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ABSTRACT

Results of the 1980-81 Survey of Earned Doctorates, conducted by the National Research Council, are summarized in tabular, graphic, and narrative form. Research and applied-research degrees are included, but professional degrees are not. Highlights include these: total doctorates awarded were 31,319, 1 percent increase from the previous year; the proportion awarded to women increased from 30.3 to 31.5 percent, continuing a trend begun in 1965; women's participation increased in all major fields except the physical sciences; from 1971 to 1981, women doctorates in education more than doubled, with a 22 percent decrease for men; men's doctorates decreased by less than 1 percent from 1980 to 1981, the smallest decrease since 1973; the proportion of doctorates in engineering reporting foreign citizenship exceeded the proportion reporting U.S. citizenship; earnings, teaching assistantships, and research assistantships were reported by over 60 percent of doctorates as primary sources of support; women reported self-support (earnings, spouse's earnings, and family contributions) with greater frequency than men, with twice as many men as women reporting research assistantships as primary sources of support; and Asians reported the highest frequency of support from university sources and American Indians reported greatest support from self sources and, as did whites, from federal aid. The survey form, specialties list, and degrees included are appended. (MSE)

Summary Report 1981 DOCTORATE RECIPIENTS FROM UNITED STATES UNIVERSITIES

The Survey of Earned Doctorates is conducted by the National Research Council for the National Science Foundation, the U.S. Office of Education, the National Institutes of Health, and the National Endowment for the Humanities

Peter D. Syverson
Operations Manager
Doctorate Records Project

Office of Scientific and Engineering Personnel
NATIONAL RESEARCH COUNCIL

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FOREWORD

Presented in this report is a summary of the results of the 1980-81 Survey of Earned Doctorates. The survey is conducted each year by the Office of Scientific and Engineering Personnel (formerly the Commission on Human Resources) of the National Research Council. The questionnaires are distributed with the cooperation of the graduate deans of U.S. universities and are filled in by the graduates when they complete all requirements for their doctoral degrees. The doctorates reported here were earned during the period July 1, 1980 to June 30, 1981. Research and applied-research doctorates in all fields are included in the survey, but professional doctorates such as M.D., D.D.S., O.D., D.V.M., and J.D. are not. A full list of titles of degrees included is shown on the inside back cover.

Responses were received from 29,924 or 96 percent of the 31,319 doctorates granted in 1981. When completed forms are not received from individual doctorate recipients, abbreviated records are constructed using information from the university's commencement bulletins. As a result, basic information, such as sex, field, institution, and year of Ph.D., is available for all of the 31,319 doctorate recipients.

The Survey of Earned Doctorates has been conducted each year, beginning in 1958. Yearly summaries of data from the survey have been published since 1967; this is the fifteenth in the series. Trend data from earlier periods can be found in the book A Century of Doctorates (National Academy of Sciences, 1978).

The conduct of the Survey of Earned Doctorates questionnaire, the maintenance of the resulting data file, and the publication of this report are supported jointly by the National Science Foundation, the Department of Education, the National Institutes of Health, and the National Endowment for the Humanities. The Office of Scientific and Engineering Personnel (OSEP) thanks these agencies for their assistance. Charles Dickens of the National Science Foundation is the project officer for the agencies; his interest and assistance are appreciated. We also express our thanks to the graduate deans in the doctorate-granting institutions for their continuing interest and assistance in this project.

The Survey of Earned Doctorates is under the direction of Peter Syverson. Elise Brand had continuing responsibility for the development of the summary statistics presented in the present report. In addition, Dr. Dickens of the National Science Foundation, Donald Bigelow of the Department of Education, George Bowden of the National Institutes of Health, and Arnita Jones of the National Endowment for the Humanities have provided constructive advice in the design and analysis of the Survey, a contribution that increases its relevance to national policy issues. Kenneth R. R. Gros Louis, Kumar Patel, and Michael J. Pelczar provided valuable assistance in review of the report. Special appreciation also goes to Doris Rogowski who supervised the coding and editing of the data, to Joseph Finan and George Boyce who were responsible for the computer programming and processing, and to Olivia Waller for her meticulous care in typing the report.

OSEP is concerned with those activities of the National Research Council that contribute to the more effective development and utilization of the nation's scholars and research personnel. Its programs seek to strengthen higher education and to develop better understanding of the educational process. It is hoped that prompt reporting of the present data to educational, governmental, and professional agencies will facilitate planning in higher education. Suggestions for improvement of the content or format of the report and questions or comments are welcomed. Such communications may be directed to the Office of Scientific and Engineering Personnel, National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.

Peter D. Syverson
Operations Manager

NOTICE: This report is based on research conducted by the National Research Council with the support of the National Science Foundation, the Department of Education, the National Institutes of Health, and the National Endowment for the Humanities under NSF Contract No. SRS-8112839. Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the National Research Council and do not necessarily reflect the views of the sponsoring agencies.

INTRODUCTION

A total of 31,319 research doctorates were awarded by U.S. universities during the period July 1, 1980 to June 30, 1981, an increase of 1 percent or 303 from the 31,016 doctorates granted in 1980 (Text Table A). Displayed in Figure 1 are data on the trend in doctorates awarded over the past two decades. The period from the mid 1960's to 1973 of large annual increases in number of doctorates has been followed by gradual decreases through the 1970's with small increases in 1979 and 1981. Despite these increases, the 1981 total is 7 percent less than the peak of 33,756 doctorates awarded in 1973.

TEXT TABLE A
Doctorates Awarded by U.S. Universities, 1960-1981

Year	Doctorates	Year	Doctorates
1960	9,733	1971	31,867
1961	10,413	1972	33,044
1962	11,500	1973	33,756
1963	12,729	1974	33,047
1964	14,325	1975	32,951
1965	16,340	1976	32,946
1966	17,949	1977	31,718
1967	20,403	1978	30,873
1968	22,936	1979	31,235
1969	25,743	1980	31,016
1970	29,498	1981	31,319

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File

Selected statistics from the 1981 Survey of Earned Doctorates and from past surveys are highlighted in the following pages. Because of current concern with student debt and the financing of graduate study, this report takes as a special theme the sources of support used by doctorate recipients during graduate studies. The Summary Report for 1980, readers of this report may remember, highlighted data on the characteristics of non-U.S. citizen doctorate recipients--their countries of citizenship, fields of study, sources of support in graduate school, and postdoctoral employment and study plans. Statistics on the postgraduation employment plans of Ph.D. recipients and the number of doctorate recipients planning postdoctoral study in foreign countries were examined in the 1979 Summary Report.

TRENDS IN THE NUMBER OF DOCTORATES BY FIELD FOR MEN AND WOMEN

The proportion of doctorates granted to women increased from 30 percent of the total in 1980 to 32 percent in 1981, continuing a trend that began in 1965 when 11 pecent of the new doctorates were women. The number of doctorates granted to women has increased each year since 1965.[1/] While the total number of doctorate recipients in 1981 was about the same as in 1971, the number of women doctorates has more than doubled during the past eleven years from 4,596 to 9,872. Text Table B and

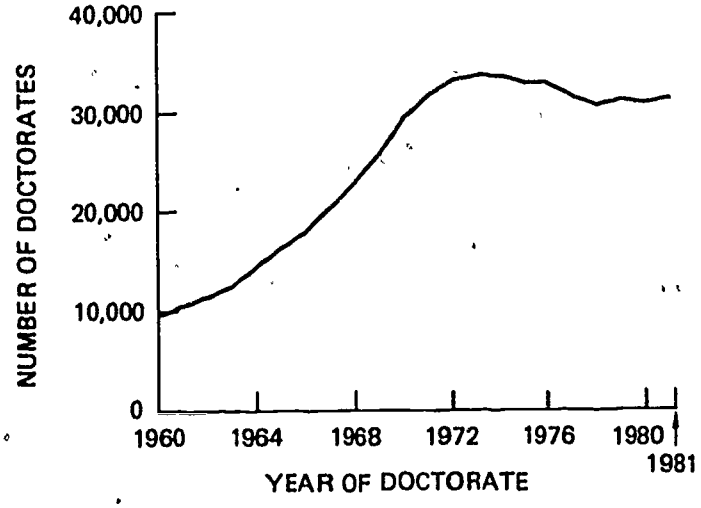


FIGURE 1
Doctorate Recipients from United States Universities, 1960-1981. SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

1/Data for 1920 to 1970 were published in Summary Report 1975: Doctorate Recipients from United States Universities, p.4, National Research Council, 1976.

Figure 2 show the distribution of doctorate recipients by broad field and sex for the period 1971 to 1981.

The number of women doctorate recipients increased in all broad fields between 1980 and 1981 with the exception of the physical sciences, where the number of women remained constant at 502. The largest numerical increase was in education, where the number of women rose by 151 to 3,534. The "professional"[2/] fields showed the largest proportional increase, up 13 percent from 1980. The number of women doctorates in the humanities increased for the first time since 1975. Table 2 on page 33 shows that a greater number of women received doctorate degrees in two humanities disciplines--English and American languages and literature and foreign languages and literature--than did men.

For men, the number of new doctorates decreased slightly, from 21,610 in 1980 to 21,447 in 1981. While this 1 percent decrease is the smallest since 1973, it represents a continuation of the steady decline in the number of men doctorates since 1972. By field, the number of doctorates granted to men increased in the physical, life, and social sciences and in engineering, with countervailing decreases in the humanities, professional fields, and education. The decrease in the number of men doctorates in education--the largest decrease over all broad fields--is in contrast to the increase in the number of women earning doctorates in education. In fact, from 1971 to 1981 the number of men education doctorates decreased 22 percent while the corresponding number of women increased 163 percent. The number of women doctorates in education is now within 11 percent of the number of men. If this trend continues, education may soon become the first broad field where the number of doctorates granted to women exceeds the number granted to men.

PRIMARY SOURCE OF FINANCIAL SUPPORT IN GRADUATE SCHOOL

The following presentation focuses on the sources of financial support doctorate recipients have reported using for their graduate study. This discussion of the sources and distribution of support may help to shed light on the current national situation in the financing of U.S. higher education. While the tables and graphs that follow are by no means exhaustive of the doctoral data, they illustrate some of the many ways the survey results can be used.

Data on sources of support are derived from responses to item 15 on the questionnaire (p. 43). Since the 1978 survey this question has asked the doctorate recipient to identify his or her primary and secondary sources of support and to check all

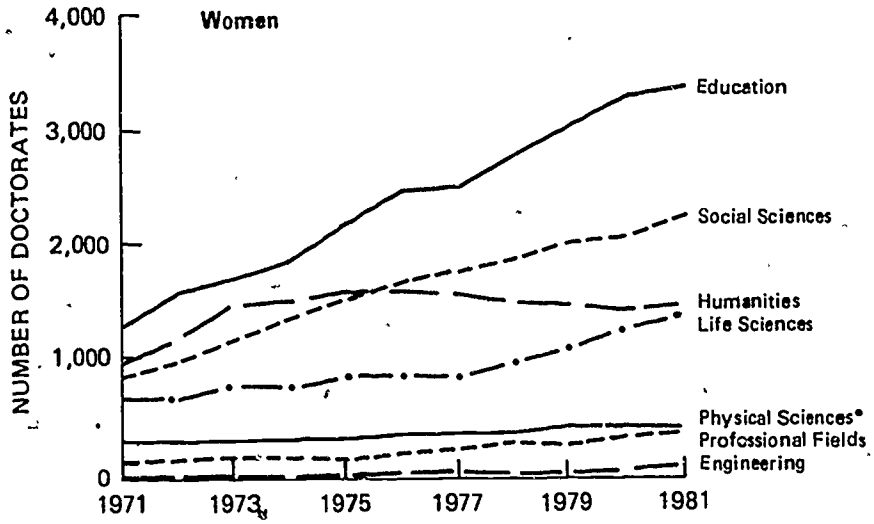
TEXT TABLE 8
Number of Doctorates Awarded by United States Universities by Broad Field and Sex, 1971-1981

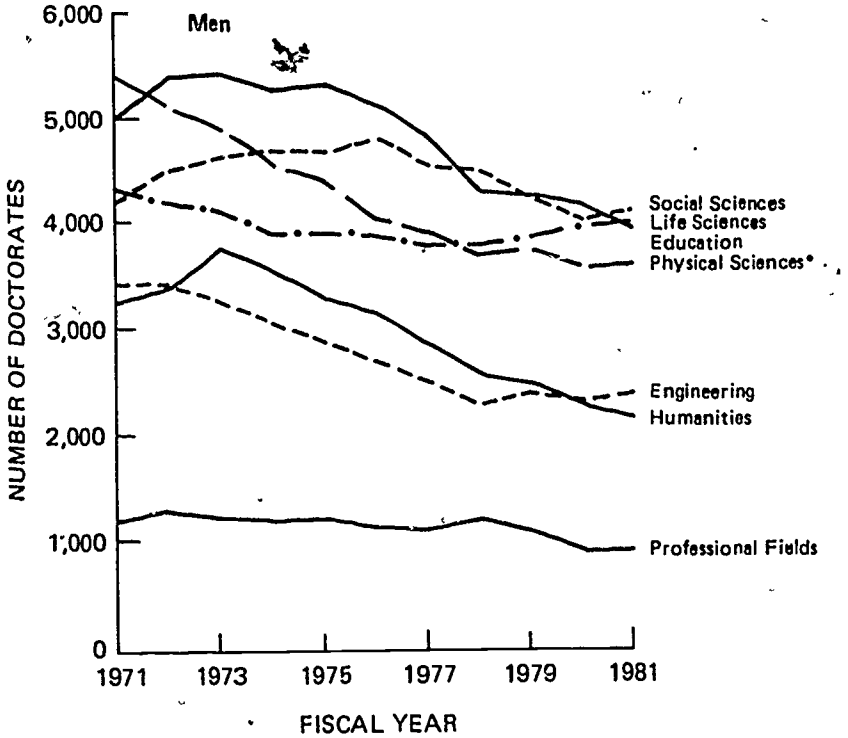
Year	Total		Physical Sciences		Engineering		Life Sciences		Social Sciences		Humanities		Professional Fields		Education	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
1971	27,271	4,596	5,398	341	3,483	15	4,360	715	4,265	924	3,314	1,063	1,262	177	5,089	1,346
1972	27,257	5,287	5,171	367	3,481	22	4,221	731	4,558	1,053	3,440	1,274	1,349	184	5,439	1,646
1973	27,671	6,085	4,929	382	3,318	46	4,140	868	4,692	1,246	3,817	1,547	1,258	201	5,456	1,783
1974	26,594	6,453	4,592	384	3,114	33	3,967	867	4,727	1,446	3,594	1,576	1,226	194	5,302	1,939
1975	25,750	7,201	4,454	403	2,950	52	3,955	950	4,711	1,600	3,359	1,687	1,243	208	5,064	2,295
1976	25,262	7,684	4,089	420	2,780	54	3,922	959	4,856	1,734	3,208	1,673	1,189	290	5,185	2,540
1977	23,860	7,858	3,949	430	2,569	74	3,817	957	4,691	1,837	2,903	1,659	1,045	308	4,870	2,585
1978	22,552	8,321	3,754	439	2,370	53	3,809	1,086	4,510	1,955	2,635	1,596	1,128	330	4,339	2,855
1979	22,299	8,936	3,803	496	2,428	62	3,888	1,196	4,283	2,109	2,546	1,592	1,059	366	4,277	3,107
1980	21,610	9,406	3,609	502	2,389	90	3,991	1,317	4,086	2,168	2,336	1,532	982	376	4,203	3,383
1981	21,447	9,872	3,666	502	2,429	99	4,018	1,443	4,190	2,315	2,198	1,547	964	424	3,995	3,534

*Includes mathematics and computer science.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

2/ The category "professional fields" includes doctorate recipients in fields such as business administration, social work, theology, and speech and hearing sciences. A listing of the subfields included in each broad field can be found inside the back cover.





*Includes mathematics and computer sciences.

FIGURE 2
Number of Doctorates Awarded by U.S. Universities by Broad Field and Sex, 1971-1981. SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

other sources from which some support was received. Primary source responses were chosen for this analysis because these provide a measure of the relative magnitude of support received, even though data on the monetary value of support are not collected. The differences between tabulations of primary source responses and responses that simply indicate that some support was received from a particular source can be seen by comparing Text Table C (p.13) and Table 3 (p. 38). For example, while 16 percent of all 1981 doctorate recipients reported receiving some measure of support from family contributions, only about 2 percent noted that source as the primary source of support. In contrast, the 7 percent reporting receiving some support from NIH were more closely matched by the 5 percent who reported NIH as their primary support source. Of the 31,319 doctorate recipients in 1981, 29,480 or 94 percent responded to item 15, and 27,769 or 94 percent of those respondents provided usable information on primary source of support.

The 24 sources of support listed in item 15 have been collapsed into the following 13 categories for purposes of this analysis, with subtotals for the federal, university, and self-support sources:

Category	Responses Included
Federal	
NSF	NSF Fellowship, NSF Traineeship
NIH	NIH Fellowship, NIH Traineeship, NDEA Fellowship, Title IX Graduate and Professional Opportunities Program Fellowship, NASA Traineeship, GI Bill, Other Federal Support
Other Federal	
U.S. National Fellowship	Woodrow Wilson Fellowship, Other U.S. National Fellowships
University	
University Fellowship	University Fellowship
Teaching Assistantship	Teaching Assistantship
Research Assistantship[3/]	Research Assistantship
Business/Industry	Educational Fund of Industrial or Business Firm
Self Support	
Own Earnings	Own Earnings
Spouse's Earnings	Spouse's Earnings
Family Contributions	Family Contributions
Loans	National Direct Student Loans, Other Loans
Other	Other Institutional, Other Sources

Support Source by Field and Year of Doctorate

Displayed in Text Table C are data on primary support source by field for the 1978 to 1981 period. It should be noted that as the median time lapse between baccalaureate and receipt of the doctoral degree ranges from 7.8 years in the sciences to 13.5 years in education (see Table 2, page 32), the patterns of support discernible in these tables were established in the early 1970's and are not likely to be the result of recent changes in the financing of graduate education.

From 1978 to 1981, there appears to be considerable stability in the proportions of doctorates reporting support from each of the 13 sources in Text Table C. The largest change in a single support source was a 2 percent decrease in the proportion of doctorates reporting "other federal" as their primary source. During this time, support from federal sources and spouse's earnings tended to decline, while support from research assistantships, own earnings, family contributions, loans, and the "other" sources increased.

During these years, "own earnings" remained the

3/The question on source of support does not allow for the separation of research assistantships funded by federal agencies from those supported through university sources. Recognizing the significant proportion of research assistantships supported by federal funds (some 56 percent according to the 1981 NSF Survey of Graduate Student Support and Postdoctorals) this support is nevertheless channeled through the university and as a consequence is reported here in combination with teaching assistantships and university fellowships.

most frequently reported source, followed by teaching and research assistantships. These three sources accounted for over 60 percent of all primary source responses (see Figure 3). Own earnings was a significant source of support in all fields, but was particularly important in education, the professional fields, psychology, and humanities. Teaching assistantships were of primary importance in mathematics, the humanities, chemistry, the social sciences, and physics; research assistantships in the physical sciences, engineering, computer science, and the life sciences.

While the other 10 sources were of considerably lower total magnitude, some of them were concentrated in particular fields. NIH support, although eighth largest overall, was first and second in the medical and biological sciences respectively. The category "other sources," which has as a large component support from foreign countries, was important for Ph.D.'s in agricultural sciences, the field with the second largest proportion of non-U.S. citizens. Support from the NSF was concentrated in the physical sciences, mathematics, engineering, computer sciences, and the biological sciences.

Figure 4 presents field profiles of the primary sources of support reported by 1981 doctorate recipients. The physical science fields--physics and astronomy, chemistry, and earth sciences--share a pattern of concentration of support from research assistantships, although in chemistry teaching assistantships are common. The 57 percent of physics doctorates reporting research assistantships as their primary source represents the largest concentration on a single source of support in any field.

Mathematics has nearly a complementary pattern, with teaching assistantships as the major source. Like physics, the 55 percent of mathematics Ph.D.'s reporting teaching assistantships is the largest proportion reporting that source among the Figure 4 fields. Computer science and engineering share nearly the same support pattern, with research assistantships, teaching assistantships, and own earnings as the top three sources. Computer scientists were most likely to report NSF support for graduate study. Not surprisingly, graduate student support from industrial or business firms was most prevalent in engineering and computer science, with 4 percent and 3 percent of students in those fields receiving some assistance from that source.

Support from the NIH and from research assistantships were the two sources most frequently reported by Ph.D.'s in the biological and medical sciences. Own earnings was reported as the primary source by 16 percent of the medical scientists, a comparatively large proportion. The agricultural sciences have a different support pattern from the other life science fields, with research assistantships and "other" as the leading sources. A review

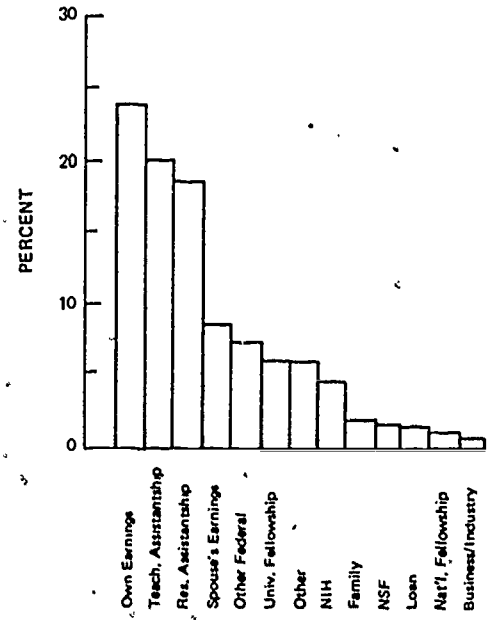


FIGURE 3
Primary Source of Support for 1978-1981 Doctorate Recipients Ranked by Proportion Reporting Each Source.
SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

of the written-in responses to the "other" item reveals that this category is typically used by non-U.S. citizen Ph.D.'s to denote support from their home countries.

In the social science fields, teaching assistantships and own earnings were the sources of graduate student support most frequently reported. Doctorate recipients in psychology reported own earnings as the primary source more frequently than in all other science and engineering fields, and support from loans more frequently than in all 17 fields.

As in the social sciences, doctorate recipients in the humanities relied primarily on teaching assistantships and own earnings for their support during graduate school. More significantly, three other sources--university fellowship, spouse's earnings, and family contributions--were reported more frequently by humanities Ph.D.'s than by those in any other fields.

Own earnings, teaching assistantships, and spouse's earnings were the major sources reported by doctorate recipients in the professional fields. Their largest source--own earnings--was reported more frequently here than in any of the other fields except education.

Over one-half of the doctorate recipients in education reported primary support from their own earnings, a considerably greater frequency than in all other fields. Teaching assistantships, spouse's earnings, and "other federal"--for the most part from the G.I. Bill--are the other significant sources of support for education doctorates.

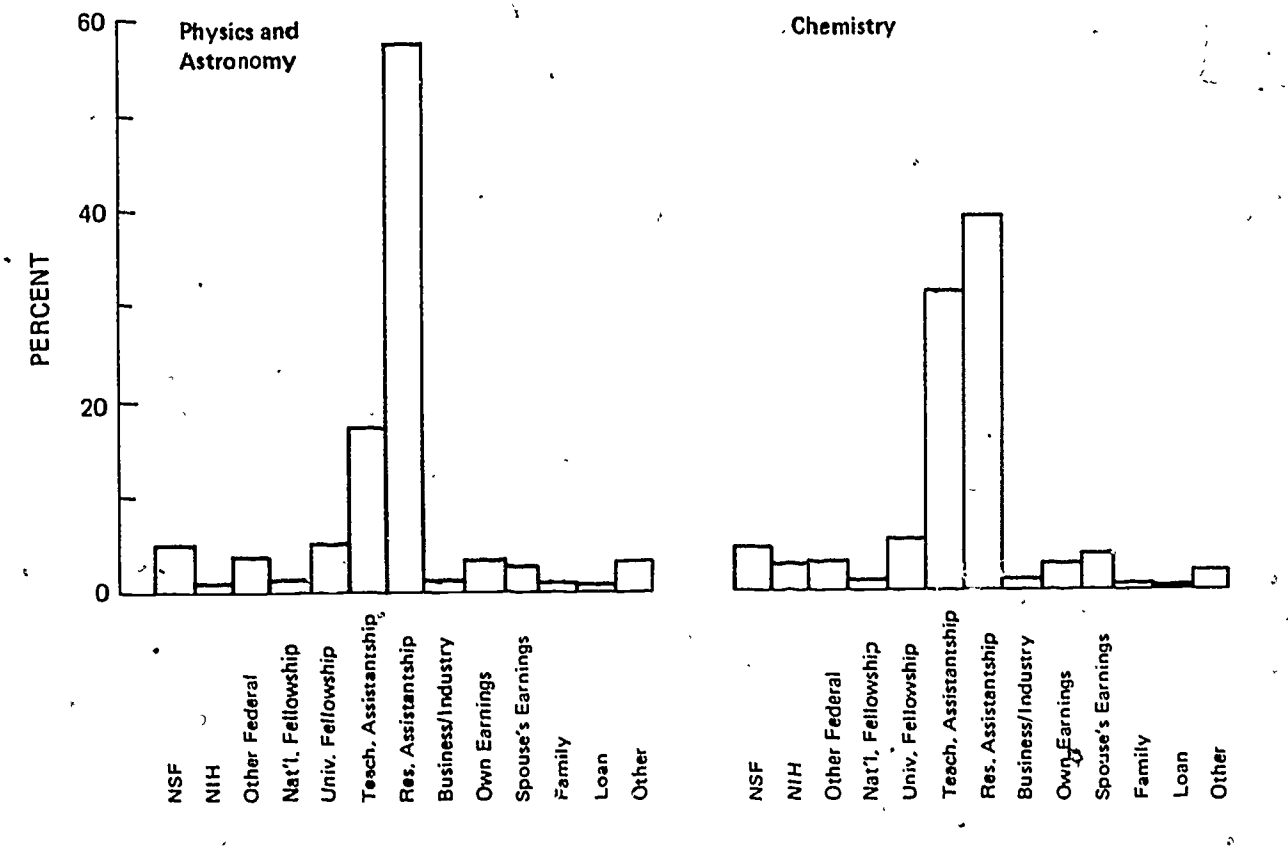
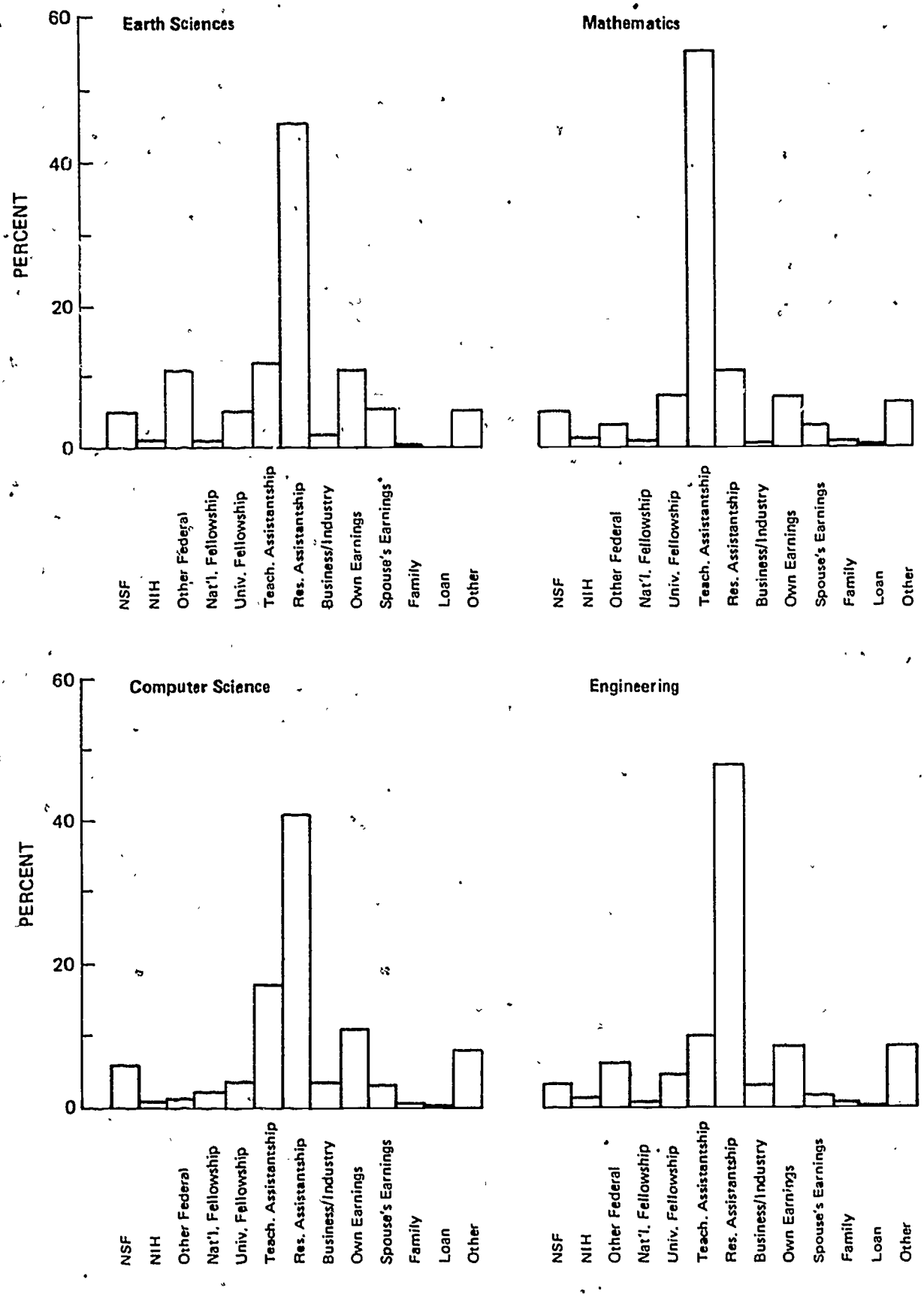


FIGURE 4
Primary Source of Support for 1981 Doctorate Recipients by Field of Doctorate.
SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.



