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ABSTRACT

Presented is the first of three reports by the National Science Foundation (NSF) on the 1974 National Survey of Scientists and Engineers conducted by the Bureau of Census. The survey was designed to measure the changes, every two years, in the demographic, educational, and employment characteristics of the scientists and engineers identified in the 1970 Census of Population. This report presents detailed information on the 1974 National Sample with emphasis on the demographic and educational characteristics. Almost 1,100,000 scientists and engineers were represented by this National Sample. The publication is divided into two sections: (1) graphic highlights, and (2) selected characteristics. Technical notes, detailed statistical tables, and a reproduction of the 1974 questionnaire and reference lists are included in the appendix. (Author/EB)

Surveys of Science Resources Series
National Science Foundation
NSF 75-333

Characteristics of the National Sample of Scientists and Engineers 1974

Part 1. Demographic and Educational

SE

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Surveys of Science
Resources Series
National Science Foundation
NSF 75-333

Characteristics of the National Sample of Scientists and Engineers 1974

Part 1. Demographic and Educational

FOREWORD

The dynamics of the scientific and engineering population of the United States have changed markedly in the past few years. The unemployment problem of 1970-71, the start of a declining college and university population, and the recent economic condition of the country have all had their effects on individual scientists and engineers. To assist the Foundation in formulating and implementing sound and responsive scientific policies and programs for the Nation, the Manpower Characteristics Systems was initiated in 1971. This system provides the means by which selected information on scientists and engineers is made available. The system consists of three subsystems: the Doctoral Roster of Scientists and Engineers, Survey of New Entrants to Science and Engineering, and the National Sample of Scientists and Engineers which is the subject of this report.

This is the first of three reports by the National Science Foundation (NSF) on the 1974 National Survey of Scientists and Engineers (National Sample) which was conducted by the Bureau of Census under the sponsorship of NSF. The 1974 survey was the first in a series of longitudinal surveys designed to measure the changes—every two years—in the demographic, educational, and employment characteristics of the Nation's scientists and engineers who were identified in the 1970 Census of Population.

This report presents detailed information on the 1974 demographic and educational characteristics of the National Sample. The subsequent two reports will focus upon employment and geographic characteristics of the sample.

The report was prepared in the Division of Science Resources Studies of the National Science Foundation. Overall guidance was provided by Robert W. Cain, Head, Manpower Studies Section.

We would like to thank the 50,000 scientists and engineers in the sample who were surveyed and took the time to respond to the questionnaire. It is their cooperation that made this report possible.

Charles E. Falk
Director, Division of Science
Resources Studies

December 1975

general notes

Almost 1,100,000 scientists and engineers were represented by the National Sample of Scientists and Engineers in 1974; this number accounted for approximately two-thirds of the science and engineering population in 1974. The data do not include those scientists and engineers who have entered science and engineering since April 1970 when the Census of Population was conducted.

General detail may not add to total because of rounding.

acknowledgments

This survey was planned and directed by J. James Brown, Study Director, Manpower Characteristics Studies Group. The report was prepared by Nancy M. Conlon with the assistance of Gayle F. Barker and John A. Scopino.

The survey was conducted by the Bureau of the Census. Principal participants there were Paula J. Schneider, Mary K. Friday, Thomas J. Palumbo, Ann M. Gifford, and Patricia L. Marks. Overall direction was provided by Murray S. Weitzman, Assistant Division Chief (Socioeconomic Statistics Programs), Population Division. Invaluable assistance by all is gratefully acknowledged.

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INTRODUCTION

This is the first of three reports on the 1974 National Survey of Scientists and Engineers. It presents demographic and educational data for members of the National Sample who responded to the 1974 survey and met the requirements for inclusion in one of eight fields of science or engineering in 1974; these persons and all others in the National Sample were identified as scientists and engineers in the 1970 Census of Population. Separate statistics are shown for women as well as for both sexes. The second report will present employment information; the third, geographic information.[1]

The 1974 National Sample was the first in a series of planned longitudinal surveys to be conducted biennially on a sample of 50,000 individuals who were identified as scientists and engineers in the 1970 Census of Population. Findings from the 1974 and future surveys will enable investigators to examine changes in characteristics of scientists and engineers over a substantial period of time, as well as providing information for a specific time period.

The National Sample serves as a source for measuring changes in characteristics of scientists and engineers who were in the 1970 employed labor force. It also provides timely information on a sizable segment of the Nation's scientific and engineering manpower at any one time.

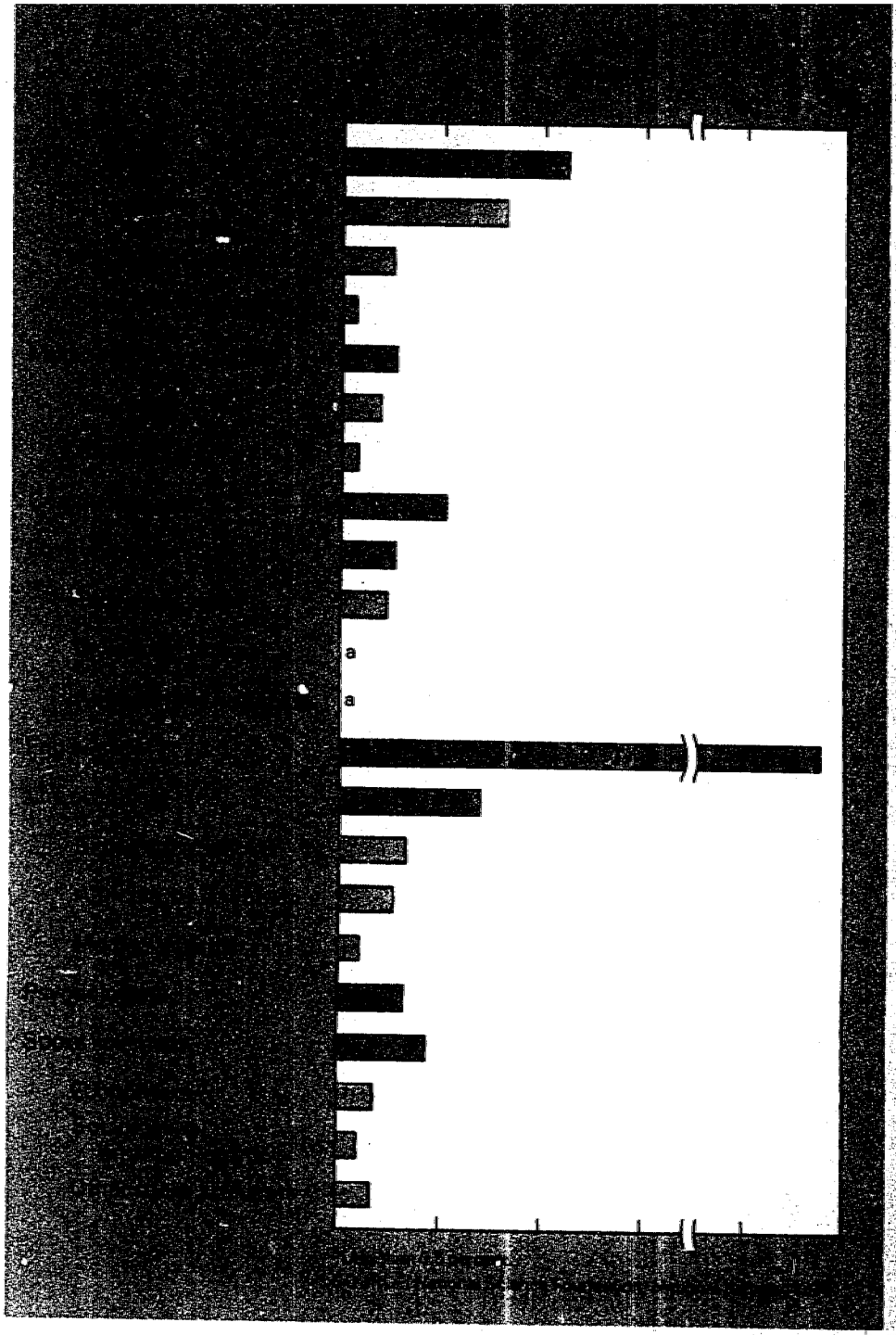
Section I of this report contains graphic highlights of the data presented herein; Section II presents tables of selected characteristics. The technical notes in appendix A contain information on the sample; the questionnaire; definitions and explanations used in the survey; weighting and estimating procedures; and standard errors of totals and percentages. Detailed statistical tables are included in appendix B. The questionnaire and reference lists used in the survey are reproduced in appendix D.

[1] See appendix C for the kinds of information to be included in parts II and III.

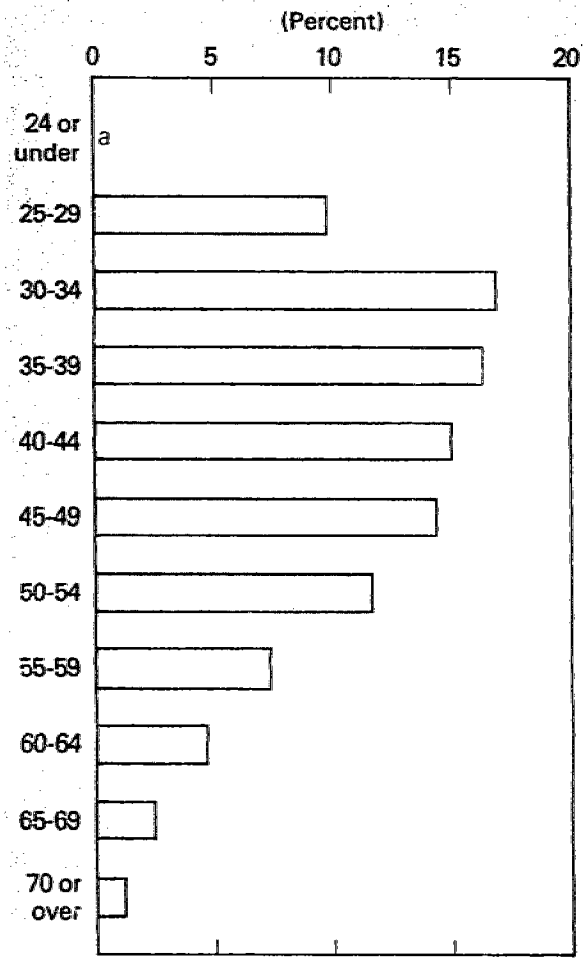
Section I.

GRAPHIC HIGHLIGHTS

Total Scientists and Engineers in the National Sample



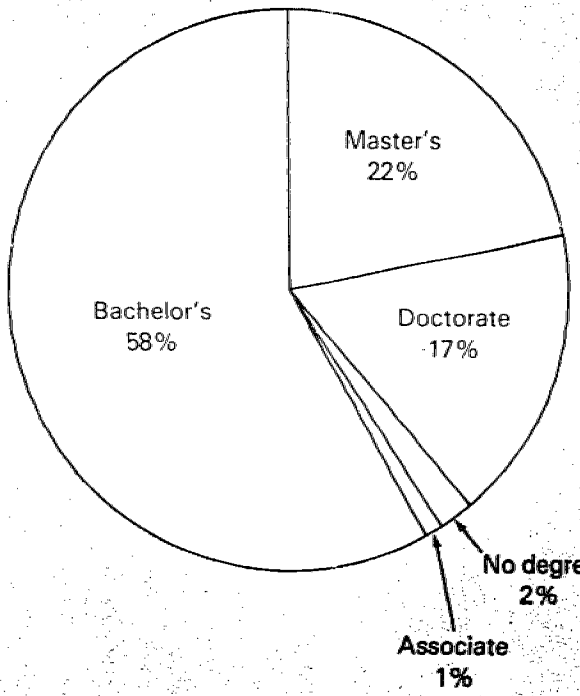
Age



[a]Less than 0.5 percent.

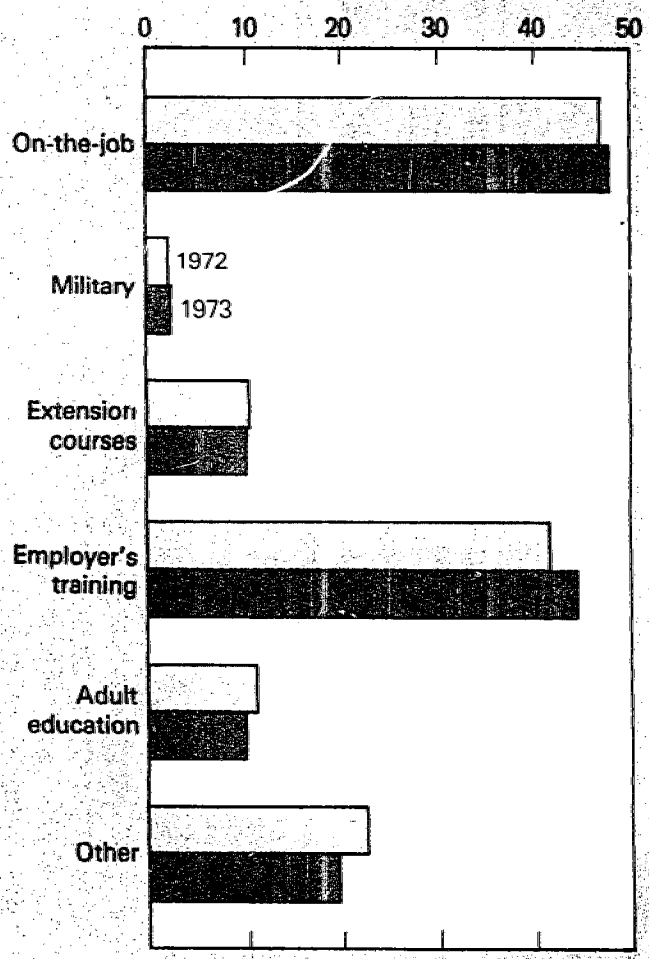
SOURCE: National Science Foundation, National Sample, 1974.

Highest Degree



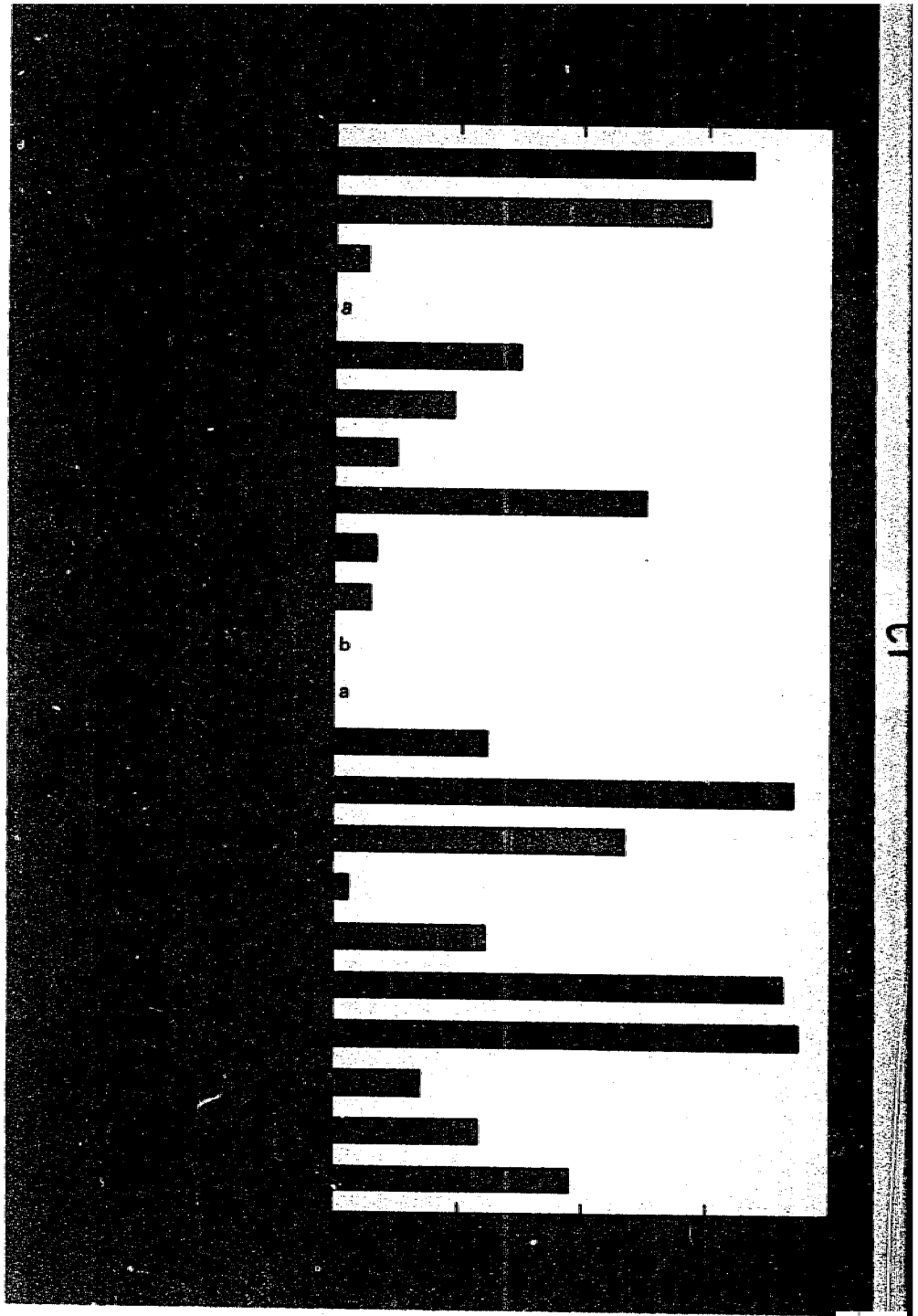
Note: Less than 0.5 percent held the professional/medical degree.

Nonformal Training



Note: Percents will add to more than 100.0 because of persons receiving more than one type of nonformal training.

WOMEN



a
Master's
35%
Bachelor's
39%
Doctorate
25%

Section II.

SELECTED CHARACTERISTICS

TOTAL SCIENTISTS AND ENGINEERS IN THE NATIONAL SAMPLE

FIELD

Engineers, the largest group in the National Sample, were followed by physical scientists, life scientists, and computer specialists.

Field	Number	Percent
Total, all fields	1,079,698	100.0
Physical scientists	121,011	11.2
Chemists	87,334	8.1
Physicists/astronomers	27,519	2.5
Other physical scientists	6,158	.6
Mathematical scientists	27,833	2.6
Mathematicians	*20,076*	*1.9*
Statisticians	7,757	.7
Computer specialists	55,186	5.1
Environmental scientists	29,466	2.7
Earth scientists	24,589	2.3
Oceanographers	1,563	.1
Atmospheric scientists	3,314	.3
Engineers	687,911	63.8
Life scientists	75,462	7.0
Biological scientists	35,935	3.3
Agricultural scientists	28,790	2.7
Medical scientists	10,737	1.0
Psychologists	34,889	3.2
Social scientists	47,940	4.4
Economists	19,754	1.8
Sociologists/anthropologists	11,158	1.0
Other social scientists	17,028	1.6

RACE

Very few scientists and engineers were members of minority racial groups—less than 1 in 20.

Race	Number	Percent
Total	1,079,698	100.0
White/Caucasian	1,039,010	96.2
Black/Negro	11,102	1.0
American Indian	903	.1
Chinese, Japanese, Korean	23,497	2.2
Other	5,186	.5

SEX

Ninety-five percent were male with engineers reporting the highest percent of men to women.

Sex	Number	Percent
Total	1,079,698	100.0
Men	1,025,741	95.0
Women	53,957	5.0

HIGHEST DEGREE

Most held bachelor's degrees as their highest degree. The master's degree holders accounted for about one-fifth whereas one in six held a doctorate.

