation in 1978. Nonresponses are excluded from the percentage computations. The nonresponse rate among U.S. citizens to the question on race/ethnicity was 6.0 percent in 1978 and 0.9 percent in 1993. Nonresponse to race/ethnicity for the 1989-1993 period shown in **Tables 6 and 7** was 1.5 percent. Note that response has improved since 1990, when race/ethnicity was first followed up if not reported on the survey form. (See Appendix Table B-2 for total numbers of U.S. Ph.D.s; see technical note 1 for rates of nonresponse to citizenship status.)

**Table 5** distributes the U.S. racial/ethnic groups in 1993 among the major fields. **Figure 7** shows the percentage of whites versus minorities in each broad field. Rates of nonresponse to race/ethnicity by broad field are given on the next page. A historical discussion of the racial/ethnic question and *important information on recent adjustments to racial/ethnic data* follow the nonresponse tables.

## 2. Figures 3 and 7; Tables 5-7 (continued)

*Race/Ethnicity: Nonresponse Rates (%)*

	1993
All Ph.D.s	0.9
Physical Sciences	1.2
Engineering	0.9
Life Sciences	0.9
Social Sciences	0.7
Humanities	1.2
Education	0.5
Professional/Other	1.1

NOTE: See Table 5 for total numbers of Ph.D.s in each field. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

**History of the racial/ethnic question:** Although the item on race/ethnicity was first introduced to the Survey of Earned Doctorates in 1973, over 25 percent of recipients in 1973 and about 13 percent in 1974 either completed earlier questionnaires or provided unusable responses. The racial/ethnic data have been more reliable since 1975, with response rates ranging between 91 and 97 percent. The information on race/ethnicity presented in this report is limited to the period 1978 to 1993.

The racial/ethnic question has undergone several revisions over the years. In 1977, it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the reclassification of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980, the question was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980, doctorate recipients could check more than one category to indicate their race.) The item was modified again in 1982 to separate the questions on race and ethnicity. Since then, respondents have been asked to first check one of the four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In this report, Ph.D.s who reported Hispanic heritage are classified as Hispanic regardless of their racial designations; the remaining Ph.D.s are then counted in the respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as "Native American" in this report.)

**2. Figures 3 and 7; Tables 5-7 (continued)****\*\*\* ADJUSTMENTS TO RACIAL/ETHNIC DATA \*\*\***

The reader should keep in mind that increasing or decreasing numbers in a racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and item response.

In 1990, new follow-up procedures were implemented to increase coverage of several variables, including race/ethnicity. Response rates to the racial/ethnic questions have since improved, resulting in greater postsurvey adjustment than in previous years. The largest impact was on the number of black Ph.D.s in 1990 and 1991. For both of these years, the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. Postsurvey adjustments were much smaller for 1992 data (a 1.4 percent increase in black Ph.D.s) because the survey cycle was extended to allow receipt of additional follow-up responses; the same is expected for 1993 data.

Updated numbers for 1990-1992 are included in Appendix Table B-2 in this report. Adjustments to the 1993 data will appear in next year's report. See the notice on page 81 for additional information.

**3. Figures 8 and 9; Tables 9 and 10:** *Registered time-to-degree (RTD)* measures the actual time in attendance at colleges and universities between receipt of the baccalaureate and the doctorate; enrollment may include years of attendance not related to a recipient's doctoral program. RTD cannot be computed for individuals who have not provided all years of college attendance after earning the baccalaureate. *Total time-to-degree (TTD)* measures the elapsed time from baccalaureate to doctorate (including time not enrolled in school). TTD can be computed only for individuals whose baccalaureate year is known. (Note: Baccalaureate year is often obtained from commencement programs or doctorate institutions when not reported by the recipient.)

Months are excluded from all computations because they are rarely reported by the respondent. Nonresponse rates for the two measures of time-to-degree are presented on the next page.

## 3. Figures 8 and 9; Tables 9 and 10 (continued)

*Time-to-Doctorate: Nonresponse Rates (%)*

(Figures 8 and 9, Tables 9 and 10)	1963	1963	1973	1973	1983	1983	1993	1993
	RTD	TTD	RTD	TTD	RTD	TTD	RTD	TTD
All Fields	5.8	0.6	8.2	1.8	11.6	3.6	17.0	4.4
Physical Sciences	4.8	0.2	7.1	1.5	9.9	3.0	16.5	4.2
Engineering	4.9	0.1	7.7	2.4	14.0	5.9	15.7	4.8
Life Sciences	6.2	2.3	9.7	3.4	10.0	3.8	20.4	5.4
Social Sciences	5.9	0.2	7.7	1.2	11.8	3.9	16.6	4.1
Humanities	7.1	0.4	8.7	1.6	12.0	3.5	15.9	3.9
Education	5.3	0.0	7.7	0.7	12.2	2.6	16.2	3.6
Professional/Other	8.6	1.3	11.0	4.3	13.0	3.8	16.8	4.8

(Table 10, 1993 only)

All Ph.D.s	17.0	4.4
Men	17.5	4.9
Women	16.3	3.6
U.S. Citizens	12.0	1.0
Permanent Residents	18.2	5.5
Temporary Residents	20.5	5.4
U.S. Citizens		
Asians	14.6	1.5
Blacks	16.5	1.4
Hispanics	13.7	1.7
Native Americans	9.2	0.0
Whites	11.3	0.8

NOTE: For total numbers of Ph.D.s, see Table 2 (field and gender), Table 3 (citizenship), and Table 5 (race/ethnicity). Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

**4. Figure 10; Table 11:** The percentages given in Figure 10 and Table 11 are based on the numbers of doctorate recipients in 1993 who reported their *primary* source of support in graduate school. The numbers shown in Table 11 are the base for these percentages; they represent only those Ph.D.s whose primary support is known—not the total cohort of Ph.D.s in 1993. Because many recipients answered the support question but failed to designate a *primary* source, nonresponse was quite high in 1993. The reader should note that while nonresponse to primary support has consistently been greater than nonresponse to other variables, it was especially high in the last two years (probably a result of revisions to the questionnaire format). The nonresponse rate for the total cohort of Ph.D.s in 1993 was 33.9 percent, compared to 22.5 percent in 1991 (as reported in *Summary Report 1991*). See next page for nonresponse rates in 1993, as applicable to Figure 10 and Table 11.