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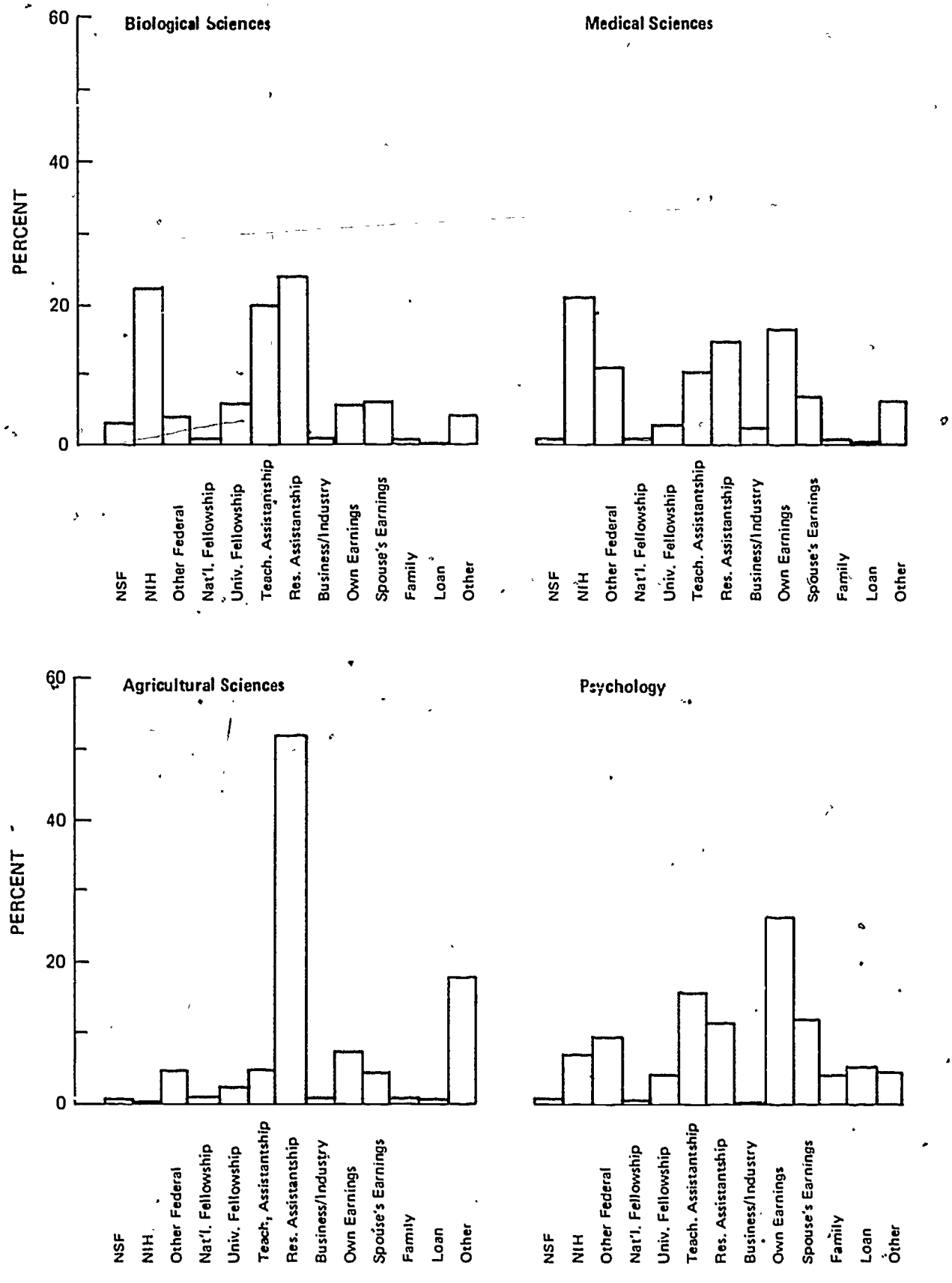

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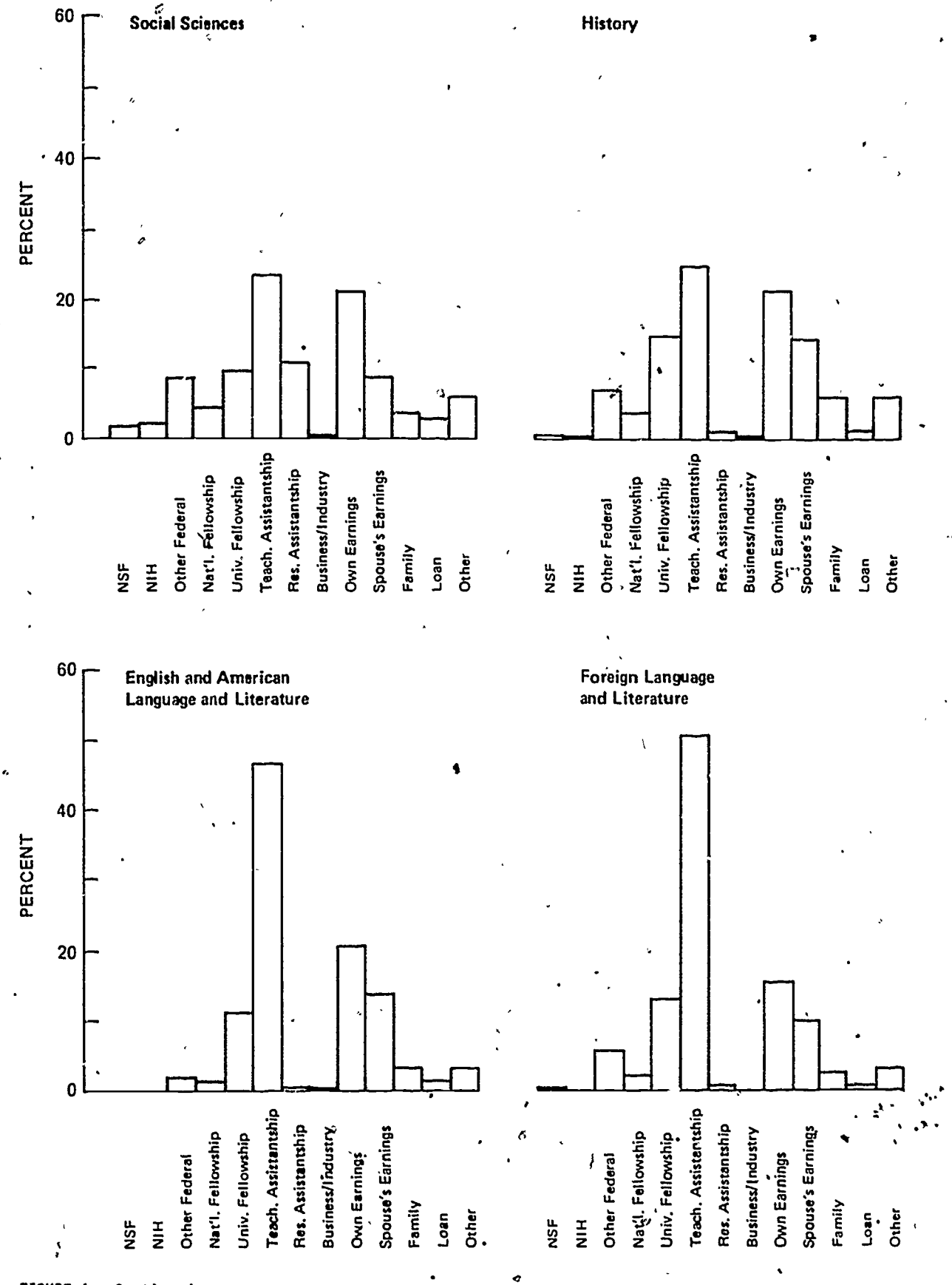

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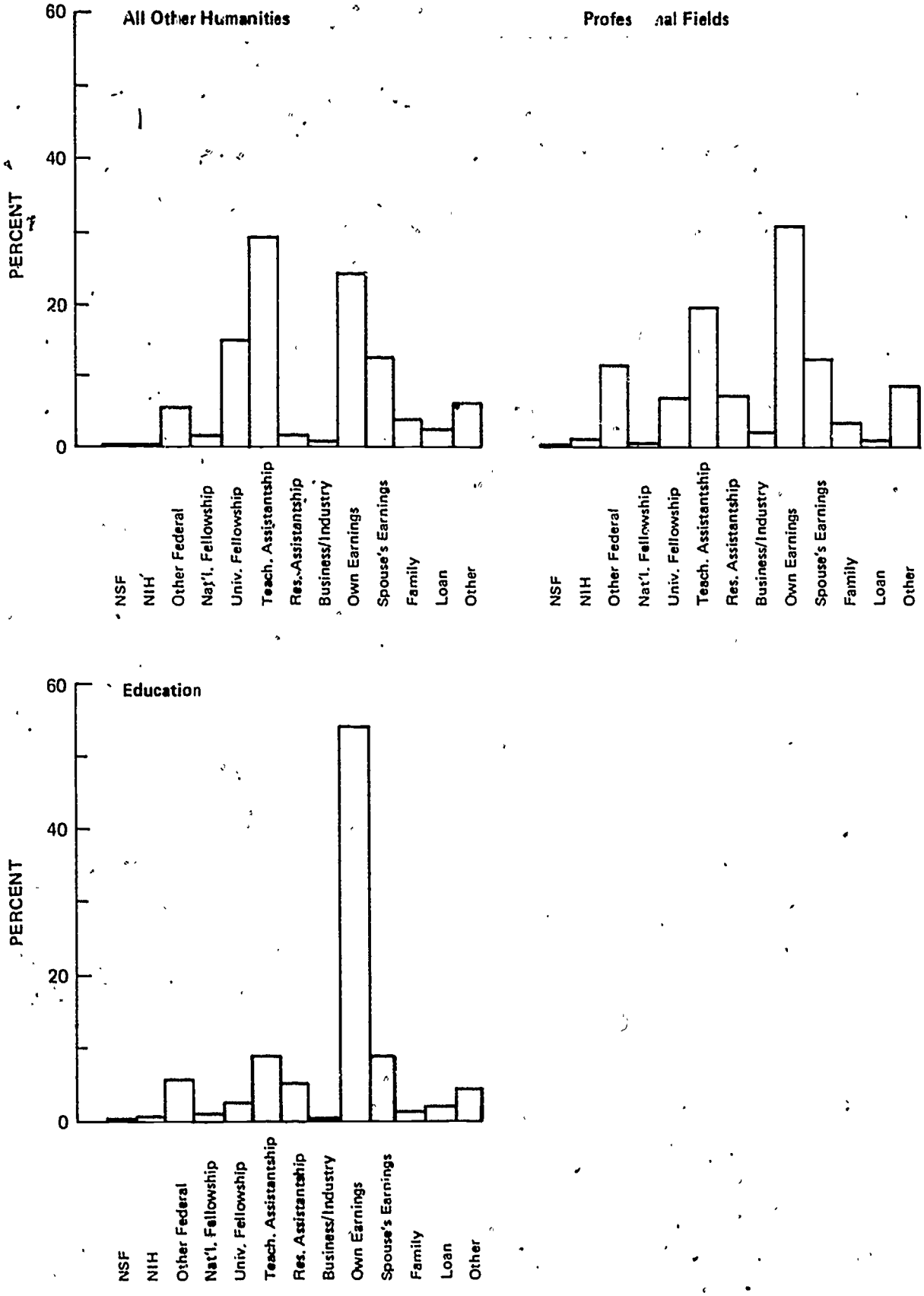

FIGURE 4. Continued

TEXT TABLE C
PRIMARY SOURCE OF SUPPORT IN GRADUATE SCHOOL FOR 1978-1981: PERCENTAGE OF DOCTORATE RECIPIENTS REPORTING PRIMARY SOURCE BY FIELD AND YEAR

SUPPORT SOURCE	TOTAL ALL FLDS.	PHYS& ASTR.	CHEM.	EARTH ENV.& MAR. SCI.	MATH.	COMP. SCI.	ENGR.	BIO. SCI.	MED. SCI.	AGR. SCI.	PSYCH.	SOC. SCI.	HIST.	ENG.& AMER. LANG. &LIT.	FOR. LANG. &LIT.	ALL OTHER HUMAN ITIES	PROF. FLDS.	EDUC.
FIELD OF DOCTORATE																		
TOTAL FEDERAL																		
1978	14.9*	9.5	9.9	13.7	9.2	9.1	12.2	32.1	38.4	8.9	24.3	16.8	13.9	4.8	14.2	8.3	12.7	8.4
1979	13.7	9.0	9.5	13.6	9.2	6.2	10.0	30.6	38.0	7.3	21.6	15.7	9.7	5.7	9.2	7.8	10.7	7.8
1980	13.4	8.5	11.7	14.2	7.7	7.9	12.0	29.4	33.6	6.9	20.0	13.9	13.8	3.1	7.9	7.1	11.1	7.4
1981	12.7	8.6	11.2	16.2	7.8	8.7	11.1	29.7	34.6	5.7	17.5	12.4	8.0	1.9	5.5	6.2	11.4	6.5
MEAN	13.7	8.9	10.6	14.4	8.5	7.9	11.3	30.4	35.9	7.1	20.7	14.7	11.5	4.0	9.3	7.3	11.5	7.5
NSF																		
1978	1.8	3.7	3.4	3.8	5.2	1.8	4.3	3.4	.5	.9	1.9	2.4	.1			.5	.2	.3
1979	1.8	4.2	3.6	5.4	5.7	3.1	3.2	3.2	1.4	.9	1.4	2.5	.1		.2	.8	.2	.2
1980	1.8	4.4	4.5	3.3	5.0	5.4	3.4	3.5	.9	.5	1.5	2.4	.9		.2	.5	.1	.2
1981	1.7	4.8	4.5	5.4	4.4	6.0	2.7	3.4	1.3	.6	1.1	1.8	.3			.6		.1
MEAN	1.8	4.2	4.0	4.5	5.1	4.4	3.4	3.4	1.1	.7	1.5	2.3	.4		.1	.6	.1	.2
NIH																		
1978	4.9	.6	3.9	.5	.5		2.0	23.0	26.8	.5	9.5	3.5	.3		.2	.2	2.0	.2
1979	4.6	.2	3.4	.3	1.0	.5	1.1	22.6	24.3	.6	9.1	2.7		.1		.1	1.7	.2
1980	4.5	.2	3.5	.3	.9	.5	1.4	20.7	22.4	.3	8.5	3.1	.1			.1	1.2	.2
1981	4.5	.1	3.3	.6	.8	.9	1.6	22.1	21.6	.2	6.9	2.3				.1	1.6	.3
MEAN	4.7	.3	3.5	.4	.8	.6	1.5	22.1	23.5	.4	8.4	2.9	.1			.1	1.7	.2
OTHER FEDERAL																		
1978	8.2	5.2	2.7	9.4	3.4	7.3	6.0	5.7	11.0	7.4	12.8	11.0	13.5	4.8	14.1	7.5	10.4	7.9
1979	7.3	4.6	2.6	7.8	2.4	2.6	5.6	4.8	12.4	5.9	11.2	10.5	9.6	5.6	9.0	6.9	8.8	7.3
1980	7.1	3.9	3.7	10.6	1.8	2.0	7.2	5.2	10.3	6.0	10.1	8.4	12.7	3.1	7.7	6.5	9.8	7.0
1981	5.5	3.8	3.4	10.2	2.7	1.8	6.9	4.2	11.7	4.9	9.5	8.4	7.7	1.9	5.5	5.5	9.7	6.1
MEAN	7.3	4.4	3.1	9.5	2.6	2.9	6.4	5.0	11.3	6.0	10.8	9.6	11.0	3.9	9.2	6.6	9.7	7.1
NATIONAL FELLOWSHIP																		
1978	1.1	1.0	.6	.7	.3	.9	.9	.6	.7	1.5	.6	2.3	4.0	1.3	1.5	2.2	.9	.7
1979	1.0	.5	.5	.3	.9		.6	.9	1.1	1.3	.6	1.8	5.1	1.6	1.0	2.2	.6	.6
1980	1.1	.7	.6	.2	.3	1.5	.5	.5	.4	1.2	.7	2.4	3.7	2.0	1.4	2.9	.6	.7
1981	1.1	.0	1.0	.6	.3	2.3	.5	.9	1.3	1.6	.7	2.4	3.7	.8	2.0	1.8	.4	.7
MEAN	1.1	.8	.7	.4	.4	1.2	.6	.7	.9	1.4	.6	2.2	4.1	1.5	1.5	2.3	.6	.7
TOTAL UNIVERSITY																		
1978	42.2	76.3	79.2	67.3	65.0	63.6	60.0	49.8	27.0	58.1	32.6	42.4	37.8	53.8	49.7	40.7	29.8	18.7
1979	42.8	77.7	79.0	66.7	70.1	59.8	61.8	48.2	26.9	56.1	32.9	43.2	40.1	54.9	55.8	39.3	34.1	19.0
1980	42.7	77.6	78.1	64.3	74.2	64.9	61.3	51.6	31.3	55.9	31.6	43.1	36.3	55.0	61.7	41.8	33.7	18.4
1981	42.8	78.7	76.9	62.2	73.6	61.9	63.7	49.7	28.7	59.0	30.7	44.0	39.9	57.2	62.8	44.0	32.1	17.8
MEAN	42.6	77.6	78.3	65.2	70.6	62.4	61.7	49.8	28.6	57.3	31.9	43.2	38.5	55.1	57.2	41.4	32.4	18.4
UNIVERSITY P'SHIP																		
1978	6.2	4.0	7.1	5.2	8.1	2.7	4.3	6.9	4.8	2.0	5.0	8.9	12.0	11.5	12.7	14.2	5.2	2.9
1979	5.9	4.5	6.7	6.5	7.2	2.1	3.9	6.3	4.4	2.4	5.2	8.9	11.8	10.0	12.2	12.7	6.0	2.8
1980	5.9	3.7	6.2	4.8	7.9	4.5	4.7	6.1	5.9	2.4	5.0	9.0	11.8	9.9	14.2	12.5	5.3	2.9
1981	5.9	4.2	5.8	5.0	7.8	3.7	5.0	6.0	3.0	2.5	4.0	9.8	14.6	10.8	12.8	14.4	6.4	2.5
MEAN	6.0	4.1	6.4	5.4	7.7	3.3	4.5	6.3	4.5	2.3	4.8	9.2	12.5	10.5	12.9	13.4	5.7	2.8
TEACHING A'SHIP																		
1978	19.0	22.2	37.3	15.1	48.2	21.8	9.5	21.6	10.0	5.5	16.0	22.2	22.7	41.7	35.8	24.2	17.7	10.0
1979	19.2	22.6	32.4	15.3	51.8	21.1	9.9	19.8	8.5	4.4	15.9	23.9	26.6	43.9	42.9	24.5	20.5	10.4
1980	19.2	21.8	33.3	13.2	56.8	14.9	10.4	21.3	10.7	4.2	15.5	24.0	22.6	44.9	46.0	27.1	20.6	10.2
1981	18.7	17.4	31.7	11.9	55.0	17.0	10.6	19.8	10.6	5.0	15.7	23.3	24.5	46.1	49.7	28.2	18.6	9.7
MEAN	19.0	21.0	33.6	13.9	52.8	18.2	10.1	20.6	10.0	4.8	15.8	23.4	24.1	44.0	43.4	26.0	19.3	10.1
RESEARCH A'SHIP																		
1978	17.0	50.1	34.8	46.9	8.7	39.1	46.2	21.3	12.2	50.7	11.5	11.3	3.1	.7	1.2	2.3	6.9	5.8
1979	17.7	50.7	39.9	44.9	11.2	36.6	48.0	22.2	13.9	49.3	11.7	10.4	1.7	1.0	.7	2.1	7.6	5.8
1980	17.6	52.0	38.7	46.3	9.5	45.5	46.1	24.1	14.7	49.4	11.0	10.2	1.8	.2	1.6	2.2	7.9	5.3
1981	18.3	57.1	39.4	45.3	10.8	41.3	48.1	23.9	15.1	51.5	10.9	10.8	.8	.3	.4	1.4	7.1	5.7
MEAN	17.6	52.4	38.3	45.8	10.0	40.9	47.1	22.9	14.1	50.2	11.3	10.7	1.9	.5	.9	2.0	7.4	5.6

*PERCENTAGE OF TOTAL IN FIELD AND YEAR REPORTING PRIMARY SOURCE.

TEXT TABLE C. CONTINUED

SUPPORT SOURCE	TOTAL ALL FLDS.	PHYS& ASTR.	CHEM.	EARTH ENV.& MAR. SCI.	MATH.	COMP. SCI.	ENGR.	BIO. SCI.	MED. SCI.	AGR. SCI.	PSYCH.	SOC. SCI.	HIST.	ENG.& AMER. LANG. &LIT.	FOR. LANG. &LIT.	ALL OTHER HUMAN ITIES	PROF. FLDS.	EDUC.
FIELD OF DOCTORATE																		
BUSINESS/INDUSTRY																		
1978	.8	.9	.8	.7	1.9	1.8	3.3	.5	1.9	.5	.4	.6	.1	.1	.2	.4	1.1	.5
1979	.9	1.1	1.6	.9	.7	2.6	4.8	.4	.9	.4	.2	.4	.4	.2	.2	.4	1.2	.4
1980	.9	1.0	1.2	1.2	.6	4.5	3.7	.9	1.2	.8	.4	.5	.3		.2	.1	1.2	.5
1981	1.0	1.0	1.5	1.7	.6	4.1	3.4	.9	2.1	1.4	.2	.5	.2	.1		.7	1.9	.6
MEAN	.9	1.0	1.3	1.1	1.0	3.5	3.8	.7	1.5	.8	.3	.5	.3	.1	.1	.4	1.5	.5
TOTAL SELF SUPPORT																		
1978	33.9	8.8	6.3	13.7	16.4	20.0	15.9	12.9	24.3	15.0	36.0	29.4	37.3	36.2	28.6	40.1	46.2	64.2
1979	34.1	8.5	7.2	14.1	14.7	22.7	13.9	14.5	25.0	15.7	37.5	30.4	38.8	34.0	31.5	42.2	42.4	63.8
1980	34.3	8.5	6.2	14.2	12.2	16.8	14.1	12.8	23.6	15.4	40.0	30.6	39.3	35.1	26.6	40.0	45.4	64.2
1981	34.6	7.2	6.9	14.9	11.1	15.1	12.4	13.5	25.0	12.8	41.8	32.5	40.4	35.8	26.6	38.6	45.0	65.6
MEAN	34.2	8.3	6.7	14.2	13.7	18.4	14.0	13.4	24.5	14.7	38.9	30.7	38.9	35.3	28.4	40.2	44.7	64.5
OWN EARNINGS																		
1978	23.3	4.6	2.1	8.1	9.6	13.6	11.9	4.4	15.3	9.9	21.5	18.5	19.1	18.6	17.1	23.0	32.2	52.0
1979	23.5	4.3	2.4	8.7	8.3	17.5	9.9	6.6	14.8	8.7	22.7	19.2	20.8	19.3	17.3	25.5	29.5	51.7
1980	24.0	4.0	1.9	9.3	7.7	12.9	10.3	5.7	14.7	8.5	24.5	19.3	22.2	18.4	16.0	23.6	32.7	52.2
1981	24.3	3.8	3.0	10.2	7.2	11.0	9.1	5.9	16.4	7.7	25.9	20.5	20.3	20.2	14.9	22.9	30.2	54.2
MEAN	23.8	4.2	2.4	9.1	8.1	13.7	10.3	5.6	15.4	8.7	23.7	19.4	20.6	19.1	16.4	23.8	31.2	52.5
SPOUSE'S EARNINGS																		
1978	8.7	3.7	3.7	5.4	5.4	4.5	2.9	7.5	8.0	4.4	11.2	8.6	14.9	14.1	9.9	13.2	11.8	10.3
1979	8.7	4.1	4.7	4.8	4.4	5.2	2.7	7.1	9.0	5.9	11.6	8.9	15.3	11.6	11.9	12.8	11.3	10.2
1980	8.2	4.1	3.8	4.8	4.7	4.0	2.4	6.2	7.6	5.5	10.6	8.9	13.8	13.8	8.9	11.5	10.4	10.0
1981	8.0	2.8	3.8	4.5	3.2	3.7	2.1	6.4	7.2	4.2	11.8	8.3	14.1	13.0	9.7	11.8	11.9	9.6
MEAN	8.4	3.7	4.0	4.9	4.4	4.3	2.5	6.8	7.9	5.0	11.3	8.6	14.6	13.2	10.1	12.3	11.3	10.0
FAMILY CONTRIBUTIONS																		
1978	1.9	.5	.5	.2	1.5	1.8	1.1	1.0	1.0	.7	3.3	2.4	3.3	3.4	1.7	3.9	2.2	1.8
1979	1.8	.2	.1	.7	2.0		1.4	.9	1.2	1.1	3.2	2.4	2.7	3.1	2.3	3.9	1.8	1.9
1980	2.1	.5	.5	.2	.5		1.4	.9	1.2	1.3	4.9	2.4	3.3	2.9	1.8	4.9	2.2	2.1
1981	2.2	.7	.1	.2	.8	.5	1.2	1.2	1.3	.9	4.1	3.8	6.0	2.6	2.0	3.9	2.9	1.8
MEAN	2.0	.5	.3	.3	1.2	.4	1.3	1.0	1.2	1.0	3.9	2.7	3.7	3.0	2.0	4.1	2.2	1.9
LOANS																		
1978	1.2		.2		.4		.3	.1	.8	.8	2.6	1.2	1.8	.6	1.8	2.7	1.2	1.7
1979	1.3		.1	.3	.1		.1	.4	1.2	.1	3.5	1.3	1.5	1.0	.3	1.4	1.3	2.1
1980	1.5			.2	.3	.5	.3	.5	1.2	.3	3.8	1.6	1.3	1.9	.8	1.6	.7	2.4
1981	1.8		.1		.3		.4	.3	.9	.6	5.1	1.4	1.3	1.4	.4	2.7	.9	3.1
MEAN	1.4		.1	.1	.3	.1	.3	.3	1.0	.4	3.8	1.4	1.5	1.2	.8	2.1	1.0	2.3
OTHER SOURCES																		
1978	5.8	3.6	3.1	4.0	6.9	4.5	7.5	4.0	7.0	15.2	3.6	7.2	5.1	3.2	3.9	5.7	8.2	5.9
1979	6.1	3.2	2.0	4.1	4.3	8.8	8.7	5.0	6.9	18.9	3.7	7.2	4.4	2.5	2.0	6.7	9.2	6.3
1980	6.2	3.7	2.1	5.7	4.7	4.0	8.1	4.5	8.8	19.5	3.5	7.8	5.2	2.9	1.4	6.5	7.4	6.4
1981	6.1	3.4	2.4	4.5	6.2	7.8	8.5	4.9	7.4	19.0	4.0	6.8	6.5	2.7	2.7	6.0	8.4	5.8
MEAN	6.0	3.5	2.4	4.5	5.5	6.5	8.2	4.6	7.6	18.2	3.7	7.3	5.2	2.9	2.5	6.2	8.3	6.1
PRIMARY SOURCE REPORTED																		
1978	26625	928	1308	556	743	110	2095	2841	589	915	2585	2834	732	899	597	1391	1276	6214
1979	27481	983	1396	588	699	194	2216	2972	655	903	2701	2856	711	802	597	1468	1256	6466
1980	27621	882	1362	583	662	202	2202	3093	760	976	2735	2776	667	858	507	1374	1210	6755
1981	27769	902	1423	537	664	218	2255	3082	821	1025	3002	2741	601	731	549	1378	1221	6587
TOTAL	109496	3695	5489	2264	2768	724	8768	11988	2825	3819	11023	11207	2711	3290	2250	5611	4963	26022

SOURCE: NRC, OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL, DOCTORATE RECORDS FILE.