Highest degree	Number	Percent
Total	1,079,698	100.0
Doctorate	180,870	16.8
Professional/medical	3,248	.3
Master's	242,289	22.4
Bachelor's	620,396	57.5
Associate	12,539	1.2
Other degree	101	(1)
No degree	20,255	1.9

[1] Less than 0.05 percent.

AGE

The median age in 1974 was 41 years. Almost one-half of the women scientists and engineers were under age 35 whereas only one-quarter of the men were under age 35.

Age	Number	Percent
Total	1,079,698	100.0
24 or under	2,137	.2
25-29	106,274	9.8
30-34	182,024	16.9
35-39	175,473	16.3
40-44	162,207	15.0
45-49	155,926	14.4
50-54	125,831	11.7
55-59	78,795	7.3
60-64	51,134	4.7
65-69	26,963	2.5
70 and over	12,934	1.2

NONFORMAL TRAINING

Employer training courses and on-the-job training were the most frequently reported types of nonformal training.

Type of training	1972 number	1973 number
Total	1,079,698	1,079,698
With nonformal training	[1]397,438	[1]406,427
On-the-job	187,159	194,367
Military	8,595	9,192
Extension courses	41,234	41,536
Employer's training	165,691	180,372
Adult education	45,180	44,715
Other	89,680	81,018
No nonformal training	471,772	488,886
Nonformal training not reported	210,488	184,385

[1] Detail will not add to total because persons can be recipients of more than one type of training.

PROFESSIONAL IDENTIFICATION

About 1 out of every 10 scientists and engineers considered himself an administrator or a manager.

Professional identification	Number	Percent
Total	1,079,698	100.0
Physical scientists	116,266	10.8
Mathematical scientists	24,907	2.3
Computer specialists	54,759	5.1
Engineers	571,997	53.0
Biological scientists	73,150	6.8
Social scientists	67,389	6.2
Administrators/managers	114,681	10.6
Teachers	2,606	.2
Health occupations	522	(1)
Technicians/technologists	1,040	.1
Other	4,281	.4
No report	48,100	4.5

[1] Less than 0.05 percent.

MAJOR SUBJECT OF HIGHEST DEGREE

Fifty-five percent of the scientists and engineers had a major subject in engineering. This is a smaller percent than that of engineers to the total number of scientists and engineers in the field distribution.

Major subject	Number	Percent
Total	1,079,698	100.0
Chemistry	80,798	7.5
Physics/astronomy	49,062	4.5
Mathematical sciences	44,706	4.1
Computer science	6,945	.6
Earth, space, and marine sciences	26,128	2.4
Engineering	592,420	54.9
Biological sciences	49,969	4.6
Agricultural sciences	30,500	2.8
Medical sciences	6,175	.6
Psychology	36,083	3.3
Economics	22,095	2.0
Sociology/anthropology	11,922	1.1
Other social sciences	15,337	1.4
Business and commerce	30,549	2.8
All other subjects	47,100	4.4
No report	9,654	.9
No degree	20,255	1.9

WOMEN

FIELD

Over one-half of the women in the National Sample were in four fields: psychology, chemistry, computer science, and biology.

Field	Number	Percent
Total	53,957	100.0
Physical scientists	9,075	16.8
Chemists	8,103	15.0
Physicists/astronomers	735	1.4
Other physical scientists	237	.4
Mathematical scientists	4,038	7.5
Mathematicians	2,664	4.9
Statisticians	1,374	2.5
Computer specialists	6,747	12.5
Environmental scientists	894	1.7
Earth scientists	817	1.5
Oceanographers	(1)	(1)
Atmospheric scientists	77	.1
Engineers	3,359	6.2
Life scientists	9,979	18.5
Biological scientists	6,334	11.7
Agricultural scientists	340	.6
Medical scientists	3,305	6.1
Psychologists	9,784	18.1
Social scientists	10,081	18.7
Economists	1,900	3.5
Sociologists/anthropologists	3,119	5.8
Other social scientists	5,062	9.4

[1] No cases reported.

RACE

Blacks had the highest proportion of representation for minority groups among women, but the Chinese, Japanese, and Koreans represented a higher percentage of their female population in the United States.

Race	Number	Percent
Total	53,957	100.0
White/Caucasian	50,037	92.7
Black/Negro	1,714	3.2
American Indian	45	.1
Chinese, Japanese, Korean	1,422	2.6
Other	739	1.4

AGE

The median age of women was 35 years in 1974.

Age	Number	Percent
Total	53,957	100.0
Under 25	73	.1
25-29	13,582	25.2
30-34	11,457	21.2
35-39	6,924	12.8
40-44	5,755	10.7
45-49	4,635	8.6
50-54	4,478	8.3
55-59	2,803	5.2
60-64	2,426	4.5
65-69	1,304	2.4
70 and over	520	1.0

HIGHEST DEGREE

Almost the same number of S/E women held master's degrees as held bachelor's degrees.

Highest degree	Number	Percent
Total	53,957	100.0
Doctorate	13,389	24.8
Professional/medical	285	.5
Master's	19,213	35.6
Bachelor's	21,055	39.0
Associate	15	(1)
Other	(2)	(2)
No degree	(2)	(2)

[1] Less than 0.05 percent.
[2] No cases reported.

APPENDIXES

A. Technical Notes
B. Detailed Statistical Tables
C. A Listing of Detailed Statistical Tables in Parts II and III
D. Reproduction of 1974 Questionnaire and Reference Lists

APPENDIX A

Technical Notes

The 1974 National Sample

The 1974 National Survey of Scientists and Engineers was the first in a series of planned longitudinal surveys based on the National Sample. A previous survey, the 1972 Professional, Technical, and Scientific Manpower Survey was conducted among a nationwide sample of approximately 150,000 persons who were recorded in the 1970 Census of Population as being in the experienced civilian labor force in one of 65 engineering, scientific, or related occupations. Also, the survey included a small sample of persons who had completed four or more years of college but were not in any of the specified occupations. Based on responses in the 1972 survey and on criteria established by the National Science Foundation, approximately 51,000 persons from the 1972 survey sample (excluding the small sample of college graduates) were chosen as the National Sample for the 1974 National Survey of Scientists and Engineers.[1] Survey questionnaires were mailed to this abbreviated sample in February 1974. Data collection activities continued to August 1974. Completed questionnaires were obtained for 87.7 percent of the sample—approximately 44,000 persons. The 12.3 percent from whom completed questionnaires were not received include persons who either refused to participate, were deceased, or were persons who returned questionnaires with insufficient information to permit processing. In addition, 10.1 percent of the group moved out of science and engineering fields in 1974 leaving a sample of 40,000 persons in science and engineering in 1974.

Therefore, of the original 1,400,000 scientists and engineers whom the sample represented in 1972, 12.3 percent (172,000) did not respond, and 10.1 percent (148,000) represented those who did not meet the criteria for inclusion as scientists and engineers in 1974. As a result, 1,080,000 scientists and engineers remained in 1974 and it is this group with which this report is concerned.

For each sample case for which a completed questionnaire was obtained, the information from the 1974 survey was matched with 1972 survey data and 1970 census data for the same person. Weights applied to sample cases in the 1972 survey were then used to weight the resultant matched data file up to universe totals. The use of the 1972 survey weights means that no adjustment for nonresponse was made to 1974 survey results.

Respondents[2] to the 1974 National Survey of Scientists and Engineers were classified, again based on criteria of the National Science Foundation, into one of the fields of science and engineering, or the category "not in a field of science and engineering in 1974."

[1] For a description of the selection process, see "Sample Selection Process for the 1974 Survey," p. 20.

[2] The words "respondent" or "nonrespondent," when applied to members of the universe, refer to the number in the universe represented by sample persons who responded or did not respond, respectively, to the 1974 survey.

The Questionnaire

Each panel member in the 1974 National Survey of Scientists and Engineers was asked to complete by self-enumeration a 4-page questionnaire (reproduced in appendix D). A cover letter was printed on page 1 of the questionnaire, and a set of reference lists (also reproduced in appendix D) was attached to the questionnaire. The reference lists were used by respondents to self-code answers to inquiries on major field of study (question 2, part b5 of the questionnaire), kind of business (question 11), occupation (question 12), and professional identification (question 20).

Definitions and Explanations

Fields of science and engineering—Science or engineering fields are categories established to identify persons who could be classified as engineers or scientists under most definitions. In general, to be classified into one of the fields, a person had to have at least two of the following three characteristics:

(1) Employment in the field; (2) attainment of a specified educational level in an academic discipline related to the field; or (3) self-identification, based upon total education and experience, as being in the field. More detailed information on the criteria for membership in a scientific and technical field is given farther on in the section, "Criteria for Fields of Science or Engineering in 1974."

The fields of science and engineering for which data are presented in this report and the detailed fields they comprise are as follows:

Physical scientists
- Chemists
- Physicists and astronomers
- Other physical scientists

Mathematical scientists
- Mathematicians
- Statisticians

Computer specialists

Environmental scientists
- Earth scientists
- Atmospheric scientists
- Oceanographers

Engineers

Life scientists
- Agricultural scientists
- Biological scientists
- Medical scientists

Psychologists

Social scientists
- Economists
- Sociologists and anthropologists
- Other social scientists

Race—The data on race are based on responses in the 1970 Census of Population. The "other races" category includes all races not included in the specific categories listed.

Age in 1974—The reference period for age in 1974 was April 1974. The median age is that age that divides the distribution into two equal parts, one-half being older than the median age and one-half younger. Median ages were derived from an estimation process that distributed the subject populations into 5-year age groups.

Highest degree held—Highest degree held in 1974 refers to the highest academic degree awarded or assumed to have been awarded to the respondent in 1973 or earlier. Data on the highest degree held were derived as follows. First, question 2 of the 1974 questionnaire was reviewed to determine the highest degree worked for by the respondent *since 1971*. This degree was accepted as the highest degree received since 1971 if the respondent reported that it had been awarded in 1972 or 1973, or if he failed to indicate when it had been awarded, but did report the completion of at least a certain number of years of postsecondary education in question 1. The required years for each degree are specified in the following tabulation:

Degree	*Minimum years of postsecondary education*
No degree	0
Other	0
A.A.	2
R.N.	3
B.A.	4
M.A.	5
LL.B.	7
M.D.	8
Ph.D.	7

Second, the highest degree received since 1971 was designated as the highest degree held by the respondent *in 1974* if it was at the same or at a higher academic level than the highest degree reported in the 1972 survey. Otherwise, the highest degree reported in 1972 was designated as the highest degree held in 1974.

The "other degree" classification includes p[illegible]se highest academic degree was one of the following: [illegible].B., M.D., *and academic degrees other than those shown.*

Except for engineers, the criteria for inclusion in a scientific or engineering field required that a person possess an academic degree at the bachelor's level or higher. Therefore, only *engineers and persons "not in a field of science or engineering" can have an "associate degree" or "no degree."*

Major field of study for highest degree held—The data on major field of study refer to the major subject associated with the highest degree held in 1974 as determined by the method described above. For persons whose highest degree held in 1974 was received after 1971, the data are derived from question 2, part b5 of the 1974 questionnaire. For persons whose highest degree was awarded in 1971 or earlier, the data on major subject are based on the 1972 survey.

Source of Data Items

Characteristic	Item number on 1974 questionnaire[1]	Source code[2] on 1974 questionnaire
Sex	(From the 1972 survey response, if available; otherwise from the 1970 Census response)	
Age in 1974	(from 1970 Census response, if available; otherwise from 1972 survey response)	
Field of science or engineering in 1972	(From the 1972 survey response)	
Race[1]	(From the 1970 Census response)	
Highest degree held[1]	1; 2 (parts a, b2, b3, and b4); otherwise from 1972 survey response	012,013,017-025
Major field of study for highest degree held[1]	2 (part b5), otherwise from 1972 survey response	026,027,028
Nonformal training in 1972	3	029
Nonformal training in 1973	3	030
Professional identification	Part IV: 20	082

[1] The 1974 *National Survey of Scientists and Engineers* questionnaire is reprinted in appendix D.

[2] Source codes refer to sections of the 1974 questionnaire denoted by a three-digit number inside a circle: e.g., State (if USA) = (010).

[1] See appropriate subject under "Definitions and Explanations."

Criteria for Fields of Science or Engineering in 1974

(Developed by the National Science Foundation)

Respondents in the 1974 National Survey of Scientists and Engineers were classified into a specific field of science and engineering in 1974 if they met, in relation to the specific field, any one of the criteria given below. Classification by these criteria proceeded such that all respondents were initially examined by the first criterion; those not placed into a field by the first criterion, were then examined by the second; those not categorized by the second, were examined by the third; and so on, until only those remained who met none of the criteria—these were classified as "not in a field of science or engineering in 1974." The academic degree levels and major fields of study used in these criteria refer to the highest degree held. The coincident and related fields of study and the coincident and related occupations and professions are shown in table A-1. Occupation refers to the most recent job for which occupation was reported.

THE CRITERIA

A member of a field of science or engineering in 1974 is an individual (1) who had earned a master's degree or higher[3] in a coincident field of study and who regarded himself, based on his to education and experience, as having a coincident profession; or (2) who had earned a Ph.D. in any field of social or natural science,[4] and was employed in a coincident occupation; or (3) who had earned a bachelor's degree or higher in a coincident field of study, and was employed in a coincident occupation; or (4) who had earned a bachelor's degree or higher in any field of study, was employed in a coincident occupation, and regarded himself as having a coincident profession; or (5) whose highest degree[5] was in a coincident field of study[6], and who was employed as a college president, college dean, or manager or administrator of research or development, production or operations[7] or (6) who had earned a bachelor's degree or higher in a coincident field of study,[8] was employed in a related occupation, and regarded himself as having a coincident profession; or (7) who had earned a bachelor's degree in a coincident field of study since 1969 and who regarded himself as having a coincident profession; or (8)

[1] Engineers could meet this requirement with a bachelor's degree or higher.
[2] Codes 501-587 and 593 from list A of appendix D.
[3] At the bachelor's level or higher.
[4] Certain coincident fields of study are common to two fields of science or engineering. Therefore, persons meeting criterion 5 with field of study represented by codes 508 or 526 of list A of appendix were classified exclusively as "biological scientists"; those with codes 565 or 568, were classified exclusively as "other physical scientists"; and those with code 581, were classified exclusively as "economists".
[5] Codes 457-459 of list C of appendix D.
[6] In addition to a coincident field of study, engineers could have earned a bachelor's degree or higher in codes 508, 529, 557, 559-561, 563-568 of list A of appendix D.

Table A-1.—Coincident and related major fields of study, occupations and professions, by field of science or engineering in 1974

[Codes are from reference lists A and C of appendix D]

Field of science or engineering in 1974	Major field of study		Occupation and profession	
	Coincident	Related	Coincident	Related
Computer specialists	559	501-526,532-558,560-568	415-417	401-413,415-417,419-438
Engineers	532-550	506,529,557,559-561 563-568,	401-413	457-459
Mathematical scientists:				
Mathematicians	557	532-550,558-568,576	419	401-413,415-417,419-438
Statisticians	558	518,532,535-545,548 550,557,559-572,575, 576,586,587	420	401-413,415-417,419-438
Life scientists:				
Agricultural scientists	501-503,506,512, 514-517,519,523, 524,526,	504,505,507-511,513, 518,520-522,525,532-568	428	401-413,415-417,419-433, 438
Biological scientists	504,505,507-511, 513,518,520-522, 525,526,554	501-503,506,512,514-517,519,523,524,532-553,555-568	429,431,433	401-413,415-417,419-433, 438
Medical scientists	555,556	501,526,532-550, 557-573	432	401-413,415-417,419-438
Physical scientists:				
Chemists	508,561	501-507,509-526,532-560,562-568	422,430	401-413,415-417,419-433, 438
Physicists and astronomers	560,564	508,509,535-541,543-546,550,557-559,561-563,565-568	424	401-413,415-417,419-433, 438
Other physical scientists	565,568	501-526,532-564,566,567	427	401-413,415-417,419-433, 438
Environmental scientists:				
Earth scientists	565,566,568	501-526,532-564,567	423	401-413,415-417,419-433, 438
Atmospheric scientists	563	501-526,532-562,564-568	425	401-413,415-417,419-433, 438
Oceanographers	567	501-526,532-566,568	426	401-413,415-417,419-433, 438
Psychologists	569-572	509,551,552,556-558,573,586	435	401-413,415-417,419-438
Social scientists:				
Economists	575-576,581	501,557-559,574, 557-580,582,583,589,595	434	434-437
Sociologists and anthropologists	573,586	569,572,574,577, 579,587,593	436	401-413,415-417,419-438
Other social scientists	574,577,581-584, 587,593	None	437	434-437

Source: Bureau of the Census

who had earned a bachelor's degree or higher in any field of science[9] and was employed as a college president, college dean, or administrator or manager of research or development, production or operations[10] and who regarded himself as having a coincident profession; or (9) whose highest degree[11] was in a related field of study and who was employed in a coincident occupation and who regarded himself professionally to be a college president, dean, or administrator or manager of research or development, production or operations.[12] The field "engineers" also includes any individual who failed to meet any of the above 9 criteria but who had completed a minimum of two years of a program of study leading to a bachelor's degree in engineering or a related field of study before 1968, and was employed as an engineer, and regarded himself professionally to be an engineer or a manager or administrator of research or development, production or operations; or who earned an associate degree before 1968, and was employed as an engineer, and regarded himself professionally to be an engineer or a manager or administrator of research or development, production, or operations.[13]

Some respondents to the 1974 survey reported "operations research analyst"[14] as their occupation or profession. The National Science Foundation determined that certain of the above criteria should classify these persons as either "mathematicians" or "engineers." Such an individual, therefore, is classified by criteria 3 or 7 as a "mathematician" if he, depending upon the criterion specified, was either employed as or regarded himself professionally as an "operations research analyst" and met the educational requirement of the specified criterion as it related to mathematicians. Likewise, the individual was classified by criteria 3, 4, or 7 as an "engineer" if, depending on the criterion specified, his occupation and/or profession was "operations research analyst" instead of "engineer," and he met all the other requirements of the specified criterion as these related to engineers. In addition, an individual is classified as an engineer if he met none of the above criteria, but had earned a bachelor's degree in a field of study other than one coincident to a field of science or engineering, was employed as a college president, dean, manager or administrator of research or development, production or operations,[15] and regarded himself professionally as an "operations research analyst."

[9] For all fields except economists, codes 501-587 and 593 of list A of appendix D for economists, codes 557, 558, 573-587, and 593 of list A of appendix D.
[10] Codes 457-459 of list C of appendix D.
[11] At the bachelor's level or higher.
[12] Codes 457-459 of list C of appendix D.
[13] Codes 458 and 459 of list C of appendix D.
[14] Code 423 of list C of appendix D.
[15] Codes 457-459 of list C of appendix D.

Weighting and Estimating Procedures

Estimation procedures—As mentioned earlier, the estimates for this report were prepared by a ratio estimation procedure, using the weights derived for the 1972 survey. Therefore, no adjustment was made for nonresponse in the 1974 survey. The weighting procedure for the 1972 survey involved first, the preparation of preliminary estimates by weighting the results for each sample person by the reciprocal of the probability of selection. As a second step, these weights were adjusted by applying a factor for each age, sex, and race cell within each of the sample's occupational categories from the 1970 census. Within each of the cells, the factor was computed as the ratio of the 1970 census count to the preliminary estimate. The final weight was the factor multiplied by the original weight of each person. To the extent the correlation between the data being tabulated and the estimated count of persons in the cells are positively correlated, the ratio estimation procedure will improve the reliability of the estimate.