## 4. Figure 10; Table 11 (continued)

*Primary Source of Support: Nonresponse Rates in 1993 (%)*

	All Fields	Phys. Sci.	Engr.	Life Sci.	Soc. Sci.	Hum.	Educ.	Prof.
All Ph.D.s	33.9	32.5	29.9	32.6	37.0	37.0	34.5	35.8
Men	34.2	32.7	30.3	33.6	38.2	37.9	35.8	36.3
Women	33.6	31.8	25.9	31.3	35.7	36.0	33.6	35.0
U.S. Citizens	30.1	25.1	21.6	29.7	33.5	33.8	31.6	31.0
Permanent Res.	40.2	36.5	37.8	36.8	42.4	47.2	48.0	42.8
Temporary Res.	35.0	37.0	29.8	33.9	39.9	37.7	40.7	38.3
U.S. Citizens								
Asians	31.1	30.8	22.0	31.5	36.5	40.0	41.5	30.8
Blacks	38.9	34.1	34.1	36.1	47.3	44.2	36.5	35.6
Hispanics	38.8	37.1	16.1	34.1	36.8	46.2	45.5	40.0
Native Amers.	35.3	45.5	0.0	21.4	36.8	38.5	38.0	30.0
Whites	29.1	23.9	21.2	29.0	32.3	32.7	30.0	29.9

NOTE: For total numbers of Ph.D.s in each field, see Table 2 (gender), Table 3 (citizenship), and Table 5 (race/ethnicity). Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

5. Figure 11; Tables 12 and 13: Percentages are based on the numbers of doctorate recipients who reported debt related to their *combined undergraduate and graduate education*. Nonresponses are excluded from percentage and median computations.

*Educational Debt: Nonresponse Rates in 1993 (%)*

	Rate		Rate
All Fields	7.3	Men	7.6
Physical Sciences	7.0	Women	6.8
Engineering	7.4	U.S. Citizens	3.9
Life Sciences	6.6	Permanent Res.	4.8
Social Sciences	8.0	Temporary Res.	6.2
Humanities	6.7	U.S. Asians	3.1
Education	7.6	Blacks	6.6
Professional	8.1	Hispanics	4.2
		Native Amers.	5.9
		Whites	3.4

NOTE: For total numbers of Ph.D.s, see Table 2 (field and gender), Table 3 (citizenship), and Table 5 (race/ethnicity). Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

**6. Figures 12-14; Tables 14-19:** The question on *postgraduation status* asks recipients to indicate whether they have made a "definite" commitment, are in the process of "negotiating" with one or more organizations, or are seeking a position but with no prospects. Because Ph.D.s sometimes complete the survey form months ahead of graduation, it is not possible to determine the final plans of many recipients. It is quite likely, however, that some individuals who check "negotiating" or "seeking" have obtained positions by the time of graduation. Because many outcomes are unknown, data on postgraduation plans in this report are restricted to the group of Ph.D.s who reported "definite" plans (see next page).<sup>2</sup>

*Postgraduation Status: Nonresponse Rates (%)*

	1973	1978	1983	1988	1993
All Fields	5.3	7.8	8.7	10.2	9.2
Physical Sciences	5.3	6.4	8.1	9.9	9.3
Engineering	4.1	8.4	11.0	11.6	10.0
Life Sciences	5.1	6.7	8.0	9.1	8.3
Social Sciences	5.7	9.0	9.6	11.4	9.6
Humanities	6.3	8.7	9.4	9.3	8.4
Education	4.2	7.7	7.4	9.5	9.2
Professional/Other	8.4	7.7	8.6	11.8	9.9
Men	4.9	7.3	8.7	10.6	9.4
Women	7.2	9.2	8.6	9.5	8.9
U.S. Citizens	3.5	5.1	4.6	2.5	5.4
Permanent Residents	3.2	6.4	7.8	6.2	9.2
Temporary Residents	4.7	7.6	9.2	6.7	8.7
U.S. & Perm. Res.	3.4	5.2	4.7	2.7	5.7
Asians	N/A	5.6	6.7	6.2	9.1
Blacks	N/A	7.4	4.3	3.7	8.6
Hispanics	N/A	6.9	5.6	2.6	6.5
Native Americans	N/A	6.7	3.7	4.3	8.4
Whites	N/A	3.5	3.6	2.2	4.8

NOTE: N/A = not available. For total numbers of Ph.D.s, see Table 2 (field and gender), Table 3 (citizenship), and Appendix Table B-2 (race/ethnicity by citizenship). Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

<sup>2</sup> Comparisons with the most recent longitudinal Survey of Doctorate Recipients (SDR) have shown the data on "definite" postgraduation plans to be a reasonable indicator of the actual employment status of new Ph.D.s in the year following receipt of the doctorate, although results vary by sector. (The SDR, also conducted by the National Research Council, is a follow-up employment survey of a sample of doctorate recipients in science, engineering, and humanities fields.) According to the 1991 SDR, 97 percent of the 1990 Ph.D.s who had indicated "definite" employment plans at the time of graduation were in the U.S. labor force as of September 1991 (1-2 years after graduation), and most were working in the sector reported on their survey forms. Disaggregation by citizenship revealed that all permanent residents and 95.3 percent of temporary residents in the sample were employed in the United States in September 1991.