Support Source by Sex and Field of Doctorate

While many support sources are reported with similar frequency by both men and women, there are some striking differences in the ways that these two groups finance their graduate education (see Figure 5). Women are far more likely to report financial support from the "self" sources--own earnings, spouse's earnings, and family contributions--than men. These categories are primary sources of graduate support for 45 percent of the women but only 30 percent of the men. The proportion of both sexes reporting teaching assistantships as their primary source in 1981 was nearly identical (18.7 percent and 18.5 percent respectively), while the number one source for men--research assistantships--is considered the primary source by over twice as many men (22 percent) as women (10 percent). Only small differences between the two groups can be seen in Figure 5 for the other support sources. The median time from graduate entrance to the completion of the doctorate is somewhat longer for women than for men (see Table 2, pp. 32-37): this difference may account for the greater use of personal resources by women than men to finance their graduate education.

Table D provides source of support data by both field and sex, which allows the reader a control for the concentration of men or women in fields where particular sources of support are the most frequently reported, such as "own earnings" in the field of education. When such a field-specific comparison is made, a number of exceptions to the overall pattern shown in Figure 5 are revealed, particularly in science fields.

In fact, of the physical science and mathematics fields, only earth science follows this general pattern, but even in this field, women report about twice the proportion of support from teaching assistantships as men (21 percent and 11 percent respectively), and 11 percent of men Ph.D.'s and no women Ph.D.'s report primary support from other federal sources. As previously mentioned, much of the support in the "other federal" category comes from military-related sources--the G.I. Bill or educational programs of the military services. In physics, chemistry, and mathematics men and women report support from research assistantships and the self-support sources with nearly equal frequency.

Doctorate recipients in engineering and computer science follow the overall support pattern, with men reporting greater support from research assistantships and women from the self-support

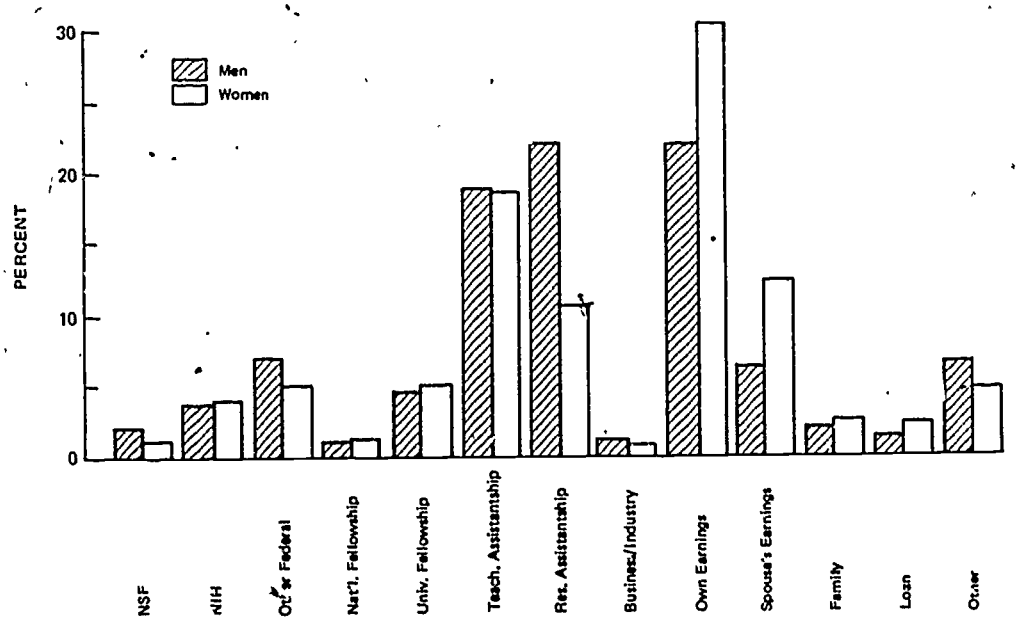

FIGURE 5
Primary Source of Support of 1981 Doctorate Recipients by Sex.
SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TEXT TABLE D
PRIMARY SOURCE OF SUPPORT OF 1981 DOCTORATE RECIPIENTS BY SEX

SUPPORT SOURCE	TOTAL ALL FLDS.	PHYS& ASTR.	CHEM.	EARTH ENV.& MAR. SCI.	MATH.	COMP. SCI.	ENGR.	BIO. SCI.	MED. SCI.	AGR. SCI.	PSYCH.	SOC. SCI.	HIST.	ENG.& AMER. LANG. &LIT.	FOR. LANG. &LIT.	ALL OTHER HUMAN ITIES	PROF. FLDS.	EDUC.
FIELD OF DOCTORATE																		
TOTAL FEDERAL																		
MEN	13.4*	8.9	11.7	17.3	8.7	8.8	11.3	28.9	35.2	5.8	18.4	12.2	9.2	3.4	7.5	7.0	10.6	8.2
WOMEN	11.1	5.9	3.6	5.8	2.9	8.3	6.7	31.3	33.5	4.6	16.4	12.8	4.8	.5	3.7	4.9	13.2	4.5
MEAN	12.7	8.6	11.2	16.2	7.8	8.7	11.1	29.7	34.6	5.7	17.5	12.4	8.0	1.9	5.5	6.2	11.4	6.5
NSF																		
MEN	1.9	4.9	4.6	5.4	5.6	6.2	2.6	3.3	1.3	.6	1.0	1.8	.2			.3		.1
WOMEN	1.1	2.9	3.8	5.8	1.0	4.2	3.4	3.8	1.5	.8	1.3	1.7	.6			1.0		.1
MEAN	1.7	4.8	4.5	5.4	4.4	6.0	2.7	3.4	1.3	.6	1.1	1.8	.3			.6		.1
NIH																		
MEN	4.4		3.4	.6	.9	.5	1.6	20.9	22.3	.1	7.0	1.8				.1	.8	.1
WOMEN	4.9	1.5	2.9			4.2	1.1	25.0	20.0	.8	6.7	3.5				.2	3.4	.4
MEAN	4.5	.1	3.3	.6	.8	.9	1.6	22.1	21.6	.2	6.9	2.3				.1	1.6	.3
OTHER FEDERAL																		
MEN	7.1	4.0	3.7	11.3	2.9	2.1	7.1	4.7	11.5	5.1	10.5	8.7	9.0	3.4	7.5	6.5	9.7	8.0
WOMEN	5.0	1.5	1.9		1.9		2.2	3.0	12.0	3.1	8.3	7.5	4.2	.5	3.7	3.7	9.8	4.0
MEAN	6.5	3.8	3.4	10.2	2.7	1.8	6.9	4.2	11.7	4.9	9.5	8.4	7.7	1.9	5.5	5.5	9.7	6.1
NATIONAL FELLOWSHIP																		
MEN	1.0	1.0	1.0	.6	.2	2.6	.4	.8	1.3	1.7	.5	2.2	3.7	.6	2.7	1.8	.1	.5
WOMEN	1.3	1.5	1.0		1.0		2.2	1.2	1.5	.8	.9	3.0	3.6	1.1	1.4	1.8	1.1	.9
MEAN	1.1	1.0	1.0	.6	.3	2.3	.5	.9	1.3	1.6	.7	2.4	3.7	.8	2.0	1.8	.4	.7
TOTAL UNIVERSITY																		
MEN	46.4	78.8	76.0	61.6	73.3	62.4	63.7	50.9	33.0	58.3	32.3	44.6	37.5	60.8	61.2	44.4	33.2	16.5
WOMEN	35.0	77.9	81.9	67.3	75.7	55.3	62.9	46.8	20.4	63.8	28.6	42.3	46.4	53.7	64.3	43.2	29.6	19.3
MEAN	42.8	78.7	76.9	62.2	73.6	61.9	63.7	49.7	28.7	59.0	30.7	44.0	39.9	57.2	62.8	44.0	32.1	17.8
UNIVERSITY F'SHIP																		
MEN	5.8	4.2	5.7	4.5	8.9	4.1	5.0	5.7	3.5	2.5	3.9	9.9	13.1	12.4	14.5	13.4	6.6	2.1
WOMEN	6.0	4.4	6.2	9.6	1.9		5.6	6.9	2.2	3.1	4.2	9.7	18.7	9.3	11.2	16.2	5.8	3.0
MEAN	5.9	4.2	5.8	5.0	7.8	3.7	5.0	6.0	3.0	2.5	4.0	9.8	14.6	10.8	12.8	14.4	6.4	2.5
TEACHING A'SHIP																		
MEN	18.7	17.4	31.1	10.9	53.5	15.5	10.4	20.0	12.6	4.8	17.0	23.3	23.4	48.5	46.3	29.7	20.2	8.9
WOMEN	18.5	17.6	35.2	21.2	63.1	29.2	13.5	19.5	6.5	6.2	14.1	23.6	27.1	43.9	52.7	25.6	15.1	10.6
MEAN	18.7	17.4	31.7	11.9	55.0	17.0	10.6	19.8	10.6	5.0	15.7	23.3	24.5	46.1	49.7	28.2	18.6	9.7
RESEARCH A'SHIP																		
MEN	21.8	57.2	39.2	46.2	10.9	42.8	48.3	25.3	16.8	51.1	11.4	11.5	.9		.4	1.3	6.4	5.6
WOMEN	10.4	55.9	40.5	36.5	10.7	29.2	43.8	20.4	11.6	54.6	10.3	9.0	.6	.5	.3	1.4	8.7	5.8
MEAN	18.3	57.1	39.4	45.3	10.8	41.3	48.1	23.9	15.1	51.5	10.9	10.8	.8	.3	.4	1.4	7.1	5.7

ENTAGE OF TOTAL IN FIELD AND SEX REPORTING PRIMARY SOURCE.

TEXT TABLE O. CONTINUED

SUPPORT SOURCE	TOTAL ALL FLDS.	PHYS& ASTR.	CHEM.	EARTH ENV.& MAR. SCI.	MATH.	COMP. SCI.	ENGR.	BIO. SCI.	MED. SCI.	AGR. SCI.	PSYCH.	SOC. SCI.	HIST.	ENG.& AMER. LANG. &LIT.	FOR. LANG. &LIT.	ALL OTHER HUMAN ITIES	PROF. FLDS.	EDUC.
FIELD OF DOCTORATE																		
BUSINESS/INDUSTRY																		
MEN	1.1	1.0	1.6	1.2	.5	4.1	3.3	.8	1.5	1.3	.2	.5	.2			.6	2.3	.6
WOMEN	.8	1.5	1.4	5.8	1.0	4.2	6.7	1.2	3.3	1.5	.1	.4		.3		1.0	1.1	.6
MEAN	1.0	1.0	1.5	1.7	.6	4.1	3.4	.9	2.1	1.4	.2	.5	.2	.1		.7	1.9	.6
TOTAL SELF SUPPORT																		
MEN	29.8	7.3	7.0	14.4	10.9	14.4	12.3	13.5	19.6	12.6	40.2	31.4	40.9	31.5	24.3	37.2	43.9	63.8
WOMEN	44.9	5.9	6.2	19.2	12.6	20.8	14.6	13.4	35.6	13.8	44.0	35.5	39.2	39.9	28.6	41.2	47.4	67.6
MEAN	34.6	7.2	6.9	14.9	11.1	15.1	12.4	13.5	25.0	12.8	41.8	32.5	40.4	35.8	26.6	38.6	45.0	65.6
OWN EARNINGS																		
MEN	21.7	4.0	2.8	9.9	7.1	11.3	9.1	6.0	11.9	7.6	26.0	20.2	21.6	20.8	15.3	23.6	30.8	56.5
WOMEN	30.1	1.5	3.8	13.5	7.8	8.3	7.9	5.6	25.5	8.5	25.9	21.3	16.9	19.7	14.6	21.7	28.8	51.6
MEAN	24.3	3.8	3.0	10.2	7.2	11.0	9.1	5.9	16.4	7.7	25.9	20.5	20.3	20.2	14.9	22.9	30.2	54.2
SPOUSE'S EARNINGS																		
MEN	6.1	2.6	4.0	4.3	2.9	2.6	2.0	6.4	6.4	4.4	10.3	7.3	12.4	8.5	7.8	10.4	10.3	5.6
WOMEN	12.2	4.4	2.4	5.8	4.9	12.5	4.5	6.2	8.7	3.1	13.7	10.9	18.7	17.3	11.2	14.1	15.3	14.1
MEAN	8.0	2.8	3.8	4.5	3.2	3.7	2.1	6.4	7.2	4.2	11.8	8.3	14.1	13.0	9.7	11.8	11.9	9.6
FAMILY CONTRIBUTIONS																		
MEN	2.0	.7	.2	.2	.9	.5	1.2	1.1	1.3	.7	3.9	3.9	6.9	2.3	1.2	3.1	2.7	1.7
WOMEN	2.7						2.2	1.7	1.5	2.3	4.4	3.4	3.6	2.9	2.7	5.3	3.2	2.0
MEAN	2.2	.7	.1	.2	.8	.5	1.2	1.2	1.3	.9	4.1	3.8	6.0	2.6	2.0	3.9	2.9	1.8
LOANS																		
MEN	1.6		.1		.4		.5	.3	.9	.7	4.9	1.5	1.6	.8	.8	2.9	.6	3.2
WOMEN	2.3							.3	.7		5.5	1.2	.6	1.9		2.3	1.6	2.8
MEAN	1.8		.1		.3		.4	.3	.9	.6	5.1	1.4	1.3	1.4	.4	2.7	.9	3.1
OTHER SOURCES																		
MEN	6.7	3.1	2.6	4.7	6.1	7.7	8.5	4.8	8.6	19.6	3.4	7.6	6.9	2.8	3.5	6.2	9.4	7.2
WOMEN	4.7	7.4	1.0	1.9	6.8	8.3	6.7	5.2	5.1	15.4	4.6	4.8	5.4	2.7	2.0	5.5	6.1	4.2
MEAN	6.1	3.4	2.4	4.5	6.2	7.8	8.5	4.9	7.4	19.0	4.0	6.8	6.5	2.7	2.7	6.0	8.4	5.8
PRIMARY SOURCE REPORTED																		
MEN	19057	834	1213	485	561	194	2166	2189	546	895	1683	1998	435	355	255	890	843	3490
WOMEN	8712	68	210	52	103	24	89	893	275	130	1319	743	166	376	294	488	378	3097
TOTAL	27769	902	1423	537	664	218	2255	3082	821	1025	3002	2741	601	731	549	1378	1221	6587

SOURCE: NRC, OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL, DOCTORATE RECORDS FILE.

sources. In these two fields, however, women are more frequent recipients of support from teaching assistantships.

Because of the generally even distribution of support from research assistantships among men and women in the biological, medical, and agricultural sciences and the low proportion of women reporting support from spouse's earnings, Ph.D.'s in those fields also do not follow the overall support pattern. The considerably higher proportion of women (26 percent) than men (12 percent) in the medical sciences reporting own earnings as their primary source is likely to be a function of their concentration in nursing and public health fields (see Table 1, page 26).

In contrast to the aforementioned science and engineering fields, the distribution of support for men and women doctorate recipients in the social sciences, humanities, professional fields, and education closely follows the overall pattern. In each of these fields, women report spouse's earnings with considerably greater frequency than do men. This relationship is particularly strong in education, where women are two and one-half times more likely to report spouse's earnings as their primary source than are men. Other areas of support where men and women differ significantly include NIH support, where the high proportion of women in the professional fields reporting this source is a product of the large number of women in social work and the speech and hearing sciences (see Table 1, page 27), and "other federal" support in the field of education, where the greater frequency of men reporting this source is the result of their use of benefits under the G.I. Bill.

Support Source by Racial/Ethnic Group and Field of Doctorate

Data on primary source of support by racial/ethnic group for selected fields over the 1979 to 1981 period are presented in Text Table E. Because of the small number of minority doctorate recipients--particularly in the American Indian and Hispanic categories--responses for the past three years have been combined so that an analysis by field of doctorate could be performed. Fields were selected to illustrate the patterns of support typical of each of the major discipline areas. As a consequence of both the high concentration of temporary visa holders among Asian doctorate recipients (see Table 5, pp. 40-41) and the probability that holders of temporary visas will leave the U. S. following completion of studies, this presentation includes only U. S. citizens and non-U. S. citizens residing here on permanent (immigrant) visas.

Over all fields, patterns of support specific to certain racial/ethnic groups were found. Most striking is the dominance of support from university sources for Asian doctorate recipients. In each of the seven fields shown in Table E, Asian Ph.D.'s display the greatest frequency of support from universities. White and Hispanic doctorate recipients reported the second and third most frequent support from university sources. The greatest frequency of primary support by the self sources--own earnings, spouse's earnings, and family contributions--was reported by American Indian Ph.D.'s. Whites, American Indians, and Hispanics showed the greatest support from federal sources. Black Ph.D.'s reported the greatest use of loans and the least overall support from university sources. Blacks, along with Hispanics, also indicated the greatest use of national fellowships, particularly in the social sciences and humanities. The substantial differences between support patterns for the racial/ethnic groups can be seen by the fact that Asian Ph.D.'s reported more than twice as much support from university sources as did American Indians and blacks, and the latter two groups reported self-support over two times as frequently as Asians.

There are, however, several exceptions to the patterns described above. In the biological and medical sciences, psychology, and humanities, blacks, rather than whites, American Indians, or Hispanics, reported the greatest frequency of federal support. In the physical sciences and education, Hispanics reported a considerably higher proportion of support from federal sources than did American Indians or whites. Of particular interest is the over one-fifth of black doctorate recipients in engineering and computer sciences who noted support from business and industry sources. Many of these Ph.D.'s were supported in graduate school by their employing companies.

TEXT TABLE E
PRIMARY SOURCE OF SUPPORT OF 1979-1981 DOCTORATE RECIPIENTS BY RACIAL/ETHNIC GROUP AND FIELD

		FIELD OF DOCTORATE						
SUPPORT SOURCE	TOTAL ALL FLDS.	PHYS. SCI.	ENGR. AND COMP. SCI.	BIO. AND MED. SCI.	PSYCH.	SOC. SCI.	HUMAN-ITIES	EDUC.
FEDERAL								
AMERICAN INDIAN	14.5	7.7	25.0	29.0	20.0	17.9	5.1	13.7
ASIAN	10.3	7.6	6.0	22.8	19.6	8.7	3.8	8.7
BLACK	13.4	13.0	10.9	35.1	25.9	12.3	7.9	8.7
HISPANIC	14.4	15.5	6.6	19.6	19.3	15.2	3.8	19.5
WHITE	14.7	11.7	4.4	34.0	19.8	15.8	7.3	7.0
NATIONAL FELLOWSHIP								
AMERICAN INDIAN	2.8			3.2	2.9		5.1	3.6
ASIAN	.9	.5	.9	1.0	1.8	.9	1.9	.8
BLACK	5.5	9.0	3.6	4.5	6.6	12.3	15.7	2.3
HISPANIC	5.5	.9	1.6	3.7	8.7	12.4	6.2	4.2
WHITE	.7	.4	.6	.6	.3	1.3	1.8	.4
UNIVERSITY								
AMERICAN INDIAN	29.5	69.2	33.3	38.7	22.9	39.3	48.7	12.9
ASIAN	62.6	83.3	74.8	55.1	38.4	52.4	54.8	21.7
BLACK	24.2	57.0	41.8	31.8	28.3	37.9	36.1	14.8
HISPANIC	36.0	67.2	55.7	55.1	27.3	34.5	46.7	15.5
WHITE	41.5	74.2	55.6	44.8	31.8	44.2	47.6	18.4
BUSINESS/INDUSTRY								
AMERICAN INDIAN	.6					3.6		.7
ASIAN	2.2	1.6	4.1	2.1		.9	.6	.4
BLACK	1.5	8.0	23.6	1.9	.3	.7	1.1	.8
HISPANIC	1.4	5.2	3.3	.9	.7	.7	1.0	.5
WHITE	.9	1.1	5.1	.8	.2	.3	.2	.5
SELF								
AMERICAN INDIAN	47.7	15.4	33.3	29.0	42.9	39.3	38.5	64.0
ASIAN	19.9	5.1	12.3	14.2	31.3	33.8	33.8	56.7
BLACK	45.5	9.0	12.7	20.8	28.3	28.6	29.3	62.7
HISPANIC	34.7	8.6	19.7	15.9	34.0	24.8	36.7	51.6
WHITE	37.7	11.1	19.3	16.6	40.8	33.9	38.4	67.6
LOANS								
AMERICAN INDIAN	2.2		8.3		5.7		2.6	2.2
ASIAN	1.1	.2	.4	.2	6.3	.9	2.5	4.7
BLACK	4.1			1.3	5.5	3.0	2.5	5.1
HISPANIC	1.8		1.6		4.7	1.4	1.4	2.6
WHITE	1.5	.1	.2	.5	4.2	1.4	1.4	2.3
OTHER								
AMERICAN INDIAN	2.8	7.7			5.7			2.9
ASIAN	3.0	1.6	1.5	4.7	2.7	2.6	2.5	7.1
BLACK	5.8	4.0	7.3	4.5	5.2	5.2	7.5	5.6
HISPANIC	6.2	2.6	11.5	4.7	5.3	11.0	4.2	6.1
WHITE	3.0	1.4	2.8	2.7	3.0	3.0	3.2	3.8
PRIMARY SOURCE REPORTED								
AMERICAN INDIAN	325	26	12	31	35	28	39	139
ASIAN	2823	564	803	514	112	231	157	254
BLACK	2858	100	55	154	290	269	280	1532
HISPANIC	1365	116	61	107	150	145	289	426
WHITE	62992	7683	3693	9207	7442	6184	8598	15609

*PERCENTAGE OF TOTAL IN FIELD AND RACE REPORTING PRIMARY SOURCE.

SOURCE: NRC, OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL, DOCTORATE RECORDS FILE.

Support Source by Carnegie Classification of Doctorate-Granting Institution

The Carnegie Classification System,[4] developed by the Carnegie Commission on Higher Education, is used here to compare the patterns of student support found in various categories of doctorate-granting institutions. The Carnegie System is based largely on statistics on level of federal support and number of degrees awarded. The following Carnegie categories are used in Figure 6 and Text Table F:

Research Universities I - The 50 leading universities by federal financial support of academic science provided they awarded at least 50 Ph.D.'s in 1973-74.

Research Universities II - Included in the 100 leading institutions in federal support, awarded at least 50 Ph.D.'s in 1973-74 or among the top 50 Ph.D.-granting institutions from 1966 to 1975.

Doctorate-Granting I and II - Awarded at least 10 Ph.D.'s in 1973-74 or one of a few new institutions where expansion of the doctoral program is anticipated.

All Other Classified - Includes all other doctorate-granting institutions. These are primarily, but not exclusively, professional schools in education, medicine, theology, and psychology.

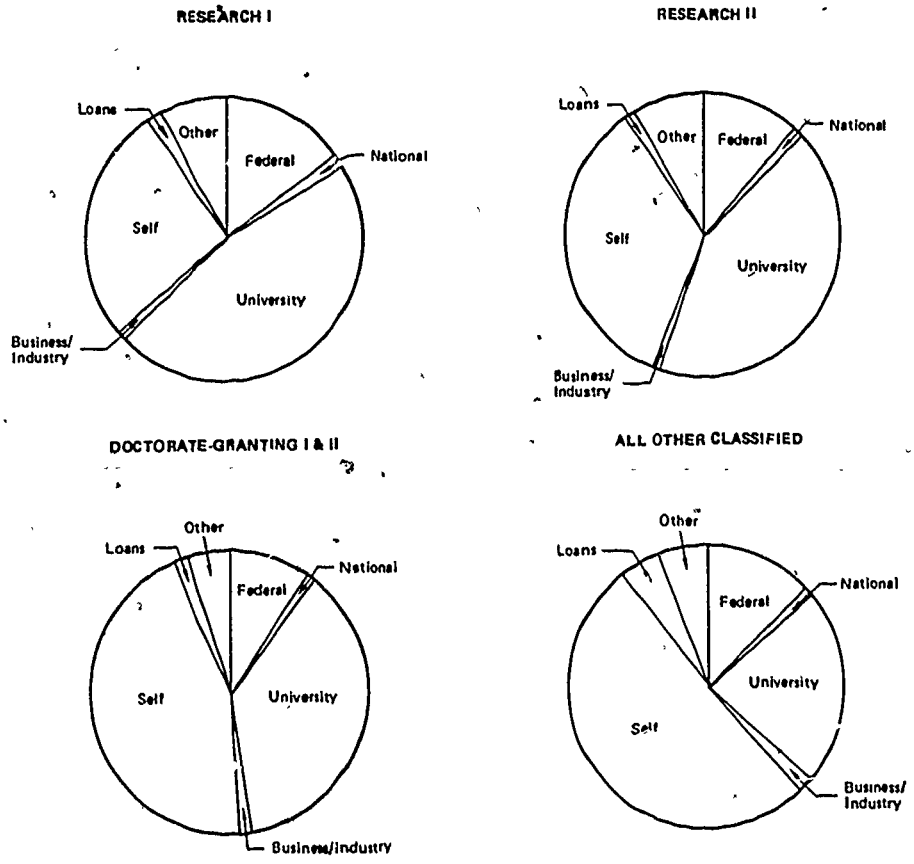

FIGURE 6
Primary Source of Support by Carnegie Classification of Doctorate-Granting Institution, 1981. SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

4/Carnegie Commission on Higher Education, A Classification of Institutions of Higher Education. Berkeley: Carnegie Foundation for the Advancement of Teaching, 1978.

As can be seen in Figure 6, the main difference between the four institutional categories is the variation in the proportion of doctorate recipients reporting support from university or "self" sources. While nearly one-half of the graduates of Research I institutions report support from their universities, 44 percent of Research II, 38 percent of Doctorate-Granting I and II, and 23 percent of the graduates of All Other Classified institutions report university support as their primary source. Conversely, the proportion of doctorate recipients reporting support from the "self" sources increases over the four institutional groups, from 27 percent of the Research I graduates to 36 percent of Research II, 45 percent of the Doctorate-Granting I and II, and 52 percent of All Other Classified institutions. Support for Ph.D.'s was about equal for the other sources included in Figure 6 except for federal, where Research I and All Other Classified universities show considerable support from NSF and NIH in the physical, biological, and medical sciences.

Text Table F shows that when broken down by both field and detailed source of support, the main differences among the Carnegie institutional categories continue to be found in the distribution of university and self-support. For instance, graduates of Research I institutions report university fellowships and research assistantships with a greater frequency than graduates from the other three institutional categories, and they are third, behind Ph.D.'s from Research II and Doctorate-Granting I and II, in support from teaching assistantships. This difference is particularly large in the physical science, engineering and computer science, and biological and medical science fields, where graduates of Research I institutions report the least support from teaching assistantships.

With the exception of psychology, Research University I graduates had the lowest proportion of support from own earnings over all fields. This utilization of sources other than own earnings was particularly prevalent in the fields of physical sciences, social sciences, and humanities. Again, except for psychology, graduates of All Other Classified universities showed the greatest support from own earnings. Response to the other two self-support categories--spouse's earnings and family contributions--tended to follow a similar pattern, with Other Classified graduates reporting nearly the greatest frequency of self-support, and Research I graduates the least.

Graduates of Doctorate-Granting I and II universities in engineering and computer science reported the highest frequency of support from business or industrial firms. Nearly 16 percent of psychology graduates from All Other Classified universities reported primary support from loans, about three times the frequency for graduates of any of the other Carnegie institutional categories.

Primary Source of Support in Graduate School--A Summary

Data have been presented here on a number of factors that are associated with the sources of support used by graduate students to finance their doctoral education--year and field of Ph.D., sex, racial/ethnic group, and institutional classification. The stability of support patterns over the four-year period (1978-1981) was one of the few exceptions to our general finding that each of the above variables exerted a powerful influence on graduate student support patterns. Despite strong overall trends, each cohort of Ph.D.'s was found to exhibit a singular pattern of response to the primary support question. This was particularly true in the examination of differences among fields, where for example, own earnings--the leading primary source over all disciplines--was one of the least frequently reported sources by Ph.D.'s in the physical and biological sciences. Even within the physical sciences, there was considerable variability in concentration of support from certain sources, with approximately one-half of physics and earth sciences Ph.D.'s reporting primary source from research assistantships while 55 percent of the 1981 Ph.D.'s in mathematics reported teaching assistantships as their primary source.