Reliability of the estimates—The sample used for this survey is only one of a large number of possible samples that could have been selected using the same sample design, sample selection, and measurement procedures. Estimates derived from these samples would differ from each other. In addition, the estimates are subject to errors of response and of reporting, as occur in all survey work. The standard error of a survey estimate is primarily a measure of the variation among the estimates from all possible samples and is, therefore, a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples. As calculated for this report, the standard error also partially measures the effect of certain nonsampling errors but does *not* measure any systematic biases in the data. The estimate and its associated standard error may be used to construct a confidence interval, that is, an interval having a prescribed probability that would include the average result of all possible samples. The chances are about two out of three (about 68 percent) that the survey estimate will differ from the average result of all possible samples by less than one standard error (plus or minus). Similarly, the chances are about 19 out of 20 that the difference would be less than twice the standard error and 99 out or 100 that it would be less than 2-½ times the standard error.

A number of approximations and generalizations have been used to produce standard errors, and hence the standard errors presented in the following tables should be regarded as approximations rather than precise measurements of the standard error in question.

There are two standard error tables shown for each group: A table for estimating standard errors of absolute numbers (total number of persons in a group, having a certain characteristic) and a table to obtain the standard errors of percentages.

The standard errors for estimating numbers or percents not shown in either set of tables may be approximated by linear interpolation. For example, of the 55,160 persons in the computer specialist field in 1974, 26.9 percent have the master's degree as the highest degree held in 1974. The standard error of this percent as computed from table A-3b is 1.1 percent. Based on these data, we may conclude that the expected proportion of computer specialists with the master's degree as the highest degree held in 1974 lies within the interval 24.7 percent to 29.1 percent with 95-percent confidence.

The figures in these tables are not directly applicable to standard errors of differences between two sample estimates. The standard error of the estimated difference between two figures may be approximated by the square root of the sum of the squares of the standard error of each estimate. This approximation will yield an exact result when the two characteristics are uncorrelated. If the two characteristics are positively correlated, the approximation will overestimate the standard error of the difference. For a difference between two sample estimates, one of which represents a subclass of the other, the table can be used with the difference considered as the sample estimate.

For example, of the 55,160 computer specialists in 1974, 4.7 percent have the Ph.D. as the highest degree held in 1974. The standard error of this percent as computed from table A-3b is 0.5 percent. The standard error of the difference between the above percentages (i.e., 26.9 - 4.7 = 22.2 percent) is then approximately

$(1.1)^2 + (0.5)^2 = 1.2$ percent

Based on these data, we may conclude with 95 percent confidence that the average estimate of the difference of the percentages derived from all possible samples lies within the interval 19.8 percent to 24.6 percent.

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR:

All Scientific and Technical Fields

Table A-2a.—Standard errors of totals

Size of estimate	Estimated standard error
1,000	190
5,000	430
10,000	610
20,000	850
50,000	1,320
100,000	1,830
150,000	2,180
300,000	2,810
500,000	3,120
800,000	2,770
1,080,000	2,650

Table A-2b.—Standard errors of percentages

Base of percent	Estimated percent						
	1 or 99	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
1,000	1.9	2.6	4.1	5.7	7.6	8.3	9.6
5,000	1.3	1.2	1.8	2.5	3.4	3.7	4.2
10,000	.8	.8	1.3	1.8	2.4	2.6	3.0
20,000	.6	.6	.9	1.2	1.7	1.8	2.1
50,000	.4	.3	.5	.8	1.0	1.1	1.3
100,000	.19	.26	.4	.5	.7	.8	.9
150,000	.15	.21	.3	.4	.6	.6	.7
300,000	.11	.15	.2	.3	.4	.4	.5
500,000	.08	.12	.18	.25	.3	.3	.4
800,000	.06	.09	.14	.20	.27	.29	.3
1,080,000	.05	.08	.12	.17	.23	.25	.2

Computer specialists, psychologists, physical scientists, and medical scientists

Table A-3a.—Standard errors of totals

Size of estimate	Estimated standard error
50	40
200	90
500	140
1,000	200
3,000	340
5,000	430
10,000	590
15,000	690
25,000	810
40,000	840
60,000	600
75,000	340
100,000	210
121,000	170

Table A-3b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	12.7	19.8	27.3	36.4	39.4	45.5
200	6.3	9.9	13.6	18.2	19.7	22.7
500	4.0	6.2	8.6	11.5	12.4	14.3
1,000	2.8	4.4	6.1	8.1	8.8	10.1
3,000	1.6	2.5	3.5	4.7	5.0	5.8
5,000	1.2	1.9	2.7	3.6	3.9	4.5
10,000	.9	1.4	1.9	2.5	2.7	3.2
15,000	.7	1.1	1.5	2.1	2.2	2.6
25,000	.5	.8	1.2	1.6	1.7	2.0
40,000	.4	.7	.9	1.2	1.3	1.6
60,000	.3	.5	.7	1.0	1.1	1.3
75,000	.3	.5	.7	.9	1.0	1.1
100,000	.2	.4	.6	.8	.8	1.0
121,000	.2	.4	.5	.7	.8	.9

Chemists

Table A-4a.—Standard errors of totals

Size of estimate	Estimated standard error
50	40
200	80
500	130
1,000	190
3,000	320
5,000	420
10,000	570
15,000	680
25,000	810
40,000	900
60,000	840
87,300	600

Table A-4b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	12.1	18.8	25.9	34.6	37.4	43.2
200	6.0	9.4	12.9	17.3	18.7	21.6
500	3.8	5.9	8.2	10.9	11.8	13.6
1,000	2.7	4.2	5.8	7.7	8.3	9.6
3,000	1.5	2.4	3.3	4.4	4.8	5.5
5,000	1.2	1.8	2.5	3.4	3.7	4.3
10,000	.8	1.3	1.8	2.4	2.6	3.0
15,000	.6	1.0	1.4	1.9	2.1	2.4
25,000	.5	.8	1.1	1.5	1.6	1.9
40,000	.4	.6	.9	1.2	1.3	1.5
60,000	.3	.5	.7	.9	1.0	1.2
87,300	.2	.4	.6	.8	.8	1.0

Physicists and astronomers

Table A-5a.—Standard errors of totals

Size of estimate	Estimated standard error
50	40
200	80
500	130
1,000	190
1,500	210
2,500	290
5,000	390
10,000	490
15,000	500
20,000	450
27,500	370

Table A-5b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	12.1	18.9	26.0	34.7	37.6	43.4
200	6.0	9.4	13.0	17.3	18.8	21.7
500	3.8	5.9	8.2	10.9	11.8	13.7
1,000	2.7	4.2	5.8	7.7	8.4	9.7
1,500	2.2	3.4	4.7	6.3	6.8	7.9
2,500	1.7	2.6	3.6	4.9	5.3	6.1
5,000	1.2	1.8	2.6	3.4	3.7	4.3
10,000	.8	1.3	1.8	2.4	2.6	3.0
15,000	.7	1.0	1.5	2.0	2.1	2.5
20,000	.6	.9	1.3	1.7	1.8	2.1
27,500	.5	.8	1.1	1.4	1.6	1.8

Mathematical scientists, mathematicians, and statisticians

Table A-6a.—Standard errors of totals

Size of estimate	Estimated standard error
50	30
200	70
500	110
1,000	160
3,000	270
5,000	340
10,000	440
15,000	500
25,000	500
40,000	370

Table A-6b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	10.2	15.9	21.9	29.2	31.6	36.5
200	5.1	7.9	10.9	14.6	15.8	18.2
500	3.2	5.0	6.9	9.2	10.0	11.5
1,000	2.2	3.5	4.9	6.5	7.0	8.1
3,000	1.3	2.0	2.8	3.7	4.0	4.7
5,000	1.0	1.5	2.1	2.9	3.1	3.6
10,000	.7	1.1	1.5	2.0	2.2	2.5
15,000	.5	.9	1.2	1.6	1.8	2.1
25,000	.4	.7	.9	1.3	1.4	1.6
40,000	.3	.5	.7	1.0	1.1	1.2

Environmental scientists, earth scientists, and biological scientists

Table A-7a.—Standard errors of totals

Size of estimate	Estimated standard error
50	40
200	80
500	130
1,000	190
1,500	230
2,500	300
5,000	400
10,000	520
15,000	580
20,000	590
30,000	440
36,000	360

Table A-7b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	12.3	19.1	26.4	35.2	38.1	44.0
200	6.1	9.5	13.2	17.6	19.0	22.0
500	3.8	6.0	8.3	11.1	12.0	13.9
1,000	2.7	4.2	5.9	7.8	8.5	9.8
1,500	2.2	3.5	4.8	6.4	6.9	8.0
2,500	1.7	2.7	3.7	4.9	5.3	6.2
5,000	1.2	1.9	2.6	3.5	3.8	4.4
10,000	.8	1.3	1.8	2.4	2.6	3.1
15,000	.7	1.1	1.5	2.0	2.2	2.5
20,000	.6	.9	1.3	1.7	1.9	2.2
30,000	.5	.7	1.0	1.4	1.5	1.7
36,000	.4	.7	.9	1.3	1.4	1.6

Oceanographers and other physical scientists

Table A-8a.—Standard errors of totals

Size of estimate	Estimated standard error
50	30
200	60
500	90
1,000	120
1,500	140
2,500	150
3,000	160
4,000	150
5,000	120
6,150	110

Table A-8b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	8.1	12.6	17.4	23.2	25.2	29.1
200	4.0	6.3	8.7	11.6	12.6	14.5
500	2.5	4.0	5.5	7.3	7.9	9.2
1,000	1.8	2.8	3.9	5.2	5.6	6.5
1,500	1.4	2.3	3.1	4.2	4.6	5.3
2,500	1.1	1.7	2.4	3.2	3.5	4.1
3,000	1.0	1.6	2.2	3.0	3.2	3.7
4,000	.9	1.4	1.9	2.6	2.8	3.2
5,000	.8	1.2	1.7	2.3	2.5	2.9
6,150	.7	1.1	1.5	2.1	2.2	2.6

Atmospheric scientists

Table A-9a.—Standard errors of totals

Size of estimate	Estimated standard error
50	30
200	80
500	115
1,000	150
1,500	160
2,000	150
2,500	140
3,000	100
3,350	80

Table A-9b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	11.0	17.2	23.7	31.6	34.2	39.5
200	5.5	8.6	11.8	15.8	17.1	19.7
500	3.5	5.4	7.5	10.0	10.8	12.5
1,000	2.4	3.8	5.3	7.0	7.6	8.8
1,500	2.0	3.1	4.3	5.7	6.2	7.2
2,000	1.7	2.7	3.7	5.0	5.4	6.2
2,500	1.5	2.4	3.3	4.4	4.8	5.5
3,000	1.4	2.2	3.0	4.0	4.4	5.1
3,350	1.3	2.1	2.8	3.8	4.1	4.8

Engineers

Table A-10a.—Standard errors of totals

Size of estimate	Estimated standard error
500	140
1,000	200
5,000	450
10,000	630
20,000	890
40,000	1,240
75,000	1,650
150,000	2,180
200,000	2,710
300,000	2,630
400,000	2,620
500,000	2,390
690,000	2,100

Table A-10b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
500	4.0	6.2	8.5	11.4	12.3	14.2
1,000	2.8	4.4	6.0	8.0	8.7	10.1
5,000	1.2	1.9	2.7	3.6	3.9	4.5
10,000	.8	1.3	1.9	2.5	2.7	3.1
20,000	.6	.9	1.3	1.8	1.9	2.2
40,000	.4	.6	.9	1.2	1.3	1.5
75,000	.3	.5	.7	.9	1.0	1.1
150,000	.2	.3	.4	.6	.7	.8
200,000	.2	.3	.4	.5	.6	.7
300,000	.1	.2	.3	.4	.5	.5
400,000	.1	.2	.3	.4	.4	.5
500,000	.1	.1	.2	.3	.3	.4
690,000	.1	.1	.2	.3	.3	.3

Life scientists and agricultural scientists

Table A-11a.—Standard errors of totals

Size of estimate	Estimated standard error
50	40
200	90
500	140
1,000	210
3,000	350
5,000	450
10,000	621
15,000	605
25,000	863
40,000	915
60,000	739
75,500	640

Table A-11b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	13.2	20.5	28.3	37.7	40.8	47.2
200	6.6	10.2	14.1	16.8	20.4	23.6
500	4.1	6.5	8.9	9.1	12.9	14.9
1,000	2.9	4.6	6.3	8.4	9.1	10.5
3,000	1.7	2.6	3.6	4.8	5.2	6.0
5,000	1.3	2.0	2.8	3.7	4.0	4.7
10,000	.9	1.4	2.0	2.6	2.8	3.3
15,000	.7	1.1	1.6	2.1	2.3	2.7
25,000	.5	.9	1.2	1.6	1.8	2.1
40,000	.4	.7	1.0	1.3	1.8	1.6
60,000	.3	.5	.8	1.0	1.1	1.3
75,500	.3	.5	.7	.9	1.0	1.2

Social scientists, sociologists, anthropologists, and other social scientists

Table A-12a.—Standard errors of totals

Size of estimate	Estimated standard error
50	30
200	100
500	160
1,000	230
3,000	410
5,000	510
10,000	700
15,000	830
25,000	990
40,000	1,080
60,000	970
82,800	710

Table A-12b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	14.9	23.1	31.9	42.5	46.0	53.2
200	7.4	11.5	15.9	21.2	23.0	26.6
500	4.7	7.3	10.0	13.4	14.5	16.8
1,000	3.3	5.1	7.1	9.5	10.3	11.9
3,000	1.9	2.9	4.1	5.4	5.9	6.8
5,000	1.4	2.3	3.1	4.2	4.6	5.3
10,000	1.0	1.6	2.2	3.0	3.2	3.7
15,000	.8	1.3	1.8	2.4	2.6	3.0
25,000	.6	1.0	1.4	1.9	2.0	2.3
40,000	.5	.8	1.1	1.5	1.6	1.8
60,000	.4	.6	.9	1.2	1.3	1.5
82,800	.3	.5	.7	1.0	1.1	1.3

Economists

Table A-13a.—Standard errors of totals

Size of estimate	Estimated standard error
50	40
200	80
500	130
1,000	190
2,500	270
4,000	330
6,000	380
8,000	410
10,000	420
13,000	400
16,000	330
19,800	240

Table A-13b.—Standard errors of percentages

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	50
50	11.8	18.3	25.2	33.7	36.5	42.1
200	5.9	9.1	12.6	16.8	18.2	21.0
500	3.7	5.8	7.9	10.6	11.5	13.3
1,000	2.6	4.1	5.6	7.5	8.1	9.4
2,500	1.6	2.5	3.5	4.7	5.1	5.9
4,000	1.3	2.0	2.8	3.7	4.0	4.7
6,000	1.0	1.6	2.3	3.0	3.3	3.8
8,000	.9	1.4	1.9	2.6	2.8	3.3
10,000	.8	1.2	1.7	2.3	2.5	2.9
13,000	.7	1.1	1.5	2.0	2.2	2.6
16,000	.6	1.0	1.4	1.8	2.0	2.3
19,800	.5	.9	1.2	1.6	1.8	2.1

Sample Selection Process for the 1974 Survey

The 156,116 sample cases for the 1972 Professional, Technical, and Scientific Manpower Survey were separated into two segments. The "target" segment consisted of 150,358 persons who were recorded by the 1970 Census of Population as being in one of the 40 groups of scientific, engineering, or related occupations in the 1970 experienced civilian labor force. The "residual" segment consisted of 5,758 persons who were recorded by the 1970 census as having four or more years of college and as being in the 1970 experienced civilian labor force in occupations other than the 40 target occupational groups.

The sample selection for the 1974 survey focused exclusively on the "target" segment. From this "target" segment, 115,557 persons responded in the 1972 survey. Based on criteria established by the National Science Foundation, these respondents were classified as "in-scope"; that is, in one of 8 major fields of science or engineering in 1972, or as "out-of-scope"; this is, outside a field of science or engineering in 1972. The in-scope cases, numbering 50,093 persons, became the sample for the 1974 survey.

Table A-14 presents a distribution of the 1972 respondents from the 40 groups of census occupations in the "target" segment according to their field of science or engineering in 1972.

Table A-14.—Field of science or engineering in 1972, by 1970 Census occupation

	1970 census occupation[1]	Total	Computer specialists	Engineers	Field of science or engineering in 1972									
					Mathematical specialists			Life scientists				Physical scientists		
					Total	Mathematicians	Statisticians	Total	Agricultural scientists	Biological scientists	Medical scientists	Total	Chemists	Physicists and astronomers	Other physical scientists
1	Total target occupations	115,557	3,391	25,797	2,185	1,604	581	4,891	2,025	2,139	727	6,248	3,644	2,128	476
2	Operations and computer specialists	14,820	2,809	780	189	163	26	32	9	17	6	61	18	35	8
3	Computer programmers	4,515	732	101	67	61	6	8	2	5	1	15	3	9	3
4	Computer systems analysts	4,596	1,453	185	59	50	9	11	4	5	2	18	4	11	3
5	Computer specialists, n.e.c.	991	215	116	17	16	1	3	1	1	1	7	1	6	—
6	Operations and systems analysts	4,718	409	378	46	36	10	10	2	6	2	21	10	9	2
7	Engineers	39,572	202	22,036	89	72	17	67	29	31	7	410	270	126	14
8	Aeronautical and astronautical engineers	4,715	23	2,985	23	21	2	6	2	3	1	46	12	31	3
9	Chemical engineers	4,308	14	3,233	5	5	—	9	2	6	1	192	173	16	3
10	Civil engineers	4,872	7	2,905	4	3	1	8	6	1	1	2	2	—	—
11	Electrical and electronic engineers	5,429	68	3,301	11	10	1	2	1	—	1	36	7	27	2
12	Industrial engineers	4,767	23	1,634	23	12	11	14	5	8	1	37	27	8	2
13	Mechanical engineers	4,761	13	2,824	5	5	—	3	1	2	—	6	—	6	—
14	Metallurgical and materials engineers	1,231	1	824	—	—	—	7	3	3	1	18	14	4	—
15	Mining and petroleum engineers	1,193	—	803	—	—	—	3	1	1	1	6	3	3	—
16	Sales engineers	4,060	14	1,329	1	1	—	3	1	2	—	12	7	4	1
17	Engineers, n.e.c., and engineering teachers	4,236	39	2,199	17	15	2	12	7	5	—	55	25	27	3
18	Mathematical specialists	4,579	155	139	1,679	1,218	461	22	4	12	6	50	21	25	4
19	Actuaries and statisticians	2,052	16	62	405	34	371	13	4	6	3	14	9	3	2
20	Mathematicians	2,527	139	77	1,274	1,184	90	9	—	6	3	36	12	22	2
21	Life scientists	6,611	4	71	6	1	5	3,713	1,718	1,683	312	291	91	7	193
22	Agricultural scientists	1,358	—	33	3	—	3	606	517	86	3	43	7	—	36
23	Foresters and conservationists[2]	1,369	1	17	—	—	—	1,037	1,018	17	2	14	2	—	12
24	Biological scientists	3,884	3	21	3	1	2	2,070	183	1,580	307	234	82	7	145
25	Physical scientists	10,560	37	803	37	34	3	203	40	98	65	4,634	2,707	1,753	174
26	Chemists	4,883	9	334	7	5	2	138	28	67	43	2,692	2,641	13	38
27	Physicists	2,888	18	323	15	15	—	38	2	15	21	1,822	37	1,709	76
28	Other physical scientists	2,789	10	146	15	14	1	27	10	16	1	120	29	31	60
29	Social scientists	10,116	67	217	60	27	33	73	21	24	28	54	29	9	16
30	Economists	4,564	63	170	44	15	29	30	19	7	4	23	18	3	2
31	Psychologists	3,030	2	5	3	1	2	23	—	6	17	7	2	—	5
32	Other social scientists	2,522	2	42	13	11	2	20	2	11	7	24	9	6	9
33	Engineering and science technicians	11,956	23	506	11	8	3	91	34	41	16	211	188	13	10
34	Agricultural, biological, and chemical technicians, excl. health technicians	2,105	2	34	2	2	—	50	19	23	8	158	150	2	6
35	Draftsmen	2,434	—	126	—	—	—	2	2	—	—	2	—	—	2
36	Electrical and electronic engineering technicians	2,025	8	79	2	1	1	2	—	1	1	5	4	1	—
37	Industrial and mechanical engineering technicians, and numerical control tool programmers	1,327	8	99	5	3	2	—	—	—	—	6	5	1	—
38	Surveyors	2,010	—	73	1	1	—	10	9	1	—	1	1	—	—
39	Mathematical technicians and engineering and science technicians, n.e.c.	2,055	5	95	1	1	—	27	4	16	7	39	28	9	2
40	Personnel and labor relations workers	2,506	5	50	7	6	1	14	7	4	3	12	8	3	1
41	Health specialties teachers	1,055	—	5	—	—	—	220	5	22	193	19	9	3	7
42	Trade, industrial, and technical teachers	122	1	1	—	—	—	2	—	—	2	—	—	—	—
43	Miscellaneous teachers	659	1	18	3	3	—	6	1	2	3	8	2	—	6
44	Teachers, subject not specified	2,018	7	125	33	27	6	123	24	78	21	98	47	42	9
45	Technicians, n.e.c.	1,234	3	17	1	1	—	5	2	2	1	8	6	2	—
46	Research workers, not specified	1,984	14	233	33	18	15	178	55	80	43	259	158	77	24
47	School administrators, college[3]	1,138	4	28	4	3	1	36	10	20	6	16	9	4	3
48	Managers and administrators, n.e.c.[3]	6,627	59	768	33	23	10	106	66	25	15	117	81	29	7

See footnote at end of table.