## 6. Figures 12-14; Tables 14-19 (continued)

*The proportions of Ph.D.s with "definite" commitments* are given in the next two tables. These percentages are based on the number of Ph.D.s who responded to the question on postgraduation status (see table on previous page for rates of nonresponse to this question).

Year	% Definite	Year	% Definite
1973	75.4	1988	73.8
1978	73.2	1993	67.6
1983	74.1		

NOTE: See Table 1 for total numbers of Ph.D.s. See Table 14 for numbers of Ph.D.s with definite commitments.

The table below displays the *proportions of Ph.D.s with "definite" commitments in 1993 by field and demographic group, and the range of proportions for the five years included in Figures 12-14 and Tables 14-19 (i.e., 1973, 1978, 1983, 1988, 1993).*

	<u>% Definite</u> Range (1993)		<u>% Definite</u> Range (1993)
All Fields	68-75 (67.6)	Men	67-77 (66.6)
Physical Sciences	67-77 (66.5)	Women	68-72 (69.2)
Engineering	56-76 (56.0)	U.S. Citizens	72-76 (72.1)
Life Sciences	74-77 (74.3)	Permanent Res.	54-65 (53.8)
Social Sciences	67-80 (66.8)	Temporary Res.	58-72 (58.2)
Humanities	61-71 (60.6)	U.S. & Perm. Res.	71-76 (70.8)
Education	73-76 (73.5)	Asians	58-67 (59.6)
Professional	76-88 (76.2)	Blacks	66-70 (65.8)
		Hispanics	69-77 (68.6)
		Native Amers.	57-73 (68.8)
		Whites	72-77 (72.1)

NOTE: For total numbers of Ph.D.s, see Table 2 (field and gender), Table 3 (citizenship), and Appendix Table B-2 (race/ethnicity by citizenship). See Tables 14 and 15 for numbers of Ph.D.s with definite commitments in each year.

**Figure 12; Tables 14 and 15:** These tables and figure present data on the *type of plans (employment or study) for only those Ph.D.s who reported definite postgraduation commitments; therefore, they do not reflect the entire Ph.D. population.* (See page 90 and the tables above for nonresponses to the question on postgraduation status and the proportions of Ph.D.s with definite commitments.)

Nonresponses to the question on *type of postdoctoral plans (employment or study)* are excluded from the percentage calculations in Figure 12 and Tables 14 and 15. As is evident from the table on the next page, rates of nonresponse were very low in every year and for all fields and demographic groups.

## 6. Figures 12-14; Tables 14-19 (continued)

## Figure 12, Tables 14 and 15 (continued)

*Employment/Study Plans of Ph.D.s with Definite Commitments:  
Nonresponse Rates (%)*

	1973	1978	1983	1988	1993
All Fields	0.7	0.8	0.3	0.9	0.7
Physical Sciences	0.2	0.4	0.3	0.6	0.6
Engineering	0.3	0.5	0.3	0.6	0.4
Life Sciences	0.5	0.7	0.2	0.5	0.4
Social Sciences	0.6	0.7	0.3	1.0	0.7
Humanities	1.1	1.0	0.3	1.5	1.2
Education	0.8	1.2	0.2	1.5	0.9
Professional/Other	1.1	0.7	0.4	0.9	0.6
Men	0.6	0.7	0.3	0.9	0.6
Women	0.8	1.1	0.3	1.0	0.8
U.S. Citizens	0.6	0.7	0.2	0.8	0.6
Permanent Residents	1.0	1.0	0.1	1.5	1.4
Temporary Residents	0.9	1.8	0.8	1.3	0.9
U.S. & Perm. Res.	0.6	0.7	0.2	0.9	0.6
Asians	N/A	1.4	0.5	1.3	0.9
Blacks	N/A	1.8	0.4	1.2	1.0
Hispanics	N/A	0.3	0.2	1.6	0.5
Native Americans	N/A	0.0	0.0	1.6	0.0
Whites	N/A	0.6	0.2	0.8	0.6

NOTE: N/A = not available. See Tables 14 and 15 for total numbers of Ph.D.s with definite commitments. Refer to page 83 for an explanation of how non-response in a tabulation is affected by the *combination* of selected variables.

**Figure 13; Table 16:** Figure 13 gives the *proportions of non-U.S. citizens who reported plans to stay in the United States after graduation*. Table 16 shows the *percentages of both those who planned to stay in the United States and those who planned to leave*. Only Ph.D.s who reported definite commitments are included (see page 90 for rates of nonresponse to the question on postgraduation status). Nonresponses to the question on postdoctoral location are excluded from the percentage calculations in Figure 13 and Table 16 (see table on next page).

## 6. Figures 12-14; Tables 14-19 (continued)

## Figure 13; Table 16 (continued)

*Postdoctoral Location of Non-U.S. Citizen Ph.D.s with Definite Commitments: Nonresponse Rates (%)*

	1973	1978	1983	1988	1993
Permanent Residents	4.4	4.7	8.2	8.7	0.5
Temporary Residents	2.6	5.2	7.1	9.9	1.4

NOTE: The much lower nonresponse in 1993 was largely a result of a questionnaire revision that allowed the recipient to check a box for "U.S." or "non-U.S." instead of naming a specific state or foreign country. See Table 16 for total numbers of non-U.S. Ph.D.s with definite commitments. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the combination of selected variables.