TEXT TABLE F
PRIMARY SOURCE OF SUPPORT FOR 1981 DOCTORATE RECIPIENTS BY CARNEGIE CLASSIFICATION OF DOCTORATE-GRANTING INSTITUTIONS

SUPPORT SOURCE	TOTAL ALL FLDS.	FIELD OF DOCTORATE: PHYS. SCI.	ENGR. AND COMP. SCI.	BIO. AND MED. SCI.	PSYCH.	SOC. SCI.	HUMANITIES	EDUC.
TOTAL FEDERAL								
RESEARCH UNIVERSITY I	15.0*	11.3	11.4	38.6	23.4	14.2	6.4	6.3
RESEARCH UNIVERSITY II	11.0	8.4	10.5	23.3	17.4	9.2	4.9	7.5
DOCTORATE-GRANTING I & II	8.9	9.9	8.8	13.3	13.5	9.9	4.2	5.5
ALL OTHER	12.2	15.6	11.4	27.4	9.2	15.2	1.9	6.7
MEAN	12.7	10.7	10.9	30.7	17.5	12.4	5.5	6.5
NSF								
RESEARCH UNIVERSITY I	2.5	5.6	3.8	4.1	2.4	2.9	.4	.1
RESEARCH UNIVERSITY II	.7	2.6	1.6	1.4	.8	.1	.1	.1
DOCTORATE-GRANTING I & II	1.0	4.1	1.8	2.7	.3	.5	.2	.1
ALL OTHER	.7	4.4	.8	1.5				
MEAN	1.7	4.7	3.0	3.0	1.1	1.8	.3	.1
NIH								
RESEARCH UNIVERSITY I	6.1	1.6	2.0	28.4	10.1	3.1	.1	.4
RESEARCH UNIVERSITY II	3.4	1.2	.4	16.4	7.5	1.3		
DOCTORATE-GRANTING I & II	1.6	1.2	.6	7.0	4.1	.5		
ALL OTHER	5.2	5.0	1.6	18.7	2.8	3.0		.9
MEAN	4.5	1.6	1.5	22.0	6.9	2.3	.1	.3
OTHER FEDERAL								
RESEARCH UNIVERSITY I	6.4	4.2	5.6	6.1	10.9	8.2	5.8	5.8
RESEARCH UNIVERSITY II	6.9	4.6	8.5	5.5	9.2	7.8	4.8	7.4
DOCTORATE-GRANTING I & II	6.3	4.6	6.5	3.6	9.2	8.9	4.0	5.5
ALL OTHER	6.3	6.3	8.9	7.2	6.4	12.1	1.9	5.8
MEAN	6.5	4.4	6.4	5.8	9.5	8.4	5.1	6.1
NATIONAL FELLOWSHIP								
RESEARCH UNIVERSITY I	1.3	.9	.6	1.0	1.1	2.5	2.2	1.0
RESEARCH UNIVERSITY II	1.0	.4	.7	.7	1.1	1.8	2.1	.7
DOCTORATE-GRANTING I & II	.8	.9	.9	1.3	.1	3.0	1.0	.4
ALL OTHER	.8	.6	.8	1.5	.4	3.0	1.3	.4
MEAN	1.1	.8	.6	1.0	.7	2.4	2.0	.7
TOTAL UNIVERSITY								
RESEARCH UNIVERSITY I	47.5	75.6	64.6	40.3	32.6	45.8	51.9	23.1
RESEARCH UNIVERSITY II	43.7	76.4	61.0	53.8	40.5	44.8	46.9	18.2
DOCTORATE-GRANTING I & II	37.7	72.4	62.4	58.6	27.7	41.3	49.1	15.9
ALL OTHER	22.8	59.4	62.6	38.3	11.0	21.2	34.4	4.0
MEAN	42.8	74.5	63.5	45.3	30.7	44.0	49.4	17.8
UNIVERSITY FELLOWSHIP								
RESEARCH UNIVERSITY I	6.6	5.6	4.2	4.3	5.0	11.7	15.7	2.5
RESEARCH UNIVERSITY II	5.0	4.9	4.9	6.6	4.4	7.2	8.7	2.1
DOCTORATE-GRANTING I & II	5.5	6.8	7.4	5.7	3.3	8.4	12.5	3.5
ALL OTHER	4.4	5.0	6.5	8.0	2.1	4.0	12.5	1.1
MEAN	5.9	5.6	4.9	5.4	4.0	9.8	13.3	2.5
TEACHING ASSISTANTSHIP								
RESEARCH UNIVERSITY I	18.1	25.3	9.1	13.0	15.6	22.4	35.3	11.3
RESEARCH UNIVERSITY II	22.1	36.3	10.3	25.2	22.9	26.8	37.1	10.6
DOCTORATE-GRANTING I & II	19.2	36.1	17.1	25.7	14.5	24.5	35.8	9.7
ALL OTHER	10.7	28.1	23.6	18.0	3.5	9.1	21.9	2.1
MEAN	18.7	29.4	11.1	17.9	15.7	23.3	35.2	9.7
RESEARCH ASSISTANTSHIP								
RESEARCH UNIVERSITY I	22.7	44.7	51.3	23.0	12.0	11.6	.9	9.4
RESEARCH UNIVERSITY II	16.7	35.2	45.7	22.0	13.2	10.8	1.0	5.5
DOCTORATE-GRANTING I & II	13.0	29.6	37.9	27.2	9.9	8.4	.8	2.7
ALL OTHER	7.7	26.3	32.5	12.2	5.3	8.1		.8
MEAN	18.3	39.4	47.5	22.0	10.9	10.8	.9	5.7

*PERCENTAGE OF TOTAL IN FIELD AND INSTITUTIONAL CATEGORY REPORTING PRIMARY SOURCE.

TEXT TABLE F. CONTINUED

SUPPORT SOURCE	TOTAL ALL FLDS.	PHYS. SCI.	ENGR. AND COMP. SCI.	BIO. AND MED. SCI.	PSYCH.	SOC. SCI.	HUMAN-ITIES	EDUC.
			FIELD OF DOCTORATE					
BUSINESS/INDUSTRY								
RESEARCH UNIVERSITY I	1.0	.8	2.6	1.1	.2	.7	.2	.6
RESEARCH UNIVERSITY II	.7	1.2	2.5	.6	.2	.1	.7	.4
DOCTORATE-GRANTING I & II	1.3	1.7	8.5	2.1	.2		.4	.6
ALL OTHER	1.7	5.6	4.9	1.7		1.0		1.1
MEAN	1.0	1.2	3.5	1.2	.2	.5	.4	.6
TOTAL SELF SUPPORT								
RESEARCH UNIVERSITY I	27.2	7.4	11.4	13.4	35.4	27.7	32.1	59.3
RESEARCH UNIVERSITY II	35.7	10.4	17.0	16.0	33.4	36.6	39.0	63.9
DOCTORATE-GRANTING I & II	44.8	11.1	12.1	19.2	49.1	40.6	41.2	71.7
ALL OTHER	52.4	15.6	14.6	23.7	60.8	48.5	55.6	76.5
MEAN	34.6	9.0	12.7	15.9	41.8	32.5	36.3	65.6
OWN EARNINGS								
RESEARCH UNIVERSITY I	18.3	3.5	8.1	8.2	22.7	16.7	16.6	47.6
RESEARCH UNIVERSITY II	24.5	6.8	12.8	6.2	19.8	21.7	21.4	51.6
DOCTORATE-GRANTING I & II	33.3	6.8	8.5	8.4	32.7	29.0	27.9	59.5
ALL OTHER	40.2	11.9	13.8	10.9	29.0	38.4	38.1	69.2
MEAN	24.3	5.1	9.3	8.1	25.9	20.5	20.5	54.2
SPOUSE'S EARNINGS								
RESEARCH UNIVERSITY I	7.2	3.6	2.5	4.2	10.0	7.9	11.6	10.0
RESEARCH UNIVERSITY II	8.6	3.2	2.7	7.9	11.0	10.0	13.0	10.2
DOCTORATE-GRANTING I & II	9.2	3.9	1.5	9.3	12.9	7.2	11.6	10.3
ALL OTHER	9.0	3.1		11.7	16.6	7.1	15.0	5.7
MEAN	8.0	3.5	2.3	6.5	11.8	8.3	12.1	9.6
FAMILY CONTRIBUTIONS								
RESEARCH UNIVERSITY I	1.8	.4	.8	1.0	2.7	3.1	3.9	1.7
RESEARCH UNIVERSITY II	2.5	.4	1.6	1.9	2.6	5.0	4.6	2.2
DOCTORATE-GRANTING I & II	2.3	.3	2.1	1.5	3.6	4.5	1.7	1.8
ALL OTHER	3.3	.6	.8	1.1	15.2	3.0	2.5	1.6
MEAN	2.2	.4	1.1	1.3	4.1	3.8	3.7	1.8
LOANS								
RESEARCH UNIVERSITY I	1.5	.1	.4	.4	3.4	1.4	2.4	3.5
RESEARCH UNIVERSITY II	1.4	.1	.4	.2	3.5	1.3	1.1	2.4
DOCTORATE-GRANTING I & II	1.9		.3	.8	5.1	.5	.8	2.0
ALL OTHER	4.4		.8	.4	15.9	5.1	.6	5.3
MEAN	1.8	.1	.4	.4	5.1	1.4	1.7	3.1
OTHER SOURCES								
RESEARCH UNIVERSITY I	6.5	3.8	9.1	5.3	3.9	7.7	4.8	6.2
RESEARCH UNIVERSITY II	6.5	3.2	7.8	5.5	4.1	6.1	5.3	6.8
DOCTORATE-GRANTING I & II	4.7	4.1	7.1	4.6	4.3	4.7	3.3	3.9
ALL OTHER	5.7	3.1	4.9	7.0	2.8	6.1	6.3	6.1
MEAN	6.1	3.7	8.4	5.4	4.0	6.8	4.8	5.8
PRIMARY SOURCE REPORTED								
RESEARCH UNIVERSITY I	13817	2084	1564	2092	1071	1555	1805	2459
RESEARCH UNIVERSITY II	6466	694	446	877	665	683	813	1674
DOCTORATE-GRANTING I & II	5280	588	340	474	983	404	481	1698
ALL OTHER	2206	160	123	460	283	99	160	756

SOURCE: NRC, OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL, DOCTORATE RECORDS FILE.

EXPLANATION OF FIVE BASIC TABLES

Table 1	Number of Doctorate Recipients by Sex and Subfield, 1981
Table 1A	Number of Doctorate Recipients by Citizenship, Racial/Ethnic Group, and Subfield, 1981
Table 2	Statistical Profile of Doctorate Recipients by Sex and by Field of Doctorate, 1981 (three tables)
Table 3	Percentage of 1981 Doctorate Recipients by Sources of Support in Graduate School, by Sex and Summary Field
Table 4	Number of 1981 Doctorate Recipients by Sex, State of Doctoral Institution, and Summary Field
Table 5	Statistical Profile of Doctorate Recipients by Racial or Ethnic Group and U.S. Citizenship Status, 1981

Table titles and headings are generally self-explanatory, but a few terms need special definition or explanation. The survey questionnaire is reproduced on pages 42-43.

Tables 1 and 1A

Turning to the standard tables presented from year to year in these reports, we display in Tables 1 and 1A 1981 data by subfield of doctorate, corresponding to the fields specified in the Specialties List on page 44. The "general" field categories, e.g., "chemistry, general," contain individuals who either received the doctorate in the general subject area or who did not specify a particular fine field. The "other" field categories, e.g., "chemistry, other," include those individuals whose specified doctoral discipline was not listed in the Specialties List.

Table 2

There are three two-page tables; one contains data about all doctorate recipients in 1981 and the other two present data by sex. This table provides data by field and also by broader summary field. Refer to the inside of the back cover for the codes included in each broad field and to the Specialties List on page 44 for the codes and names of each subfield. Definitions are as follows:

"Median Age at Doctorate"--One-half received the doctorate at this age or younger.

"Percentage with Master's"--This indicates the percentage of doctorate recipients in a field who received a master's degree in any field before taking the doctorate.

"Median Time Lapse"--"Total Time" refers to total calendar time elapsed between the year of baccalaureate and the year of doctorate; "Registered Time" refers to the total time registered in a university between baccalaureate and doctorate.

Each year's doctorate recipients provide information on postgraduation employment or study plans in response to items 18 and 19 on the survey form. As the questionnaire is filled out at about the time the doctorate is received, these planned activities can be subject to change. However, comparisons with data from the longitudal Survey of Doctorate Recipients have shown these data to be a reasonable reflection of tual employment status in the year following the doctorate.[5/] Postgraduation plans of the doctorate recipients are grouped as:

"Postdoctoral Study Plans" (fellowship, research associateship, traineeship, other), "Planned Employment" (educational institution, industry, etc.), or "Postdoctoral Status Unknown." The sum of these columns of percentages totals 100 percent with allowance for rounding. For example, 3.7 percent of all the engineers plan to go to postdoctoral fellowships, 7.6 percent to research associateships, 1.5 percent to traineeships, 0.4 percent plan on some other form of postdoctoral study support, 80.2 percent plan on employment, and 6.7 percent did not indicate their postgraduation plans. The percentages listed by type of employer (educational institution, industry, etc.) total to the 80.2 percent planning on employment.

The four lines of data beginning with "Definite Postdoctoral Study," first included in the 1974 report, distinguish between individuals who have definite postgraduation plans (item 17:"Am returning to, or continuing in, predoctoral appointment" or "Have signed contract or made definite

5/ Century of Doctorates: Data Analyses of Growth and Change, National Academy of Sciences, 1978, pp. 92-93.

commitment" in the survey questionnaire) and those who are still seeking employment or postdoctoral study (item 17: "Am negotiating with one or more specific organizations," "Am seeking appointment but have no definite prospects," or "Other"). These four lines when added to the prior line "Postdoctoral Status Unknown" total 100 percent. The two lines "Definite Postdoctoral Study" and "Seeking Postdoctoral Study" add to give the total percentage planning postdoctoral study listed in the table as "Postdoctoral Study Plans," and the two lines "Definite Employment" and "Seeking Employment" add to give the total percentage planning employment in the table as "Planned Employment After Doctorate."

Percentages showing the distribution of doctorate recipients by work activity and by region of employment are based on those who have a definite employment commitment. They exclude those still seeking employment and those planning postdoctoral study as described in the categories above. These data differ from Summary Reports prior to 1974, which included all individuals planning on employment, i.e., those seeking as well as those having definite employment commitments.

Table 3

Displayed in Table 3 are data on all sources of financial support in graduate school reported by doctorate recipients. Although this table duplicates to some extent the analysis presented earl er in the report, it is included here to maintain the continuity of the series of these tables published in each of the fifteen Summary Reports. The question on source of support was answered by 29,480 (94 percent) of the 1981 doctorate recipients. The data in the table should be interpreted as follows: 208 male doctorate recipients in the physical sciences reported financial support from NSF fellowships during graduate school. This number is 6.0 percent of the male physical sciences doctorates who answered the question, and it is 40.2 percent of the males in all fields who reported NSF fellowship support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent.

Table 4

Table 4 shows the number of persons receiving a doctorate from universities in each of the 50 states, the District of Columbia, and Puerto Rico.

Table 5

The 1973 Summary Report was the first to include data for racial and ethnic groups. The tables in that report stimulated many requests for more detailed data by individual racial or ethnic group. Such data are provided in Table 5, first included in the 1974 Summary Report. Table 5 contains data by racial or ethnic group and by U.S. citizenship status for selected variables from Tables 2 and 3. Comparisons between the 1973 data and data for 1974 to 1981 are somewhat tenuous because of the large number of cases (8,952) for which racial or ethnic data were unavailable in 1973.

In 1977, the item on racial or ethnic group in the survey questionnaire was revised to coincide with the 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 effects of these changes is detailed on page 13 of the 1977 Summary Report. Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to Asian in 1978. In 1980, the category Hispanic was subdivided into Puerto Rican, Mexican-American, and Other Hispanic to provide more detail for users of the racial/ethnic data.

An additional revision to this item in 1980 involves the number of categories that may be checked. Prior to 1980, doctorate recipients could check as many categories as applied to indicate their racial/ethnic background. When compiling the data, all persons who checked "white" in addition to one other category, with the exception of "black," were included with those who had provided the single category response. Those whose responses were "black" and who gave an additional response to any other category were designated as "black." Beginning in 1980, respondents were asked to check only one category. Evidence of this change was most pronounced in the "American Indian" group where the majority of the respondents formerly checked "white" in addition to "American Indian."

TABLE 1
NUMBER OF DOCTORATE RECIPIENTS BY SEX AND SUBFIELD, 1981

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL
TOTAL ALL FIELDS	21447	9872	31319
PHYSICAL SCIENCES	3666	502	4168
MATHEMATICS	616	112	728
ALGEBRA	40	14	54
ANALYSIS AND FUNCTIONAL ANALYSIS	97	8	105
GEOMETRY	28	1	29
LOGIC	17	1	18
NUMBER THEORY	23	1	24
PROBABILITY, MATH STATISTICS	131	32	163
TOPOLOGY	44	11	55
COMPUTING THEORY AND PRACTICE	14	2	16
OPERATIONS RESEARCH	31	4	35
APPLIED	94	24	118
MATHEMATICS, GENERAL	72	8	80
MATHEMATICS, OTHER	25	6	31
COMPUTER SCIENCES	206	26	232
PHYSICS AND ASTRONOMY	942	73	1015
ASTRONOMY	43	7	50
ASTROPHYSICS	55	4	59
ATOMIC AND MOLECULAR	57	8	65
ACOUSTICS	11	2	13
FLUIDS	11	3	14
PLASMA	63	2	65
OPTICS	53	1	54
THERMAL	7		7
ELEMENTARY PARTICLES	109	8	117
NUCLEAR STRUCTURE	59	3	62
SOLID STATE	230	20	250
PHYSICS, GENERAL	162	10	172
PHYSICS, OTHER	82	5	87
CHEMISTRY	1376	235	1611
ANALYTICAL	199	30	229
INORGANIC	153	35	188
ORGANIC	430	60	490
NUCLEAR	12	-	12
PHYSICAL	224	51	275
THEORETICAL	27	6	33
PHARMACEUTICAL	47	5	52
POLYMER	57	4	61
CHEMISTRY, GENERAL	171	26	197
CHEMISTRY, OTHER	56	18	74
EARTH, ENVIRONMENTAL AND MARINE SCI	526	56	582
MINERALOGY, PETROLOGY	25	5	30
GEOCHEMISTRY	43	5	48
STRATIGRAPHY, SEDIMENTATION	35	7	42
PALEONTOLOGY	18	1	19
STRUCTURAL GEOLOGY	26	1	27
GEOPHYSICS (SOLID EARTH)	67	5	72
GEOMORPHOL, GLACIAL GEOLOGY	11	2	13
HYDROLOGY AND WATER RESOURCES	20	1	21
OCEANOGRAPHY	63	7	70
MARINE SCIENCES, OTHER	28	2	30
ATMOSPHERIC PHYSICS AND CHEMISTRY	14	1	15
ATMOSPHERIC DYNAMICS	26	1	27
ATMOSPHERIC SCIENCES, OTHER	30	1	31
ENVIRONMENTAL SCIENCES, GENERAL	27	3	30
ENVIRONMENTAL SCIENCES, OTHER	16	8	24
APPL GEOL, GEOL ENG, ECON GEOL	21		21
EARTH SCIENCES, GENERAL	42	4	46
EARTH SCIENCES, OTHER	14	2	16

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL
ENGINEERING	2422	22	2528
AERONAUTICAL AND ASTRONAUTICAL	97		97
AGRICULTURAL	60	2	62
BIOMEDICAL	60	3	63
CIVIL	281	6	287
CHEMICAL	285	11	296
CERAMIC	23	1	24
COMPUTER	63	8	71
ELECTRICAL	397	14	411
ELECTRONICS	67		67
INDUSTRIAL	60	6	66
NUCLEAR	124	6	130
ENGINEERING MECHANICS	77	1	78
ENGINEERING PHYSICS	20	2	22
MECHANICAL	277	5	282
METALLURGY AND PHYSICAL MET	94	5	99
SYSTEMS DESIGN, SYSTEMS SCIENCE	64	4	68
OPERATIONS RESEARCH	73	7	80
FUEL TECH, PETROLEUM	21		21
SANITARY AND ENVIRONMENTAL	67	4	71
MINING	8		8
MATERIALS SCIENCE	102	11	113
ENGINEERING, GENERAL	36	1	37
ENGINEERING, OTHER	73	2	75
LIFE SCIENCES	4018	1443	5461
BIOLOGICAL SCIENCES	2411	986	3397
BIOCHEMISTRY	455	189	644
BIOPHYSICS	89	10	99
BIOMETRICS, BIOSTATISTICS	36	12	48
ANATOMY	108	48	156
CYTOLOGY	33	14	47
EMBRYOLOGY	10	10	20
IMMUNOLOGY	89	60	149
BOTANY	105	42	147
ECOLOGY	145	52	197
MICROBIOLOGY AND BACTERIOLOGY	250	103	353
PHYSIOLOGY, ANIMAL	247	80	327
PHYSIOLOGY, PLANT	57	11	68
ZOOLOGY	150	47	197
GENETICS	95	62	157
ENTOMOLOGY	130	13	143
MOLECULAR BIOLOGY	117	68	185
NUTRITION AND/OR DIETETICS	40	59	99
BIOL SCIENCES, GENERAL	147	60	207
BIOL SCIENCES, OTHER	108	46	154
AGRICULTURAL SCIENCES	1003	147	1150
AGRONOMY	162	15	177
AGRICULTURAL ECONOMICS	155	13	168
ANIMAL HUSBANDRY	19		19
FOOD SCIENCE AND TECHNOLOGY	76	28	104
FISH AND WILDLIFE	57	9	66
FORESTRY	89	6	95
HORTICULTURE	68	17	85
SOILS AND SOIL SCIENCE	83	7	90
ANIMAL SCIENCE AND ANIMAL NUTRITION	132	17	149
PHYTOPATHOLOGY	78	21	99
AGRICULTURE, GENERAL	4	1	5
AGRICULTURE, OTHER	80	13	93
MEDICAL SCIENCES	604	310	914
PUBLIC HEALTH AND EPIDEMIOLOGY	82	73	155
VETERINARY MEDICINE	33	8	41
NURSING	3	84	87
PARASITOLOGY	13	5	18
ENVIRONMENTAL HEALTH	37	6	43
PATHOLOGY	79	27	106
PHARMACOLOGY	211	69	280
PHARMACY	58	11	69
MEDICAL SCIENCES, GENERAL	16	8	24
MEDICAL SCIENCES, OTHER	72	19	91

TABLE 1. CONTINUED

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL
SOCIAL SCIENCES (INCL PSYCH)	**4190**	**2315**	**6505**
ANTHROPOLOGY	217	152	369
COMMUNICATIONS	129	92	221
SOCIOLOGY	361	242	603
ECONOMICS	707	100	807
ECONOMETRICS	16	1	17
STATISTICS	32	7	39
GEOGRAPHY	89	20	109
AREA STUDIES	15	5	20
POLITICAL SCIENCE	349	96	445
PUBLIC ADMINISTRATION	120	27	147
INTERNATIONAL RELATIONS	75	12	87
CRIMINOLOGY	26	9	35
URBAN AND REGIONAL PLANNING	77	17	94
SOCIAL SCIENCES, GENERAL	17	5	22
SOCIAL SCIENCES, OTHER	75	58	133
PSYCHOLOGY	1885	1472	3357
CLINICAL	701	555	1256
COUNSELING AND GUIDANCE	191	160	351
DEVELOP AND GERONTOL	80	120	200
EDUCATIONAL	103	77	180
SCHOOL PSYCHOLOGY	60	73	133
EXPERIMENTAL	189	93	282
COMPARATIVE	8	3	11
PHYSIOLOGICAL	68	34	102
INDUSTRIAL AND PERSONNEL	65	22	87
PERSONALITY	23	26	49
PSYCHOMETRICS	17	10	27
SOCIAL	104	76	180
PSYCHOLOGY, GENERAL	148	135	283
PSYCHOLOGY, OTHER	128	88	216
HUMANITIES	**2198**	**1567**	**3765**
ART, HISTORY AND CRITICISM	45	112	157
HISTORY, AMERICAN	171	56	227
HISTORY, EUROPEAN	119	45	164
HISTORY, OTHER	186	88	274
HISTORY AND PHILOSOPHY OF SCIENCE	21	5	26
AMERICAN STUDIES	42	45	87
THEATRE AND THEATRE CRITICISM	71	32	103
MUSIC	260	108	368
SPEECH AS A DRAMATIC ART	25	12	37
ARCHEOLOGY	15	13	28
RELIGION	132	29	161
PHILOSOPHY	224	53	277
LINGUISTICS	98	78	176
COMPARATIVE LITERATURE	58	74	132
LANGUAGES AND LITERATURE	691	766	1457
AMERICAN	66	80	146
ENGLISH	327	343	670
GERMAN	40	49	89
RUSSIAN	14	13	27
FRENCH	49	118	167
SPANISH AND PORTUGUESE	91	93	184
ITALIAN	7	9	16
CLASSICAL	38	24	62
OTHER LANGUAGES	59	37	96
HUMANITIES, GENERAL	14	9	23
HUMANITIES, OTHER	26	22	48
PROFESSIONAL FIELDS	**964**	**424**	**1388**
THEOLOGY	179	22	201
BUSINESS ADMINISTRATION	532	90	622
HOME ECONOMICS	15	70	85
JOURNALISM	12	6	18
SPEECH AND HEARING SCIENCES	56	84	140
LAW, JURISPRUDENCE	27	1	28
SOCIAL WORK	99	110	209
LIBRARY AND ARCHIVAL SCIENCE	24	38	62
PROFESSIONAL FIELDS, OTHER	20	3	23

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL
EDUCATION	**3958**	**3534**	**7492**
FOUNDATIONS: SOCIAL, PHILOS	121	87	208
EDUCATIONAL PSYCHOLOGY	209	236	445
ELEMENTARY EDUCATION, GENERAL	60	120	180
SECONDARY EDUCATION, GENERAL	76	60	136
HIGHER EDUCATION	392	279	671
ADULT EDUC AND EXTENSION EDUC	125	108	233
EDUCATION MEAS AND STATISTICS	49	41	90
CURRICULUM AND INSTRUCTION	366	448	814
EDUCATIONAL ADMIN AND SUPERVISION	1039	614	1653
GUIDANCE,COUNS,STUDENT PERSONNEL	296	253	549
SPECIAL ED (GIFTED,HANDICAPPED,ETC)	118	195	313
AUDIO-VISUAL MEDIA	48	29	77
TEACHING FIELDS	762	760	1522
AGRICULTURE	38	4	42
ART	27	36	63
BUSINESS	28	22	50
EARLY CHILDHOOD	11	79	90
ENGLISH	24	39	63
FOREIGN LANGUAGE	10	18	28
HOME ECONOMICS		25	25
INDUSTRIAL ARTS	25	2	27
MATHEMATICS	37	25	62
MUSIC	48	28	76
NURSING		23	23
PHYS ED, HEALTH, AND REC	218	149	367
READING	36	157	193
SCIENCE	71	36	107
SOCIAL SCIENCE	34	15	49
SPEECH	3	9	12
VOCATIONAL	135	78	213
OTHER TEACHING FIELDS	17	15	32
EDUCATION, GENERAL	205	202	407
EDUCATION, OTHER	89	102	191
OTHER AND UNSPECIFIED	**27**	**8**	**35**

SOURCE: NRC, Office of Scientific and Engineering Personnel Doctorate Records File.

TABLE 1A
NUMBER OF DOCTORATE RECIPIENTS BY CITIZENSHIP, RACIAL/ETHNIC GROUP, AND SUBFIELD, 1981

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP[1]								
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEXICAN	OTHER HISPANIC	OTHER & UNK
TOTAL ALL FIELDS	31319[2]	3224	26262	82	1062	1104	22400	115	161	242	1082
PHYSICAL SCIENCES	4168	742	3221	2	214	32	2807	14	3	24	188
MATHEMATICS	728	186	523	1	40	9	446	2		3	22
ALGEBRA	54	14	40		2		37				1
ANALYSIS AND FUNCTIONAL ANALYSIS	105	30	75		4	3	67				1
GEOMETRY	29	2	27		2		23			1	1
LOGIC	18	1	17				17				
NUMBER THEORY	24	3	21		1		19				1
PROBABILITY, MATH STATISTICS	163	50	112		10	3	95			1	3
TOPOLOGY	55	10	45		1		40				4
COMPUTING THEORY AND PRACTICE	16	3	13		2		11				
OPERATIONS RESEARCH	35	13	20		1	2	17				
APPLIED	118	27	90		11		73	1			5
MATHEMATICS, GENERAL	80	24	41	1	4	1	29			1	5
MATHEMATICS, OTHER	31	9	22		2		18	1			1
COMPUTER SCIENCES	232	40	188		16	2	162				8
PHYSICS AND ASTRONOMY	1015	200	768		55	6	631	3		5	68
ASTRONOMY	50	5	44				39				5
ASTROPHYSICS	59	3	56		1	1	50	1		1	2
ATOMIC AND MOLECULAR	65	11	53		3	1	44			1	4
ACOUSTICS	13	1	12		2		9				1
FLUIDS	14	5	9		1		8				
PLASMA	65	10	55		4	1	46				4
OPTICS	54	11	41		4		34				3
THERMAL	7	3	4		1		3				
ELEMENTARY PARTICLES	117	21	96		4	1	78	1		1	11
NUCLEAR STRUCTURE	62	16	46		1		39				6
SOLID-STATE	250	56	193		15		163	1		2	12
PHYSICS, GENERAL	172	48	83		15	2	53				13
PHYSICS, OTHER	87	10	76		4		65				7
CHEMISTRY	1611	238	1326	1	91	18	1121	7	3	12	73
ANALYTICAL	229	20	209	1	8	1	189	1			9
INORGANIC	188	18	168		7	5	144		1	3	8
ORGANIC	490	62	427		30	3	376	3	1	3	11
NUCLEAR	12	1	11				9			1	1
PHYSICAL	275	35	239		13	2	206	2	1	1	14
THEORETICAL	33	6	27		1		25			1	
PHARMACEUTICAL	52	7	44		3	1	36	1		1	2
POLYMER	61	22	39		14		25				
CHEMISTRY, GENERAL	197	56	100		6	6	60			2	26
CHEMISTRY, OTHER	74	11	62		9		51				2
EARTH, ENVIRONMENTAL AND MARINE SCI	582	85	486		12	4	447	2		4	17
MINERALOGY, PETROLOGY	30	3	27				26				1
GEOCHEMISTRY	48	1	47		1		44			1	1
STRATIGRAPHY, SEDIMENTATION	42	5	37				36	1			
PALEONTOLOGY	19		19				18				1
STRUCTURAL GEOLOGY	27		27				27				
GEOPHYSICS (SOLID EARTH)	72	12	58		4	1	49			1	3
GEOMORPHOL, GLACIAL GEOLOGY	13	1	12				12				
HYDROLOGY AND WATER RESOURCES	21	8	12				12				
OCEANOGRAPHY	70	6	63		2		56			1	4
MARINE SCIENCES, OTHER	30	3	27				27				
ATMOSPHERIC PHYSICS AND CHEMISTRY	15	1	14			1	12	1			
ATMOSPHERIC DYNAMICS	27	4	23		2		21				
ATMOSPHERIC SCIENCES, OTHER	31	12	19		1		18				
ENVIRONMENTAL SCIENCES, GENERAL	30	3	27		1	1	25				
ENVIRONMENTAL SCIENCES, OTHER	24	6	18			1	17				
APPL GEOL, GEOL ENG, ECON GEOL	21	4	16				16				
EARTH SCIENCES, GENERAL	46	12	28		1		20			1	6
EARTH SCIENCES, OTHER	16	4	12				11				1

1/For more detailed explanation of racial/ethnic groups see item 8 on questionnaire on page 42.
2/Includes 1,133 individuals who did not report their citizenship at time of doctorate.