Table A-14.—Field of science or engineering in 1972, by 1970 Census occupation—Continued

	1970 census occupation[1]	Field of science or engineering in 1972									Not in a field of science or engineering in 1972
		Environmental scientists				Psychologists	Social scientists				
		Total	Atmospheric scientists	Earth scientists	Oceanographers		Total	Economists	Sociologists and anthropologists	Other social scientists	
1	Total target occupations	2,095	150	1,898	47	2,489	2,998	1,216	696	1,086	65,464
2	Operations and computer specialists	19	2	17	—	22	106	50	12	44	10,802
3	Computer programmers	6	1	5	—	9	5	4	—	1	3,572
4	Computer systems analysts	5	1	4	—	6	34	18	4	12	2,825
5	Computer specialists, n.e.c.	5	—	5	—	—	4	1	1	2	624
6	Operations and systems analysts	3	—	3	—	7	63	27	7	29	3,781
7	Engineers	71	6	65	—	21	69	31	8	30	16,607
8	Aeronautical and astronomical engineers	4	1	3	—	3	10	3	—	7	1,615
9	Chemical engineers	4	2	2	—	2	3	2	1	—	846
10	Civil engineers	14	—	14	—	1	6	2	—	4	1,925
11	Electrical and electronic engineers	2	1	1	—	—	4	2	—	2	2,005
12	Industrial engineers	4	2	2	—	7	27	15	2	10	2,998
13	Mechanical engineers	1	—	1	—	1	3	1	1	1	1,905
14	Metallurgical and material engineers	1	—	1	—	1	1	—	—	1	378
15	Mining and petroleum engineers	33	—	33	—	—	1	—	1	—	347
16	Sales engineers	2	—	2	—	2	5	2	1	2	2,693
17	Engineers, n.e.c., and engineering teachers	6	—	6	—	4	9	4	2	3	1,895
18	Mathematical specialists	8	—	8	—	25	75	36	10	29	2,426
19	Actuaries and statisticians	1	—	1	—	15	56	27	7	22	1,470
20	Mathematicians	7	—	7	—	10	19	9	3	7	956
21	Life scientists	53	5	44	4	48	46	19	10	17	2,379
22	Agricultural scientists	12	2	10	—	—	25	16	2	7	636
23	Foresters and conservationists[2]	9	—	8	1	—	3	1	—	2	288
24	Biological scientists	32	3	26	3	48	18	2	8	8	1,455
25	Physical scientists	1,815	123	1,660	32	8	25	5	8	12	2,998
26	Chemists	13	1	11	1	2	8	2	4	2	1,680
27	Physicists	27	2	23	2	6	8	2	4	2	631
28	Other physical scientists	1,775	120	1,626	29	—	9	1	—	8	687
29	Social scientists	10	—	10	—	2,108	2,111	924	541	646	5,416
30	Economists	3	—	3	—	10	992	917	5	70	3,229
31	Psychologists	—	—	—	—	2,082	117	—	17	100	791
32	Other social scientists	7	—	7	—	16	1,002	7	519	476	1,396
33	Engineering and science technicians	15	1	14	—	5	11	2	5	4	11,083
34	Agricultural, biological, and chemical technicians, excl. health technicians	3	—	3	—	—	2	—	1	1	1,854
35	Draftsmen	3	—	3	—	2	—	—	—	—	2,299
36	Electrical and electronic engineering technicians	1	1	—	—	—	2	1	1	—	1,926
37	Industrial and mechanical engineering technicians, and numerical control tool programmers	—	—	—	—	—	2	1	—	1	1,207
38	Surveyors	—	—	—	—	—	2	—	1	1	1,923
39	Mathematical technicians and engineering and science technicians, n.e.c.	8	—	8	—	3	3	—	2	1	1,874
40	Personnel and labor relations workers	1	—	1	—	20	53	9	4	40	2,344
41	Health specialties teachers	1	—	1	—	28	11	1	2	8	771
42	Trade, industrial, and technical teachers	—	—	—	—	1	1	—	—	1	116
43	Miscellaneous teachers	13	2	11	—	1	49	1	2	46	560
44	Teachers, subject not specified	25	—	23	2	61	127	32	46	49	1,419
45	Technicians, n.e.c.	2	1	1	—	1	3	—	1	2	1,194
46	Research workers, not specified	37	7	21	9	68	111	27	25	59	1,051
47	School administrators, college[2]	5	—	5	—	35	53	17	6	30	957
48	Managers and administrators, n.e.c.[2]	20	3	17	—	36	147	62	16	69	5,341

[1] For detailed information on the composition of the census occupational categories, see U.S. Bureau of the Census, **Characteristics of Persons in Engineering and Scientific Occupations: 1972**, Technical Paper No. 33, 1974, appendix A (especially list A, page 120) for categories with line numbers 33-48, and appendix E for categories with line numbers 2-32.

[2] Excludes persons with fewer than four years of college.

NOTE: — Represents zero; n.e.c. Not elsewhere classified.

SOURCE: Bureau of the Census.

Analysis of Response

Table A-15 presents response rates of various components of the sample for the 1974 National Survey of Scientists and Engineers. The characteristics presented here are based on the 1970 census or on the 1974 survey. Since the percentages in the table are based on a complete count of the sample cases, no reference to the standard error tables is necessary.

Men were more likely than women to respond in the 1974 survey. About 88 percent of the men in the survey panel responded, compared with about 85 percent of the women.

Response rates increased steadily by age from a rate of nearly 76 percent for panel members under 25-years old to almost 92 percent for the age group 55 to 59-years old. After peaking for the 55 to 59 years of age group, however, the response rate made slight declines in the groups above 60, dropping to around 90 percent for persons 65 years and over. Since nonrespondents include deceased persons, this slight decrease in rates is expected. Overall, except for the two youngest age groups, over 85 percent of each age category responded in the 1974 survey; even the youngest groups, however, had rates above 75 percent.

There were only slight differences in response rates for 1974 among the various fields of science or engineering in 1972. The highest response rate, 91 percent, was that for environmental scientists, one of the oldest groups on the average. The lowest response rate was approximately 86 percent for computer specialists, social scientists, and psychologists.

Table A-15.—Percent distribution—analysis of response in the 1974 National Survey of Scientists and Engineers, by field of science or engineering in 1972, age in 1974, and sex

Sex, age in 1974, and field of science or engineering in 1972	Total number	Percent distribution		
		Total	Respondents	Nonrespondents
Total	50,093	100.0	88.2	11.8
SEX				
Male	46,877	100.0	88.3	11.7
Female	3,216	100.0	85.4	14.6
AGE IN 1974				
Under 25 years	9	100.0	75.8	24.2
25 to 29 years	4,730	100.0	83.9	16.1
30 to 34 years	9,174	100.0	85.6	14.4
35 to 39 years	8,312	100.0	87.1	12.9
40 to 44 years	7,797	100.0	88.8	11.2
45 to 49 years	7,057	100.0	89.7	10.3
50 to 54 years	5,646	100.0	91.3	8.7
55 to 59 years	3,495	100.0	91.6	8.4
60 to 64 years	2,161	100.0	91.1	8.9
65 years and over	1,622	100.0	89.5	10.5
FIELD OF SCIENCE OR ENGINEERING IN 1972				
Computer specialists	3,391	100.0	85.6	14.4
Engineers	25,797	100.0	88.1	11.9
Mathematical scientists	2,185	100.0	88.4	11.6
Life scientists	4,891	100.0	89.7	10.3
Physical scientists	6,248	100.0	89.9	10.1
Environmental scientists	2,095	100.0	90.7	9.3
Psychologists	2,488	100.0	86.1	13.9
Social scientists	2,998	100.0	85.5	14.5

SOURCE: Bureau of the Census.

APPENDIX B

Detailed Statistical Tables

SCIENTISTS AND ENGINEERS BY FIELD

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Table B-1. – Number of scientists and engineers by field, sex, and age: 1974

Field and sex	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Total, all fields	1,079,698	2,137	106,274	182,024	175,473	162,207	155,926	125,831	78,795	51,134	26,963	12,934
Male	1,025,741	2,064	92,692	170,567	168,549	156,452	151,291	121,353	75,992	48,708	25,659	12,414
Female	53,957	73	13,582	11,457	6,924	5,755	4,635	4,478	2,803	2,426	1,304	520
Physical scientists	121,011	304	11,003	22,276	21,525	16,745	15,738	13,770	9,087	5,919	3,166	1,478
Male	111,936	293	8,808	20,297	20,071	15,792	14,857	12,977	8,783	5,582	3,030	1,446
Female	9,075	11	2,195	1,979	1,454	953	881	793	304	337	136	32
Chemists	87,334	193	8,254	14,731	14,317	11,619	11,755	10,877	7,044	4,941	2,572	1,031
Male	79,237	193	6,166	12,906	13,119	10,303	10,966	10,172	6,789	4,666	2,436	1,015
Female	8,103	(1)	2,088	1,825	1,198	816	789	705	255	275	136	16
Physicists/ astronomers	27,519	100	2,286	6,431	5,928	4,139	2,963	2,370	1,545	882	483	394
Male	26,784	100	2,241	6,344	5,739	4,002	2,901	2,282	1,494	820	483	378
Female	735	(1)	45	87	189	137	62	88	49	62	(1)	16
Other physical scientists	6,158	11	463	1,114	1,280	987	1,020	523	500	96	111	53
Male	5,921	(1)	401	1,047	1,213	987	990	523	500	96	111	53
Female	237	11	62	67	67	(1)	30	(1)	(1)	(1)	(1)	(1)
Mathematical scientists	27,833	86	3,603	7,098	4,907	3,822	3,259	1,694	1,465	1,100	553	246
Male	23,795	70	2,520	6,135	4,509	3,549	2,857	1,425	1,183	883	444	220
Female	4,038	16	1,083	963	398	273	402	269	282	217	109	26
Mathe-maticians	20,076	33	2,696	5,438	3,591	2,684	2,624	1,039	891	550	383	139
Male	17,412	33	1,902	4,842	3,241	2,508	2,270	932	776	451	318	139
Female	2,664	(1)	794	596	350	176	354	107	115	107	65	(1)
Statisticians	7,757	53	907	1,660	1,316	1,138	635	655	574	542	170	107
Male	6,383	37	618	1,293	1,268	1,041	587	493	407	432	126	81
Female	1,374	16	289	367	48	97	48	162	167	110	44	26
Computer specialists	55,186	15	9,629	18,439	10,844	8,370	4,484	1,979	932	254	164	76
Male	48,439	15	6,924	16,123	10,150	8,010	4,161	1,761	932	184	143	36
Female	6,747	(1)	2,705	2,316	694	360	323	218	(1)	70	21	40
Environmental scientists	29,466	15	2,007	3,888	4,273	5,656	4,873	4,225	2,201	1,606	523	199
Male	28,572	15	1,799	3,799	4,243	5,491	4,841	3,961	2,168	1,533	523	199
Female	894	(1)	208	89	30	165	32	264	33	73	(1)	(1)
Earth scientists	24,589	15	1,671	3,187	3,320	4,935	4,420	3,312	1,700	1,464	379	186
Male	23,772	15	1,475	3,098	3,290	4,770	4,388	3,113	1,667	1,391	379	186
Female	817	(1)	196	89	30	165	32	199	33	73	(1)	(1)
Ocean-ographers	1,563	(1)	186	331	489	106	157	111	40	35	108	(1)
Male	1,563	(1)	186	331	489	106	157	111	40	35	108	(1)
Female	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Atmospheric scientists	3,314	(1)	150	370	464	615	296	802	461	107	36	13
Male	3,237	(1)	138	370	464	615	296	737	461	107	36	13
Female	77	(1)	12	(1)	(1)	(1)	(1)	65	(1)	(1)	(1)	(1)
Engineers	687,911	1,485	62,413	99,861	108,039	104,852	107,929	87,427	53,826	34,872	18,584	8,623
Male	684,552	1,485	61,314	99,176	107,761	104,545	107,661	87,188	53,698	34,677	18,424	8,623
Female	3,359	(1)	1,099	685	278	307	268	239	128	195	160	(1)
Life scientists	75,462	167	7,189	13,670	13,278	11,957	9,866	7,316	5,857	3,504	1,687	971
Male	65,483	137	5,347	11,524	11,740	10,539	9,217	6,445	5,198	2,944	1,477	915
Female	9,979	30	1,842	2,146	1,538	1,418	649	871	659	560	210	56
Biological scientists	35,935	98	4,346	7,703	6,131	5,147	4,644	2,815	2,535	1,465	698	353
Male	29,601	68	2,931	6,088	5,355	4,419	4,205	2,277	2,059	1,283	590	326
Female	6,334	30	1,415	1,615	776	728	439	538	476	182	108	27
Agricultural [illegible]ts	28,790	69	2,064	4,075	5,214	4,947	4,130	3,236	2,310	1,388	833	524
[illegible]	28,450	69	2,005	4,060	5,038	4,947	4,130	3,219	2,310	1,388	773	511
[illegible]e	340	(1)	59	15	176	(1)	(1)	17	(1)	(1)	60	13

Table B-1—Con.

Field and sex	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Medical scientists	10,737	[1]	779	1,992	1,933	1,863	1,092	1,265	1,012	651	156	94
Male	7,432	[1]	411	1,376	1,347	1,173	882	949	829	273	114	78
Female	3,305	[1]	368	516	586	690	210	316	183	378	42	16
Psychologists	34,889	35	4,698	7,164	5,287	4,909	4,801	3,694	1,951	1,186	730	434
Male	25,105	19	3,128	5,494	3,956	3,609	3,664	2,815	1,245	637	327	211
Female	9,784	16	1,570	1,670	1,331	1,300	1,137	879	706	549	403	223
Social scientists	47,940	30	5,732	9,628	7,320	5,896	4,976	5,726	3,476	2,693	1,556	907
Male	37,859	30	2,852	8,019	6,119	4,917	4,033	4,781	2,785	2,268	1,291	764
Female	10,081	[1]	2,880	1,609	1,201	979	943	945	691	425	265	143
Economists	19,754	15	1,800	3,552	2,840	2,596	2,006	2,719	1,369	1,479	841	537
Male	17,854	15	1,455	3,035	2,696	2,386	1,888	2,497	1,233	1,413	699	537
Female	1,900	[1]	345	517	144	210	118	222	136	66	142	[1]
Sociologists/ anthropologists	11,158	[1]	1,495	2,706	1,844	1,202	1,158	1,413	648	528	81	83
Male	8,039	[1]	637	2,162	1,374	877	813	1,170	486	368	69	83
Female	3,119	[1]	858	544	470	325	345	243	162	160	12	[1]
Other social scientists	17,028	15	2,437	3,370	2,636	2,098	1,812	1,594	1,459	686	634	287
Male	11,966	15	760	2,822	2,049	1,654	1,332	1,114	1,066	487	523	144
Female	5,062	[1]	1,677	548	587	444	480	480	393	199	111	143

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

Table B-2.—Number of scientists and engineers by field, race, and age: 1974

Field and race	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Total, all fields	1,079,698	2,137	106,274	182,024	175,473	162,207	155,926	125,831	78,795	51,134	26,963	12,934
White/ Caucasian	1,039,010	2,119	103,120	173,175	166,491	154,214	150,630	122,607	77,276	50,245	26,372	12,761
Black/Negro	11,102	(1)	833	2,024	2,073	2,092	1,629	1,219	528	418	247	39
American Indian	903	(1)	35	201	237	178	176	14	(1)	26	(1)	36
Chinese, Japanese, Korean	23,497	18	1,515	5,090	5,232	5,120	3,056	1,961	916	277	287	25
Other races	5,186	(1)	771	1,534	1,440	603	435	30	75	168	57	73
Physical scientists	121,011	304	11,003	22,276	21,525	16,745	15,738	13,770	9,087	5,919	3,166	1,478
White/ Caucasian	113,860	304	10,602	20,903	19,544	14,776	15,199	13,416	8,719	5,801	3,118	1,478
Black/Negro	2,206	(1)	103	472	500	643	141	97	214	16	20	(1)
American Indian	240	(1)	(1)	(1)	168	72	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	3,905	(1)	134	607	1,107	1,169	374	257	127	102	28	(1)
Other races	800	(1)	164	294	206	85	24	(1)	27	(1)	(1)	(1)
Chemists	87,334	193	8,254	14,731	14,317	11,619	11,755	10,877	7,044	4,941	2,572	1,031
White/ Caucasian	81,858	193	7,920	13,579	12,864	10,153	11,298	10,605	6,836	4,855	2,524	1,031
Black/Negro	3,853	(1)	52	456	470	595	125	81	54	(1)	20	(1)
American Indian	240	(1)	(1)	(1)	168	72	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	2,649	(1)	118	418	643	730	308	191	127	86	28	(1)
Other races	734	(1)	164	278	172	69	24	(1)	27	(1)	(1)	(1)
Physicists/ astronomers	27,519	100	2,286	6,431	5,928	4,139	2,963	2,370	1,543	882	483	394
White/ Caucasian	26,118	100	2,254	6,227	5,430	3,668	2,897	2,288	1,527	850	483	394
Black/Negro	128	(1)	16	16	(1)	32	16	16	16	16	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	1,207	(1)	16	172	464	423	50	66	(1)	16	(1)	(1)
Other races	66	(1)	(1)	16	34	16	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	6,158	11	463	1,114	1,280	987	1,020	523	500	96	111	53
White/ Caucasian	5,884	11	428	1,097	1,250	955	1,004	523	356	96	111	53
Black/Negro	225	(1)	35	(1)	30	16	(1)	(1)	144	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	49	(1)	(1)	17	(1)	16	16	(1)	(1)	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Mathematical scientists	27,833	86	3,603	7,098	4,907	3,822	3,259	1,694	1,465	1,100	553	246
White/ Caucasian	25,902	86	3,384	6,704	4,558	3,290	3,133	1,475	1,428	1,063	535	246
Black/Negro	1,034	(1)	196	289	109	148	108	128	37	19	(1)	(1)
American Indian	37	(1)	(1)	19	(1)	18	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	733	(1)	23	68	221	294	18	91	(1)	18	(1)	(1)
Other races	127	(1)	(1)	18	19	72	(1)	(1)	(1)	(1)	18	(1)

Table B-2—Con.