**Table 17:** This table presents data on the *postdoctoral location and type of plans (employment or study) for only those non-U.S. citizens who reported definite commitments* (see page 96 for nonresponses to the question on postgraduation status). Percentages in Table 17 are based on the number of non-U.S. Ph.D.s who reported *both* postdoctoral location and type of plans. Nonresponse rates for these questions are given below.

*Postdoctoral Location/Type of Plans of Non-U.S. Citizens with Definite Commitments: Nonresponse Rates in 1993 (%)*

	Permanent Residents	Temporary Residents
All Fields	1.7	2.3
Physical Sciences	0.5	2.6
Engineering	2.0	2.2
Life Sciences	1.2	2.5
Social Sciences	1.3	1.8
Humanities	3.9	1.7
Education	5.9	2.0
Professional/Other	0.0	1.9

NOTE: Numbers were low for Ph.D.s not reporting both postdoctoral location and type of plans: a total of 19 permanent residents and 119 temporary residents. See Table 15 for total numbers of non-U.S. Ph.D.s with definite commitments. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the combination of selected variables.

### 6. Figures 12-14; Tables 14-19 (continued)

**Figure 14; Tables 18 and 19:** As with the other tables on postgraduation plans, Figure 14 and Tables 18 and 19 do not include data on the entire Ph.D. cohort. Rather, they display the *type of employer (i.e., sector)* for only those Ph.D.s who reported definite commitments in the United States. (See pages 90-92 for rates of nonresponse to the questions on postgraduation status and type of plans.)

The table below shows the *proportions of all Ph.D.s with definite commitments (and known type of plans) who reported employment in the United States.*

	U.S. Citizens and Permanent Residents	Temporary Residents
1973	82.3	15.1
1978	79.3	19.1
1983	78.3	21.8
1988	74.3	23.9
1993	71.7	25.3

NOTE: See Table 15 for total numbers of Ph.D.s with definite commitments. See Table 19 for numbers of Ph.D.s with employment commitments in the United States.

Nonresponses to the question on *employment sector* are excluded from the percentages in Figure 14 and Tables 18 and 19. As can be seen in the following two tables, nonresponse was very low in all years.

#### Figure 14; Table 18

*Employment Sector of Ph.D.s with Definite Plans to Work in the United States: Nonresponse Rates by Field (%) (U.S. citizens and permanent residents)*

	1973	1978	1983	1988	1993
All Fields	0.5	0.6	1.0	1.0	1.5
Physical Sciences	0.3	0.2	0.2	0.4	0.5
Engineering	0.3	0.6	0.1	0.2	0.4
Life Sciences	0.3	0.1	0.6	0.8	0.9
Social Sciences	0.4	0.7	1.2	1.5	2.5
Humanities	0.6	0.6	1.2	1.0	0.9
Education	0.7	0.8	1.7	1.3	2.2
Professional/Other	0.3	0.1	0.3	0.5	0.8

NOTE: See Table 18 for numbers of U.S. citizen and permanent resident Ph.D.s who reported employment commitments in the United States. Refer to page 83 for an explanation of how nonresponse in a tabulation is affected by the *combination* of selected variables.

## 6. Figures 12-14; Tables 14-19 (continued)

Table 19

*Employment Sector of Ph.D.s with Definite Plans to Work in the United States: Nonresponse Rates by Demographic Group (%)*

	1973	1978	1983	1988	1993
U.S. Citizens	0.4	0.5	1.0	1.0	1.5
Permanent Residents	1.0	1.1	2.0	0.9	2.0
Temporary Residents	0.0	0.2	0.0	0.0	1.7
U.S. & Perm. Res.	0.5	0.6	1.0	1.0	1.5
Men	0.4	0.5	0.8	0.7	1.2
Women	0.8	0.7	1.5	1.3	1.9
Asians	N/A	1.4	1.1	0.4	1.2
Blacks	N/A	2.0	3.0	1.8	2.9
Hispanics	N/A	1.9	2.8	1.2	2.7
Native Americans	N/A	0.0	2.3	0.0	1.6
Whites	N/A	0.4	0.8	0.9	1.4

NOTE: N/A = not available. See Table 19 for numbers of Ph.D.s with employment commitments in the United States. Refer to page 83 for an explanation of how non-response in a tabulation is affected by the *combination* of selected variables.

### SURVEY OF EARNED DOCTORATES 1992-93

Please return this form to the GRADUATE DEAN for forwarding to  
The Office of Scientific and Engineering Personnel, National Research Council • 2101 Constitution Avenue, N.W., Washington, D.C. 20418

Please print or type.

1. Name in full. \_\_\_\_\_  
Last Name First Name Middle Name  
 Cross Reference. Maiden name or former name legally changed \_\_\_\_\_

2. Permanent address through which you could always be reached: (Care of, if applicable) \_\_\_\_\_  
 \_\_\_\_\_  
Number Street City  
 \_\_\_\_\_  
State Zip Code Or Country if not U.S.