TABLE 1A. CONTINUED

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP[1]								
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEX-ICAN	OTHER HIS-PANIC	OTHER & UNK
ENGINEERING	2528	943	1482	4	282	12	1022	8	2	2	24
AERONAUTICAL AND ASTRONAUTICAL	97	35	56		6		46				4
AGRICULTURAL	62	41	21		3		17				1
BIOMEDICAL	63	6	57		5	1	46				4
CIVIL	287	135	139	1	26	3	100	2		2	5
CHEMICAL	296	122	171		42	2	122		1		4
CERAMIC	24	8	16		3		13				
COMPUTER	71	24	46		16		30				
ELECTRICAL	411	134	251		50	6	182				13
ELECTRONICS	67	15	51		6	1	41	1		1	1
INDUSTRIAL	66	20	42		6		33			1	2
NUCLEAR	130	49	75		15	1	55				4
ENGINEERING MECHANICS	78	30	45		7	1	34				3
ENGINEERING PHYSICS	22	7	15		3		12				
MECHANICAL	282	114	156	2	36	1	110		1	2	4
METALLURGY AND PHYSICAL MET	99	50	46	1	15		29			1	
SYSTEMS DESIGN, SYSTEMS SCIENCE	68	27	39		3	1	32			1	2
OPERATIONS RESEARCH	80	31	49		10		38				1
FUEL TECH, PETROLEUM	21	13	6		2	1	3				
SANITARY AND ENVIRONMENTAL	71	17	53		2	1	46	2		1	1
MINING	8	1	6		1		5				
MATERIALS SCIENCE	113	35	73		18		51				4
ENGINEERING, GENERAL	37	8	15		3		12				
ENGINEERING, OTHER	75	31	39		3		35				1
LIFE SCIENCES	5461	228	4921	11	212	80	4021	10	15	36	206
BIOLOGICAL SCIENCES	3397	252	3058	6	136	47	2691	6	11	22	139
BIOCHEMISTRY	644	43	584	1	37	9	509		2	4	22
BIOPHYSICS	99	13	85		3		78			1	3
BIOMETRICS, BIOSTATISTICS	48	7	40		2		36				2
ANATOMY	156	4	148		3	1	138			2	4
CYTOLOGY	47	4	42			1	38			1	2
EMBRYOLOGY	20	1	19		1	3	15				
IMMUNOLOGY	149	6	142		11	2	124		1	1	3
BOTANY	147	12	128	1	3	1	116		1		6
ECOLOGY	197	10	184		4		169	1	1	1	8
MICROBIOLOGY AND BACTERIOLOGY	353	32	314	1	16	7	268	2	2	2	16
PHYSIOLOGY, ANIMAL	327	14	311	1	10	2	283	1	1	2	11
PHYSIOLOGY, PLANT	68	11	56		2		49		1		4
ZOOLOGY	197	11	180		3	3	167	1		1	5
GENETICS	157	15	140		5		128			2	5
ENTOMOLOGY	143	26	115	1	0		97		2	1	5
MOLECULAR BIOLOGY	185	7	174		5	3	153	1		2	10
NUTRITION AND/OR DIETETICS	99	14	81	1	4	7	61				8
BIOL SCIENCES, GENERAL	207	13	177		14	5	138			1	19
BIOL SCIENCES, OTHER	154	9	138		4	3	124			1	6
AGRICULTURAL SCIENCES	1150	388	731	2	29	18	635	2	3	11	31
AGRONOMY	177	60	113		3		105	1		2	2
AGRICULTURAL ECONOMICS	168	64	103		4	7	84			2	5
ANIMAL HUSBANDRY	19	4	15		1		13				1
FOOD SCIENCE AND TECHNOLOGY	104	49	53		6	1	39			3	4
FISH AND WILDLIFE	66	2	62				58			1	3
FORESTRY	95	21	70		3	2	63	1			1
HORTICULTURE	85	32	48		3	1	40		1	1	2
SOILS AND SOIL SCIENCE	90	39	48		2	3	39			1	3
ANIMAL SCIENCE AND ANIMAL NUTRITION	149	54	89	1	4	2	77		2		3
PHYTOPATHOLOGY	99	27	71		2	1	65			1	2
AGRICULTURE, GENERAL	5	4	1				1				
AGRICULTURE, OTHER	93	32	58		1	1	51				5
MEDICAL SCIENCES	914	88	802	3	47	15	695	2	1	3	36
PUBLIC HEALTH AND EPIDEMIOLOGY	155	13	140		2	4	126	1			7
VETERINARY MEDICINE	41	14	25				24			1	
NURSING	87	4	83		1	3	77	1			1
PARASITOLOGY	18	3	14				12		1		1
ENVIRONMENTAL HEALTH	43	3	38	1	1	3	32				1
PATHOLOGY	106	16	85		4		77				4
PHARMACOLOGY	280	16	259		16	3	226			1	13
PHARMACY	69	6	62		20	2	34			1	5
MEDICAL SCIENCES, GENERAL	24		23	1	1		19				2
MEDICAL SCIENCES, OTHER	91	13	73	1	2		68				2

TABLE 1A. CONTINUED

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP 1/								
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEX-ICAN	OTHER HIS-PANIC	OTHER & UNK
SOCIAL SCIENCES (INCL PSYCH)	6505	522	5662	14	135	223	4260	16	45	61	208
ANTHROPOLOGY	369	25	329	1	4	7	283	1	3	5	25
COMMUNICATIONS	221	16	198		5	10	178			1	4
SOCIOLOGY	603	69	520		18	25	444	2	11	2	18
ECONOMICS	807	199	575	2	32	16	477	2	2	8	36
ECONOMETRICS	17	5	12		3		9				
STATISTICS	39	18	20		3		17				
GEOGRAPHY	109	20	85		4	2	71		1	1	6
AREA STUDIES	20	5	13		1	1	10				1
POLITICAL SCIENCE	445	52	373		15	25	305	1		7	20
PUBLIC ADMINISTRATION	147	18	107	1	3	9	88			1	5
INTERNATIONAL RELATIONS	87	16	64		1	4	54		1		4
CRIMINOLOGY	35		34				33	1			
URBAN AND REGIONAL PLANNING	94	26	56		2	4	45		1	2	2
SOCIAL SCIENCES, GENERAL	22	4	16			1	14		1		
SOCIAL SCIENCES, OTHER	133	19	107		3	6	91	1		1	5
PSYCHOLOGY	3357	80	3153	10	41	113	2841	8	25	33	82
CLINICAL	1256	13	1216	5	13	55	1086	6	8	16	29
COUNSELING AND GUIDANCE	351	10	340		6	17	307	1	3	3	3
DEVELOP AND GERONTOL	200	3	197		2	2	187			1	5
EDUCATIONAL	180	4	174	1	2	2	159		2	3	5
SCHOOL PSYCHOLOGY	133	1	130		1	2	120		2	1	4
EXPERIMENTAL	282	9	271	1	4	3	257		2	1	3
COMPARATIVE	11		11				10			1	
PHYSIOLOGICAL	102	3	98		3	1	92		1		1
INDUSTRIAL AND PERSONNEL	87	2	85	1	1	4	75			1	3
PERSONALITY	49	1	48		1	3	43				1
PSYCHOMETRICS	27	3	24				24				
SOCIAL	180	7	170		1	9	153		3	1	3
PSYCHOLOGY, GENERAL	283	10	209		3	9	167	1	3	2	24
PSYCHOLOGY, OTHER	216	14	178	2	4	6	161		1	3	1
HUMANITIES	3745	234	3358	12	56	93	2954	23	17	66	132
ART, HISTORY AND CRITICISM	157	8	143		2	2	134			1	4
HISTORY, AMERICAN	227	5	222		2	13	193		2	1	11
HISTORY, EUROPEAN	164	3	161	1	2	1	149		1	2	5
HISTORY, OTHER	274	34	219	1	4	8	177	4	2	7	16
HISTORY AND PHILOSOPHY OF SCIENCE	26	4	22				19				3
AMERICAN STUDIES	87	3	82	1	2	5	70				4
THEATRE AND THEATRE CRITICISM	103	3	97			5	90		1		1
MUSIC	368	15	319	1	8	8	294			1	7
SPEECH AS A DRAMATIC ART	37		34	1			30			1	2
ARCHEOLOGY	28		27				26				1
RELIGION	161	8	150	1	5	8	125	1			10
PHILOSOPHY	277	19	252	1	4	5	225	2		1	14
LINGUISTICS	176	47	120		5	2	105	1	1	1	5
COMPARATIVE LITERATURE	132	8	114	1	1	3	99		1	6	3
LANGUAGES AND LITERATURE	1457	74	1329	3	21	31	1159	15	9	43	48
AMERICAN	146	8	138		1	10	122				5
ENGLISH	670	26	620	3	8	10	571	1	1	2	24
GERMAN	89	3	81				80				1
RUSSIAN	27	1	26				25				1
FRENCH	167	6	158		1	9	143				5
SPANISH AND PORTUGUESE	184	13	166		3	1	99	13	8	40	2
ITALIAN	16	1	15				14				1
CLASSICAL	62	3	57			1	54				2
OTHER LANGUAGES	96	13	68		8		51	1		1	7
HUMANITIES, GENERAL	23		23	1			19				3
HUMANITIES, OTHER	48	3	44			2	40				2
PROFESSIONAL FIELDS	1388	164	1172	3	44	52	884	2	3	2	61
THEOLOGY	201	14	183		3		162			4	14
BUSINESS ADMINISTRATION	622	92	495	1	29	16	420	3		2	24
HOME ECONOMICS	85	6	79			1	74	1			3
JOURNALISM	18	5	13		1		11				1
SPEECH AND HEARING SCIENCES	140		139	2	2	10	120	1			4
LAW, JURISPRUDENCE	28	11	15		1		13				1
SOCIAL WORK	209	15	185		6	25	136	4	3	2	9
LIBRARY AND ARCHIVAL SCIENCE	62	14	48		1	7	35			1	4
PROFESSIONAL FIELDS, OTHER	23	7	15		1		13				1

TABLE 1A. CONTINUED

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP 1/								
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEX-ICAN	OTHER HIS-PANIC	OTHER & UNK
EDUCATION	**7682**	**526**	**6925**	**42**	**112**	**582**	**5561**	**38**	**76**	**66**	**224**
FOUNDATIONS: SOCIAL, PHILOS	208	29	165	1	6	13	130	1	2	3	9
EDUCATIONAL PSYCHOLOGY	445	23	415	2	13	21	362	4	2	4	7
ELEMENTARY EDUCATION, GENERAL	180	4	164	1	1	9	141		1	2	9
SECONDARY EDUCATION, GENERAL	136	14	109		2	6	96			1	4
HIGHER EDUCATION	671	39	628	4	11	80	494	3	9	5	22
ADULT EDUC AND EXTENSION EDUC	233	21	210	1	2	19	183		1	1	3
EDUCATION MEAS AND STATISTICS	90	11	77	1	4	2	68			1	1
CURRICULUM AND INSTRUCTION	814	69	739	3	11	61	607	6	20	4	27
EDUCATIONAL ADMIN AND SUPERVISION	1653	88	1542	19	17	190	1239	7	17	6	47
GUIDANCE,COUNS,STUDENT PERSONNEL	549	14	524	1	7	35	457	3	4	2	15
SPECIAL ED (GIFTED,HANDICAPPED,ETC)	313	9	301	1	3	9	275	3	1	1	8
AUDIO-VISUAL MEDIA	77	13	64		2	1	60	1			
TEACHING FIELDS	1522	136	1354	5	24	104	1154	8	13	7	39
AGRICULTURE	42	9	32		2	3	25		1		1
ART	63	8	55			3	51			1	
BUSINESS	50	8	42				42				
EARLY CHILDHOOD	90	2	82	1	1	9	66	1	1	1	2
ENGLISH	63	7	55		2	4	49				
FOREIGN LANGUAGE	28	5	21		1	1	15	1	1	1	1
HOME ECONOMICS	25	3	22		1	5	16				
INDUSTRIAL ARTS	27	1	25			2	21				2
MATHEMATICS	62	8	53	1	1	4	47				
MUSIC	76	4	67		1	4	56				6
NURSING	23	1	22		1	1	19				1
PHYS ED, HEALTH, AND REC	367	36	324	1	7	18	275	2	2	4	15
READING	193	6	182			10	163	1	2		6
SCIENCE	107	23	84	2	2	12	67				1
SOCIAL SCIENCE	49	4	45		1	4	39	1			
SPEECH	12		12			1	10	1			
VOCATIONAL	213	10	200		3	20	172	1	1		3
OTHER TEACHING FIELDS	32	1	31		1	3	21		5		1
EDUCATION, GENERAL	407	38	237	2	6	23	176		4	3	23
EDUCATION, OTHER	191	18	166	1	10	16	119	2	2	6	10
OTHER AND UNSPECIFIED	35	8	26	1		2	21				2

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2
STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1981[1/]

TOTAL ALL DOCTORATES

		1981 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	ENG FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
NUMBER IN FIELD		31319	1015	1611	582	3208	728	432	2528	6696	644	1336	1417	3397	914	1150
MALE	%	68.5	92.8	85.4	90.4	88.7	84.6	88.8	96.1	91.0	70.7	70.6	71.5	71.0	66.1	87.2
FEMALE		31.5	7.2	14.6	9.6	11.3	15.4	11.2	3.9	9.0	29.3	29.4	28.5	29.0	33.9	12.8
U.S. CITIZENSHIP	%	79.8	70.4	76.5	80.9	75.4	65.9	72.4	46.2	63.3	85.9	89.2	84.8	86.8	82.6	59.6
FOREIGN CITIZENSHIP		16.6	24.9	20.5	17.2	21.3	31.5	25.9	49.1	33.1	11.5	9.3	11.6	10.7	14.8	37.7
UNKNOWN		3.6	4.6	2.9	1.9	3.3	2.6	1.7	4.7	3.7	2.6	1.5	3.5	2.6	2.6	2.7
MARRIED	%	60.1	50.0	52.8	59.5	53.1	49.7	54.3	61.6	56.0	51.9	54.9	55.8	54.7	59.1	73.0
NOT MARRIED		34.7	43.6	42.8	37.5	42.1	46.0	41.4	32.7	38.9	44.6	42.0	38.9	41.2	36.3	23.1
UNKNOWN		5.2	6.4	4.5	3.1	4.8	4.3	4.3	5.8	5.1	3.6	3.1	5.3	4.1	4.6	3.8
MEDIAN AGE AT DOCTORATE		32.4	29.1	28.3	30.9	29.0	29.2	30.1	30.5	29.6	28.5	29.3	30.2	29.5	31.2	31.7
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE		53.3	80.5	84.6	47.8	76.6	80.2	13.8	74.1	73.9	22.0	18.9	66.3	39.3	26.7	55.8
PERCENT WITH MASTERS		80.6	65.8	38.3	75.6	53.8	76.6	80.6	89.4	70.6	29.3	44.2	66.5	50.7	60.6	91.7
MEDIAN TIME LAPSE FROM BACC TO DOCT																
TOTAL TIME	YRS	9.4	7.0	6.0	8.3	6.7	6.9	7.7	7.9	7.2	6.4	6.7	7.6	7.0	8.3	8.0
REGISTERED TIME		6.4	6.2	5.2	6.4	5.7	5.9	6.2	5.6	5.7	5.7	5.8	6.3	6.0	6.0	5.6
POSTDOCTORAL STUDY PLANS	%	18.3	45.5	38.4	29.2	39.0	15.2	6.5	13.1	25.5	78.3	75.5	47.3	64.3	42.0	13.7
FELLOWSHIP		8.9	16.4	16.1	9.3	14.9	6.7	2.2	3.7	9.3	45.3	46.0	24.6	36.9	24.4	3.9
RESEARCH ASSOC		6.7	28.5	20.4	19.1	22.7	5.8	3.0	7.6	14.5	25.2	18.9	17.9	19.7	8.8	8.9
TRAINEESHIP		1.0	.2	.8	.2	.5	1.4	.9	1.5	1.0	2.2	2.1	1.3	1.8	1.8	.8
OTHER		1.7	.5	1.1	.7	.8	1.4	.4	.4	.7	5.6	8.5	3.5	5.9	7.1	.1
PLANNED EMPLOYMENT AFTER DOCTORATE	%	75.4	46.9	55.5	66.3	56.7	78.8	90.1	80.2	68.2	16.5	20.6	45.4	30.2	53.2	80.5
EDUC INSTITUTION		44.3	10.0	7.4	21.5	10.8	53.7	46.6	24.7	21.9	5.4	11.1	28.4	17.2	27.4	42.2
INDUSTRY/BUSINESS		14.2	26.4	42.4	27.7	34.7	18.0	35.3	42.6	35.9	7.9	5.5	7.0	6.6	11.5	15.1
GOVERNMENT		8.8	7.8	3.6	14.9	7.0	5.1	4.7	9.6	7.7	2.0	2.5	6.8	4.2	7.2	16.4
NONPROFIT		4.7	.7	1.1	.2	.8	.8	.4	1.6	1.1	.5	.7	1.6	1.0	4.2	1.9
OTHER & UNKNOWN		3.4	2.1	1.1	2.1	1.6	1.2	3.0	1.7	1.6	.6	.9	1.7	1.2	3.0	4.9
POSTDOCT STATUS UNKN	%	6.3	7.6	6.1	4.5	6.3	5.9	3.4	6.7	6.3	5.3	3.9	7.3	5.6	4.8	5.8
DEFINITE POSTDOCTORAL STUDY		13.4	36.1	30.0	21.3	30.4	10.0	4.3	8.1	18.8	65.1	63.0	35.1	51.8	32.1	8.2
SEEKING POSTDOCTORAL STUDY		4.9	9.5	8.4	7.9	8.6	5.2	2.2	5.0	6.7	13.2	12.5	12.2	12.5	10.0	5.5
DEFINITE EMPLOYMENT		56.0	35.4	46.7	54.6	44.5	62.0	72.0	61.9	53.9	11.6	14.3	30.3	20.5	40.2	59.4
SEEKING EMPLOYMENT		19.5	11.5	8.8	11.7	10.2	16.9	18.1	18.3	14.3	4.8	6.3	15.1	9.7	13.0	21.1
EMPLOYMENT ACTIVITY AFTER DOCTORATE																
PRIMARY ACTIVITY																
R & D	%	26.2	76.6	82.6	56.0	75.2	42.6	60.5	62.6	65.0	72.0	48.7	43.7	48.1	41.1	57.2
TEACHING		39.7	15.9	9.8	22.6	14.2	49.4	29.3	22.1	22.7	12.0	29.3	37.7	32.6	33.5	23.1
ADMINISTRATION		14.2	1.4	1.6	3.8	2.0	1.1	3.0	2.4	2.1	4.0	4.7	5.6	5.2	9.5	2.6
PROF. SERVICES		12.1	1.7	2.5	6.6	3.2	3.1	2.4	5.4	4.1	8.0	11.5	7.2	8.5	9.5	4.2
OTHER		2.9	1.7	1.1	7.2	2.6	1.6	1.8	2.6	2.4	1.3	2.1	2.3	2.2	2.2	5.6
ACTIVITY UNKNOWN		4.8	2.8	2.4	3.8	2.8	2.2	3.0	4.9	3.7	2.7	3.7	3.5	3.4	4.1	7.2
SECONDARY ACTIVITY																
R & D		25.2	13.9	7.7	25.5	13.2	42.1	29.3	21.4	21.1	13.3	23.0	33.5	28.4	27.8	19.8
TEACHING		11.9	4.2	3.1	8.5	4.5	19.7	20.4	11.3	10.1	14.7	18.8	18.4	18.1	16.3	19.6
ADMINISTRATION		9.7	7.8	14.9	11.0	12.2	3.5	4.2	3.8	9.3	16.0	10.5	6.3	8.5	16.1	10.0
PROF. SERVICES		7.7	4.2	6.1	8.8	6.2	3.3	2.4	6.8	5.9	1.3	4.7	6.7	5.6	7.4	6.6
OTHER		2.0	1.7	1.2	1.6	1.4	.7	.0	1.4	1.2	.0	.5	1.2	.9	.5	1.5
NO SECONDARY ACTIVITY		38.6	65.5	64.6	40.9	59.6	28.4	40.7	45.4	48.6	52.0	38.7	30.5	35.1	27.8	35.4
UNKNOWN		4.8	2.8	2.4	3.8	2.8	2.2	3.0	4.9	3.7	2.7	3.7	3.5	3.4	4.1	7.2
REGION OF EMPLOYMENT AFTER DOCTORATE																
NEW ENGLAND	%	6.5	7.8	4.9	4.4	5.5	8.4	10.8	6.3	6.5	6.7	5.8	6.0	6.0	4.4	2.2
MIDDLE ATLANTIC		15.1	20.6	25.3	8.2	20.3	15.7	19.2	16.9	18.2	18.7	14.7	10.9	12.8	16.6	5.7
EAST NO CENTRAL		13.9	8.1	18.0	6.6	12.9	17.1	5.4	11.9	12.7	12.0	17.3	8.4	11.2	16.3	8.6
WEST NO CENTRAL		6.2	2.8	3.5	2.8	3.1	3.8	4.3	3.3	3.4	2.7	7.9	7.0	6.8	6.8	10.0
SOUTH ATLANTIC		15.3	9.2	15.8	12.3	13.4	13.5	12.0	11.6	12.5	20.0	13.6	17.4	16.7	16.1	12.3
EAST SO CENTRAL		4.3	1.9	3.2	2.2	2.7	4.2	1.2	2.9	2.9	5.3	3.1	5.3	4.7	3.3	4.7
WEST SO CENTRAL		8.2	7.8	10.1	20.8	11.4	9.3	10.2	8.4	10.0	5.3	10.5	9.8	9.5	7.9	5.9
MOUNTAIN		4.6	8.6	2.5	13.2	6.4	3.3	4.2	5.2	5.4	2.7	4.7	5.3	4.9	2.7	5.6
PACIFIC & INSULAR		11.3	22.8	9.3	17.3	14.5	10.9	21.6	15.8	14.9	16.0	9.9	13.7	12.9	10.6	9.4
FOREIGN		9.0	7.2	3.7	8.8	5.7	10.4	7.8	13.5	9.8	9.3	9.9	13.5	12.1	9.5	32.1
REGION UNKNOWN		5.5	3.1	3.7	3.5	3.5	3.3	3.0	4.2	3.7	1.3	2.6	2.6	2.4	5.7	3.7

1/Refer to explanatory note on page 24 and the description of doctoral fields inside back cover.

TABLE 2. CONTINUED

TOTAL ALL DOCTORATES

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI., PUBLIC ADMIN., INTERN'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND AMER. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED[2]
5461	3357	824	972	679	673	6505	18662	691	816	641	1597	3745	1388	7489	12622	35
73.6	56.2	87.7	59.5	80.1	68.6	66.4	76.6	71.9	48.2	46.5	63.2	58.7	69.5	52.8	56.4	77.1
26.4	43.8	12.3	40.5	19.9	31.4	33.6	23.4	28.1	51.8	53.5	36.8	41.3	30.5	47.2	43.6	22.9
80.3	92.5	64.1	83.5	75.6	74.6	84.0	75.5	87.4	90.8	78.6	85.2	85.7	79.6	87.7	86.2	
17.1	3.8	31.9	13.5	17.2	20.1	11.9	21.0	9.6	6.3	16.7	9.9	10.2	16.6	8.8	10.1	
2.6	3.7	4.0	3.0	7.2	5.3	4.2	3.5	3.0	2.9	4.7	4.9	4.1	3.7	3.6	3.7	
59.3	53.8	58.9	59.2	59.4	61.4	56.6	57.2	60.6	57.6	54.9	54.0	57.0	66.1	67.9	64.5	
36.6	41.0	35.0	35.6	31.2	31.9	37.5	37.7	33.4	37.6	37.9	36.8	36.5	27.8	27.3	30.1	
4.1	5.2	6.2	5.2	9.4	6.7	5.9	5.1	5.9	4.8	7.2	7.2	6.4	6.1	4.8	5.4	
30.1	31.4	30.9	33.2	33.4	33.5	32.0	30.5	33.4	33.5	34.1	33.3	33.5	34.2	37.3	35.7	
40.7	66.5	63.0	60.3	49.0	26.3	59.1	59.0	63.5	77.3	59.8	52.1	61.0	34.6	38.9	45.0	
61.0	81.4	77.4	87.3	89.2	90.9	83.6	72.3	89.3	89.1	85.0	86.1	87.2	91.9	95.7	92.8	
7.3	8.4	8.0	10.0	10.4	10.1	9.0	7.8	11.0	10.9	10.9	10.6	10.8	11.1	13.5	12.3	
5.9	6.3	6.1	7.5	7.0	6.2	6.5	6.0	8.3	7.7	7.8	7.4	7.7	6.6	7.0	7.2	
49.9	17.5	4.2	12.9	6.3	4.6	12.6	28.1	7.7	2.8	5.6	5.9	5.5	1.9	3.2	3.8	
27.9	9.6	1.8	6.9	3.2	1.5	6.7	13.9	4.2	1.5	2.2	2.6	2.6	.9	1.0	1.5	
15.6	3.1	1.3	4.1	1.8	1.9	2.8	10.7	1.3	.1	1.2	.9	.9	.6	.9	.9	
1.6	3.1	.5	.1	.4	.3	1.7	1.4	.3	.0	.0	.3	.2	.3	.6	.4	
4.9	1.7	.6	1.7	.9	.9	1.4	2.2	1.9	1.2	2.2	2.1	1.9	.1	.7	1.0	
44.6	76.7	89.7	80.8	83.2	87.2	80.7	65.7	85.7	89.8	86.4	85.5	86.6	91.6	91.1	89.8	
24.2	29.8	55.7	55.8	46.5	54.2	41.2	29.3	59.9	74.8	70.2	65.9	67.5	65.1	66.3	66.5	
9.2	12.7	11.2	6.0	8.5	13.1	11.1	19.4	8.7	7.5	5.9	6.3	6.9	8.9	5.8	6.2	
7.3	14.7	14.9	7.7	18.0	10.8	13.7	9.6	7.5	1.5	2.3	2.8	3.3	5.4	10.2	7.6	
1.7	13.8	4.2	6.2	4.7	4.5	9.5	4.2	4.9	1.1	1.1	6.6	4.2	10.5	5.0	5.3	
2.3	5.7	3.6	5.1	5.4	4.6	5.2	3.1	4.6	5.0	6.9	3.8	4.7	1.7	3.9	3.9	
5.5	5.8	6.1	6.4	10.5	8.2	6.7	6.2	6.7	7.4	8.0	8.6	7.9	6.4	5.7	6.4	
39.3	12.7	2.8	8.1	4.1	1.9	8.8	21.3	3.8	1.0	2.7	2.8	2.5	1.1	1.6	1.8	
10.6	4.7	1.5	4.7	2.2	2.7	3.8	6.8	3.9	1.8	3.0	3.1	3.0	.9	1.6	1.9	
32.0	54.3	77.4	55.8	62.3	64.5	59.3	49.4	56.4	59.6	57.1	58.8	57.4	77.5	67.6	65.6	
12.7	22.4	12.3	25.0	20.9	22.7	21.4	16.3	29.2	30.3	29.3	28.7	29.2	14.1	23.5	24.2	
50.2	16.2	37.1	27.9	16.1	21.4	21.9	44.1	8.2	2.5	3.3	5.6	5.0	11.2	5.9	6.4	
29.1	21.0	44.7	55.4	47.3	56.7	36.6	29.8	64.1	81.3	77.9	73.2	74.2	59.0	39.1	50.8	
5.1	6.8	5.5	5.7	18.4	7.8	7.8	5.1	9.2	5.3	4.9	6.4	6.4	9.6	35.2	24.4	
7.0	50.7	3.6	4.8	5.2	6.7	26.6	14.1	5.9	3.1	3.6	6.5	5.1	12.3	11.5	9.9	
3.5	1.9	4.1	2.4	5.9	3.7	3.0	2.9	8.2	4.7	2.7	5.0	5.1	3.2	1.8	2.8	
5.0	3.3	5.0	3.9	7.1	3.7	4.1	4.1	4.4	3.1	7.7	3.3	4.2	4.8	6.4	5.6	
24.9	24.1	37.6	38.7	30.0	37.3	30.5	25.8	32.6	32.3	40.4	33.2	34.1	38.1	17.6	24.5	
18.3	16.7	16.1	12.2	8.0	10.6	14.4	13.4	5.9	4.5	4.9	7.6	6.1	12.4	11.5	10.2	
10.7	11.6	6.1	7.9	12.5	12.0	10.3	10.0	7.7	9.9	6.0	9.8	8.8	8.1	10.0	9.5	
6.4	9.1	3.4	3.1	4.7	7.6	6.7	6.3	2.1	1.9	2.7	6.8	4.1	8.5	11.6	9.2	
1.0	2.6	.8	1.1	1.7	.9	1.8	1.4	2.8	3.3	2.2	6.1	4.2	1.8	2.3	2.7	
33.7	32.5	30.9	33.0	35.9	27.9	32.2	38.9	44.6	45.1	36.1	33.2	38.4	26.4	40.7	38.2	
5.0	3.3	5.0	3.9	7.1	3.7	4.1	4.1	4.4	3.1	7.7	3.3	4.2	4.8	6.4	5.6	
4.2	7.4	7.7	9.2	8.3	3.5	7.4	6.4	7.2	8.2	12.6	7.7	8.6	4.8	6.0	6.5	
10.8	19.5	16.8	16.6	15.8	12.7	17.5	16.5	14.6	16.5	15.8	15.2	15.5	12.6	13.1	13.6	
11.3	16.3	12.7	13.5	7.8	15.4	14.3	13.1	11.8	15.0	12.6	13.8	13.5	16.4	15.0	14.8	
8.0	6.9	3.9	6.5	3.3	9.2	6.2	5.4	6.2	5.8	6.8	7.8	6.9	7.2	7.2	7.1	
14.8	13.8	23.4	16.1	26.7	12.2	16.9	14.8	17.1	16.3	11.7	14.0	14.7	15.7	16.5	15.9	
4.4	3.3	2.5	4.2	2.6	4.6	3.4	3.4	2.6	4.1	3.0	6.3	4.6	5.0	5.7	5.3	
7.7	7.6	4.2	4.1	5.0	6.5	6.1	7.9	8.5	9.5	6.8	8.2	8.3	11.2	8.0	8.5	
4.7	3.7	4.4	3.1	3.8	6.0	4.0	4.7	4.1	4.1	4.6	3.2	3.4	3.5	5.2	4.6	
11.1	13.4	7.5	10.1	7.3	10.4	11.0	12.5	11.3	8.4	10.7	9.8	9.9	9.9	10.0	10.0	
19.4	2.5	13.5	11.6	13.0	13.4	8.0	10.8	9.7	5.8	7.1	8.7	8.0	9.7	5.9	6.9	
3.6	5.7	3.4	5.0	6.4	6.2	5.4	4.4	6.9	6.4	8.2	5.3	6.3	3.9	7.5	6.7	