Field and race	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	64-69	70 & over
Mathematicians	20,076	33	2,696	5,438	3,591	2,684	2,624	1,039	891	558	383	139
White/Caucasian	18,833	33	2,533	5,138	3,371	2,428	2,536	878	873	521	383	139
Black/Negro	787	(1)	140	251	90	92	70	107	18	19	(1)	(1)
American Indian	18	(1)	(1)	(1)	(1)	18	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	401	(1)	23	49	111	128	18	54	(1)	18	(1)	(1)
Other races	37	(1)	(1)	(1)	19	18	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	7,757	53	907	1,660	1,316	1,138	635	655	574	542	170	107
White/Caucasian	7,069	53	851	1,566	1,187	862	597	597	555	542	152	107
Black/Negro	247	(1)	56	38	19	56	38	21	19	(1)	(1)	(1)
American Indian	19	(1)	(1)	19	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	332	(1)	(1)	19	110	166	(1)	37	(1)	(1)	(1)	(1)
Other races	90	(1)	(1)	18	(1)	54	(1)	(1)	(1)	(1)	18	(1)
Computer specialists	55,186	15	9,629	18,439	10,844	8,370	4,484	1,979	932	254	164	76
White/Caucasian	53,274	15	9,447	17,975	10,471	7,937	4,294	1,825	886	254	94	76
Black/Negro	842	(1)	102	139	151	205	54	99	22	(1)	70	(1)
American Indian	50	(1)	(1)	(1)	(1)	(1)	50	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	708	(1)	44	265	79	206	35	55	24	(1)	(1)	(1)
Other races	312	(1)	36	60	143	22	51	(1)	(1)	(1)	(1)	(1)
Environmental scientists	29,466	15	2,007	3,888	4,273	5,656	4,873	4,225	2,201	1,606	523	199
White/Caucasian	28,913	15	1,972	3,875	4,203	5,412	4,848	4,182	2,189	1,567	451	199
Black/Negro	47	(1)	35	(1)	(1)	(1)	(1)	(1)	(1)	12	(1)	(1)
American Indian	70	(1)	(1)	13	(1)	57	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	409	(1)	(1)	(1)	56	187	12	43	12	27	72	(1)
Other Races	27	(1)	(1)	(1)	14	(1)	13	(1)	(1)	(1)	(1)	(1)
Earth scientists	24,589	15	1,671	3,187	3,320	4,935	4,420	3,312	1,700	1,464	379	186
White/Caucasian	24,201	15	1,536	3,174	3,295	4,691	4,407	3,281	1,700	1,437	379	186
Black/Negro	35	(1)	35	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	70	(1)	(1)	13	(1)	57	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	256	(1)	(1)	(1)	11	187	(1)	31	(1)	27	(1)	(1)
Other races	27	(1)	(1)	(1)	14	(1)	13	(1)	(1)	(1)	(1)	(1)
Oceanographers	1,563	(1)	186	331	489	106	157	111	40	35	108	(1)
White/Caucasian	1,474	(1)	186	331	472	106	157	111	40	35	36	(1)
Black/Negro	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	89	(1)	(1)	(1)	17	(1)	(1)	(1)	(1)	(1)	72	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

(1) Note at end of table.

Table B-2—Con.

Field and race	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Atmospheric scientists	3,314	(1)	150	370	464	615	296	802	461	107	36	13
White/ Caucasian	3,238	(1)	150	370	436	615	284	790	449	95	36	13
Black/Negro	12	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	12	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	64	(1)	(1)	(1)	28	(1)	12	12	12	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineers	687,911	1,485	62,413	99,861	108,039	104,852	107,929	87,427	53,826	34,872	18,584	8,623
White/ Caucasian	664,721	1,467	60,354	94,176	103,183	101,226	104,323	85,590	53,096	34,347	18,445	8,514
Black/Negro	4,492	(1)	328	889	861	542	947	513	170	242	(1)	(1)
American Indian	336	(1)	15	152	(1)	31	89	(1)	(1)	13	(1)	36
Chinese, Japanese, Korean	15,003	18	1,159	3,636	3,129	2,720	2,289	1,324	526	102	100	(1)
Other races	3,359	(1)	557	1,008	866	333	281	(1)	34	168	39	73
Life scientists	75,462	167	7,189	13,670	13,278	11,957	9,866	7,316	5,857	3,504	1,687	971
White/ Caucasian	72,059	167	6,992	13,147	12,375	11,276	9,327	7,034	5,720	3,376	1,687	958
Black/Negro	1,173	(1)	28	96	252	257	295	145	13	87	(1)	(1)
American Indian	108	(1)	(1)	17	51	(1)	13	14	(1)	13	(1)	(1)
Chinese, Japanese, Korean	1,768	(1)	155	363	455	351	184	109	110	28	(1)	13
Other races	354	(1)	14	47	145	73	47	14	14	(1)	(1)	(1)
Biological scientists	35,935	98	4,346	7,703	6,131	5,147	4,644	2,815	2,535	1,465	698	353
White/ Caucasian	33,643	98	4,176	7,346	5,443	4,788	4,224	2,714	2,439	1,364	698	353
Black/Negro	846	(1)	28	79	226	134	232	47	13	87	(1)	(1)
American Indian	65	(1)	(1)	(1)	51	(1)	(1)	14	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	1,181	(1)	142	260	294	193	155	40	83	14	(1)	(1)
Other races	200	(1)	(1)	18	117	32	33	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	28,790	69	2,064	4,075	5,214	4,947	4,130	3,236	2,310	1,388	833	524
White/ Caucasian	28,312	69	2,051	4,012	5,054	4,903	4,070	3,138	2,283	1,375	833	524
Black/Negro	117	(1)	(1)	(1)	13	(1)	34	70	(1)	(1)	(1)	(1)
American Indian	43	(1)	(1)	17	(1)	(1)	13	(1)	(1)	13	(1)	(1)
Chinese, Japanese, Korean	305	(1)	13	46	147	31	13	28	27	(1)	(1)	(1)
Other races	13	(1)	(1)	(1)	(1)	13	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	10,737	(1)	779	1,892	1,933	1,863	1,092	1,265	1,012	651	156	94
White/ Caucasian	10,104	(1)	765	1,789	1,878	1,585	1,033	1,182	998	637	156	81
Black/Negro	210	(1)	(1)	17	13	123	29	28	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	282	(1)	(1)	57	14	127	16	41	(1)	14	(1)	13
Races	141	(1)	14	29	28	28	14	14	14	(1)	(1)	(1)

Table B-2—Con.

Field and race	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Psychologists ..	34,889	35	4,698	7,164	5,287	4,909	4,801	3,694	1,951	1,186	730	434
White/ Caucasian ...	34,052	35	4,668	7,054	5,125	4,679	4,698	3,554	1,935	1,155	730	419
Black/Negro .	636	[1]	30	30	94	212	68	140	16	31	[1]	15
American Indian	18	[1]	[1]	[1]	18	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Chinese, Japanese, Korean	97	[1]	[1]	66	15	[1]	16	[1]	[1]	[1]	[1]	[1]
Other races ..	86	[1]	[1]	14	35	18	19	[1]	[1]	[1]	[1]	[1]
Social scientists	47,940	30	5,732	9,628	7,320	5,896	4,976	5,726	3,476	2,693	1,556	907
White/ Caucasian ...	46,229	30	5,701	9,341	7,032	5,618	4,808	5,531	3,303	2,682	1,312	871
Black/Negro .	672	[1]	11	109	106	85	16	97	56	11	157	24
American Indian	44	[1]	20	[1]	[1]	[1]	24	[1]	[1]	[1]	[1]	[1]
Chinese, Japanese, Korean	874	[1]	[1]	85	170	193	128	82	117	[1]	87	12
Other races ..	121	[1]	[1]	93	12	[1]	[1]	16	[1]	[1]	[1]	[1]
Economists ...	19,754	15	1,800	3,552	2,840	2,596	2,006	2,719	1,369	1,479	841	537
White/ Caucasian ...	18,823	15	1,780	3,363	2,737	2,394	1,884	2,661	1,230	1,479	767	513
Black/Negro .	237	[1]	[1]	38	42	72	[1]	39	22	[1]	[1]	24
American Indian	44	[1]	20	[1]	[1]	[1]	24	[1]	[1]	[1]	[1]	[1]
Chinese, Japanese, Korean	557	[1]	[1]	58	61	130	98	19	117	[1]	74	[1]
Other races ..	93	[1]	[1]	93	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Sociologists/ anthropologists	11,158	[1]	1,495	2,706	1,844	1,202	1,158	1,413	648	528	81	83
White/ Caucasian ...	10,845	[1]	1,484	2,679	1,699	1,202	1,142	1,368	614	517	69	71
Black/Negro .	179	[1]	11	11	39	[1]	16	45	34	11	12	[1]
American Indian	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Chinese, Japanese, Korean	122	[1]	[1]	16	94	[1]	[1]	[1]	[1]	[1]	[1]	12
Other races ..	12	[1]	[1]	[1]	12	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Other social scientists	17,028	15	2,437	3,370	2,636	2,098	1,812	1,594	1,459	686	634	287
White/ Caucasian ...	16,561	15	2,437	3,299	2,596	2,022	1,782	1,502	1,459	686	476	287
Black/Negro .	256	[1]	[1]	60	25	13	[1]	13	[1]	[1]	145	[1]
American Indian	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Chinese, Japanese, Korean	195	[1]	[1]	11	15	63	30	63	[1]	[1]	13	[1]
Other races ..	16	[1]	[1]	[1]	[1]	[1]	[1]	16	[1]	[1]	[1]	[1]

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

Table B-3.—Number of scientists and engineers by field, sex, and race: 1974

Field and sex	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Total, all fields	*1,079,698*	*1,039,010*	*11,102*	*903*	*23,497*	*5,186*
Male	1,025,741	988,973	9,388	858	22,075	4,447
Female	53,957	50,037	1,714	45	1,422	739
Physical scientists	121,011	113,860	2,206	240	3,905	800
Male	111,936	106,040	1,924	240	3,357	375
Female	9,075	7,820	282	(1)	548	425
Chemists	87,334	81,858	1,853	240	2,649	734
Male	79,231	74,906	1,654	240	2,122	309
Female	8,103	6,952	199	(1)	527	425
Physicists/astronomers	27,519	26,118	128	(1)	1,207	66
Male	26,784	25,436	96	(1)	1,186	65
Female	735	682	32	(1)	21	(1)
Other physical scientists	6,158	5,884	225	(1)	49	(1)
Male	5,921	5,698	174	(1)	49	(1)
Female	237	186	51	(1)	(1)	(1)
Mathematical scientists	27,833	25,902	1,034	37	733	127
Male	23,795	22,326	664	19	677	109
Female	4,038	3,576	370	18	56	18
Mathematicians	20,076	18,833	787	18	401	37
Male	17,412	16,459	533	(1)	383	37
Female	2,664	2,374	254	18	18	(1)
Statisticians	7,757	7,069	247	19	332	90
Male	6,383	5,867	131	19	294	72
Female	1,374	1,202	116	(1)	38	18
Computer specialists	55,186	53,274	842	50	708	312
Male	48,439	46,845	644	50	588	312
Female	6,747	6,429	198	(1)	120	(1)
Environmental scientists	29,466	28,913	47	70	409	27
Male	28,572	28,139	47	57	302	27
Female	894	774	(1)	13	107	(1)
Earth scientists	24,589	24,201	35	70	256	27
Male	23,772	23,504	35	57	149	27
Female	817	697	(1)	13	107	(1)
Oceanographers	1,563	1,474	(1)	(1)	89	(1)
Male	1,563	1,474	(1)	(1)	89	(1)
Female	(1)	(1)	(1)	(1)	(1)	(1)
Atmospheric scientists	3,314	3,238	12	(1)	64	(1)
Male	3,237	3,161	12	(1)	64	(1)
Female	77	77	(1)	(1)	(1)	(1)
Engineers	687,911	664,721	4,492	336	15,003	3,359
Male	684,552	661,694	4,435	336	14,834	3,253
Female	3,359	3,027	57	(1)	169	106
Life scientists	75,462	72,059	1,173	108	1,768	354
Male	65,483	62,933	824	94	1,435	197
Female	9,979	9,126	349	14	333	157
Biological scientists	35,935	33,643	846	65	1,181	200
Male	29,601	27,860	645	51	932	113
Female	6,334	5,783	201	14	249	87
Agricultural scientists	28,790	28,312	117	43	305	13
Male	28,450	27,972	117	43	305	13
Female	340	340	(1)	(1)	(1)	(1)
Medical scientists	10,737	10,104	210	(1)	282	141
Male	7,432	7,101	62	(1)	198	71
Female	3,305	3,003	148	(1)	84	70
Psychologists	34,889	34,052	636	18	97	86
Male	25,105	24,644	322	18	68	53
Female	9,784	9,408	314	(1)	29	33
Social scientists	47,940	46,229	672	44	874	121
Male	37,859	36,352	528	44	814	121
Female	10,081	9,877	144	(1)	60	(1)
Economists	19,754	18,823	237	44	557	93
Male	17,854	16,989	193	44	535	93
Female	1,900	1,834	44	(1)	22	(1)
Sociologists/ anthropologists	11,158	10,845	179	(1)	122	12
Male	8,039	7,771	145	(1)	111	12
Female	3,119	3,074	34	(1)	11	(1)
Other social scientists	17,028	16,561	256	(1)	195	16
Male	11,966	11,592	190	(1)	168	16
Female	5,062	4,969	66	(1)	27	(1)

[1] No cases reported.

SOURCE: National Science Foundation, National Sample, 1974.

Table B-4.—Number of scientists and engineers by field, sex, and highest degree: 1974

Field and sex	Total	Doctorate	Professional/ medical	Master's	Bachelor's	Associate	Other	No degree
Total, all fields	1,079,698	180,870	3,248	242,289	620,396	12,539	101	20,255
Male	1,025,741	167,481	2,963	223,076	599,341	12,524	101	20,255
Female	53,957	13,389	285	19,213	21,055	15	(1)	(1)
Physical scientists	121,011	54,665	175	22,349	43,822	(1)	(1)	(1)
Male	111,936	52,122	175	20,233	39,406	(1)	(1)	(1)
Female	9,075	2,543	(1)	2,116	4,416	(1)	(1)	(1)
Chemists	87,334	35,897	175	14,743	36,519	(1)	(1)	(1)
Male	79,231	33,843	175	12,935	32,278	(1)	(1)	(1)
Female	8,103	2,054	(1)	1,808	4,241	(1)	(1)	(1)
Physicists/astronomers	27,519	16,874	(1)	5,860	4,785	(1)	(1)	(1)
Male	26,784	16,400	(1)	5,663	4,721	(1)	(1)	(1)
Female	735	474	(1)	197	64	(1)	(1)	(1)
Other physical scientists	6,158	1,894	(1)	1,746	2,518	(1)	(1)	(1)
Male	5,921	1,879	(1)	1,635	2,407	(1)	(1)	(1)
Female	237	15	(1)	111	111	(1)	(1)	(1)
Mathematical scientists	27,833	10,022	147	9,328	8,336	(1)	(1)	(1)
Male	23,795	9,490	147	7,674	6,484	(1)	(1)	(1)
Female	4,038	532	(1)	1,654	1,852	(1)	(1)	(1)
Mathematicians	20,076	7,708	77	6,992	5,299	(1)	(1)	(1)
Male	17,412	7,336	77	5,740	4,259	(1)	(1)	(1)
Female	2,664	372	(1)	1,252	1,040	(1)	(1)	(1)
Statisticians	7,757	2,314	70	2,336	3,037	(1)	(1)	(1)
Male	6,383	2,154	70	1,934	2,225	(1)	(1)	(1)
Female	1,374	160	(1)	402	812	(1)	(1)	(1)
Computer specialists	55,186	2,604	153	14,815	37,614	(1)	(1)	(1)
Male	48,439	2,438	133	13,378	32,490	(1)	(1)	(1)
Female	6,747	166	20	1,437	5,124	(1)	(1)	(1)
Environmental scientists	29,466	8,054	62	8,443	12,907	(1)	(1)	(1)
Male	28,572	7,824	62	7,883	12,803	(1)	(1)	(1)
Female	894	230	(1)	560	104	(1)	(1)	(1)
Earth scientists	24,589	6,253	62	6,927	11,347	(1)	(1)	(1)
Male	23,772	6,088	62	6,379	11,243	(1)	(1)	(1)
Female	817	165	(1)	548	104	(1)	(1)	(1)
Oceanographers	1,563	957	(1)	449	157	(1)	(1)	(1)
Male	1,563	957	(1)	449	157	(1)	(1)	(1)
Female	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Atmospheric scientists	3,314	844	(1)	1,067	1,403	(1)	(1)	(1)
Male	3,237	779	(1)	1,055	1,403	(1)	(1)	(1)
Female	77	65	(1)	12	(1)	(1)	(1)	(1)
Engineers	687,911	31,879	1,002	145,290	476,845	12,539	101	20,255
Male	684,552	31,853	1,002	144,056	474,761	12,524	101	20,255
Female	3,359	26	(1)	1,234	2,084	15	(1)	(1)
Life scientists	75,462	31,765	1,416	16,789	25,492	(1)	(1)	(1)
Male	65,483	28,731	1,224	13,195	22,333	(1)	(1)	(1)
Female	9,979	3,034	192	3,594	3,159	(1)	(1)	(1)
Biological scientists	35,935	19,981	153	9,187	6,614	(1)	(1)	(1)
Male	29,601	17,663	139	6,786	5,013	(1)	(1)	(1)
Female	6,334	2,318	14	2,401	1,601	(1)	(1)	(1)
Agricultural scientists	28,790	6,519	25	5,618	16,628	(1)	(1)	(1)
Male	28,450	6,452	25	5,434	16,539	(1)	(1)	(1)
Female	340	67	(1)	184	89	(1)	(1)	(1)
Medical scientists	10,737	5,265	1,238	1,984	2,250	(1)	(1)	(1)
Male	7,432	4,616	1,060	975	781	(1)	(1)	(1)
Female	3,305	649	178	1,009	1,469	(1)	(1)	(1)
Psychologists	34,889	20,404	53	11,034	3,398	(1)	(1)	(1)
Male	25,105	16,263	40	6,417	2,385	(1)	(1)	(1)
Female	9,784	4,141	13	4,617	1,013	(1)	(1)	(1)
Social scientists	47,940	21,477	240	14,241	11,982	(1)	(1)	(1)
Male	37,859	18,760	180	10,240	8,679	(1)	(1)	(1)
Female	10,081	2,717	60	4,001	3,303	(1)	(1)	(1)

(1) Footnote at end of table.

Table B-4—Con.