3. U.S. Social Security Number: \_\_\_\_\_

4. Place of birth \_\_\_\_\_ Date of birth \_\_\_\_\_  
State or Country if not U.S. Month Day Year

5. Sex: 1  Male  
 2  Female

6. Marital status: 0  Single, never married  
 1  Married  
 2  Separated, divorced, widowed

7. Citizenship:  
 0  United States, native  
 1  United States, naturalized  
 Non-United States:  
 2  Permanent Resident of United States (Immigrant visa)  
 ↳ \_\_\_\_\_  
(Country of present citizenship)  
 3  Temporary Resident of United States (Non-immigrant visa)  
 ↳ \_\_\_\_\_  
(Country of present citizenship)

8. Are you a person with a disability?  Yes  No  
 If yes, is it: 1  Visual 2  Orthopedic (mobility)  
 3  Auditory (hearing) 4  Vocal  
 5  Other (specify) \_\_\_\_\_

9. What is your racial background? 0  American Indian or Alaskan Native  
 (Check only one.) 1  Asian or Pacific Islander  
 2  Black  
 3  White

10. Are you Hispanic?  No  Yes → 0  Mexican American  
 1  Puerto Rican  
 2  Other Hispanic

11. How many dependents do you have? \_\_\_\_\_ Do not include yourself.  
 (Dependent = someone receiving at least one half of his or her support from you)

#### EDUCATION

12. Location of high school/secondary school last attended: \_\_\_\_\_ Date of graduation \_\_\_\_\_  
State or Country if not U.S. from high school: Month/Year

13. List below, chronologically, all colleges (including 2-year) and graduate institutions you have attended and each degree earned (if any). Be sure to give the years attended for ALL institutions attended. Include your doctoral institution(s) (and degree) at the end

Institution/Branch	State/Country	Years Attended		Field of Study		Degree (if any)		
		From	To	Use Specialties List		Title	Granted	
				Name	Number		Mo	Yr
EXAMPLE Genesee Community College SUNY/Buñalo	NY NY	79 81	81 83	Math Computer Science	498 400	B.S.	6	83

If a baccalaureate degree (or equivalent) was never received, please check box.

14. How many years were you a full-time student between receiving your first baccalaureate degree (or equivalent) and receiving your doctorate (include the period spent on your thesis and/or dissertation). \_\_\_\_\_ (whole numbers)

15. Identify the field of your dissertation research and enter below the title of your dissertation. If a project report or a musical or literary composition is a degree requirement in lieu of a dissertation, please check box  Name of field \_\_\_\_\_ Number of field \_\_\_\_\_  
(Use Specialties List)  
 Title \_\_\_\_\_

16. Name the department (or interdisciplinary committee, center, institute, etc.) and school or college of the university which supervised your doctoral program.  
 Department/Institute/Committee/Program \_\_\_\_\_ School \_\_\_\_\_

(continued on next page)

17. Please indicate all your sources of support during graduate school. Indicate your **primary** and **secondary** sources of support by entering "1" or "2" in the appropriate box. Check (✓) all other sources from which support was received, if any. (Enter only one source as "1" and one source as "2.")

- Own/Family Resources**  
 01  Own Earnings  
 02  Spouse's Earnings  
 03  Family Contributions

- University-Related**  
 10  Teaching Assistant  
 11  Research Assistant  
 12  University Fellow  
 14  College Work-Study  
 19  Other

Specify \_\_\_\_\_

- Federal Research Assistant**  
 22  NIH  
 32  NSF  
 52  USDA  
 62  Other Federal

Specify \_\_\_\_\_

- Other Federal Support**  
 21  NIH Traineeship/Fellowship  
 29  Other HHS  
 33  NSF Fellowship  
 40  Patricia Roberts-Harris Fellowship — formerly G\*POP (Department of Education)  
 44  Title VI Foreign Language

- Other Federal Support (continued)**  
 49  Other Dept. Education  
 60  Veterans Administration  
 53  USDA Fellowship  
 69  Other Federal

Specify \_\_\_\_\_

- U.S. Nationally Competitive Fellowships (Non-Federal)**  
 70  Ford Foundation  
 71  Rockefeller Foundation  
 73  Mellon Foundation  
 78  Other Fellowship

Specify \_\_\_\_\_

- Student Loans**  
 80  Guaranteed Student Loan (Stafford Loan)  
 81  Perkins Loan — formerly National Direct Student Loan  
 89  Other Loan

Specify \_\_\_\_\_

- Other Sources**  
 90  Business/Employer  
 91  Foreign (Non-U.S.) Government  
 92  State Government  
 99  Other

Specify \_\_\_\_\_

18. When you receive your doctorate degree, how much money will you owe that is directly related to your undergraduate and/or graduate education (tuition and fees, living expenses and supplies, transportation to and from school)?

- 0  None  
 1  \$5,000 or less  
 2  \$5,001-\$10,000  
 3  \$10,001-\$15,000  
 4  \$15,001-\$20,000  
 5  \$20,001-\$25,000  
 6  \$25,001-\$30,000  
 7  \$30,001 or more

19A. Please check the category that most fully describes your status for employment or study during the year immediately preceding the award of the doctorate.

- 0  Full-time employed → Go to item 19B →  
 1  Held fellowship  
 2  Held assistantship  
 3  Part-time employed  
 4  Not employed  
 5  Other (specify) \_\_\_\_\_

B. If full-time employed, what type of position did you hold?

- 6  College or university, faculty  
 7  College or university, non-faculty  
 8  Elementary or secondary school, teaching  
 9  Elementary or secondary school, non-teaching  
 (11)  Industry or business  
 (12)  Other (specify) \_\_\_\_\_

**POSTGRADUATION PLANS**

20. How definite are your immediate postgraduate plans?

- 0  Am returning to, or continuing in, predoctoral employment  
 1  Have signed contract or made definite commitment  
 2  Am negotiating with one or more specific organizations  
 3  Am seeking position but have no specific prospects  
 4  Other (specify) \_\_\_\_\_