2/Statistics are not presented for this group because too few records contained the specified data.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2
STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1981 1/

DOCTORATES: MEN

		1981 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	ENG FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
TOTAL MALE		21447	942	1376	526	2844	616	206	2429	6095	455	943	1013	2411	604	1003
MALE AS A PERCENT OF TOTAL DOCTORATES	%	68.5	92.8	85.4	90.4	88.7	84.6	88.8	96.1	91.0	70.7	70.6	77.5	71.0	66.1	87.2
U.S. CITIZENSHIP	%	76.1	71.1	76.7	80.6	75.6	64.9	71.8	45.9	62.6	87.3	88.4	84.6	86.6	81.1	58.7
FOREIGN CITIZENSHIP		20.2	24.0	20.6	17.5	21.1	32.3	26.2	49.3	33.6	10.3	10.1	11.5	10.7	16.6	38.8
UNKNOWN		3.7	4.9	2.9	1.9	3.4	2.8	1.9	4.8	3.8	2.4	1.5	3.9	2.7	2.3	2.5
MARRIED	%	63.7	49.0	52.9	61.0	53.1	51.3	52.4	61.8	56.4	54.1	58.6	59.9	58.3	65.1	75.4
NOT MARRIED		30.9	44.4	42.4	36.1	41.9	44.8	42.7	32.4	38.4	42.4	38.3	34.3	37.4	30.6	21.0
UNKNOWN		5.3	6.6	4.7	2.9	5.0	3.9	4.9	5.8	5.2	3.5	3.1	5.8	4.3	4.3	3.6
MEDIAN AGE AT DOCTORATE		31.8	29.1	28.3	31.1	29.0	29.1	30.1	30.6	29.6	28.5	29.3	30.2	29.5	30.3	31.8
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE		54.7	80.6	84.6	48.3	76.5	79.2	14.1	75.1	74.1	23.7	18.6	65.4	39.2	17.9	58.0
PERCENT WITH MASTERS		78.8	65.4	38.2	76.2	54.2	75.3	78.6	89.3	71.2	29.0	44.6	67.9	51.5	54.6	92.2
MEDIAN TIME LAPSE FROM BACC TO DOCT																
TOTAL TIME	YRS	8.8	7.0	6.0	8.4	6.7	6.9	7.7	7.9	7.2	6.3	6.7	7.5	7.0	7.6	8.1
REGISTERED TIME		6.2	6.2	5.2	6.4	5.7	5.9	6.1	5.6	5.7	5.6	5.9	6.3	6.0	6.0	5.5
POSTDOCTORAL STUDY PLANS	%	19.8	45.4	38.7	29.7	39..	16.6	6.3	13.1	25.4	79.6	75.3	43.3	63.5	47.2	13.2
FELLOWSHIP		9.2	15.8	15.7	8.9	14.5	7.3	2.4	3.7	9.0	45.9	44.0	22.4	35.3	27.8	3.7
RESEARCH ASSOC		7.9	28.9	20.9	19.8	23.3	6.2	2.9	7.6	14.6	24.8	18.8	18.5	19.8	9.4	8.6
TRAINEESHIP		1.0	.2	.8	.2	.5	1.5	.5	1.4	1.0	2.2	2.2	1.3	1.8	1.5	.8
OTHER		1.8	.5	1.3	.8	.9	1.6	.5	.4	.8	6.6	10.3	3.2	6.6	8.4	.1
PLANNED EMPLOYMENT AFTER DOCTORATE	%	74.0	47.0	55.3	66.7	54.7	77.8	89.8	80.1	68.3	15.8	20.8	47.7	31.1	48.0	81.7
EDUC INSTITUTION		41.3	9.7	7.3	22.1	10.8	52.3	46.1	24.5	21.7	5.5	10.8	29.7	17.8	22.4	42.6
INDUSTRY/BUSINESS		16.6	27.1	42.8	27.6	34.8	18.5	35.4	42.7	36.3	8.6	5.9	6.8	6.8	13.9	15.6
GOVERNMENT		9.4	8.0	3.2	14.8	6.9	5.2	4.9	9.7	7.8	1.1	2.7	8.0	4.6	6.5	16.8
NONPROFIT		4.3	.6	1.0	.2	.7	.8	.5	1.6	1.1	.7	.7	1.6	1.1	3.3	1.8
OTHER & UNKNOWN		2.4	1.7	.9	2.1	1.4	1.0	2.9	1.7	1.5	.0	.6	1.6	.9	2.0	4.9
POSTDOCT STATUS UNKN	%	6.2	7.5	4.0	3.6	6.1	5.7	3.9	6.8	6.3	4.6	3.9	7.0	5.4	4.8	5.2
DEFINITE POSTDOCTORAL STUDY		14.8	36.1	29.7	21.7	30.3	11.2	3.9	8.1	18.6	66.4	63.1	33.9	51.4	37.1	7.8
SEEKING POSTDOCTORAL STUDY		5.0	9.3	8.9	8.0	8.9	5.4	2.4	5.0	6.8	13.2	12.2	11.5	12.1	10.1	5.4
DEFINITE EMPLOYMENT		56.9	35.7	46.7	55.1	44.6	61.5	72.8	61.8	54.1	11.6	14.7	32.9	21.8	35.9	61.6
SEEKING EMPLOYMENT		17.2	11.4	8.6	11.6	10.1	16.2	17.0	18.4	14.2	4.2	6.0	14.8	9.4	12.1	20.0
EMPLOYMENT ACTIVITY AFTER DOCTORATE																
PRIMARY ACTIVITY																
R & D	%	31.3	76.2	82.4	55.5	74.6	43.8	62.7	62.7	65.1	69.8	47.5	47.4	49.7	48.4	57.4
TEACHING		36.6	16.1	10.1	23.4	14.7	47.8	26.7	21.7	22.2	11.3	25.9	35.1	30.3	24.9	22.5
ADMINISTRATION		13.4	1.5	1.4	3.4	1.9	1.3	3.3	2.5	2.2	3.8	5.0	5.4	5.1	9.7	2.8
PROF. SERVICES		10.9	1.5	2.6	6.9	3.3	3.2	2.7	5.5	4.2	9.4	14.4	6.6	9.0	9.7	4.4
OTHER		3.0	1.8	.8	7.2	2.5	1.8	2.0	2.7	2.5	1.9	2.2	2.1	2.1	2.8	5.7
ACTIVITY UNKNOWN		4.9	3.0	2.6	3.4	2.9	2.1	2.7	4.9	3.7	3.3	5.0	3.3	3.8	4.6	7.3
SECONDARY ACTIVITY																
R & D		24.5	14.0	7.9	26.6	13.8	40.9	27.3	21.9	20.9	13.2	22.3	33.0	28.2	24.4	18.8
TEACHING		12.1	3.9	3.4	9.0	4.8	20.3	22.0	11.5	10.4	13.2	18.0	19.5	18.5	16.1	20.4
ADMINISTRATION		9.9	8.0	15.9	11.0	12.7	4.2	4.7	9.1	9.7	18.6	10.1	6.3	8.6	15.7	10.0
PROF. SERVICES		7.2	4.2	5.9	8.6	6.1	3.4	2.7	6.9	6.0	1.9	3.6	7.2	5.7	6.0	6.8
OTHER		1.8	1.8	1.4	1.4	1.5	.5	.0	1.5	1.3	.0	.7	1.5	1.1	.5	1.6
NO SECONDARY ACTIVITY		39.6	65.2	62.8	40.0	58.2	28.5	40.7	45.1	48.0	49.1	40.3	29.1	34.1	32.7	35.1
UNKNOWN		4.9	3.0	2.6	3.4	2.9	2.1	2.7	4.9	3.7	3.8	5.0	3.3	3.8	4.6	7.3
REGION OF EMPLOYMENT AFTER DOCTORATE																
NEW ENGLAND	%	6.2	7.4	5.0	4.1	5.4	7.9	11.3	6.1	6.3	5.7	5.0	6.3	5.9	4.6	1.9
MIDDLE ATLANTIC		14.6	19.6	24.6	7.2	19.3	15.6	20.7	16.5	17.7	17.0	15.8	10.5	12.6	13.8	4.9
EAST NO CENTRAL		13.6	8.0	18.4	7.2	13.1	18.2	5.3	12.1	12.9	11.3	17.3	7.5	10.5	18.0	9.5
WEST NO CENTRAL		6.2	3.0	3.3	2.4	3.0	4.0	4.7	3.3	3.3	3.8	7.2	6.3	6.3	6.5	10.2
SOUTH ATLANTIC		14.7	9.5	15.6	12.8	13.3	13.2	11.3	11.7	12.5	17.0	12.2	17.4	16.0	17.1	12.1
EAST SO CENTRAL		4.3	2.1	3.4	2.4	2.8	4.0	1.3	3.0	3.0	5.7	2.9	6.0	5.1	4.1	4.7
WEST SO CENTRAL		8.2	7.7	11.4	20.7	12.5	8.7	7.3	8.5	10.0	5.7	10.1	9.0	9.0	9.2	5.5
MOUNTAIN		4.9	8.6	2.6	14.1	6.9	3.7	4.0	5.4	5.7	1.9	6.5	4.8	5.0	1.4	5.7
PACIFIC & INSULAR		11.3	23.5	7.9	16.9	14.1	10.8	22.7	15.7	14.8	20.8	8.6	14.4	13.5	7.8	9.2
FOREIGN		10.9	7.1	3.9	9.3	6.0	10.0	8.7	13.7	10.1	11.3	11.5	14.7	13.5	12.0	32.2
REGION UNKNOWN		5.1	3.3	3.9	2.8	3.5	4.0	2.7	4.1	3.8	.0	2.9	3.0	2.7	5.5	4.0

1/ Refer to explanatory note on page 24 and the description of doctoral fields inside back cover.

TABLE 2. CONTINUED

DOCTORATES: MEN

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI., PUBLIC ADMIN., INTERN'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND AMER. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED[2/]
4018	1885	723	578	544	460	4190	14303	497	393	298	1010	2198	964	3955	7117	27
73.6	56.2	87.7	59.5	80.1	68.4	64.4	76.6	71.9	48.2	46.5	63.2	58.7	69.5	52.8	56.4	77.1
78.8	92.6	63.1	82.2	72.4	68.0	80.7	72.5	86.9	89.3	77.2	85.4	85.4	74.9	84.3	83.4	
18.6	3.7	32.9	14.7	19.7	26.3	14.8	23.9	10.5	7.4	17.1	10.6	10.9	20.9	12.1	12.9	
2.6	3.8	4.0	3.1	7.9	5.7	4.5	3.7	2.6	3.3	5.7	4.0	3.8	4.3	3.5	3.7	
63.6	58.8	59.9	65.1	61.9	67.8	61.2	59.8	63.8	62.1	57.0	59.9	60.8	71.5	77.6	71.6	
32.3	36.0	33.9	29.1	27.6	25.2	32.4	34.9	30.2	33.1	35.2	34.0	33.1	21.4	17.5	22.9	
4.1	5.2	6.2	5.9	10.5	7.0	6.3	5.2	6.0	4.8	7.7	6.1	6.1	7.2	4.9	5.6	
30.0	31.2	31.0	33.0	33.4	33.5	31.9	30.3	33.2	32.6	33.8	33.1	33.1	34.1	36.5	35.2	
40.7	68.5	63.1	61.6	49.1	28.0	59.6	60.5	64.2	79.1	55.4	54.4	61.1	36.3	34.8	43.2	
62.1	81.1	77.5	87.5	90.1	91.1	83.6	72.3	89.3	87.5	83.9	84.5	86.0	90.9	95.3	91.8	
7.3	8.2	8.0	9.9	10.2	10.2	8.8	7.6	10.8	10.0	10.7	10.1	10.4	10.8	13.0	11.9	
5.9	6.2	6.1	7.4	6.9	6.1	6.4	5.9	8.2	7.3	7.5	7.0	7.4	6.7	7.1	7.2	
48.5	17.3	4.6	13.0	6.8	4.6	11.7	27.9	7.2	2.5	6.0	5.9	5.6	1.8	2.9	3.6	
26.3	9.9	2.1	5.7	3.5	1.3	6.2	13.0	3.6	1.5	2.0	2.6	2.5	.8	.9	1.4	
15.4	3.1	1.2	4.8	1.8	2.2	2.7	11.4	1.2	.3	2.3	.6	.9	.5	1.0	.9	
1.5	2.7	.6	.2	.4	.2	1.4	1.2	.4	.0	.0	.3	.2	.3	.5	.6	
5.3	1.7	.7	2.2	1.1	.9	1.4	2.2	2.0	.8	1.7	2.5	2.0	.1	.6	.9	
44.3	76.9	89.3	80.4	81.8	86.7	81.2	65.9	86.7	89.1	86.2	86.5	87.0	91.5	91.7	90.2	
24.6	29.3	55.9	56.9	46.5	52.8	42.5	28.6	61.8	77.1	72.8	67.8	68.8	64.0	66.1	66.6	
10.1	13.7	10.7	6.2	8.3	13.0	11.4	21.6	8.5	6.9	5.4	5.4	6.4	9.1	5.8	6.4	
7.9	16.3	15.8	8.7	18.0	11.7	14.9	9.9	8.2	2.0	3.0	3.1	4.0	5.2	11.7	9.5	
1.6	13.4	3.7	5.0	4.6	5.2	8.5	3.4	4.2	1.0	.7	7.6	4.7	12.2	5.4	6.1	
2.1	4.1	3.3	3.6	4.4	3.9	3.9	2.4	4.0	2.0	4.4	2.6	3.0	.9	2.7	2.6	
5.2	5.8	6.1	6.6	11.4	8.7	7.0	6.2	6.0	8.4	7.7	7.5	7.4	6.7	5.4	6.2	
38.4	12.8	3.2	8.5	4.0	2.6	8.3	21.2	4.0	1.5	3.4	3.0	3.0	1.1	1.5	1.9	
10.1	4.5	1.4	4.5	2.8	2.0	3.4	6.7	3.2	1.0	2.7	3.0	2.6	.6	1.4	1.7	
33.8	56.6	77.2	56.9	61.6	65.7	61.8	50.7	60.0	64.4	64.1	58.5	60.6	80.6	71.2	69.2	
12.4	20.3	12.2	23.5	20.2	21.1	19.4	15.3	26.8	24.7	22.1	28.0	26.3	10.9	20.5	21.0	
53.0	16.8	36.6	28.6	14.3	22.5	22.9	47.8	8.4	2.4	5.8	5.9	5.8	11.8	6.4	7.1	
25.9	21.3	45.2	55.6	47.2	55.0	38.1	28.6	64.4	90.2	75.4	74.5	73.4	58.3	33.9	48.5	
4.8	7.1	5.6	4.6	19.4	7.9	8.1	4.8	8.4	6.3	5.2	5.9	6.5	8.5	40.0	25.9	
7.0	49.8	3.4	5.2	6.0	7.3	23.5	11.6	5.4	2.8	4.2	6.1	5.0	13.1	10.9	9.7	
3.8	1.8	4.3	2.1	6.0	3.0	3.1	3.0	8.7	5.9	2.1	4.6	5.4	3.5	1.7	3.0	
5.5	3.2	5.0	4.0	7.2	4.3	4.3	4.3	4.7	2.4	7.3	3.0	3.9	4.8	7.0	5.8	
23.3	24.7	37.3	38.9	29.6	35.1	31.0	25.0	33.9	34.4	42.9	31.8	34.4	37.5	15.3	23.9	
19.0	17.0	15.9	10.9	8.7	11.6	14.3	13.4	6.0	4.7	5.2	7.6	6.4	14.0	10.9	10.2	
10.4	11.9	6.3	8.2	12.5	12.9	10.4	10.1	8.4	10.7	6.8	11.3	9.9	8.2	10.1	9.7	
6.3	9.6	3.8	3.3	4.8	6.6	6.6	6.2	2.3	1.6	3.1	6.9	4.4	7.7	10.8	8.6	
1.3	1.9	.9	.9	2.1	.7	1.4	1.3	2.3	2.8	2.6	5.9	4.1	1.8	1.8	2.4	
34.3	31.8	30.8	33.7	35.2	28.8	31.9	39.7	42.3	43.5	31.9	33.3	37.1	26.0	44.2	39.4	
3.5	3.2	5.0	4.0	7.2	4.3	4.3	4.3	4.7	2.4	7.3	3.0	3.9	4.8	7.0	5.8	
3.9	7.0	7.2	7.9	7.5	3.0	6.8	6.0	7.0	7.1	15.7	7.6	8.6	4.5	6.0	6.5	
9.3	18.9	16.5	14.9	15.2	12.6	14.7	15.7	12.1	16.2	13.1	13.9	13.8	12.2	12.9	13.0	
11.3	14.7	12.4	11.9	9.0	14.6	13.9	12.9	10.7	14.2	13.6	13.4	13.0	16.0	14.8	14.5	
8.1	7.4	3.8	6.7	3.6	9.3	6.3	5.3	6.4	6.7	7.9	8.5	7.6	6.8	7.7	7.6	
14.4	12.9	24.0	17.3	26.0	11.6	17.6	14.6	16.4	14.2	11.0	13.2	13.8	15.7	15.3	15.0	
4.8	3.9	2.5	4.6	3.3	4.6	3.7	3.6	2.3	4.7	3.7	6.9	5.0	5.4	5.6	5.4	
7.4	8.4	3.9	3.6	5.1	6.4	6.2	8.2	8.7	7.9	4.7	8.3	7.8	12.2	7.1	8.1	
4.7	4.4	4.3	3.6	3.6	5.3	4.3	5.0	4.4	4.7	3.7	2.7	3.6	3.3	5.8	4.8	
10.7	12.1	7.7	12.2	6.0	9.3	10.0	12.3	12.1	10.7	10.5	9.5	10.4	9.1	9.6	9.7	
21.8	2.7	14.2	12.8	14.9	16.6	9.7	12.1	11.4	7.9	8.9	11.0	10.2	10.7	8.2	9.2	
3.8	5.4	3.6	4.6	6.0	6.6	5.1	6.3	8.4	5.5	7.3	5.1	6.2	4.0	7.0	6.3	

2/Statistics are not presented for this group because too few records contained the specified data.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2
STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1981 1/

DOCTORATES: WOMEN

		1981 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	ENG FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
TOTAL FEMALE		9872	73	235	56	364	112	26	99	601	189	393	404	986	310	147
FEMALE AS A PERCENT OF TOTAL DOCTORATES	%	31.5	7.2	14.6	9.6	11.3	15.4	11.2	3.9	9.0	29.3	29.4	28.5	29.0	33.9	12.8
U.S. CITIZENSHIP	%	87.9	61.6	75.7	83.9	74.2	71.4	76.9	53.5	70.4	82.5	91.1	85.4	87.1	85.5	65.3
FOREIGN CITIZENSHIP		8.7	37.0	21.3	14.3	23.4	26.8	23.1	44.4	27.5	14.3	7.4	12.1	10.6	11.3	30.6
UNKNOWN		3.5	1.4	3.0	1.8	2.5	1.8	.0	2.0	2.2	3.2	1.5	2.5	2.2	3.2	4.1
MARRIED	%	52.2	61.6	51.9	44.6	52.7	41.1	69.2	55.6	51.7	46.6	46.1	45.5	45.9	47.4	57.1
NOT MARRIED		42.8	34.2	44.7	50.0	43.4	52.7	30.8	40.4	44.1	49.7	50.9	50.5	50.5	47.4	37.4
UNKNOWN		5.0	4.1	3.4	5.4	3.8	6.3	.0	4.0	4.2	3.7	3.1	4.0	3.5	5.2	5.4
MEDIAN AGE AT DOCTORATE		33.8	29.6	28.4	29.9	28.8	29.5	30.2	29.0	29.0	28.8	29.3	30.0	29.5	33.7	30.5
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE		50.3	79.5	84.7	42.9	77.2	85.7	11.5	51.5	71.7	18.0	19.6	68.8	39.5	43.9	40.8
PERCENT WITH MASTERS		84.5	71.2	39.1	69.6	50.3	83.9	96.2	90.9	65.2	30.2	43.0	62.9	48.7	72.3	88.4
MEDIAN TIME LAPSE FROM BACC TO DOCT																
TOTAL TIME	YRS	10.8	7.6	6.1	7.6	6.6	7.3	7.8	7.1	6.9	6.9	6.8	7.7	7.2	10.9	7.6
REGISTERED TIME		6.7	6.7	5.2	5.8	5.6	5.9	6.6	6.0	5.8	5.9	5.8	6.4	6.0	6.1	5.6
POSTDOCTORAL STUDY PLANS	%	15.0	46.6	37.0	25.0	37.1	8.0	7.7	13.1	26.5	75.1	76.1	52.2	66.1	31.9	17.0
FELLOWSHIP		8.2	23.3	18.3	12.5	18.4	3.6	.0	4.0	12.5	43.9	50.9	30.0	41.0	17.7	5.4
RESEARCH ASSOC		4.3	23.3	17.9	12.5	18.1	3.6	3.8	7.1	13.0	25.9	19.1	16.6	19.4	7.4	10.9
TRAINEESHIP		1.1	.0	.9	.0	.5	.9	3.8	2.0	1.0	2.1	1.8	1.5	1.7	2.3	.7
OTHER		1.4	.0	.0	.0	.0	.0	.0	.0	.0	3.2	4.3	4.2	4.1	4.5	.0
PLANNED EMPLOYMENT AFTER DOCTORATE	%	78.5	45.2	56.6	62.5	55.2	84.8	92.3	82.8	66.9	18.0	20.1	39.9	27.8	63.2	72.8
EDUC INSTITUTION		51.0	13.7	7.7	16.1	10.2	61.6	50.0	29.3	24.6	5.3	11.7	25.0	15.9	37.1	39.5
INDUSTRY/BUSINESS		9.0	17.8	40.0	28.6	33.8	15.2	34.6	42.4	31.8	6.3	4.3	7.4	6.0	4.8	12.2
GOVERNMENT		7.5	5.5	6.0	16.1	7.4	4.5	3.8	7.1	6.7	4.2	2.0	4.0	3.2	8.7	13.6
NONPROFIT		5.4	1.4	1.3	.0	1.1	.9	.0	1.0	1.0	.0	.5	1.5	.8	5.8	2.7
OTHER & UNKNOWN		5.5	6.8	1.7	1.8	2.7	2.7	3.8	3.0	2.8	2.1	1.5	2.0	1.8	4.8	4.8
POSTDOCT STATUS UNKN	%	6.5	8.2	6.4	12.5	7.7	7.1	.0	4.0	6.7	6.9	3.8	7.9	6.1	4.8	10.2
DEFINITE POSTDOCTORAL STUDY		10.5	35.6	31.9	17.9	30.5	3.6	7.7	8.1	20.8	61.9	62.8	38.1	52.5	22.3	10.9
SEEKING POSTDOCTORAL STUDY		4.5	11.0	5.1	7.1	6.6	4.5	.0	5.1	5.7	13.2	13.2	14.1	13.6	9.7	6.1
DEFINITE EMPLOYMENT		54.1	31.5	46.8	50.0	44.2	64.3	65.4	65.7	52.4	11.6	13.2	24.0	17.3	48.4	44.2
SEEKING EMPLOYMENT		24.4	13.7	9.8	12.5	11.0	20.5	26.9	17.2	14.5	6.3	6.9	15.8	10.4	14.8	28.6
EMPLOYMENT ACTIVITY AFTER DOCTORATE																
PRIMARY ACTIVITY																
R & D	%	14.7	82.6	83.6	60.7	79.5	36.1	41.2	58.5	63.2	77.3	51.9	30.9	43.3	30.7	55.4
TEACHING		46.8	13.0	6.2	14.3	9.9	58.3	52.9	32.3	27.9	13.6	38.5	46.4	39.8	46.0	29.2
ADMINISTRATION		16.2	.0	2.7	7.1	3.1	.0	.0	.0	1.6	4.5	3.8	6.2	5.3	9.3	1.5
PROF. SERVICES		15.0	4.3	1.8	3.6	2.5	2.8	.0	4.6	2.9	4.5	3.8	9.3	7.0	9.3	3.1
OTHER		2.6	.0	2.7	7.1	3.1	.0	.0	.0	1.6	.0	1.9	3.1	2.3	1.3	4.6
ACTIVITY UNKNOWN		4.7	.0	.9	7.1	1.9	2.8	5.9	4.6	2.9	.0	.0	4.1	2.3	3.3	6.2
SECONDARY ACTIVITY																
R & D		26.7	13.0	6.4	14.3	8.7	48.6	47.1	27.7	23.8	13.6	25.0	35.1	29.2	32.7	29.2
TEACHING		11.5	8.7	.9	3.6	2.5	16.7	5.9	7.7	7.0	18.2	21.2	14.4	17.0	16.7	12.3
ADMINISTRATION		9.3	4.3	9.1	10.7	8.7	.0	.0	3.1	5.1	9.1	11.5	6.2	8.2	16.7	9.2
PROF. SERVICES		8.9	4.3	7.3	10.7	7.5	2.8	.0	4.6	5.4	.0	7.7	5.2	5.3	9.3	4.6
OTHER		2.6	.0	.0	3.6	.6	1.4	.0	.0	.6	.0	.0	.0	.0	.7	.0
NO SECONDARY ACTIVITY		36.3	69.6	75.5	50.0	70.2	27.8	41.2	52.3	55.2	59.1	34.6	35.1	38.0	20.7	38.5
UNKNOWN		4.7	.0	.9	7.1	1.9	2.8	5.9	4.6	2.9	.0	.0	4.1	2.3	3.3	6.2
REGION OF EMPLOYMENT AFTER DOCTORATE																
NEW ENGLAND	%	7.1	13.0	4.5	7.1	6.2	11.1	5.9	12.3	8.6	9.1	7.7	5.2	6.4	4.0	4.6
MIDDLE ATLANTIC		16.3	34.8	29.1	17.9	28.0	16.7	5.9	26.2	23.8	22.7	17.5	12.4	13.5	20.7	13.8
EAST NO CENTRAL		14.6	8.7	15.5	.0	11.8	11.1	5.9	7.7	10.5	13.6	17.3	11.3	13.5	14.0	.0
WEST NO CENTRAL		6.3	.0	4.5	7.1	4.3	2.8	5.9	3.1	3.8	.0	9.6	9.3	8.2	7.3	7.7
SOUTH ATLANTIC		16.7	4.3	17.3	7.1	13.7	15.3	17.6	9.2	13.3	27.3	17.3	17.5	18.7	14.7	13.8
EAST SO CENTRAL		4.2	.0	1.8	.0	1.2	5.6	.0	.0	1.9	4.5	3.8	3.1	3.5	2.0	4.6
WEST SO CENTRAL		8.4	8.7	2.7	21.4	6.8	12.5	35.3	7.7	9.8	4.5	11.5	12.4	11.1	6.0	9.2
MOUNTAIN		4.0	8.7	1.8	3.6	3.1	1.4	5.9	.0	2.2	4.5	.0	7.2	4.7	4.7	4.6
PACIFIC & INSULAR		11.4	13.0	17.3	21.4	17.4	11.1	11.8	18.5	15.9	4.5	13.5	11.3	11.1	14.7	10.8
FOREIGN		4.6	8.7	2.7	3.6	3.7	12.5	.0	10.8	7.0	4.5	5.8	9.3	7.6	6.0	30.8
REGION UNKNOWN		6.5	.0	2.7	10.7	3.7	.0	5.9	4.6	3.2	4.5	1.9	1.0	1.8	6.0	.0

1/Refer to explanatory note on page 24 and the description of doctoral fields inside back cover.