Field and sex	Total	Doctorate	Professional/ medical	Master's	Bachelor's	Associate	Other	No degree
Economists	19,754	8,792	181	5,119	5,662	(1)	(1)	(1)
Male	17,854	8,263	135	4,560	4,896	(1)	(1)	(1)
Female	1,900	529	46	559	766	(1)	(1)	(1)
Sociologists/anthropologists	11,158	6,470	14	2,937	1,737	(1)	(1)	(1)
Male	8,039	5,255	(1)	1,682	1,102	(1)	(1)	(1)
Female	3,119	1,215	14	1,255	635	(1)	(1)	(1)
Other social scientists	17,028	6,215	45	6,185	4,583	(1)	(1)	(1)
Male	11,966	5,242	45	3,998	2,681	(1)	(1)	(1)
Female	5,062	973	(1)	2,187	1,902	(1)	(1)	(1)

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

Table B-5.—Number of scientists and engineers by field, highest degree, and age: 1974

Field and highest degree	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Total, all fields	1,079,698	2,137	106,274	182,024	175,473	162,207	155,926	125,831	78,795	51,134	26,963	12,934
Doctorate	180,870	141	9,076	37,428	37,047	29,798	22,638	17,755	12,131	7,690	4,673	2,493
Professional/ medical	3,248	(1)	70	275	313	551	474	643	351	372	122	77
Master's	242,289	380	28,687	52,875	42,891	33,595	30,133	22,865	14,881	8,852	4,644	2,486
Bachelor's	620,396	1,446	66,015	87,446	90,098	92,202	97,148	80,026	48,834	32,438	16,959	7,784
Associate	12,539	130	1,049	2,267	1,846	3,073	1,731	1,165	917	350	(1)	11
Other	101	(1)	(1)	13	12	(1)	39	37	(1)	(1)	(1)	(1)
No degree	20,255	40	1,377	1,720	3,266	2,988	3,763	3,340	1,681	1,432	565	83
Physical scientists	121,011	304	11,003	22,276	21,525	16,745	15,738	13,770	9,087	5,919	3,166	1,478
Doctorate	54,665	53	2,839	11,358	11,150	8,415	6,658	5,552	3,712	2,503	1,634	791
Professional/ medical	175	(1)	(1)	(1)	(1)	(1)	28	24	100	23	(1)	(1)
Master's	22,349	103	2,510	3,715	4,327	2,757	2,643	2,772	1,825	1,027	427	243
Bachelor's	43,822	148	5,654	7,203	6,048	5,573	6,409	5,422	3,450	2,366	1,105	444
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chemists	87,334	193	8,254	14,731	14,317	11,619	11,755	10,877	7,044	4,941	2,572	1,031
Doctorate	35,897	53	2,181	6,644	6,878	5,212	4,578	3,934	2,966	1,885	1,154	412
Professional/ medical	175	(1)	(1)	(1)	(1)	(1)	28	24	100	23	(1)	(1)
Master's	14,743	103	1,338	2,271	2,480	1,896	1,839	2,080	1,365	801	368	202
Bachelor's	36,519	37	4,735	5,816	4,959	4,511	5,310	4,839	2,613	2,232	1,050	417
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Physicists/ Astronomers	27,519	100	2,286	6,431	5,928	4,139	2,963	2,370	1,543	882	483	394
Doctorate	16,874	(1)	523	4,431	3,777	2,853	1,835	1,424	720	594	391	326
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	5,860	(1)	1,020	1,141	1,260	555	572	608	403	201	59	41
Bachelor's	4,785	100	743	859	891	731	556	338	420	87	33	27
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	6,158	11	463	1,114	1,280	987	1,020	523	500	96	111	53
Doctorate	1,894	(1)	135	283	495	350	245	194	26	24	89	53
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,746	(1)	152	303	587	306	232	84	57	25	(1)	(1)
Bachelor's	2,518	11	176	528	198	331	543	245	417	47	22	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Mathematical scientists	27,833	86	3,603	7,098	4,907	3,822	3,259	1,694	1,465	1,100	553	246
Doctorate	10,022	(1)	499	2,847	2,143	1,606	1,109	731	378	461	147	101
Professional/ medical	147	(1)	12	58	52	(1)	12	(1)	(1)	(1)	(1)	13
Master's	9,328	(1)	1,606	2,379	1,466	1,145	1,056	473	528	294	283	98
Bachelor's	8,336	86	1,486	1,814	1,246	1,071	1,082	490	559	345	123	34
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Note at end of table.

Table B-5—Con.

Field and highest degree	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Mathematicians	20,076	33	2,696	5,438	3,591	2,684	2,624	1,039	891	558	383	139
Doctorate	7,708	(1)	376	2,379	1,564	1,089	859	496	340	407	122	76
Professional/ medical	77	(1)	(1)	(1)	52	(1)	12	(1)	(1)	(1)	(1)	13
Master's	6,992	(1)	1,251	1,841	1,132	957	825	314	306	121	208	37
Bachelor's	5,299	33	1,069	1,218	843	638	928	229	245	30	53	13
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	7,757	53	907	1,660	1,316	1,138	635	655	574	542	170	107
Doctorate	2,314	(1)	123	468	579	517	250	235	38	54	25	25
Professional/ medical	70	(1)	12	58	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	2,336	(1)	355	538	334	188	231	159	222	173	75	61
Bachelor's	3,037	53	417	596	403	433	154	261	314	315	70	21
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Computer specialists	55,186	15	9,629	18,439	10,844	8,370	4,484	1,979	932	254	164	76
Doctorate	2,604	(1)	271	936	497	508	322	57	(1)	13	(1)	(1)
Professional/ medical	153	(1)	(1)	51	18	64	20	(1)	(1)	(1)	(1)	(1)
Master's	14,815	(1)	2,569	5,019	3,471	1,702	926	553	304	83	112	76
Bachelor's	37,614	15	6,789	12,433	6,858	6,096	3,216	1,369	628	158	52	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Environmental scientists	29,466	15	2,007	3,888	4,273	5,656	4,873	4,225	2,201	1,606	523	199
Doctorate	8,054	15	264	1,170	1,792	1,846	926	872	548	333	251	37
Professional/ medical	62	(1)	(1)	13	(1)	24	12	(1)	(1)	13	(1)	(1)
Master's	8,443	(1)	663	1,537	1,227	1,646	1,265	1,107	487	312	105	94
Bachelor's	12,907	(1)	1,080	1,168	1,254	2,140	2,670	2,246	1,166	948	167	68
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth scientists	24,589	15	1,671	3,187	3,320	4,935	4,420	3,312	1,700	1,464	379	186
Doctorate	6,253	15	133	947	1,207	1,525	840	608	490	310	154	24
Professional/ medical	62	(1)	(1)	13	(1)	24	12	(1)	(1)	13	(1)	(1)
Master's	6,927	(1)	564	1,208	1,000	1,494	1,067	800	318	288	94	94
Bachelor's	11,347	(1)	974	1,019	1,113	1,892	2,501	1,904	892	853	131	68
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oceanographers	1,563	(1)	186	331	489	106	157	111	40	35	108	(1)
Doctorate	957	(1)	131	149	370	80	33	75	22	(1)	97	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	449	(1)	30	170	56	13	100	36	9	24	11	(1)
Bachelor's	157	(1)	25	12	63	13	24	(1)	9	11	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Table B-5—Con.

Field and highest degree	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Atmospheric scientists	3,314	(1)	150	370	464	615	296	802	461	107	36	13
Doctorate	844	(1)	(1)	74	215	241	53	189	36	23	(1)	13
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,067	(1)	69	159	171	139	98	271	160	(1)	(1)	(1)
Bachelor's	1,403	(1)	81	137	78	235	145	342	265	84	36	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineers	687,911	1,485	62,413	99,861	108,039	104,852	107,929	87,427	53,826	34,872	18,584	8,623
Doctorate	31,879	(1)	1,378	7,222	8,387	5,464	3,410	2,445	1,879	872	505	317
Professional/ medical	1,002	(1)	41	49	97	113	164	231	74	144	37	52
Master's	145,290	262	14,594	30,811	26,322	21,024	19,726	14,232	8,864	5,296	2,655	1,504
Bachelor's	476,845	1,053	43,974	57,779	68,109	72,190	79,096	65,977	40,411	26,778	14,822	6,656
Associate	12,539	130	1,049	2,267	1,846	3,073	1,731	1,165	917	350	(1)	11
Other	101	(1)	(1)	13	12	(1)	39	37	(1)	(1)	(1)	(1)
No degree	20,255	40	1,377	1,720	3,266	2,988	3,763	3,340	1,681	1,432	565	83
Life scientists	75,462	167	7,189	13,670	13,278	11,957	9,866	7,316	5,857	3,504	1,687	971
Doctorate	31,765	58	1,372	5,758	5,765	5,548	4,568	3,193	2,825	1,332	886	460
Professional/ medical	1,416	(1)	(1)	62	115	350	190	354	149	131	53	12
Master's	16,789	(1)	2,403	3,630	2,821	2,284	1,839	1,297	1,021	946	381	167
Bachelor's	25,492	109	3,414	4,220	4,577	3,775	3,269	2,472	1,862	1,095	367	332
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Biological scientists	35,935	98	4,346	7,703	6,131	5,147	4,644	2,815	2,535	1,465	698	353
Doctorate	19,981	(1)	866	3,931	3,819	3,319	2,968	1,761	1,651	800	565	301
Professional/ medical	153	(1)	(1)	14	(1)	52	35	40	(1)	(1)	12	(1)
Master's	9,187	(1)	1,706	2,519	1,489	1,197	849	419	332	529	108	39
Bachelor's	6,614	98	1,774	1,239	823	579	792	595	552	136	13	13
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	28,790	69	2,064	4,075	5,214	4,947	4,130	3,236	2,310	1,388	833	524
Doctorate	6,519	58	353	561	1,134	1,285	934	914	647	308	232	93
Professional/ medical	25	(1)	(1)	(1)	(1)	13	(1)	12	(1)	(1)	(1)	(1)
Master's	5,618	(1)	557	929	891	725	790	703	408	244	259	112
Bachelor's	16,628	11	1,154	2,585	3,189	2,924	2,406	1,607	1,255	836	342	319
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	10,737	(1)	779	1,892	1,933	1,863	1,092	1,265	1,012	651	156	94
Doctorate	5,265	(1)	153	1,266	812	944	666	518	527	224	89	66
Professional/ medical	1,238	(1)	(1)	48	115	285	155	302	149	131	41	12
Master's	1,964	(1)	140	182	441	362	200	175	281	173	14	16
Bachelor's	2,250	(1)	486	396	565	272	71	270	55	123	12	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

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Table B-5—Con.

Field and highest degree	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Psychologists	34,889	35	4,698	7,164	5,287	4,909	4,801	3,694	1,951	1,186	730	434
Doctorate	20,404	(1)	1,476	3,939	3,647	3,245	3,042	2,495	1,189	738	369	264
Professional/ medical	53	(1)	(1)	26	14	(1)	(1)	(1)	(1)	(1)	13	(1)
Master's	11,034	(1)	2,267	2,324	1,268	1,322	1,343	982	762	294	318	154
Bachelor's	3,398	35	955	875	358	342	416	217	(1)	154	30	16
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Social scientists	47,940	30	5,732	9,628	7,320	5,896	4,976	5,726	3,476	2,693	1,556	907
Doctorate	21,477	15	977	4,198	3,666	3,166	2,603	2,410	1,600	1,438	881	523
Professional/ medical	240	(1)	17	16	17	(1)	48	34	28	61	19	(1)
Master's	14,241	15	2,075	3,460	1,989	1,715	1,335	1,449	1,090	600	363	150
Bachelor's	11,982	(1)	2,663	1,954	1,648	1,015	990	1,833	758	594	293	234
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Economists	19,754	15	1,800	3,552	2,840	2,596	2,006	2,719	1,369	1,479	841	537
Doctorate	8,792	15	397	1,543	1,503	1,221	1,023	840	583	671	595	401
Professional/ medical	181	(1)	(1)	(1)	17	(1)	34	34	16	61	19	(1)
Master's	5,119	(1)	534	1,167	698	750	354	700	435	338	124	19
Bachelor's	5,662	(1)	869	842	622	625	595	1,145	335	409	103	117
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociologists/ anthropologists	11,158	(1)	1,495	2,706	1,844	1,202	1,158	1,413	648	528	81	83
Doctorate	6,470	(1)	142	1,359	1,151	1,051	837	878	491	409	69	83
Professional/ medical	14	(1)	(1)	(1)	(1)	(1)	14	(1)	(1)	(1)	(1)	(1)
Master's	2,937	(1)	726	1,078	279	119	230	325	157	11	12	(1)
Bachelor's	1,737	(1)	627	269	414	32	77	210	(1)	108	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social scientists	17,028	15	2,437	3,370	2,636	2,098	1,812	1,594	1,459	686	634	287
Doctorate	6,215	(1)	438	1,296	1,012	894	743	692	526	358	217	39
Professional/ medical	45	(1)	17	16	(1)	(1)	(1)	(1)	12	(1)	(1)	(1)
Master's	6,185	15	815	1,215	1,012	846	751	424	498	251	227	131
Bachelor's	4,583	(1)	1,167	843	612	358	318	478	423	77	190	117
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

Table B-6.—Number of scientists and engineers by field, highest degree, and race: 1974

Field and highest degree	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Total, all fields	1,079,698	1,039,010	11,102	903	24,397	5,186
Doctorate	180,870	170,270	1,952	376	6,919	1,353
Professional/medical	3,248	3,105	28	(1)	14	101
Master's	242,289	230,169	3,346	176	7,160	1,438
Bachelor's	620,396	603,490	5,565	244	8,902	2,195
Associate	12,539	12,030	100	(1)	310	99
Other	101	101	(1)	(1)	(1)	(1)
No degree	20,255	19,845	111	107	192	(1)
Physical scientists	121,011	113,860	2,206	240	3,905	800
Doctorate	54,665	51,220	294	204	2,603	344
Professional/medical	175	147	28	(1)	(1)	(1)
Master's	22,349	21,097	454	(1)	713	85
Bachelor's	43,822	41,396	1,430	36	589	371
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Chemists	87,334	81,858	1,853	240	2,649	734
Doctorate	35,897	33,602	246	204	1,551	294
Professional/medical	175	147	28	(1)	(1)	(1)
Master's	14,743	13,791	342	(1)	541	69
Bachelor's	36,519	34,318	1,237	36	557	371
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Physicists/astronomers	27,519	26,118	128	(1)	1,207	66
Doctorate	16,874	15,757	48	(1)	1,019	50
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	5,860	5,592	80	(1)	172	16
Bachelor's	4,785	4,769	(1)	(1)	16	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	6,158	5,884	225	(1)	49	(1)
Doctorate	1,894	1,861	(1)	(1)	33	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,746	1,714	32	(1)	(1)	(1)
Bachelor's	2,518	2,309	193	(1)	16	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Mathematical scientists	27,833	25,902	1,034	37	733	127
Doctorate	10,022	9,188	245	(1)	516	73
Professional/medical	147	147	(1)	(1)	(1)	(1)
Master's	9,328	8,698	381	19	176	54
Bachelor's	8,336	7,869	408	18	41	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Mathematicians	20,076	18,833	787	18	401	37
Doctorate	7,708	7,227	168	(1)	294	19
Professional/medical	77	77	(1)	(1)	(1)	(1)
Master's	6,992	6,583	325	(1)	66	18
Bachelor's	5,299	4,946	294	18	41	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	7,757	7,069	247	19	332	90
Doctorate	2,314	1,961	77	(1)	222	54
Professional/medical	70	70	(1)	(1)	(1)	(1)
Master's	2,336	2,115	56	19	110	36
Bachelor's	3,037	2,923	114	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Computer specialists	55,186	53,274	842	50	708	312
Doctorate	2,604	2,535	(1)	(1)	48	21
Professional/medical	153	153	(1)	(1)	(1)	(1)
Master's	14,815	14,403	136	(1)	180	96
Bachelor's	37,614	36,183	706	50	480	195
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Environmental scientists	29,466	28,913	47	70	409	27
Doctorate	8,054	7,758	(1)	70	226	(1)
Professional/medical	62	62	(1)	(1)	(1)	(1)
Master's	8,443	8,302	35	(1)	106	(1)
Bachelor's	12,907	12,791	12	(1)	77	27
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-6—Con.

Field and highest degree	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Earth scientists	24,589	24,201	35	70	256	27
Doctorate	6,253	6,053	(1)	70	130	(1)
Professional/medical	62	62	(1)	(1)	(1)	(1)
Master's	6,927	6,819	35	(1)	73	(1)
Bachelor's	11,347	11,267	(1)	(1)	53	27
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Oceanographers	1,563	1,474	(1)	(1)	89	(1)
Doctorate	957	885	(1)	(1)	72	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	449	432	(1)	(1)	17	(1)
Bachelor's	157	157	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Atmospheric scientists	3,314	3,238	12	(1)	64	(1)
Doctorate	844	820	(1)	(1)	24	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,067	1,051	(1)	(1)	16	(1)
Bachelor's	1,403	1,367	12	(1)	24	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Engineers	687,911	664,721	4,492	336	15,003	3,359
Doctorate	31,879	28,641	350	44	2,260	584
Professional/medical	1,002	929	(1)	(1)	(1)	73
Master's	145,290	137,953	1,148	102	5,034	1,053
Bachelor's	476,845	465,222	2,783	83	7,207	1,550
Associate	12,539	12,030	100	(1)	310	99
Other	101	101	(1)	(1)	(1)	(1)
No degree	20,255	19,845	111	107	192	(1)
Life scientists	75,462	72,059	1,173	108	1,768	354
Doctorate	31,765	30,248	513	16	707	281
Professional/medical	1,416	1,374	(1)	(1)	14	28
Master's	16,789	15,575	544	35	621	14
Bachelor's	25,492	24,862	116	57	426	31
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)

Field and highest degree	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Biological scientists	35,935	33,[illegible]3	846	65	1,181	20[illegible]
Doctorate	19,981	18,853	404	16	525	18[illegible]
Professional/medical	153	153	(1)	(1)	(1)	(1)
Master's	9,187	8,360	379	35	413	(1)
Bachelor's	6,614	6,277	63	14	243	1[illegible]
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	28,790	28,312	117	43	305	1[illegible]
Doctorate	6,519	6,390	45	(1)	71	1[illegible]
Professional/medical	25	25	(1)	(1)	(1)	(1)
Master's	5,618	5,420	47	(1)	151	(1)
Bachelor's	16,628	16,477	25	43	83	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	10,737	10,104	210	(1)	282	141
Doctorate	5,265	5,005	64	(1)	111	8[illegible]
Professional/medical	1,238	1,196	(1)	(1)	14	2[illegible]
Master's	1,984	1,795	118	(1)	57	1[illegible]
Bachelor's	2,250	2,108	28	(1)	100	1[illegible]
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Psychologists	34,889	34,052	636	18	97	8[illegible]
Doctorate	20,404	19,990	325	18	33	3[illegible]
Professional/medical	53	53	(1)	(1)	(1)	(1)
Master's	11,034	10,630	311	(1)	45	4[illegible]
Bachelor's	3,398	3,379	(1)	(1)	19	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Social scientists	47,940	46,229	672	44	874	12[illegible]
Doctorate	21,477	20,690	225	24	526	1[illegible]
Professional/medical	240	240	(1)	(1)	(1)	(1)
Master's	14,241	13,511	337	20	285	8[illegible]
Bachelor's	11,982	11,788	110	(1)	63	2[illegible]
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)

Table B-6—Con.