21. What best describes your immediate postgraduate plans?

- Study**  
 0  Postdoctoral fellowship  
 1  Postdoctoral research associateship  
 2  Traineeship  
 3  Other study (specify) \_\_\_\_\_ } For study plans go to Item 22  
 4  Employment (other than 0, 1, 2, 3)  
 5  Military service  
 6  Other (specify) \_\_\_\_\_ } For employment plans go to Item 23

22. If you plan to have a postdoctoral fellowship, associateship, traineeship, or otherwise undertake further study,

- A. What will be the field of your postdoctoral study? Please enter number from **Specialties List**. \_\_\_\_\_  
 B. What will be the main source of financial support for your study research?  
 0  U.S. Government  
 1  College or university  
 2  Private foundation  
 3  Nonprofit, other than private foundation  
 4  Other (specify) \_\_\_\_\_  
 6  Unknown

Go to Item 24

23. If you plan to be **employed**, **enter military service** or **other**:

A. For what type of **employer** will you be working?

- Education:**  
 a  U.S. 4-yr college or university other than medical school  
 b  U.S. medical school  
 c  U.S. jr. or community college  
 d  Elementary or secondary school  
 e  Foreign institution  
**Government**  
 f  Foreign government  
 g  U.S. federal government  
 h  U.S. state government  
 i  U.S. local government  
**Private Sector**  
 j  Nonprofit organization  
 k  Industry or business  
 l  Self-employed  
**Other**  
 m  Other (specify) \_\_\_\_\_

B. Indicate what your **primary** and **secondary** work activities will be by entering "1" or "2" in the appropriate box.

- 0  Research and development  
 1  Teaching  
 2  Administration  
 3  Professional services to individuals  
 5  Other (specify) \_\_\_\_\_

C. In what field will you be working? Please enter number from **Specialties List**. \_\_\_\_\_

Go to Item 24

24. Where do you intend to live/work/study after graduation? 0  in U.S. \_\_\_\_\_ State \_\_\_\_\_ 1  not in U.S. \_\_\_\_\_ Country \_\_\_\_\_

Name of Organization, if known \_\_\_\_\_

City of Organization, if known \_\_\_\_\_

25. What is the highest educational attainment of your mother and father? Please circle.

Father:	Less than high school	High school graduate	Some college	Bachelor's	Master's	Professional	Doctorate
Mother:	Less than high school	High school graduate	Some college	Bachelor's	Master's	Professional	Doctorate
Codes for office use	1	2	3	4	5	6	7

Signature \_\_\_\_\_

Date \_\_\_\_\_

If you would like a summary of the results of this survey, please check box.  (Available as funding permits.)

Instructions: The following field listing is to be used in responding to items 13, 15, 22A, and 23C. If a field marked with an asterisk (\*) is chosen in item 13, please write in your field of specialization in the space provided.