TABLE 2. CONTINUED

DOCTORATES: WOMEN

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI., PUBLIC ADMIN., INTERN'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND AMER. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED 2/
1443	1472	101	394	485	213	2315	4359	194	423	343	387	1547	424	3536	5505	8
26.4	43.8	12.3	40.5	19.9	31.6	35.6	23.4	28.1	51.8	53.5	26.8	41.3	30.5	47.2	43.6	22.9
84.5	92.5	71.3	85.5	88.1	88.7	89.8	85.4	88.7	92.2	79.9	84.8	86.2	90.3	91.6	89.8	
12.8	3.9	24.8	11.7	7.4	6.6	6.6	11.5	7.2	5.2	16.3	8.7	9.2	7.1	5.0	6.4	
2.6	3.6	4.0	2.8	4.4	4.7	3.6	3.1	4.1	2.6	3.8	6.5	4.5	2.6	3.6	3.8	
47.4	47.4	51.5	50.5	48.9	47.4	48.2	48.4	32.6	53.4	53.1	49.4	51.7	53.8	57.0	55.3	
48.5	47.4	42.6	45.2	45.9	46.5	46.6	46.9	41.8	41.8	40.2	41.6	41.4	42.5	38.3	39.5	
4.1	5.3	5.9	4.3	5.2	6.1	5.2	4.7	5.7	4.7	6.7	9.0	6.9	3.8	4.6	5.2	
30.2	31.7	30.1	33.5	33.4	33.6	32.2	31.0	34.2	34.4	34.4	33.8	34.1	34.4	38.0	36.6	
40.5	63.9	62.4	58.4	48.9	22.5	58.2	54.2	61.9	75.7	63.6	48.2	60.8	30.7	43.4	47.3	
57.8	81.8	77.2	87.1	85.9	90.6	83.5	72.5	89.2	90.5	86.0	88.9	88.8	94.1	96.2	94.0	
7.6	8.6	8.1	10.2	10.9	10.0	9.2	8.3	11.8	11.6	11.1	11.2	11.4	11.9	14.2	13.0	
4.0	6.3	6.0	7.6	7.5	6.3	6.5	6.2	8.6	8.2	8.0	8.0	8.1	6.6	6.9	7.2	
53.8	17.7	2.0	12.7	4.4	4.7	14.2	29.0	8.8	3.1	5.2	5.8	5.3	2.4	3.6	4.0	
32.4	9.3	.0	8.6	2.2	1.9	7.7	16.5	5.7	1.4	2.3	2.7	2.7	1.2	1.1	1.6	
15.9	3.1	2.0	3.0	1.5	1.4	2.8	8.6	1.5	.0	.3	1.5	.8	.7	.9	.9	
1.7	3.6	.0	.0	.7	.5	2.6	2.0	.0	.0	.0	.2	.1	.2	.7	.5	
3.7	1.6	.0	1.0	.0	.9	1.3	1.9	1.5	1.7	2.6	1.4	1.7	.2	.8	1.0	
40.0	86.6	92.1	81.2	88.9	88.3	79.8	64.9	83.0	90.5	86.6	83.6	86.1	92.0	90.6	89.3	
22.9	30.3	54.5	54.1	46.7	57.3	38.8	31.6	55.2	72.6	67.9	62.7	65.6	67.7	66.5	66.3	
6.8	11.4	14.9	5.6	5.6	13.1	10.6	12.3	9.3	8.0	6.4	7.8	7.8	8.3	5.7	6.5	
5.5	12.7	8.9	6.3	17.8	8.9	11.4	8.8	5.7	.9	1.7	2.4	2.3	5.9	8.6	6.5	
2.1	14.3	7.9	7.9	5.2	2.8	11.3	6.8	6.7	1.2	1.5	4.9	3.4	6.6	4.5	4.3	
2.8	7.9	5.9	7.4	9.6	6.1	7.6	5.4	6.2	7.8	9.0	5.8	7.1	3.5	5.2	5.6	
6.2	5.8	5.9	6.1	6.7	7.0	6.0	6.2	8.2	6.4	8.2	10.6	8.6	5.7	6.1	6.7	
41.8	12.6	.0	7.6	4.4	.5	9.6	21.8	3.1	.5	2.0	2.4	1.9	.9	1.6	1.7	
12.0	5.1	2.0	5.1	.0	4.2	4.6	7.2	5.7	2.6	3.2	3.4	3.4	1.4	1.9	2.3	
26.7	51.4	79.2	54.1	65.2	62.0	54.9	45.2	47.4	55.1	51.0	53.8	32.7	70.5	63.6	61.1	
13.2	25.1	12.9	27.2	23.7	26.3	25.0	19.6	35.6	35.5	35.6	29.8	33.4	21.5	26.8	28.2	
40.4	15.5	41.3	26.8	22.7	18.9	19.8	30.8	7.6	2.6	.6	5.1	3.7	9.4	5.3	5.3	
40.4	20.6	41.3	54.9	47.7	60.6	33.7	34.1	63.0	82.4	80.6	70.9	75.4	60.9	45.6	54.2	
6.2	6.3	5.0	7.5	16.8	7.6	7.2	6.1	12.0	4.3	4.6	7.3	6.4	12.4	29.3	22.2	
7.3	52.0	5.0	4.2	2.3	5.3	32.8	23.0	7.6	3.4	2.9	7.3	5.3	10.0	12.2	10.3	
2.3	2.1	2.5	2.8	5.7	5.3	3.8	2.5	6.5	3.6	3.4	5.7	4.7	2.3	1.9	2.6	
3.4	3.4	5.0	3.8	6.8	2.3	3.7	3.5	3.3	3.9	8.0	3.8	4.7	5.0	5.7	5.4	
30.6	23.4	40.0	38.5	31.8	42.4	29.5	28.8	28.3	30.0	37.7	35.8	33.7	39.8	20.6	25.4	
16.1	16.6	17.5	14.1	5.7	8.3	14.5	13.6	5.4	4.3	4.6	7.6	5.8	8.0	12.2	10.3	
11.7	11.2	5.0	7.5	12.5	9.8	10.2	9.6	5.4	9.0	5.1	7.0	7.0	7.7	10.0	9.0	
6.7	8.5	1.3	2.8	4.5	9.8	6.9	6.6	1.1	2.1	2.3	6.6	3.8	10.4	12.5	10.2	
.3	3.6	.0	1.4	.0	1.5	2.5	1.8	4.3	3.9	1.7	6.3	4.4	1.7	2.8	3.1	
31.3	33.6	31.3	31.9	38.6	25.8	32.7	36.0	52.2	46.8	40.6	32.9	40.7	27.4	36.3	36.6	
3.4	3.4	5.0	3.8	6.8	2.3	3.7	3.5	3.3	3.9	8.0	3.8	4.7	5.0	5.7	5.4	
5.2	7.9	11.3	11.3	11.4	4.5	8.6	7.9	7.6	9.6	9.1	7.9	8.6	5.7	6.1	6.7	
16.3	20.2	18.8	19.2	18.2	12.9	19.1	19.3	22.8	16.7	18.9	17.7	18.3	13.7	13.4	14.6	
11.4	15.7	15.0	16.0	3.4	17.4	15.0	13.6	15.2	15.9	11.6	14.6	14.3	17.4	15.1	15.1	
7.8	6.2	5.0	6.1	2.3	9.1	6.1	6.1	5.4	4.7	5.7	6.6	5.8	8.4	6.5	6.5	
16.3	15.1	18.8	14.1	29.5	13.6	16.0	15.6	19.6	18.5	12.6	15.5	16.2	15.7	18.0	17.3	
3.1	2.4	2.5	3.8	.0	4.5	2.7	2.6	3.3	3.4	2.3	5.1	3.8	4.0	5.7	5.1	
8.8	6.3	6.3	4.7	4.5	6.1	5.9	7.1	7.6	11.2	9.1	7.9	9.1	8.4	9.2	9.1	
4.7	2.6	5.0	2.3	4.5	7.6	3.4	3.5	3.3	3.4	5.7	4.1	4.2	4.0	4.4	4.3	
12.4	15.3	6.3	7.0	12.5	12.9	12.9	13.3	8.7	6.0	10.9	10.4	9.1	12.0	10.5	10.3	
10.9	2.1	8.8	9.9	5.7	6.1	4.5	6.1	4.3	3.4	5.1	4.4	4.3	7.0	2.9	3.6	
3.1	6.1	2.5	5.6	8.0	5.3	5.8	4.9	2.2	7.3	9.1	5.7	6.5	3.7	8.2	7.4	

2/Statistics are not presented for this group because too few records contained the specified data.

SOURCES: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 3
PERCENTAGE OF 1981 DOCTORATE RECIPIENTS BY SOURCES OF SUPPORT IN GRADUATE SCHOOL, BY SEX AND SUMMARY FIELD 1/

SOURCES OF SUPPORT IN GRADUATE SCHOOL		DOCTORATE RECIPIENTS BY FIELD																	
		PHYSICAL SCIENCES 2/		ENGINEERING		LIFE SCIENCES		SOCIAL SCIENCES		HUMANITIES		PROF. FIELDS		EDUCATION		TOTAL	
		MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN	MEN/	WOMEN
NSF FELLOWSHIP	N	208/	25	85/	2	95/	53	95/	43	10/	7	3/	1	22/	8	518/	139
	VX	6.0/	5.2	3.7/	2.1	2.5/	3.9	2.4/	2.0	.5/	.5	.3/	.2	.6/	.2	2.6/	1.5
	HX	40.2/	18.0	16.4/	1.4	18.3/	38.1	18.3/	30.9	1.9/	5.0	.6/	.7	4.2/	5.8	100.0/	100.0
NSF TRAINEESHIP	N	54/	4	36/	3	33/	15	27/	22	1/	4	1/	2	1/	3	151/	53
	VX	1.6/	.8	1.5/	3.2	.9/	1.1	.7/	1.0	.0/	.3	.1/	.5	.0/	.1	.7/	.6
	HX	35.8/	7.5	22.5/	5.7	21.9/	28.3	17.9/	41.5	.7/	7.5	.7/	3.8	.7/	5.7	100.0/	100.0
NIH FELLOWSHIP 3/	N	37/	4	14/	0	176/	72	109/	105	1/	2	5/	10	7/	9	349/	202
	VX	1.1/	.8	.6/	.0	4.6/	5.3	2.8/	4.8	.0/	.1	.6/	2.5	.2/	.3	1.7/	2.2
	HX	10.6/	2.0	4.0/	.0	50.4/	35.6	31.2/	52.0	.3/	1.0	1.4/	5.0	2.0/	4.5	100.0/	100.0
NIH TRAINEESHIP 3/	N	50/	12	35/	2	669/	313	209/	160	2/	1	7/	11	5/	18	977/	517
	VX	1.4/	2.5	1.5/	2.1	17.5/	22.9	5.3/	7.3	.1/	.1	.8/	2.7	.1/	.5	4.8/	5.6
	HX	5.1/	2.3	3.6/	.4	68.5/	60.5	21.4/	30.9	.2/	.2	.7/	2.1	.5/	3.5	100.0/	100.0
NDEA FELLOWSHIP	N	13/	4	8/	0	13/	9	70/	38	128/	81	4/	3	31/	13	267/	148
	VX	.4/	.8	.3/	.0	.3/	.7	1.8/	1.7	6.2/	5.6	.5/	.7	.8/	.4	1.3/	1.6
	HX	4.9/	2.7	3.0/	.0	4.9/	6.1	26.2/	25.7	47.9/	54.7	1.5/	2.0	11.6/	8.8	100.0/	100.0
GRADUATE & PROF. OPPORTUNITIES PROGRAM	N	8/	3	4/	0	5/	6	12/	0	6/	3	4/	0	12/	20	51/	32
	VX	.2/	.6	.2/	.0	.1/	.4	.3/	.0	.3/	.2	.5/	.0	.3/	.6	.3/	.3
	HX	15.7/	9.4	7.8/	.0	9.8/	18.8	23.5/	.0	11.8/	9.4	7.8/	.0	23.5/	62.5	100.0/	100.0
NATIONAL DIRECT STUDENT LOANS	N	160/	18	103/	5	299/	111	678/	412	353/	216	98/	57	463/	351	2154/	1170
	VX	4.6/	3.8	4.5/	5.3	7.8/	8.1	17.3/	18.8	17.1/	15.0	11.0/	14.0	12.4/	10.6	10.7/	12.6
	HX	7.4/	1.5	4.8/	.4	13.9/	9.5	31.5/	35.2	16.4/	18.5	4.5/	4.9	21.5/	30.0	100.0/	100.0
OTHER HEW	N	30/	6	29/	1	111/	88	206/	234	12/	13	44/	63	121/	146	553/	551
	VX	.9/	1.3	1.3/	1.1	2.9/	6.4	5.3/	10.7	.6/	.9	5.0/	15.5	3.2/	4.4	2.7/	5.9
	HX	5.4/	1.1	5.2/	.2	20.1/	16.0	37.3/	42.5	2.2/	2.4	8.0/	11.4	21.9/	26.5	100.0/	100.0
GI BILL	N	170/	0	94/	0	213/	5	364/	12	206/	9	130/	2	486/	25	1663/	53
	VX	4.9/	.0	4.1/	.0	5.6/	.4	9.3/	.5	10.0/	.6	14.6/	.5	13.0/	.8	8.2/	.6
	HX	10.2/	.0	5.7/	.0	12.8/	9.4	21.9/	22.6	12.4/	17.0	7.8/	3.8	29.2/	47.2	100.0/	100.0
OTHER FEDERAL 4/ SUPPORT	N	215/	13	216/	7	214/	62	298/	147	94/	43	27/	19	101/	76	1165/	367
	VX	6.2/	2.7	9.4/	7.4	5.6/	4.5	7.6/	4.7	4.6/	3.0	3.0/	4.7	2.7/	2.3	5.8/	3.9
	HX	18.5/	3.5	18.5/	1.9	18.4/	16.9	25.6/	40.1	8.1/	11.7	2.3/	5.2	8.7/	20.7	100.0/	100.0
OTHER NATIONAL 5/ FELLOWSHIP	N	70/	17	31/	7	88/	45	144/	81	125/	124	13/	13	42/	69	513/	356
	VX	2.0/	3.5	1.4/	7.4	2.3/	3.3	3.7/	3.7	6.1/	8.6	1.5/	3.2	1.1/	2.1	2.5/	3.8
	HX	13.6/	4.8	6.0/	2.0	17.2/	12.6	28.1/	22.8	24.4/	34.8	2.5/	3.7	8.2/	19.4	100.0/	100.0
UNIVERSITY FELLOWSHIP	N	738/	111	383/	18	591/	241	845/	448	748/	516	174/	83	307/	334	3786/	1751
	VX	21.2/	23.1	16.7/	18.9	15.5/	17.6	21.6/	20.5	36.2/	35.9	19.6/	20.4	8.2/	10.1	18.8/	18.8
	HX	19.5/	6.3	10.1/	1.0	15.6/	13.8	22.3/	25.6	19.8/	29.5	4.6/	4.7	8.1/	19.1	100.0/	100.0
TEACHING ASSISTANTSHIP	N	2455/	356	893/	43	1594/	555	2042/	1099	1355/	940	398/	165	810/	782	9567/	3940
	VX	70.6/	74.2	39.0/	45.3	41.7/	40.6	52.2/	50.3	66.6/	65.5	44.8/	40.6	21.7/	23.5	47.4/	42.4
	HX	25.7/	9.0	9.3/	1.1	16.7/	14.1	21.3/	27.9	14.4/	23.9	4.2/	4.2	8.5/	19.8	100.0/	100.0
RESEARCH ASSISTANTSHIP	N	2384/	306	1570/	69	1984/	607	1402/	696	275/	159	216/	106	599/	491	8430/	2436
	VX	68.6/	63.8	68.6/	72.6	51.9/	44.4	35.8/	31.8	13.3/	11.1	24.3/	26.1	16.0/	14.8	41.8/	26.2
	HX	28.3/	12.6	18.6/	2.8	23.5/	24.9	16.6/	28.6	3.3/	6.5	2.6/	4.4	7.1/	20.2	100.0/	100.0
EDUC. FUNDS OF INDUSTRY	N	197/	31	166/	13	85/	52	78/	31	29/	23	51/	10	85/	60	691/	220
	VX	2.7/	6.5	7.3/	13.7	2.2/	3.8	2.0/	1.4	1.4/	1.6	5.7/	2.5	2.3/	1.8	3.4/	2.4
	HX	28.5/	14.1	24.0/	5.9	12.3/	23.6	11.3/	14.1	4.2/	10.5	7.4/	4.5	12.3/	27.3	100.0/	100.0
OTHER INSTITUTION FUNDS	N	155/	24	87/	4	292/	133	327/	244	229/	151	78/	52	252/	263	1420/	873
	VX	4.5/	5.4	3.8/	4.2	7.6/	9.7	8.4/	11.2	11.1/	10.5	8.8/	12.8	6.7/	7.9	7.0/	9.4
	HX	10.9/	3.0	6.1/	.5	20.6/	15.2	23.0/	27.9	16.1/	17.3	5.5/	6.0	17.7/	30.1	100.0/	100.0
OWN EARNINGS	N	934/	105	751/	31	1246/	496	2314/	1349	1346/	886	566/	262	2930/	2570	10107/	5699
	VX	27.4/	21.9	32.8/	32.6	32.6/	36.3	59.2/	61.7	65.2/	61.7	63.7/	64.5	78.4/	77.4	50.1/	61.3
	HX	9.4/	1.8	7.4/	.5	12.3/	8.7	22.9/	23.7	13.3/	15.5	5.6/	4.6	29.0/	45.1	100.0/	100.0
SPOUSE'S EARNINGS	N	726/	95	392/	21	1085/	341	1299/	714	745/	536	298/	149	1263/	1298	5788/	3154
	VX	20.9/	19.8	17.1/	22.1	28.4/	24.9	32.7/	32.6	36.1/	37.3	33.6/	36.7	33.8/	39.1	28.7/	33.9
	HX	12.5/	3.0	6.8/	.7	18.7/	10.8	22.1/	22.6	12.9/	17.0	5.1/	4.7	21.8/	41.2	100.0/	100.0
FAMILY CONTRIBUTIONS	N	462/	54	379/	18	592/	249	825/	466	514/	336	141/	53	468/	434	3381/	1610
	VX	13.3/	11.3	16.6/	18.9	15.5/	18.2	21.1/	21.3	24.9/	23.4	15.9/	13.1	12.5/	13.1	16.7/	17.3
	HX	13.7/	3.4	11.2/	1.1	17.5/	15.5	24.4/	28.9	15.2/	20.9	4.2/	3.3	13.8/	27.0	100.0/	100.0
OTHER LOANS	N	197/	20	133/	7	343/	122	607/	353	257/	171	108/	57	514/	416	2159/	1146
	VX	5.7/	4.2	5.8/	7.4	9.0/	8.9	15.5/	16.1	12.4/	11.9	12.2/	14.0	13.8/	12.5	10.7/	12.3
	HX	9.1/	1.7	6.2/	.6	15.9/	10.6	28.1/	30.8	11.9/	14.9	5.0/	5.0	23.8/	36.3	100.0/	100.0
OTHER	N	185/	23	215/	10	371/	108	301/	142	160/	108	98/	37	285/	213	1615/	641
	VX	5.3/	4.8	9.4/	10.5	9.7/	7.9	7.7/	6.5	7.7/	7.5	11.0/	9.1	7.6/	6.4	5.0/	6.9
	HX	11.5/	3.6	13.3/	1.6	23.0/	16.8	18.6/	22.2	9.9/	16.8	6.1/	5.8	17.6/	33.2	100.0/	100.0
UNDUPLICATED TOTAL	N	3477/	480	2287/	95	3821/	1367	3912/	2187	2065/	1436	888/	406	3737/	3322	20187/	9293 6/

1/ Data are not comparable with data prior to 1977 because of a change in the survey question on source of support. Frequencies as reported are not reliable but relative frequencies should serve as useful approximations.
2/ Includes mathematics and computer sciences.
3/ The sources NIH Fellowship and NIH Traineeship refer to support provided under the National Research Awards Act of 1974.
4/ Includes AEC/ERDA Fellowship and NASA Traineeship which were formerly shown separately.
5/ Includes Woodrow Wilson Fellowship which was formerly shown separately.
6/ The 35 individuals shown in Table 1 as having subfield "Other and Unspecified" and the Ph.D.'s who did not report source of support are omitted from this table.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 4
NUMBER OF DOCTORATE RECIPIENTS BY SEX, STATE OF DOCTORAL INSTITUTION, AND SUMMARY FIELD, 1981[1]

STATE OF DOCTORAL INSTITUTION	NUMBER OF DOCTORATE RECIPIENTS BY FIELD																	
	PHYSICAL SCIENCES[2]		ENGINEERING		LIFE SCIENCES		SOCIAL SCIENCES		HUMANITIES		PROF. FIELDS		EDUCATION		OTHER & UNSPEC.		TOTAL	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
U.S. TOTAL	3666	502	2429	99	4018	1443	4190	2315	2198	1547	964	424	3955	3534	27	8	21447	9872
ALABAMA	16	4	10	1	30	15	24	8	6	4	5	4	74	52	0	0	165	88
ALASKA	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
ARIZONA	60	3	24	0	43	12	39	19	18	18	14	1	74	65	0	0	272	118
ARKANSAS	13	0	4	1	24	6	5	2	6	0	17	1	13	13	0	0	82	23
CALIFORNIA	599	86	417	18	442	176	613	351	265	168	98	32	263	256	12	4	2709	1091
COLORADO	90	5	55	0	75	10	83	55	28	21	11	7	134	91	0	0	476	189
CONNECTICUT	51	9	24	1	63	34	77	41	65	43	3	1	24	32	0	0	307	166
DELAWARE	6	2	11	0	4	5	8	3	6	6	0	0	1	5	0	0	36	21
D. C.	37	6	18	1	50	42	75	57	46	39	18	6	60	63	0	0	304	214
FLORIDA	69	10	34	0	83	21	160	65	35	36	33	20	336	259	0	0	750	411
GEORGIA	43	10	29	0	80	21	89	44	30	27	24	9	68	67	0	0	363	178
HAWAII	15	2	4	0	34	11	16	8	14	3	0	0	2	5	0	0	85	29
IDAHO	10	0	6	0	19	3	3	0	2	1	0	0	9	7	0	0	49	11
ILLINOIS	243	33	194	7	181	67	273	147	148	101	54	24	228	187	0	1	1321	567
INDIANA	114	11	109	1	123	36	131	51	102	58	42	14	118	111	1	0	740	282
IOWA	64	11	41	1	114	18	53	22	48	19	12	5	66	66	1	0	399	142
KANSAS	33	3	28	0	65	17	44	19	26	17	9	9	54	46	0	0	259	111
KENTUCKY	12	1	8	2	49	9	23	6	19	8	23	3	10	12	0	0	144	41
LOUISIANA	23	5	10	0	49	8	20	18	28	16	32	5	26	28	0	0	188	80
MAINE	4	0	0	0	5	1	3	1	2	1	0	0	8	1	0	0	22	4
MARYLAND	72	16	27	1	78	43	69	42	41	35	13	10	54	78	0	0	354	225
MASSACHUSETTS	265	37	173	15	149	80	255	121	140	101	46	17	233	213	0	0	1261	584
MICHIGAN	103	12	99	2	183	50	176	115	68	54	24	15	222	155	0	0	875	403
MINNESOTA	41	9	44	2	109	41	63	40	40	20	9	15	47	38	0	0	353	165
MISSISSIPPI	3	0	10	0	47	12	33	7	5	5	6	0	60	50	0	0	164	74
MISSOURI	45	8	51	3	72	17	78	40	27	21	22	9	92	65	0	0	387	163
MONTANA	5	1	0	0	11	1	7	6	1	0	0	0	5	1	0	0	29	9
NEBRASKA	21	2	7	1	55	11	37	8	14	10	7	4	33	26	0	0	174	62
NEVADA	1	1	0	0	5	1	2	5	1	0	0	0	8	6	0	0	17	13
NEW HAMPSHIRE	13	3	7	1	17	7	10	2	4	1	0	0	0	1	0	0	51	15
NEW JERSEY	104	23	58	3	73	26	69	46	64	46	16	4	75	62	0	0	459	210
NEW MEXICO	28	4	9	0	19	6	15	10	15	10	0	0	18	31	0	0	104	61
NEW YORK	393	39	207	12	345	184	489	342	261	230	75	58	266	307	1	2	2037	1174
NORTH CAROLINA	74	10	31	4	138	56	110	56	47	39	15	8	54	64	0	0	469	237
NORTH DAKOTA	9	0	0	0	23	0	11	5	4	1	0	0	7	9	0	0	54	15
OHIO	141	22	106	2	137	49	142	107	88	50	51	35	196	180	3	0	864	445
OKLAHOMA	24	4	35	2	54	13	45	19	20	9	12	1	69	45	0	0	259	93
OREGON	41	13	18	1	80	23	41	26	9	15	16	5	64	41	0	1	269	125
PENNSYLVANIA	191	25	137	7	138	63	200	119	118	91	56	27	250	191	3	0	1093	523
RHODE ISLAND	30	8	12	1	14	6	28	7	29	20	0	0	0	0	0	0	133	42
SOUTH CAROLINA	23	4	8	0	29	9	18	12	11	8	8	1	31	35	1	0	129	69
SOUTH DAKOTA	2	0	0	0	4	0	7	4	0	0	0	0	11	3	0	0	24	7
TENNESSEE	35	10	31	0	55	27	81	43	26	15	19	9	109	118	0	0	356	222
TEXAS	197	18	128	5	230	93	174	82	115	78	106	30	218	212	3	0	1171	518
UTAH	36	1	32	2	48	11	60	15	16	7	18	8	69	43	1	0	280	87
VERMONT	5	0	0	0	13	1	8	2	3	4	0	0	0	0	0	0	29	7
VIRGINIA	53	8	65	0	88	29	47	19	29	15	20	11	69	78	0	0	371	160
WASHINGTON	83	6	31	0	107	28	55	37	37	26	7	4	38	36	0	0	358	137
WEST VIRGINIA	6	0	7	0	20	5	12	3	6	2	0	0	24	22	0	0	75	32
WISCONSIN	80	14	66	2	130	36	99	51	63	39	23	12	56	51	1	0	518	205
WYOMING	17	1	4	0	13	3	10	7	0	0	0	0	9	7	0	0	53	18
PUERTO RICO	2	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4	6

1/Refer to explanatory note on page 25.
2/Includes mathematics and computer sciences.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 5
STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY RACIAL OR ETHNIC GROUP AND U.S. CITIZENSHIP STATUS, 1981[1]