Field and highest degree	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Economists	19,754	18,823	237	44	557	93
Doctorate	8,792	8,317	138	24	313	(1)
Professional/medical	181	181	(1)	(1)	(1)	(1)
Master's	5,119	4,783	39	20	205	72
Bachelor's	5,662	5,542	60	(1)	39	21
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Sociologists/ anthropologists	11,158	10,845	179	(1)	122	12
Doctorate	6,470	6,291	72	(1)	95	12
Professional/medical	14	14	(1)	(1)	(1)	(1)
Master's	2,937	2,830	91	(1)	16	(1)
Bachelor's	1,737	1,710	16	(1)	11	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Other social scientists	17,028	16,561	256	(1)	195	16
Doctorate	6,215	6,082	15	(1)	118	(1)
Professional/medical	45	45	(1)	(1)	(1)	(1)
Master's	6,185	5,898	207	(1)	64	16
Bachelor's	4,583	4,536	34	(1)	13	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

Table B-7.—Number of scientists and engineers by field, highest degree, and nonformal training in 1972:1974

Field and highest degree	Total	With nonformal training in 1972							No nonformal training	Nonformal training not reported
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training		
Total, all fields	1,079,698	397,438	187,159	8,595	41,234	165,691	45,180	89,680	471,772	210,488
Doctorate	180,870	44,787	18,613	663	3,427	11,190	5,075	16,207	105,293	30,790
Professional/medical	3,248	1,198	457	35	41	207	196	438	1,459	591
Master's	242,289	93,138	40,844	1,924	10,092	39,414	10,054	22,130	99,942	49,209
Bachelor's	620,396	245,125	120,811	5,755	26,209	108,697	28,605	48,317	252,477	122,794
Associate	12,539	5,514	2,824	164	583	2,949	448	775	4,385	2,640
Other	101	52	39	(1)	(1)	(1)	(1)	13	49	(1)
No degree	20,255	7,624	3,571	54	882	3,234	802	1,800	8,167	4,464
Physical scientists	121,011	37,640	17,421	322	3,410	12,551	5,082	9,502	61,369	22,002
Doctorate	54,665	14,085	5,842	138	906	4,244	1,831	4,246	31,851	8,729
Professional/medical	175	(1)	(1)	(1)	(1)	(1)	(1)	(1)	123	52
Master's	22,349	7,781	3,550	80	703	2,741	700	2,130	10,491	4,077
Bachelor's	43,822	15,774	8,029	104	1,801	5,566	2,551	3,126	18,904	9,144
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chemists	87,334	28,448	13,453	211	2,704	9,543	3,752	7,394	42,203	16,683
Doctorate	35,897	10,579	4,613	100	691	3,307	1,159	3,241	19,404	5,914
Professional/medical	175	(1)	(1)	(1)	(1)	(1)	(1)	(1)	123	52
Master's	14,743	5,175	2,233	49	526	1,878	492	1,555	6,627	2,941
Bachelor's	36,519	12,694	6,607	62	1,487	4,358	2,101	2,598	16,049	7,776
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Physicists/astronomers	27,519	6,485	2,402	82	632	1,910	950	1,640	16,586	4,448
Doctorate	16,874	2,915	1,042	38	215	698	584	877	11,390	2,569
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	5,860	1,944	830	18	165	549	169	445	3,028	888
Bachelor's	4,785	1,626	530	26	252	663	197	318	2,168	991
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	6,158	2,707	1,566	29	74	1,098	380	468	2,580	871
Doctorate	1,894	591	187	(1)	(1)	239	88	128	1,057	246
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,746	662	487	13	12	314	39	130	836	248
Bachelor's	2,518	1,454	892	16	62	545	253	210	687	377
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Table B-7—Con.

Field and highest degree	Total	With nonformal training in 1972							No nonformal training	Nonformal training not reported
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training		
Mathematical scientists	27,833	7,758	3,648	76	825	3,094	741	1,930	14,573	5,502
Doctorate	10,022	1,183	401	12	43	160	156	560	7,096	1,743
Professional/medical	147	135	52	(1)	(1)	58	25	(1)	(1)	12
Master's	9,328	2,704	964	13	212	1,134	167	835	4,570	2,054
Bachelor's	8,336	3,736	2,231	51	570	1,742	393	535	2,907	1,693
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Mathematicians	20,076	5,584	2,678	64	742	2,432	451	1,331	10,760	3,732
Doctorate	7,708	804	276	(1)	43	118	64	393	5,595	1,309
Professional/medical	77	77	52	(1)	(1)	(1)	25	(1)	(1)	(1)
Master's	6,992	1,845	604	13	159	881	100	552	3,679	1,468
Bachelor's	5,299	2,858	1,746	51	540	1,433	262	386	1,486	955
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	7,757	2,174	970	12	83	662	290	599	3,813	1,770
Doctorate	2,314	379	125	12	(1)	42	92	167	1,501	434
Professional/medical	70	58	(1)	(1)	(1)	58	(1)	(1)	(1)	12
Master's	2,336	859	360	(1)	53	253	67	283	891	586
Bachelor's	3,037	878	485	(1)	30	309	131	149	1,421	738
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Computer specialists	55,186	33,680	19,738	404	2,434	19,417	3,169	7,310	13,329	8,177
Doctorate	2,604	841	402	(1)	30	513	153	292	1,325	438
Professional/medical	153	136	65	(1)	(1)	72	68	(1)	(1)	17
Master's	14,815	8,936	5,084	107	802	5,100	652	1,782	3,546	2,333
Bachelor's	37,614	23,767	14,187	297	1,602	13,732	2,296	5,236	8,458	5,389
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Environmental scientists	29,466	10,403	5,375	169	1,261	3,959	1,345	2,283	13,134	5,929
Doctorate	8,054	2,109	1,025	(1)	140	667	314	467	4,519	1,426
Professional/medical	62	25	13	(1)	(1)	(1)	(1)	12	37	(1)
Master's	8,443	3,401	1,819	82	477	1,490	519	633	3,342	1,700
Bachelor's	12,907	4,868	2,518	87	644	1,802	512	1,171	5,236	2,803
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-7—Con.

Field and highest degree	Total	With nonformal training in 1972							No nonformal training	Nonformal training not reported
		Total	*On-the-job* training	Military training, applicable *to civilian* occupations	Extension or correspondence courses	Employer's *training* programs	Adult *education* programs	*Other* training		
Earth scientists	24,589	8,502	4,536	81	761	3,411	1,045	2,007	10,889	5,198
Doctorate	6,253	1,558	632	(1)	127	564	277	362	3,542	1,153
Professional/medical	62	25	13	(1)	(1)	(1)	(1)	12	37	(1)
Master's	6,927	2,815	1,635	56	272	1,315	398	560	2,639	1,473
Bachelor's	11,347	4,104	2,256	25	362	1,532	370	1,073	4,671	2,572
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oceanographers	1,563	713	386	22	99	186	132	93	617	233
Doctorate	957	388	287	(1)	13	77	13	60	383	186
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	449	227	48	9	49	73	94	33	175	47
Bachelor's	157	98	51	13	37	36	25	(1)	59	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Atmospheric scientists	3,314	1,188	453	66	401	362	168	183	1,628	498
Doctorate	*844*	*163*	*106*	(1)	(1)	*26*	*24*	45	594	87
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,067	359	136	17	156	102	27	40	528	*180*
Bachelor's	1,403	666	211	49	245	234	117	98	506	231
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
Engineers	687,911	257,540	115,310	6,582	28,364	113,604	29,405	51,409	291,969	138,402
Doctorate	31,879	8,721	3,577	188	1,024	3,474	838	1,875	17,125	6,033
Professional/medical	1,002	303	122	35	(1)	36	66	83	464	235
Master's	145,290	55,499	21,456	1,351	6,729	24,982	6,229	12,324	59,831	29,960
Bachelor's	476,845	179,827	83,721	4,790	19,146	78,929	21,022	34,539	201,948	95,070
Associate	12,539	5,514	2,824	164	583	2,949	448	775	4,385	2,640
Other	101	52	39	(1)	(1)	(1)	(1)	13	49	(1)
No degree	20,255	7,624	3,571	54	882	3,234	802	1,800	8,167	4,464
Life scientists	75,462	26,214	14,448	453	2,843	7,334	2,883	7,840	34,909	14,339
Doctorate	31,765	8,441	3,441	171	698	1,060	1,038	3,737	18,354	4,970
Professional/medical	1,416	539	158	(1)	25	41	37	330	702	175
Master's	16,789	5,441	3,110	187	590	1,595	615	1,328	7,947	3,401
Bachelor's	25,492	11,793	7,739	95	1,530	4,638	1,193	2,445	7,906	5,793
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Table B-7—Con.

Field and highest degree	Total	With nonformal training in 1972							No nonformal training	Nonformal training not reported
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training		
Biological scientists	35,935	9,769	5,418	240	577	1,881	992	3,018	19,125	7,041
Doctorate	19,981	4,679	2,226	148	258	553	475	1,778	11,902	3,400
Professional/medical	153	106	26	(1)	(1)	(1)	(1)	80	24	23
Master's	9,187	2,309	1,334	54	164	528	352	512	4,918	1,960
Bachelor's	6,614	2,675	1,832	38	155	800	165	648	2,281	1,658
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	28,790	12,653	7,508	190	1,814	4,871	1,311	3,112	10,262	5,875
Doctorate	6,519	1,951	707	(1)	248	289	379	837	3,636	932
Professional/medical	25	(1)	(1)	(1)	(1)	(1)	(1)	(1)	13	12
Master's	5,618	2,561	1,551	133	376	987	147	569	1,941	1,116
Bachelor's	16,628	8,141	5,250	57	1,190	3,595	785	1,706	4,672	3,815
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	10,737	3,792	1,522	23	452	582	580	1,710	5,522	1,423
Doctorate	5,265	1,811	508	23	192	218	184	1,122	2,816	638
Professional/medical	1,238	433	132	(1)	25	41	37	250	665	140
Master's	1,984	571	225	(1)	50	80	116	247	1,088	325
Bachelor's	2,250	977	657	(1)	185	243	243	91	953	320
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Psychologists	34,889	12,207	6,216	223	655	2,296	1,283	5,386	15,940	6,742
Doctorate	20,404	5,903	2,700	75	400	687	456	3,298	10,713	3,788
Professional/medical	53	27	14	(1)	(1)	(1)	(1)	13	13	13
Master's	11,034	4,767	2,594	29	255	993	570	1,810	3,968	2,299
Bachelor's	3,398	1,510	908	119	(1)	616	257	265	1,246	642
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Social scientists	47,940	11,996	5,003	366	1,442	3,436	1,272	4,020	26,549	9,395
Doctorate	21,477	3,504	1,225	79	186	385	289	1,732	14,310	3,663
Professional/medical	240	33	33	(1)	16	(1)	(1)	(1)	120	87
Master's	14,241	4,609	2,267	75	324	1,379	602	1,288	6,247	3,385
Bachelor's	11,982	3,850	1,478	212	916	1,672	381	1,000	5,872	2,260
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-7—Con.

Field and highest degree	Total	With nonformal training in 1972								
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training	No nonformal training	Nonformal training not reported
Economists	19,754	4,627	2,319	110	439	1,563	585	1,191	11,024	4,103
Doctorate	8,792	1,401	635	18	80	203	147	535	5,792	1,599
Professional/medical	181	17	17	(1)	(1)	(1)	(1)	(1)	77	87
Master's	5,119	1,508	738	75	109	564	215	342	2,364	1,247
Bachelor's	5,662	1,701	929	17	250	796	223	314	2,791	1,170
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociologists/anthropologists	11,158	2,142	820	(1)	331	486	350	935	6,847	2,169
Doctorate	6,470	870	203	(1)	42	13	126	531	4,541	1,059
Professional/medical	14	(1)	(1)	(1)	(1)	(1)	(1)	(1)	14	(1)
Master's	2,937	774	383	(1)	13	187	107	168	1,578	585
Bachelor's	1,737	498	234	(1)	276	286	117	236	714	525
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social scientists	17,028	5,227	1,864	256	672	1,387	337	1,894	8,678	3,123
Doctorate	6,215	1,233	387	61	64	169	16	666	3,977	1,005
Professional/medical	45	16	16	(1)	16	(1)	(1)	(1)	29	(1)
Master's	6,185	2,327	1,146	(1)	202	628	280	778	2,305	1,553
Bachelor's	4,583	1,651	315	195	390	590	41	450	2,367	565
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

[1] *No cases reported.*

Note: The sum of the types of nonformal training may exceed the total with such training since persons could have reported more than one type of training.

SOURCE: National Science Foundation, National Sample, 1974.

Table B-8.—Number of scientists and engineers by field, highest degree, and nonformal training in 1973: 1974

Field and highest degree	Total	With nonformal training in 1973							No nonformal training	Nonformal training not reported
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training		
Total, all fields	1,079,698	406,427	194,367	9,192	41,536	180,372	44,715	81,018	488,886	184,385
Doctorate	180,870	43,371	18,579	698	3,329	11,666	4,801	14,931	107,730	29,769
Professional/medical	3,248	1,102	508	35	41	227	102	384	1,498	648
Master's	242,289	92,905	42,094	1,786	9,740	40,476	9,486	20,025	102,645	46,739
Bachelor's	620,396	254,310	125,946	6,290	26,453	121,201	28,866	43,416	263,946	102,140
Associate	12,539	6,092	3,365	164	715	3,190	494	752	4,483	1,964
Other	101	89	39	(1)	(1)	37	(1)	13	12	(1)
No degree	20,255	8,558	3,836	219	1,258	3,575	966	1,497	8,572	3,125
Physical scientists	121,011	37,184	17,596	352	3,250	12,809	4,506	9,563	63,371	20,456
Doctorate	54,665	13,041	5,66[illegible]	139	856	3,935	1,372	4,215	32,862	8,762
Professional/medical	175	52	(1)	(1)	(1)	(1)	28	24	123	(1)
Master's	22,349	7,185	3,485	93	738	2,708	641	1,783	10,779	4,385
Bachelor's	43,822	16,906	8,450	120	1,656	6,166	2,465	3,541	19,607	7,309
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chemists	87,334	28,851	13,579	212	2,717	10,125	3,480	7,582	43,646	14,837
Doctorate	35,897	10,101	4,475	100	629	3,255	964	3,338	20,120	5,676
Professional/medical	175	52	(1)	(1)	(1)	(1)	28	24	123	(1)
Master's	14,743	4,959	2,217	62	649	2,041	461	1,243	6,732	3,052
Bachelor's	36,519	13,739	6,887	50	1,439	4,829	2,027	2,977	16,671	6,109
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Physicists/astronomers	27,519	5,832	2,524	111	459	1,688	724	1,560	17,063	4,624
Doctorate	16,874	2,556	1,085	39	214	481	395	782	11,596	2,722
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	5,860	1,722	841	18	89	461	168	447	3,120	1,018
Bachelor's	4,785	1,554	598	54	156	746	161	331	2,347	884
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	6,158	2,501	1,493	29	74	996	302	421	2,662	995
Doctorate	1,894	384	101	(1)	13	199	13	95	1,146	364
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,746	504	427	13	(1)	206	12	93	927	315
Bachelor's	2,518	1,613	965	16	61	591	277	233	589	316
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-8—Con.

Field and highest degree	Total	With nonformal training in 1973							No nonformal training	Nonformal training not reported
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training		
Mathematical scientists	27,833	8,208	4,094	90	691	3,352	1,067	1,578	15,113	4,512
Doctorate	10,022	1,170	420	12	13	235	214	413	7,241	1,611
Professional/medical	147	65	52	(1)	(1)	(1)	13	(1)	(1)	82
Master's	9,328	2,911	1,277	26	166	1,073	371	650	4,741	1,676
Bachelor's	8,336	4,062	2,345	52	512	2,044	469	515	3,131	1,143
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Mathematicians	20,076	5,787	3,156	65	553	2,461	526	1,132	11,288	3,001
Doctorate	7,708	746	294	(1)	13	137	64	314	5,715	1,247
Professional/medical	77	65	52	(1)	(1)	(1)	13	(1)	(1)	12
Master's	6,992	1,954	934	13	142	745	171	470	3,881	1,157
Bachelor's	5,299	3,022	1,876	52	398	1,579	278	348	1,692	585
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	7,757	2,421	938	25	138	891	541	446	3,825	1,511
Doctorate	2,314	424	126	12	(1)	98	150	99	1,526	364
Professional/medical	70	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	70
Master's	2,336	957	343	13	24	328	200	180	860	519
Bachelor's	3,037	1,040	469	(1)	114	465	191	157	1,439	558
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Computer specialists	55,186	33,580	20,112	446	1,935	19,750	3,599	6,448	13,823	7,783
Doctorate	2,604	896	505	(1)	46	424	189	202	1,340	368
Professional/medical	153	102	82	(1)	(1)	72	17	(1)	(1)	51
Master's	14,815	8,367	4,828	52	561	4,925	840	1,665	3,705	2,743
Bachelor's	37,614	24,215	14,697	394	1,328	14,329	2,553	4,581	8,778	4,621
Associate	0	0	0	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Environmental scientists	29,466	10,245	5,125	177	1,314	4,466	1,023	2,035	13,727	5,494
Doctorate	8,054	1,834	827	12	59	834	243	395	4,899	1,321
Professional/medical	62	25	13	(1)	(1)	12	(1)	(1)	37	(1)
Master's	8,443	3,267	1,817	37	508	1,633	228	611	3,336	1,840
Bachelor's	12,907	5,119	2,468	128	747	1,987	552	1,029	5,455	2,333
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Table B-8—Con.

Field and highest degree	Total	With nonformal training in 1973								
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training	No nonformal training	Nonformal training not reported
Earth scientists	24,589	8,745	4,460	86	905	3,889	866	1,868	11,292	4,552
Doctorate	6,253	1,499	576	12	59	743	218	327	3,762	992
Professional/medical	62	25	13	(1)	(1)	12	(1)	(1)	37	(1)
Master's	6,927	2,774	1,628	25	380	1,418	201	539	2,601	1,552
Bachelor's	11,347	4,447	2,243	49	466	1,716	447	1,002	4,892	2,008
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oceanographers	1,563	465	330	25	49	162	13	57	761	337
Doctorate	957	253	214	(1)	(1)	65	13	23	469	235
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	449	138	65	12	12	73	(1)	34	223	78
Bachelor's	157	74	51	13	37	24	(1)	(1)	59	24
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Atmospheric scientists	3,314	1,035	335	66	360	415	144	110	1,674	805
Doctorate	844	82	37	(1)	(1)	26	12	45	668	94
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,067	355	124	(1)	116	142	27	38	502	210
Bachelor's	1,403	598	174	66	244	247	105	27	504	301
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineers	687,911	266,237	120,176	6,901	29,402	126,321	28,984	45,437	302,639	119,035
Doctorate	31,879	9,315	3,585	191	1,245	3,892	749	1,723	16,938	5,626
Professional/medical	1,002	277	96	35	(1)	102	(1)	83	452	273
Master's	145,290	56,052	22,290	1,271	6,490	26,268	5,688	10,933	61,309	27,929
Bachelor's	476,845	185,854	86,965	5,021	19,694	89,257	21,087	30,436	210,873	80,118
Associate	12,539	6,092	3,365	164	715	3,190	494	752	4,483	1,964
Other	101	89	39	(1)	(1)	37	(1)	13	12	(1)
No degree	20,255	8,558	3,836	219	1,258	3,575	966	1,497	8,572	3,126
Life scientists	75,462	26,988	15,035	586	2,847	8,035	3,099	7,258	35,894	12,580
Doctorate	31,765	7,922	3,440	151	559	1,251	1,043	3,128	18,649	5,194
Professional/medical	1,416	486	183	(1)	25	41	25	264	753	177
Master's	16,789	5,936	3,236	191	643	1,787	822	1,482	7,913	2,940
Bachelor's	25,492	12,644	8,176	244	1,620	4,956	1,209	2,384	8,579	4,269
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-8—Con.

Field and highest degree	Total	With nonformal training in 1973							No nonformal training	Nonformal training not reported
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training		
Biological scientists	35,935	10,240	5,602	212	541	2,033	1,271	2,967	19,371	6,324
Doctorate	19,981	4,651	2,330	116	165	647	500	1,527	12,122	3,208
Professional/medical	153	77	38	(1)	(1)	(1)	(1)	39	76	(1)
Master's	9,187	2,623	1,390	58	182	601	412	629	4,783	1,781
Bachelor's	6,614	2,889	1,844	38	194	785	359	772	2,390	1,335
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	28,790	13,204	7,917	351	1,868	5,470	1,372	2,697	10,865	4,721
Doctorate	6,519	1,692	541	12	226	351	378	716	3,624	1,203
Professional/medical	25	13	13	(1)	(1)	(1)	(1)	(1)	(1)	12
Master's	5,618	2,732	1,659	133	358	1,107	279	601	1,998	888
Bachelor's	16,628	8,767	5,704	206	1,284	4,012	715	1,380	5,243	2,618
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	10.737	3,544	1,516	23	438	532	456	1,594	5,658	1,535
Doctorate	5,265	1,579	569	23	168	253	165	885	2,903	783
Professional/medical	1,238	396	132	(1)	25	41	25	225	677	165
Master's	1,984	581	187	(1)	103	79	131	252	1,132	271
Bachelor's	2,250	988	628	(1)	142	159	135	232	946	316
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Psychologists	34,889	12,266	6,749	194	890	2,081	1,160	5,231	16,653	5,970
Doctorate	20,404	5,889	2,867	62	375	522	528	3,233	11,219	3,296
Professional/medical	53	27	14	(1)	(1)	(1)	(1)	13	13	13
Master's	11,034	4,674	2,837	13	386	972	388	1,660	4,097	2,263
Bachelor's	3,398	1,676	1,031	119	129	587	244	325	1,324	398
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Social scientists	47,940	11,719	5,480	446	1,207	3,558	1,277	3,468	27,666	8,555
Doctorate	21,477	3,304	1,274	131	176	573	463	1,622	14,582	3,591
Professional/medical	240	68	68	(1)	16	(1)	19	(1)	120	52
Master's	14,241	4,513	2,324	103	248	1,110	508	1,241	6,765	2,963
Bachelor's	11,982	3,834	1,814	212	767	1,875	287	605	6,199	1,949
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Table B-8—Con.