- AGRICULTURAL SCIENCES**
- 000 Agricultural Economics  
 002 Agric. Business & Mgmt.  
 005 Animal Sci. & Genetics  
 010 Animal Nu.  
 012 Dairy Sci.  
 014 Poultry Sci.  
 055 Fisheries Sci. & Mgmt  
 019 Animal Sciences, Other\*  
 020 Agronomy & Crop Science  
 025 Plant Breeding & Genetics  
 030 Plant Path. (See also 120)  
 039 Plant Sciences, Other\*  
 042 Food Distribution  
 043 Food Engineering  
 044 Food Sciences, Other\*  
 046 Soil Chemistry/Microbiology  
 049 Soil Sciences, Other\*  
 050 Horticulture Science  
 066 Forest Biology  
 068 Forest Engineering  
 070 Forest Management  
 072 Wood Sci. & Pulp/Paper Tech.  
 074 Conserv./Renewable Nat. Res.  
 079 Forestry & Related Sci., Other\*  
 080 Wildlife/Range Management  
 098 Agricultural Sci., General  
 099 Agricultural Sci., Other\*
- BIOLOGICAL SCIENCES**
- 100 Biochemistry  
 105 Biophysics  
 107 Biotechnology Research  
 110 Bacteriology  
 115 Plant Genetics  
 120 Plant Path. (See also 030)  
 125 Plant Physiology  
 129 Botany, Other\*  
 130 Anatomy  
 133 Biometrics & Biostatistics  
 136 Cell Biology (See also 154)  
 139 Ecology  
 142 Developmental Bio./Embry.  
 145 Endocrinology  
 148 Entomology  
 151 Biological Immunology  
 154 Molecular Biology  
 157 Microbiology  
 160 Neuroscience  
 163 Nutritional Sciences  
 166 Parasitology  
 169 Toxicology  
 170 Genetics, Human & Animal  
 175 Pathology, Human & Animal (See also 120)  
 180 Pharmacology, Hum. & Anim.  
 185 Physiology, Human & Animal  
 189 Zoology, Other\*  
 198 Biological Sciences, General  
 199 Biological Sciences, Other\*
- HEALTH SCIENCES**
- 200 Speech-Lang. Path. & Audiol.  
 210 Environmental Health  
 212 Health Syst./Serv. Admn.  
 215 Public Health (See also 133)  
 220 Epidemiology  
 230 Nursing  
 240 Pharmacy  
 245 Rehabilitation/Therapeutic Services  
 250 Veterinary Medicine  
 298 Health Sciences, General  
 299 Health Sciences, Other\*
- ENGINEERING**
- 300 Aerospace, Aeronautical & Astronautical  
 303 Agricultural  
 306 Bioengineering & Biomedical  
 309 Ceramic Sciences  
 312 Chemical  
 315 Civil  
 318 Communications  
 321 Computer  
 324 Electrical & Electronics  
 327 Engineering Mechanics
- 330 Engineering Physics  
 333 Engineering Science  
 336 Environmental Health Engin.  
 339 Industrial & Manufacturing  
 342 Materials Science  
 345 Mechanical  
 348 Metallurgical  
 351 Mining & Mineral  
 357 Nuclear  
 360 Ocean  
 363 Operations Research (See also 465, 930)  
 366 Petroleum  
 369 Polymer & Plastics  
 372 Systems  
 398 Engineering, General  
 399 Engineering, Other\*
- COMPUTER AND INFORMATION SCIENCES**
- 400 Computer Science  
 410 Information Sci. & Systems\*
- MATHEMATICS**
- 420 Applied Mathematics  
 425 Algebra  
 430 Analysis & Functional Analysis  
 435 Geometry  
 440 Logic (See also 785)  
 445 Number Theory  
 450 Mathematical Statistics  
 455 Topology  
 460 Computing Theory & Practice  
 465 Operations Research (See also 363, 930)  
 498 Mathematics, General  
 499 Mathematics, Other\*
- PHYSICAL SCIENCES**
- Astronomy**
- 500 Astronomy  
 505 Astrophysics
- Atmospheric Sciences and Meteorology**
- 510 Atmospheric Physics & Chem.  
 512 Atmospheric Dynamics  
 514 Meteorology  
 518 Atmos. Sci./Meteorol., Gen.  
 519 Atmos. Sci./Meteorol., Other\*
- Chemistry**
- 520 Analytical  
 522 Inorganic  
 524 Nuclear  
 526 Organic  
 528 Medicinal/Pharmaceutical  
 530 Physical  
 532 Polymer  
 534 Theoretical  
 538 Chemistry, General  
 539 Chemistry, Other\* (See 100 Biochemistry)
- Geological & Related Sciences**
- 540 Geology  
 542 Geochemistry  
 544 Geophysics & Seismology  
 546 Paleontology  
 548 Mineralogy & Petrology  
 550 Stratigraphy & Sedimentation  
 552 Geomorphology & Glacial Geol.  
 558 Geolog. & Relat. Sci., Gen.  
 559 Geolog. & Relat. Sci., Other\*
- Physics**
- 560 Acoustics  
 561 Chemical & Atomic/Molecular  
 564 Elementary Particle  
 566 Fluids  
 568 Nuclear  
 569 Optics  
 570 Plasma & High-Temperature  
 572 Polymer  
 574 Solid State & Low-Temperature  
 578 Physics, General  
 579 Physics, Other\*
- Miscellaneous Physical Sciences**
- 580 Environmental Science  
 585 Hydrology & Water Resources  
 590 Oceanography  
 595 Marine Sciences  
 599 Misc. Physical Sci., Other\*
- PSYCHOLOGY**
- 600 Clinical  
 603 Cognitive & Psycholinguistics  
 606 Comparative  
 609 Counseling  
 612 Developmental & Child  
 615 Experimental  
 618 Educational (See also 822)  
 621 Industrial & Organizational (See also 935)  
 624 Personality  
 627 Physiological/Psychobiology  
 630 Psychometrics  
 633 Quantitative  
 636 School (See also 825)  
 639 Social  
 648 Psychology, General  
 649 Psychology, Other\*
- SOCIAL SCIENCES**
- 650 Anthropology  
 652 Area Studies  
 658 Criminology  
 662 Demography/Population Studies  
 666 Economics  
 668 Econometrics  
 670 Geography  
 674 Int'l Relations/Affairs  
 678 Political Sci. & Government  
 682 Public Policy Analysis  
 686 Sociology  
 690 Statistics (See also 450)  
 694 Urban Affairs/Studies  
 698 Social Sciences, General  
 699 Social Sciences, Other\*
- HUMANITIES**
- History**
- 700 History, American  
 705 History, European  
 710 History/Phil. of Sci. & Tech.  
 718 History, General  
 719 History, Other\*
- Letters**
- 720 Classics  
 723 Comparative Literature  
 729 Linguistics  
 732 Literature, American  
 733 Literature, English  
 734 English Language  
 736 Speech & Rhetorical Studies  
 738 Letters, General  
 739 Letters, Other\*
- Foreign Languages and Literature**
- 740 French  
 743 German  
 746 Italian  
 749 Spanish  
 752 Russian  
 755 Slavic (other than Russian)  
 758 Chinese  
 762 Japanese  
 765 Hebrew  
 768 Arabic  
 769 Other Lang. & Lit.\*
- Other Humanities**
- 770 American Studies  
 773 Archeology  
 776 Art History/Crit./Conserv.  
 780 Music  
 785 Philosophy (See also 440)  
 790 Religion (See also 984)  
 795 Drama/Theater Arts  
 798 Humanities, General  
 799 Humanities, Other\*
- EDUCATION**
- 800 Curriculum & Instruction  
 805 Educational Admn. & Supervision  
 807 Educational Leadership  
 810 Educ./Instruct. Media Design  
 815 Educ. Stat./Research Methods  
 820 Educ. Assess./Test./Meas.  
 822 Educational Psychology (See also 618)  
 825 School Psychology (See also 636)  
 830 Social/Phil. Found. of Educ.  
 835 Special Education  
 840 Counseling Educ./ Couns. & Guidance Services  
 845 Educ. Evaluation & Research
- Teacher Education**
- 850 Pre-elem./Early Childhood  
 852 Elementary  
 856 Secondary  
 858 Adult & Continuing
- Teaching Fields**
- 860 Agricultural Education  
 861 Art Education  
 862 Business Education  
 864 English Education  
 866 Foreign Languages Education  
 868 Health Education  
 870 Home Economics Education  
 872 Tech. & Indust. Arts Education  
 874 Mathematics Education  
 876 Music Education  
 878 Nursing Education  
 880 Physical Education & Coaching  
 882 Reading Education  
 884 Science Education  
 885 Social Science Education  
 887 Technical Education  
 888 Trade & Industrial Education  
 889 Teacher Educ., Specific Acad. & Voc. Prog., Other\*  
 898 Education, General  
 899 Education, Other\*
- PROFESSIONAL FIELDS**
- Business Management and Administrative Services**
- 900 Accounting  
 905 Banking/Financ. Support Serv.  
 910 Business Admn. & Mgmt.  
 915 Business/Managerial Economics  
 917 Mgmt. Inf. Sys./Bus. Data Proc.  
 920 Marketing Mgmt. & Research  
 930 Operations Research (See also 363, 465)  
 935 Organiz. Behav. (See also 621)  
 938 Bus. Mgmt./Admn. Serv., Gen.  
 939 Bus. Mgmt./Admn. Serv., Other\*
- Communications**
- 940 Communications Research  
 947 Mass Communications  
 957 Communication Theory  
 958 Communications, General  
 959 Communications, Other\* (See also 736)
- Other Professional Fields**
- 960 Architec. Environ. Design  
 964 Home Economics  
 968 Law  
 972 Library Science  
 974 Parks/Rec./Leisure/Fitness  
 976 Public Administration  
 980 Social Work  
 984 Theol./Relig. Ed. (See also 790)  
 988 Professional Fields, General  
 989 Professional Fields, Other\*
- 999 OTHER FIELDS\*