		TOTAL				AMERICAN INDIAN	ASIAN				BLACK			
		U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	TOTAL	U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL
TOTAL NUMBER		24990	1272	3924	31319[2]	89	460	602	1559	2704[2]	1007	97	370	1483[2]
MALE	%	65.3	75.9	86.0	68.5	65.2	67.6	82.1	85.8	82.0	49.2	82.5	91.4	62.0
FEMALE		34.7	24.1	14.0	31.5	34.8	32.4	17.9	14.2	18.0	50.8	17.5	8.6	38.0
DOCTORAL FIELD														
PHYSICAL SCIENCES[4]	%	12.3	17.6	19.1	13.3	2.2	15.4	23.8	24.8	23.3	3.1	8.2	8.1	4.7
ENGINEERING		4.7	23.4	24.0	8.1	4.5	16.7	36.1	31.8	24.7	1.6	3.1	10.5	4.0
LIFE SCIENCES		17.6	16.0	18.6	17.4	12.4	23.3	17.4	16.8	17.9	6.3	17.5	25.1	11.9
SOCIAL SCIENCES		21.9	15.8	14.6	20.8	15.7	17.0	9.5	11.1	11.6	19.6	26.8	17.6	19.6
ARTS & HUMANITIES		12.8	11.6	6.0	12.0	13.5	7.2	3.8	4.4	4.8	8.3	9.3	4.6	7.4
EDUCATION		26.3	10.2	13.4	23.9	47.2	17.2	6.6	8.2	9.4	55.6	29.9	28.1	46.8
PROFESSIONS & OTHER		4.5	5.3	4.4	4.5	4.5	3.3	4.8	2.9	3.3	5.6	5.2	5.9	5.6
MEDIAN AGE AT DOCTORATE		32.4	32.6	32.1	32.4	36.3	32.7	31.8	31.1	31.4	37.3	34.0	34.3	35.8
MEDIAN TIME LAPSE BA-PHD														
TOTAL TIME	YRS	9.6	9.2	8.6	9.4	11.6	9.8	9.4	8.6	8.9	13.0	8.1	7.6	10.8
REGISTERED TIME		6.5	6.3	5.6	6.4	7.1	7.0	6.5	5.9	6.2	7.1	6.2	5.1	6.3
GRADUATE SCHOOL SUPPORT														
FEDERAL FELLOW/TRAINEE	%	20.7	10.1	7.0	17.8	25.8	24.3	11.6	8.1	11.5	17.8	3.1	7.3	14.1
GI BILL		6.9	.2	.0	5.5	7.9	2.6	.0	.0	.4	7.9	1.0	.0	5.5
OTHER FELLOWSHIP		20.4	22.6	19.2	19.7	15.7	19.1	22.9	19.8	19.9	22.3	23.7	18.1	21.2
TEACHING ASSISTANTSHIP		45.6	50.4	37.1	43.2	31.5	42.0	52.3	45.0	45.1	25.7	39.2	25.9	26.5
RESEARCH ASSISTANTSHIP		33.8	49.5	45.1	34.7	13.5	43.3	62.3	59.5	55.8	15.4	25.8	31.9	20.2
EDUC./INST. FUNDS		10.7	8.9	9.1	10.1	5.6	14.1	8.1	8.9	9.4	11.7	6.2	9.5	10.7
OWN/SPOUSE EARNINGS		69.1	52.7	28.0	60.9	77.5	53.7	43.9	20.7	31.0	73.3	61.9	41.1	64.2
FAMILY CONTRIBUTIONS		15.9	19.2	19.6	16.0	6.7	16.5	19.8	21.0	19.3	10.8	19.6	17.3	12.9
NATL DIRECT STDNT LOAN		12.8	7.1	.8	10.6	14.6	10.9	5.3	.3	3.2	17.6	16.5	1.1	13.3
OTHER LOANS		12.1	8.5	4.7	10.6	14.6	9.1	5.5	2.9	4.5	17.7	20.6	8.1	15.4
OTHER		4.3	5.0	28.4	7.2	3.4	3.5	2.5	12.4	8.3	5.3	9.3	41.9	14.7
UNKNOWN		2.3	1.6	3.6	5.8	.0	1.7	1.8	2.3	4.6	1.6	2.1	3.0	2.4
POSTDOCTORAL STUDY PLANS	%	18.3	17.8	23.5	18.3	9.0	26.5	20.3	29.6	26.1	7.1	11.3	13.8	9.0
PLANNED EMPLOYMENT AFTER DOCTORATE		79.0	78.1	72.3	75.6	91.0	70.4	75.9	66.7	67.8	90.5	83.5	83.5	87.9
EDUC. INSTITUTION		47.1	35.1	41.6	44.3	56.2	30.4	22.8	33.5	29.8	61.7	48.5	52.2	58.2
INDUSTRY/BUSINESS		14.0	32.2	13.8	14.2	12.4	25.4	44.7	20.0	25.9	7.8	11.3	6.8	7.8
GOVERNMENT		9.2	3.7	10.4	8.8	10.1	8.7	2.3	7.6	6.4	11.6	13.4	15.1	12.5
NON-PROFIT		5.3	3.4	2.4	4.7	9.0	2.4	3.3	2.2	2.5	4.9	1.0	3.5	4.2
OTHER & UNKNOWN		3.4	3.8	4.1	3.4	3.4	3.5	2.8	3.3	3.2	4.5	9.3	5.9	5.1
POSTDOCT STATUS UNKNOWN	%	2.7	4.0	4.2	6.3	.0	3.0	3.8	3.7	6.0	2.4	5.2	2.7	3.1
DEFINITE POSTDOCT STUDY	%	14.1	10.7	13.9	13.4	6.7	18.3	12.0	17.8	16.1	4.3	3.1	5.1	4.4
SEEKING POSTDOCT STUDY		4.2	7.2	9.6	4.9	2.2	8.3	8.3	11.8	10.1	2.9	8.2	8.6	4.7
DEFINITE EMPLOYMENT		59.3	50.5	51.8	56.0	66.3	49.6	51.0	47.7	47.6	66.0	46.4	52.7	61.1
SEEKING EMPLOYMENT		19.7	27.7	20.6	19.5	24.7	20.9	24.9	19.1	20.2	24.4	37.1	30.8	26.8
EMPLOYMENT LOCATION AFTER DOCTORATE														
U.S.	%[5]	93.2	86.1	29.3	85.5	93.2	89.5	89.3	46.2	63.9	88.7	66.7	12.8	71.2
FOREIGN		1.4	7.8	64.9	9.0	.0	2.6	6.2	46.7	29.1	.2	15.6	78.5	17.9
UNKNOWN		5.4	6.1	5.8	5.5	6.8	7.9	4.6	7.1	7.0	11.1	17.8	8.7	10.9

1/Data not comparable with data for earlier years because of changes in the survey question on racial/ethnic group.
See discussion on Page 25.
2/Includes individuals who did not report their citizenship at time of doctorate.
3/Includes those who provided no usable response to the item on racial/ethnic group.
4/Includes mathematics and computer sciences.
5/The base for this percentage is the number of doctorates in the column caption group who have found definite employment.

TABLE 5. CONTINUED

WHITE				PUERTO RICAN	MEXICAN-AMERICAN				OTHER HISPANIC[2]				OTHER & UNKNOWN		
U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	TOTAL	U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	U.S.	NON-U.S. PERM.	NON-U.S. TEMP.	TOTAL	U.S.	NON-U.S.	TOTAL
21911	489	1425	23849[2]	115	154	7	56	219[2]	195	54	331	594[2]	1059	206	2266[2/3]
65.8	67.7	85.6	67.1	49.6	66.2	71.4	87.5	72.1	59.5	75.9	81.9	74.1	71.5	85.0	70.8
34.2	32.3	14.4	32.9	50.4	33.8	28.6	12.5	27.9	40.5	24.1	18.1	25.9	28.5	15.0	29.2
12.5	13.3	16.6	12.8	12.2	1.9	.0	19.6	6.4	9.7	9.3	13.9	12.1	17.5	19.9	14.2
4.6	17.2	21.3	5.9	4.3	1.3	.0	26.8	8.2	2.6	7.4	18.1	12.1	4.9	15.5	7.4
18.1	13.3	14.2	17.7	8.7	8.4	28.6	33.9	15.5	12.3	22.2	36.9	27.1	19.2	15.5	15.9
22.2	19.6	17.8	21.9	13.9	27.3	42.9	12.5	23.7	24.1	25.9	12.7	17.8	19.2	18.0	21.9
13.0	20.4	8.1	12.9	20.0	10.4	14.3	.0	7.8	27.2	20.4	6.3	14.6	12.7	7.8	13.0
25.2	10.2	15.4	24.3	33.0	48.7	14.3	7.1	37.0	20.5	11.1	10.6	13.6	20.8	18.9	22.4
4.5	5.9	6.5	4.6	7.8	1.9	.0	.0	1.4	3.6	3.7	1.5	2.5	5.8	4.4	5.3
32.2	33.4	32.1	32.2	33.9	35.0	34.0	32.3	34.3	32.9	33.9	34.3	33.8	31.9	33.0	32.2
9.4	9.3	8.6	9.4	11.4	10.9	7.5	9.1	10.4	9.9	9.5	10.0	9.9	9.3	9.0	9.3
6.4	6.2	5.6	6.4	6.7	6.4	5.2	5.7	6.1	6.8	6.1	5.3	5.8	6.4	5.4	6.2
21.0	8.8	5.9	19.8	19.1	29.9	.0	1.8	21.9	22.6	14.8	7.9	13.1	13.8	6.8	7.2
7.0	.0	.0	6.4	5.2	11.0	14.3	.0	8.2	3.6	.0	.3	1.3	5.3	.0	2.5
20.4	23.1	19.5	20.4	37.4	27.9	28.6	21.4	26.5	27.2	16.7	18.1	20.7	15.6	14.1	8.7
47.4	51.7	36.7	46.9	27.8	36.4	28.6	21.4	32.0	48.7	42.6	21.5	32.2	32.4	29.1	18.1
35.1	39.5	39.6	35.5	23.5	22.1	14.3	33.9	25.1	21.0	42.6	27.5	26.3	26.9	30.6	15.6
10.7	9.4	9.3	10.6	21.7	15.6	.0	1.8	11.9	9.2	11.1	10.9	10.1	7.3	10.2	4.5
70.4	61.8	34.2	68.1	57.4	71.4	57.1	10.7	55.7	63.1	46.3	26.6	39.9	46.0	28.6	24.5
16.6	18.4	21.8	16.9	10.4	7.8	14.3	7.1	7.8	15.9	14.8	12.4	13.5	10.0	14.6	6.0
12.8	7.0	1.3	12.0	27.8	14.9	14.3	.0	11.0	12.3	7.4	.3	4.9	8.2	2.4	4.1
12.0	9.0	5.1	11.5	21.7	10.4	.0	10.7	10.0	12.8	16.7	6.3	9.3	7.9	5.3	4.2
4.3	7.0	34.4	6.2	7.8	4.5	.0	55.4	17.4	6.2	5.6	53.8	32.5	2.5	34.0	4.4
1.0	.4	3.2	1.2	4.3	1.3	14.3	1.8	1.8	2.1	7.4	5.1	5.9	28.8	14.1	58.3
18.8	15.7	22.2	18.9	11.3	13.6	42.9	23.2	16.9	16.4	14.8	13.0	14.1	16.8	20.4	10.0
79.6	80.6	73.5	79.2	84.3	85.1	57.1	76.8	81.7	81.0	77.8	83.4	80.8	57.6	67.0	33.5
47.3	46.4	45.0	47.1	69.6	58.4	28.6	39.3	52.5	49.2	44.4	54.4	51.0	31.7	39.8	18.6
14.2	23.1	10.9	14.2	3.5	7.8	14.3	16.1	10.0	10.8	20.4	7.3	9.6	12.7	9.2	7.1
9.3	3.5	10.9	9.3	6.1	11.0	14.3	17.9	12.8	12.3	3.7	14.8	12.6	5.2	9.7	3.3
5.4	3.9	2.5	5.2	2.6	3.9	.0	1.8	3.2	3.1	3.7	2.1	2.5	4.6	1.9	2.3
3.3	3.7	4.1	3.4	2.6	3.9	.0	1.8	3.2	5.6	5.6	4.8	5.1	3.3	6.5	2.3
1.6	3.7	4.2	1.8	4.3	1.3	.0	.0	1.4	2.6	7.4	3.6	5.1	25.6	12.6	56.4
14.6	10.2	13.7	14.5	9.6	9.1	28.6	14.3	11.0	10.8	11.1	6.6	8.2	12.7	13.1	7.3
4.2	5.5	8.6	4.5	1.7	4.5	14.3	8.9	5.9	5.6	3.7	6.3	5.9	4.2	7.3	2.7
59.9	51.7	53.6	59.4	70.4	61.0	57.1	51.8	58.0	56.9	48.1	65.3	59.8	43.4	44.2	24.5
19.6	28.8	19.9	19.8	13.9	24.0	.0	25.0	23.7	24.1	29.6	18.1	21.0	14.2	22.8	9.0
93.7	86.2	25.4	89.8	96.3	89.4	50.0	3.4	68.5	94.6	84.6	8.8	41.1	88.9	22.0	77.9
1.4	7.5	70.2	5.2	.0	1.1	25.0	96.6	23.6	.0	15.4	87.5	54.6	1.5	71.4	12.9
4.9	6.3	4.5	4.9	3.7	9.6	25.0	.0	7.9	5.4	.0	3.7	4.2	9.6	6.6	9.2

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

NSF Form 558 1979
OMB No. 99-R0290
Approval Expires June 30, 1981

SURVEY OF EARNED DOCTORATES

This form is to be returned to the GRADUATE DEAN, for forwarding to ..... Commission on Human Resources
National Research Council
2101 Constitution Avenue, Washington, D. C. 20418

Please print or type.

1. Name in full: ..... (9-30)
(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: ___ ___ ___ - ___ ___ - ___ ___ ___ ___ (31-39)

4. Date of birth: ..... Place of birth: .....
(10-14) (Month) (Day) (Year) (15-16) (State) (Or Country if not U.S.)

5. Sex: 1 ☐ Male ☐ Female (17)

6. Marital status: 1 ☐ Married 2 ☐ Not married (including widowed, divorced) (18)

7. Citizenship: 0 ☐ U.S. native 2 ☐ Non U.S., Immigrant (Permanent Resident)
1 ☐ U.S. naturalized 3 ☐ Non-U.S., Non-Immigrant (Temporary Resident) (19)
If Non-U.S., indicate country of present citizenship ..... (20-21)

8. Racial or ethnic group: (Check only one.) *A person having origins in —*
0 ☐ American Indian or Alaskan Native ....any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.
1 ☐ Asian or Pacific Islander .....any of the original peoples of the Far East, Southeast Asia,, the Indian Subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.
2 ☐ Black, not of Hispanic Origin .....any of the black racial groups of Africa.
3 ☐ White, not of Hispanic Origin .....any of the original peoples of Europe, North Africa, or the Middle East.
4 ☐ Puerto Rican .....Puerto Rico, regardless of race.
5 ☐ Mexican-American .....Mexico, regardless of race.
6 ☐ Other Hispanic .....Central or South America, Cuba, or other Spanish culture, regardless of race. (22-24)

9. Number of dependents: Do not include yourself. (Dependent = someone receiving at least one half of his or her support from you) ..... (25)

EDUCATION

10. High school last attended: ..... (26-27)
(School Name) (City) (State)

Year of graduation from high school: ..... (28-29)

11. List in the table below all collegiate and graduate institutions you have attended including 2-year colleges. List chronologically, and include your doctoral institution as the last entry.

Institution Name	Location	Years Attended From	Years Attended To	Major Field Use Specialties List Name	Major Field Use Specialties List Number	Minor Field Number	Degree (if any) Title of Degree	Degree (if any) Granted Mo.	Degree (if any) Granted Yr.

12. Enter below the title of your doctoral dissertation and the most appropriate classification number and field. If a project report or a musical or literary composition (not a dissertation) is a degree requirement, please check box. ☐ (12)

Title .....
.....
.....

Classify using Specialties List
Number Name of field
....

13. 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)

Name of your adviser for dissertation, project report or music/literary composition: .....
(Last Name) (First Name) (Middle Initial)

continued on next page

SURVEY OF EARNED DOCTORATES, Cont.

15. Please enter a "1" beside your primary source of support during graduate study. Enter a "2" beside your secondary source of support during graduate study. Check (✓) all other sources from which support was received.

a — NSF Fellowship
b — NSF Traineeship
c — NIH Fellowship
d — NIH Traineeship
e — NDEA Fellowship
f — Title IX Graduate & Professional Opportunities Pgm. Fellowship
g — Other HEW
h — AEC/ERDA/DOE Fellowship
i — NASA Traineeship
j — GI Bill
k — Other Federal support (specify) .....
l — Woodrow Wilson Fellowship
m — Other U.S. national fellowship (specify) .....
n — University Fellowship
o — Teaching Assistantship
p — Research Assistantship
q — Educational fund of industrial or business firm
r — Other institutional funds (specify) .....
s — Own earnings
t — Spouse's earnings
u — Family contributions
v — Loans (NDSL direct)
w — Other loans
x — Other (specify) .....

(26-49)

16. Please check the space which most fully describes your status during the year immediately preceding the doctorate.

0 ☐ Held fellowship
1 ☐ Held assistantship
2 ☐ Held own research grant
3 ☐ Not employed
4 ☐ Part-time employed

Full-time Employed in: (Other than 0, 1, 2)
5 ☐ College or university, teaching
6 ☐ College or university, non-teaching
7 ☐ Elem. or sec. school, teaching
8 ☐ Elem. or sec. school, non-teaching
9 ☐ Industry or business
(11) ☐ Other (specify) .....
(12) ☐ Any other (specify) ..... (50)

17. How well defined are your postgraduation 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 appointment but have no specific prospects
4 ☐ Other (specify) ..... (51)

18. What are your immediate postgraduation plans?

0 ☐ Postdoctoral fellowship
1 ☐ Postdoctoral research associateship
2 ☐ Traineeship
3 ☐ Other study (specify) . . .
} Go to Item "19"
4 ☐ Employment (other than 0, 1, 2, 3)
5 ☐ Military service
6 ☐ Other (specify) ..... (52)
} Go to Item "20"

19. If you plan to be on a postdoctoral fellowship, associateship, traineeship or other study

a. What was the most important reason for taking a postdoctoral appointment? (Check only one.)

0 ☐ To obtain additional research experience in my doctoral field
1 ☐ To work with a particular scientist or research group
2 ☐ To switch into a different field of research
3 ☐ Could not obtain the desired type of employment position
4 ☐ Other reason (specify) ..... (53)

b. What will be the field of your postdoctoral study?
Please enter number from Specialties List ..... (54-56)

c. What will be the primary source of research support?

0 ☐ U.S. Government
1 ☐ College or university
2 ☐ Private foundation
3 ☐ Nonprofit, other than private foundation
4 ☐ Other (specify) .....
6 ☐ Unknown (57)

Go to Item "21"

20. If you plan to be employed, enter military service, or other —

a. What will be the type of employer?

0 ☐ 4-year college or university other than medical school
1 ☐ Medical school
2 ☐ Jr. or community college
3 ☐ Elem. or sec. school
4 ☐ Foreign government
5 ☐ U.S. Federal government
6 ☐ U.S. state government
7 ☐ U.S. local government
8 ☐ Nonprofit organization
9 ☐ Industry or business
(11) ☐ Self-employed
(12) ☐ Other (specify) ..... (58)

b. Indicate what your *primary* work activity will be with "1" in appropriate box; *secondary* work activity (if any) with "2" in appropriate box.

0 ☐ Research and development
1 ☐ Teaching
2 ☐ Administration
3 ☐ Professional services to individuals
5 ☐ Other (specify) ..... (59-60)

c. In what field will you be working?
Please enter number from Specialties List . ..... (61-63)

d. Did you consider taking a postdoctoral appointment?
Yes ___ No ___ (64)

If yes, why did you decide against the postdoctoral?

0 ☐ No postdoctoral appointment available
1 ☐ Felt that I would derive little or no benefit from a postdoctoral appointment
2 ☐ Had more attractive employment opportunity
3 ☐ Other (specify) ..... (65)

Go to Item "21"

21. What is the name and address of the organization with which you will be associated?

..... (Name of Organization)

..... (Street) ..... (City, State) ..... (Or Country if not U.S.) (66-71)

BACKGROUND INFORMATION

22. Please indicate, by circling the highest grade attained, the education of

		Elementary school	High school	College	Graduate		
your father:	none	1 2 3 4 5 6 7 8	9 10 11 12	1 2 3 4	MA, MD PhD	Postdoctoral	(72)
your mother	none 0	1 2 3 4 5 6 7 8 / 1 2 3	9 10 11 12 / 4 5	1 2 3 4 / 6 7	MA, MD PhD / 8 9	Postdoctoral / (11)	(73)

Signature ..... Date ..... (74-76)

If you would like to receive a summary of the results of this survey, please check box. ☐ (79)

SPECIALTIES LIST

MATHEMATICS

000 Algebra
010 Analysis & Functional Analysis
020 Geometry
030 Logic
040 Number Theory
050 Probability & Math. Statistics (see also 544, 670, 725, 727, 920)
060 Topology
080 Computing Theory & Practice
082 Operations Research (see also 478)
085 Applied Mathematics
098 Mathematics, General
099 Mathematics, Other*

COMPUTER SCIENCES

079 Computer Sciences* (see also 437)

ASTRONOMY

101 Astonomy
102 Astrophysics

PHYSICS

110 Atomic & Molecular
132 Acoustics
134 Fluids
135 Plasma
136 Optics
138 Thermal
140 Elementary Particles
150 Nuclear Structure
160 Solid State
198 Physics, General
199 Physics, Other*

CHEMISTRY

200 Analytical
210 Inorganic
220 Organic
230 Nuclear
240 Physical
250 Theoretical
270 Pharmaceutical
275 Polymer
298 Chemistry, General
299 Chemistry, Other*

EARTH, ENVIRONMENTAL AND MARINE SCIENCES

301 Mineralogy, Petrology
305 Geochemistry
310 Stratigraphy, Sedimentation
320 Paleontology
330 Structural Geology
341 Geophysics (Solid Earth)
350 Geomorph. & Glacial Geology
391 Applied Geol., Geol. Engr. & Econ. Geol.
360 Hydrology & Water Resources
370 Oceanography
397 Marine Sciences, Other*
381 Atmospheric Physics and Chemistry
382 Atmospheric Dynamics
383 Atmospheric Sciences, Other*
388 Environmental Sciences, General (see also 480, 528)
389 Environmental Sciences, Other*
398 Earth Sciences, General
399 Earth Sciences, Other*

ENGINEERING

400 Aeronautical & Astronautical
410 Agricultural
415 Biomedical
420 Civil
430 Chemical
435 Ceramic
437 Computer
440 Electrical
445 Electronics
450 Industrial
455 Nuclear
460 Engineering Mechanics
465 Engineering Physics
470 Mechanical
475 Metallurgy & Phys. Met. Engr.
476 Systems Design & Systems Science
478 Operations Research (see also 082)
479 Fuel Tech. & Petrol. Engr.
480 Sanitary & Environmental
486 Mining
497 Materials Science
498 Engineering, General
499 Engineering, Other*

AGRICULTURAL SCIENCES

500 Agronomy
501 Agricultural Economics
502 Animal Husbandry
503 Food Science & Technology
504 Fish & Wildlife
505 Forestry
506 Horticulture
507 Soils & Soil Science
510 Animal Science & Animal Nutrition
511 Phytopathology
518 Agriculture, General
519 Agriculture, Other*

MEDICAL SCIENCES

522 Public Health & Epidemiology
523 Veterinary Medicine
526 Nursing
527 Parasitology
528 Environmental Health
534 Pathology
536 Pharmacology
537 Pharmacy
538 Medical Sciences, General
539 Medical Sciences, Other*

BIOLOGICAL SCIENCES

540 Biochemistry
542 Biophysics
544 Biometrics & Biostatistics (see also 050, 670, 725, 727, 920)
545 Anatomy
546 Cytology
547 Embryology
548 Immunology
550 Botany
560 Ecology
564 Microbiology & Bacteriology
566 Physiology, Animal
567 Physiology, Plant
569 Zoology
570 Genetics
571 Entomology
572 Molecular Biology
576 Nutrition and/or Dietetics
578 Biological Sciences, General
579 Biological Sciences, Other*

PSYCHOLOGY

600 Clinical
610 Counseling & Guidance
620 Developmental & Gerontological
630 Educational
635 School Psychology
641 Experimental
642 Comparative
643 Physiological
650 Industrial & Personnel
660 Personality
670 Psychometrics (see also 050, 544, 725, 727, 920)
680 Social
698 Psychology, General
699 Psychology, Other*

SOCIAL SCIENCES

700 Anthropology
708 Communications*
710 Sociology
720 Economics (see also 501)
725 Econometrics (see also 050, 544, 670, 727, 920)
727 Statistics (see also 050, 544, 670, 725, 920)
740 Geography
745 Area Studies*
751 Political Science
752 Public Administration
755 International Relations
760 Criminology & Criminal Justice
770 Urban & Reg. Planning
798 Social Sciences, General
799 Social Sciences, Other*

HUMANITIES

802 History & Criticism of Art
804 History, American
805 History, European
806 History, Other*
807 History & Philosophy of Science
808 American Studies
809 Theatre and Theatre Criticism
830 Music
831 Speech as a Dramatic Art (see also 885)
832 Archeology
833 Religion (see also 881)
834 Philosophy
835 Linguistics
836 Comparative Literature
878 Humanities, General
879 Humanities, Other*

LANGUAGES & LITERATURE

811 American
812 English
821 German
822 Russian
823 French
824 Spanish & Portuguese
826 Italian
827 Classical*
829 Other Languages*

EDUCATION

900 Foundations: Social & Philosoph.
910 Educational Psychology
908 Elementary Educ., General
909 Secondary Educ., General
918 Higher Education
919 Adult Educ. & Extension Educ.
920 Educ. Meas. & Stat.
929 Curriculum & Instruction
930 Educ. Admin. & Supery.
940 Guid., Couns., & Student Pers.
950 Special Education (Gifted, Handicapped, etc.)
960 Audio-Visual Media

TEACHING FIELDS

970 Agriculture Educ.
972 Art Educ.
974 Business Educ.
975 Early Childhood Educ.
976 English Educ.
978 Foreign Languages Educ.
980 Home Economics Educ.
982 Industrial Arts Educ.
984 Mathematics Educ.
986 Music Educ.
987 Nursing Educ.
988 Phys. Ed., Health, & Recreation
989 Reading Education
990 Science Educ.
992 Social Science Educ.
993 Speech Education
994 Vocational Educ.
996 Other Teaching Fields*
998 Education, General
999 Education, Other*

OTHER PROFESSIONAL FIELDS

881 Theology (see also 833)
882 Business Administration
883 Home Economics
884 Journalism
885 Speech & Hearing Sciences (see also 831)
886 Law & Jurisprudence
887 Social Work
891 Library & Archival Science
897 Professional Field, Other*

899 OTHER FIELDS*

*Identify the specific field in the space provided on the questionnaire.

CODE NUMBERS FOR FIELDS DISPLAYED IN TABLE 2

Physics & Astronomy (101-199)
Chemistry (200-299)
Earth, Environmental, and Marine Sciences (301-399)

Physical Sciences Subtotal (101-399)
Mathematics (000-060, 080-099)
Computer Sciences (079)
Engineering (400-499)

EMP Total (000-499)

Biochemistry (540)
Basic Medical Sciences (542, 545-548, 564-566, 572)
Other Biosciences (544, 550-562 567-571, 576-579)

Biosciences Subtotal (540-579)
Medical Sciences (520-539)
Agricultural Sciences (500-519)

Life Sciences Total (500-579)

Psychology (600-699)
Economics and Econometrics (720,725)
Anthropology and Sociology (700, 710)
Political Science, Public Administration, International Relations (751-755)
Other Social Sciences (708, 727-745, 760-799)

Social Sciences Total (600-799)

Total Sciences (000-799)

History (804-807)
English and American Language and Literature (811-812)
Foreign Languages and Literature (821-829)
Other Humanities (802, 808-809, 830-879)

Humanities Total (802-879)

Professional Fields (881-897)

Education (900-999)

Total Non-Sciences (802-897, 900-999)

Other or Unspecified (899)

TITLES OF DEGREES INCLUDED IN THE SURVEY OF EARNED DOCTORATES

DAS	Doctor of Applied Science
DArch	Doctor of Architecture
DA	Doctor of Arts
DBA	Doctor of Business Administration
JCD	Doctor of Canon Law
DCJ	Doctor of Criminal Justice
DCrim	Doctor of Criminology
EdD	Doctor of Education
DEng	Doctor of Engineering
DESc	Doctor of Engineering Science
ScDE	Doctor of Engineering Science
DEnv	Doctor of Environment
DED	Doctor of Environmental Design
DFA	Doctor of Fine Arts
DF	Doctor of Forestry
DGS	Doctor of Geological Science
DHS	Doctor of Health and Safety
DHL	Doctor of Hebrew Literature
DHS	Doctor of Hebrew Studies
DIT	Doctor of Industrial Technology
SDJ	Doctor of Juridical Science
JSD	Doctor of Juristic Science
DLS	Doctor of Library Science
DMin or DM	Doctor of Minstry (except professional)
DM	Doctor of Music
DMA	Doctor of Musical Arts
DME	Doctor of Music Education
DML	Doctor of Modern Languages
DNSc	Doctor of Nursing Science
PhD	Doctor of Philosophy
DPE	Doctor of Physical Education
DPA	Doctor of Public Administration
DPH	Doctor of Public Health
DRec or DR	Doctor of Recreation
DRE	Doctor of Religious Education
DSM	Doctor of Sacred Music
STD	Doctor of Sacred Theology
DSc	Doctor of Science
DScH	Doctor of Science and Hygiene
DScD	Doctor of Science in Dentistry
LScD	Doctor of Science and Law
DSSc	Doctor of Social Science
DSW	Doctor of Social Work
ThD	Doctor of Theology