The appendix tables present data according to the following field classifications. Appendix Tables A-1 and A-2 and Appendix Table B-1 display all subfields that are on the survey Specialties List. Appendix Tables A-4, A-5, and A-6 show data by seven broad fields only. Appendix Tables A-3 and A-7 include the additional field groupings indicated below.

**SCIENCES**

**Physical Sciences (400-599)**  
 Physics and Astronomy (500-505, 560-579)  
 Chemistry (520-539)  
 Earth, Atmospheric, and Marine Sciences  
 (510-519, 540-559, 580-599)  
 Mathematics (420-499)  
 Computer Sciences (400-410) } Combined in Table A-7

**Engineering (300-399)**

**Life Sciences (000-299)**  
 Biological Sciences (100-199)  
 Biochemistry (100)  
 Other Biological Sciences (105-199)  
 Health Sciences (200-299)  
 Agricultural Sciences (000-099)

**Social Sciences (600-699)**  
 Psychology (600-649)  
 Economics and Econometrics (666, 668)  
 Anthropology and Sociology (650, 686)  
 Political Science and International Relations  
 (674, 678)  
 Other Social Sciences  
 (652-662, 670, 682, 690-699) } Combined in Table A-7

**NONSCIENCES**

**Humanities (700-799)**  
 History (700-719)  
 English and American Language  
 and Literature (732-734)  
 Foreign Languages and Literature  
 (740-769)  
 Other Humanities  
 (720-729, 736-739, 770-799) } Combined in Table A-7

**Education (800-899)**

**Professional and Other Fields (900-999)**  
 Business and Management (900-939)  
 Other Professional Fields (940-989)  
 Other Fields (999)

**NOTE:** Doctorate recipients indicate their fields of speciality. Their choices may differ from departmental names.

**TITLES OF RESEARCH DEGREES INCLUDED IN THE SURVEY OF EARNED DOCTORATES**

DA/DAT	Doctor of Arts/Arts in Teaching	DMSc	Doctor of Medical Science
DArch	Doctor of Architecture	DNSc	Doctor of Nursing Science
DAS	Doctor of Applied Science	DPA	Doctor of Public Administration
DBA	Doctor of Business Administration	DPE	Doctor of Physical Education
DChem	Doctor of Chemistry	DPH	Doctor of Public Health
DCJ	Doctor of Criminal Justice	DPS	Doctor of Professional Studies
DCL	Doctor of Comparative Law/Civil Law	DrDES	Doctor of Design
DCrim	Doctor of Criminology	DRE	Doctor of Religious Education
DED	Doctor of Environmental Design	DRec/DR	Doctor of Recreation
DEng	Doctor of Engineering	DSc/ScD	Doctor of Science
DEnv	Doctor of Environment	DScD	Doctor of Science in Dentistry
DESc/ScDE	Doctor of Engineering Science	DSch	Doctor of Science and Hygiene
DF	Doctor of Forestry	DScVM	Doctor of Science in Veterinary Medicine
DFA	Doctor of Fine Arts	DSM	Doctor of Sacred Music
DGS	Doctor of Geological Science	DSSc	Doctor of Social Science
DHL	Doctor of Hebrew Literature/Letters	DSW	Doctor of Social Work
DHS	Doctor of Health and Safety	EdD	Doctor of Education
DHS	Doctor of Hebrew Studies	JCD	Doctor of Canon Law
DIT	Doctor of Industrial Technology	JSD	Doctor of Juristic Science
DLS	Doctor of Library Science	LScD	Doctor of Science of Law
DM	Doctor of Music	PhD	Doctor of Philosophy
DMA	Doctor of Musical Arts	RhD	Doctor of Rehabilitation
DME	Doctor of Musical Education	SJD	Doctor of Juridical Science
DMin/DM	Doctor of Ministry	STD	Doctor of Sacred Theology
DML	Doctor of Modern Languages	ThD	Doctor of Theology
DMM	Doctor of Music Ministry		

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