Field and highest degree	Total	With nonformal training in 1973							No nonformal training	Nonformal training not reported
		Total	On-the-job training	Military training, applicable to civilian occupations	Extension or correspondence courses	Employer's training programs	Adult education programs	Other training		
Economists	19,754	4,761	2,548	144	386	1,627	598	1,183	11,479	3,514
Doctorate	8,792	1,507	632	16	64	408	247	621	5,898	1,387
Professional/medical	181	52	52	[1]	[1]	[1]	19	[1]	77	52
Master's	5,119	1,688	908	92	54	572	195	363	2,550	881
Bachelor's	5,662	1,514	956	34	268	647	137	199	2,954	1,194
Associate	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Other	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
No degree	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Sociologists/anthropologists	11,158	1,800	809	[1]	347	551	373	559	7,259	2,099
Doctorate	6,470	753	215	[1]	60	87	150	302	4,568	1,149
Professional/medical	14	[1]	[1]	[1]	[1]	[1]	[1]	[1]	14	[1]
Master's	2,937	440	253	[1]	25	73	90	124	1,813	684
Bachelor's	1,737	607	341	[1]	262	391	133	133	864	266
Associate	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Other	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
No degree	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Other social scientists	17,028	5,158	2,123	302	474	1,380	306	1,726	8,928	2,942
Doctorate	6,215	1,044	427	113	52	78	66	699	4,116	1,055
Professional/medical	45	16	16	[1]	16	[1]	[1]	[1]	29	[1]
Master's	6,185	2,385	1,163	11	169	465	223	754	2,402	1,398
Bachelor's	4,583	1,713	517	178	237	837	17	273	2,381	489
Associate	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Other	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
No degree	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]

[1] No cases reported.

Note: The sum of the types of nonformal training may exceed the total with such training since persons could have reported more than one type of training.

SOURCE: National Science Foundation, National Sample, 1974.

Field and highest degree	Total	Physical scientists	Mathematical scientists	Computer specialists	Engineers	Biological scientists	Social scientists	Administrators, managers and officials	Teachers	Health occupations	Technicians and technologists	Other	Not reported
Total, all fields	1,079,698	116,266	24,907	54,759	571,997	73,150	67,389	114,681	2,606	522	1,040	4,281	48,100
Doctorate	80,870	47,818	9,939	2,678	26,641	35,730	37,145	12,094	1,631	174	84	506	6,430
Professional/medical	3,248	134	176	153	920	1,466	262	14	(1)	(1)	(1)	14	109
Master's	242,289	24,561	9,177	14,470	123,649	15,741	22,279	21,730	785	195	282	729	8,691
Bachelor's	620,396	43,753	5,615	37,458	389,960	20,213	7,703	80,427	190	153	674	3,032	31,218
Associate	12,539	(1)	(1)	(1)	11,701	(1)	(1)	240	(1)	(1)	(1)	(1)	598
Other degree	101	(1)	(1)	(1)	101	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	20,255	(1)	(1)	(1)	19,025	(1)	(1)	176	(1)	(1)	(1)	(1)	1,054
Physical scientists	121,011	88,262	99	84	1,888	9,445	94	14,669	419	173	84	443	5,351
Doctorate	54,665	39,718	72	23	522	6,866	30	4,842	332	30	47	151	2,032
Professional/medical	175	72	(1)	(1)	(1)	75	(1)	(1)	(1)	(1)	(1)	(1)	28
Master's	22,349	16,657	(1)	48	380	1,246	64	2,611	61	49	25	74	1,134
Bachelor's	43,822	31,815	27	13	986	1,258	(1)	7,216	26	94	12	218	2,157
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chemists	87,334	61,368	87	(1)	1,020	9,378	(1)	10,680	277	156	72	392	3,904
Doctorate	35,897	23,754	72	(1)	259	6,817	(1)	3,373	226	13	47	127	1,209
Professional/medical	175	72	(1)	(1)	(1)	75	(1)	(1)	(1)	(1)	(1)	(1)	28
Master's	14,743	10,665	(1)	(1)	260	1,228	(1)	1,638	25	49	25	61	792
Bachelor's	36,519	26,877	15	(1)	501	1,258	(1)	5,669	26	94	(1)	204	1,875
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Physicists/astronomers	27,519	21,687	12	84	805	43	94	3,293	119	(1)	12	39	1,331
Doctorate	16,874	14,324	(1)	23	251	25	30	1,350	83	(1)	(1)	12	776
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	5,860	4,590	(1)	48	69	18	64	710	36	(1)	(1)	13	312
Bachelor's	4,785	2,773	12	13	485	(1)	(1)	1,233	(1)	(1)	12	14	243
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	6,158	5,207	(1)	(1)	63	24	(1)	696	23	17	(1)	12	116
Doctorate	1,894	1,640	(1)	(1)	12	24	(1)	119	23	17	(1)	12	47
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,746	1,402	(1)	(1)	51	(1)	(1)	263	(1)	(1)	(1)	(1)	30
Bachelor's	2,518	2,165	(1)	(1)	(1)	(1)	(1)	314	(1)	(1)	(1)	(1)	39
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Mathematical scientists	27,833	[illegible]4	21,565	560	377	12	31	3,321	399	(1)	44	255	1,165
Doctorate	10,022	[illegible]3	9,159	51	48	12	31	148	173	(1)	(1)	13	344
Professional/medical	147	[illegible]	147	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	9,328	(1)	7,624	111	102	(1)	(1)	896	194	(1)	13	(1)	388
Bachelor's	8,336	61	4,635	398	227	(1)	(1)	2,277	32	(1)	31	242	433
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Table B-9—Con.

Field and highest degree	Total	Physical scientists	Mathematical scientists	Computer specialists	Engineers	Biological scientists	Social scientists	Administrators, managers and officials	Teachers	Health occupations	Technicians and technologists	Other	Not reported
Mathematicians	20,076	104	15,061	516	335	12	(1)	2,819	335	(1)	44	146	704
Doctorate	7,708	43	7,107	39	48	12	(1)	110	109	(1)	(1)	13	227
Professional/medical	77	(1)	77	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	6,992	(1)	5,777	93	60	(1)	(1)	572	194	(1)	13	(1)	283
Bachelor's	5,299	61	2,100	384	227	(1)	(1)	2,137	32	(1)	31	133	194
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	7,757	(1)	6,504	44	42	(1)	31	502	64	(1)	(1)	109	461
Doctorate	2,314	(1)	2,052	12	(1)	(1)	31	38	64	(1)	(1)	(1)	117
Professional/medical	70	(1)	70	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	2,336	(1)	1,847	18	42	(1)	(1)	324	(1)	(1)	(1)	(1)	105
Bachelor's	3,037	(1)	2,535	14	(1)	(1)	(1)	140	(1)	(1)	(1)	109	239
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Computer specialists	55,186	14	17	52,454	79	12	(1)	896	28	(1)	(1)	17	1,669
Doctorate	2,604	14	(1)	2,470	(1)	12	(1)	13	(1)	(1)	(1)	17	78
Professional/medical	153	(1)	(1)	153	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	14,815	(1)	17	13,817	11	(1)	(1)	593	28	(1)	(1)	(1)	349
Bachelor's	37,614	(1)	(1)	36,014	68	(1)	(1)	290	(1)	(1)	(1)	(1)	1,242
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Environmental scientists	29,466	26,132	12	71	308	65	(1)	1,471	48	18	24	194	1,103
Doctorate	8,054	7,208	(1)	14	51	52	(1)	296	48	(1)	(1)	59	326
Professional/medical	62	62	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	8,443	7,538	(1)	26	13	24	(1)	329	(1)	(1)	12	112	389
Bachelor's	12,907	11,324	12	31	244	9	(1)	846	(1)	18	12	23	388
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth scientists	24,589	21,773	12	28	267	24	(1)	1,285	48	18	24	194	916
Doctorate	6,253	5,623	(1)	14	51	(1)	(1)	233	48	(1)	(1)	59	225
Professional/medical	62	62	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	6,927	6,168	(1)	14	13	24	(1)	230	(1)	(1)	12	112	354
Bachelor's	11,347	9,920	12	(1)	203	(1)	(1)	822	(1)	18	12	23	337
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oceanographers	1,563	1,459	(1)	(1)	(1)	52	(1)	9	(1)	(1)	(1)	(1)	43
Doctorate	957	883	(1)	(1)	(1)	52	(1)	(1)	(1)	(1)	(1)	(1)	22
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	449	419	(1)	(1)	(1)	(1)	(1)	9	(1)	(1)	(1)	(1)	21
Bachelor's	157	157	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

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Table B-9—Con.

Field and highest degree	Total	Physical scientists	Mathematical scientists	Computer specialists	Engineers	Biological scientists	Social scientists	Administrators, managers and officials	Teachers	Health occupations	Technicians and technologists	Other	Not reported
Atmospheric scientists	3,314	2,900	(1)	43	41	9	(1)	177	(1)	(1)	(1)	(1)	144
Doctorate	844	702	(1)	(1)	(1)	(1)	(1)	63	(1)	(1)	(1)	(1)	79
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,067	951	(1)	12	(1)	(1)	(1)	90	(1)	(1)	(1)	(1)	14
Bachelor's	1,403	1,247	(1)	31	41	9	(1)	24	(1)	(1)	(1)	(1)	51
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineers	687,911	1,232	3,084	1,550	568,908	104	54	76,828	398	104	769	2,609	32,271
Doctorate	31,879	567	629	93	25,886	29	(1)	3,388	129	(1)	13	57	1,088
Professional/medical	1,002	(1)	29	(1)	920	(1)	(1)	14	(1)	(1)	(1)	14	25
Master's	145,290	278	1,485	455	123,037	37	27	14,176	183	104	208	316	4,984
Bachelor's	476,845	387	941	1,002	388,238	38	27	58,834	86	(1)	548	2,222	24,522
Associate	12,539	(1)	(1)	(1)	11,701	(1)	(1)	240	(1)	(1)	(1)	(1)	598
Other degree	101	(1)	(1)	(1)	101	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	20,255	(1)	(1)	(1)	19,025	(1)	(1)	176	(1)	(1)	(1)	(1)	1,054
Life scientists	75,462	444	43	(1)	332	63,087	80	7,798	355	130	95	155	2,943
Doctorate	31,765	190	13	(1)	117	28,418	67	1,476	342	75	(1)	22	1,045
Professional/medical	1,416	(1)	(1)	(1)	(1)	1,391	(1)	(1)	(1)	(1)	(1)	(1)	25
Master's	16,789	88	30	(1)	106	14,387	13	1,513	13	14	24	50	551
Bachelor's	25,492	166	(1)	(1)	109	18,891	(1)	4,809	(1)	41	71	83	1,322
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Biological scientists	35,935	153	13	(1)	40	31,381	41	2,888	304	79	(1)	36	1,000
Doctorate	19,981	36	13	(1)	25	18,100	28	906	291	38	(1)	11	533
Professional/medical	153	(1)	(1)	(1)	(1)	153	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	9,187	24	(1)	(1)	(1)	8,119	13	819	13	(1)	(1)	25	174
Bachelor's	6,614	93	(1)	(1)	15	5,009	(1)	1,163	(1)	41	(1)	(1)	293
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	28,790	151	30	(1)	217	22,220	24	4,385	13	(1)	95	106	1,549
Doctorate	6,519	14	(1)	(1)	65	5,700	24	435	13	(1)	(1)	11	257
Professional/medical	25	(1)	(1)	(1)	(1)	25	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	5,618	64	30	(1)	58	4,693	(1)	404	(1)	(1)	24	12	333
Bachelor's	16,628	73	(1)	(1)	94	11,802	(1)	3,546	(1)	(1)	71	83	959
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	10,737	140	(1)	(1)	75	9,486	15	525	38	51	(1)	13	394
Doctorate	5,265	140	(1)	(1)	27	4,618	15	135	38	37	(1)	(1)	255
Professional/medical	1,238	(1)	(1)	(1)	(1)	1,213	(1)	(1)	(1)	(1)	(1)	(1)	25
Master's	1,964	(1)	(1)	(1)	48	1,575	(1)	290	(1)	14	(1)	13	44
Bachelor's	2,250	(1)	(1)	(1)	(1)	2,080	(1)	100	(1)	(1)	(1)	(1)	70
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

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Field and highest degree	Total	Physical scientists	Mathematical scientists	Computer specialists	Engineers	Biological scientists	Social scientists	Administrators, managers and officials	Teachers	Health occupations	Technicians and technologists	Other	Not reported
Psychologists	34,889	(1)	(1)	14	(1)	308	29,969	2,605	395	84	12	198	1,304
Doctorate	20,404	(1)	(1)	14	(1)	261	18,179	1,025	150	56	12	105	602
Professional/medical	53	(1)	(1)	(1)	(1)	(1)	40	(1)	(1)	(1)	(1)	(1)	13
Master's	11,034	(1)	(1)	(1)	(1)	30	10,031	238	232	28	(1)	25	450
Bachelor's	3,398	(1)	(1)	(1)	(1)	17	1,719	1,342	13	(1)	(1)	68	239
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Social scientists	47,940	78	87	26	105	97	37,161	7,093	564	13	12	410	2,294
Doctorate	21,477	78	66	13	17	80	18,838	906	457	13	12	82	915
Professional/medical	240	(1)	(1)	(1)	(1)	(1)	222	(1)	(1)	(1)	(1)	(1)	18
Master's	14,241	(1)	21	13	(1)	17	12,144	1,374	74	(1)	(1)	152	446
Bachelor's	11,982	(1)	(1)	(1)	88	(1)	5,957	4,813	33	(1)	(1)	176	915
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Economists	19,754	17	21	13	75	17	14,324	3,323	197	(1)	12	280	975
Doctorate	8,792	17	(1)	(1)	(1)	(1)	7,895	411	145	(1)	12	(1)	312
Professional/medical	181	(1)	(1)	(1)	(1)	(1)	163	(1)	(1)	(1)	(1)	(1)	18
Master's	5,119	(1)	21	13	(1)	17	4,225	451	19	(1)	(1)	122	251
Bachelor's	5,662	(1)	(1)	(1)	75	(1)	2,541	2,461	33	(1)	(1)	158	394
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociologists/ anthropologists	11,158	48	(1)	(1)	(1)	66	9,372	1,211	89	(1)	(1)	15	357
Doctorate	6,470	48	(1)	(1)	(1)	66	5,863	213	62	(1)	(1)	15	203
Professional/medical	14	(1)	(1)	(1)	(1)	(1)	14	(1)	(1)	(1)	(1)	(1)	(1)
Master's	2,937	(1)	(1)	(1)	(1)	(1)	2,747	93	27	(1)	(1)	(1)	70
Bachelor's	1,737	(1)	(1)	(1)	(1)	(1)	748	905	(1)	(1)	(1)	(1)	84
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social scientists	17,028	13	66	13	30	14	12,965	2,559	278	13	(1)	115	962
Doctorate	6,215	13	66	13	17	14	5,080	282	250	13	(1)	67	400
Professional/medical	45	(1)	(1)	(1)	(1)	(1)	45	(1)	(1)	(1)	(1)	(1)	(1)
Master's	6,185	(1)	(1)	(1)	(1)	(1)	5,172	830	28	(1)	(1)	30	125
Bachelor's	4,583	(1)	(1)	(1)	13	(1)	2,668	1,447	(1)	(1)	(1)	18	437
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

cases reported.

RCE: National Science Foundation, National Sample, 1974.

Table B-10.—Number of scientists and engineers by field, major subject of study for highest degree, and highest degree held: 1974

Field and major subject of study for highest degree	Total with a degree	Doctorate	Professional/ medical	Master's	Bachelor's	Associate	Other
Total, all fields	1,059,443	180,870	3,248	242,289	620,396	12,539	101
Chemistry	80,798	29,958	(1)	13,129	37,711	(1)	(1)
Physics and astronomy	49,062	20,175	(1)	10,857	17,981	49	(1)
Mathematical sciences	44,706	9,543	(1)	12,548	22,615	(1)	(1)
Computer science and systems analysis	6,945	776	(1)	4,896	1,273	(1)	(1)
Earth, space, and marine sciences	26,128	6,466	(1)	7,884	11,778	(1)	(1)
Engineering	592,420	30,091	70	123,056	437,861	1,342	(1)
Biological sciences	49,969	29,443	(1)	10,293	10,233	(1)	(1)
Agricultural sciences	30,500	5,760	(1)	5,886	18,854	(1)	(1)
Medical sciences	6,175	1,883	1,146	1,542	1,604	(1)	(1)
Psychology	36,083	20,146	13	10,673	5,251	(1)	(1)
Economics	22,095	8,695	(1)	5,309	8,091	(1)	(1)
Sociology and anthropology	11,922	6,492	14	2,666	2,750	(1)	(1)
Other social sciences	15,337	5,586	(1)	4,236	5,477	38	(1)
Business and commerce	30,549	331	(1)	13,949	16,156	113	(1)
All other subjects	47,100	4,056	1,405	13,382	17,380	10,838	39
Subject not reported	9,654	1,469	600	1,983	5,381	159	62
Physical scientists	121,011	54,665	175	22,349	43,822	(1)	(1)
Chemistry	70,734	28,375	(1)	11,550	30,809	(1)	(1)
Physics and astronomy	29,531	17,175	(1)	6,512	5,844	(1)	(1)
Mathematical sciences	728	12	(1)	76	640	(1)	(1)
Computer science and systems analysis	73	(1)	(1)	23	50	(1)	(1)
Earth, space, and marine sciences	650	132	(1)	263	255	(1)	(1)
Engineering	3,609	1,303	(1)	523	1,783	(1)	(1)
Biological sciences	10,088	6,389	(1)	1,502	2,197	(1)	(1)
Agricultural sciences	832	261	(1)	159	412	(1)	(1)
Medical sciences	681	177	75	148	281	(1)	(1)
Psychology	84	12	(1)	23	49	(1)	(1)
Economics	41	(1)	(1)	18	23	(1)	(1)
Sociology and anthropology	45	(1)	(1)	12	33	(1)	(1)
Other social sciences	338	69	(1)	80	189	(1)	(1)
Business and commerce	498	(1)	(1)	473	25	(1)	(1)
All other subjects	2,152	442	76	826	808	(1)	(1)
Subject not reported	927	318	24	161	424	(1)	(1)
Chemists	87,334	35,897	175	14,743	36,519	(1)	(1)
Chemistry	69,910	28,028	(1)	11,436	30,446	(1)	(1)
Physics and astronomy	911	367	(1)	167	377	(1)	(1)
Mathematical sciences	337	(1)	(1)	(1)	337	(1)	(1)
Computer science and systems analysis	50	(1)	(1)	(1)	50	(1)	(1)
Earth, space, and marine sciences	180	47	(1)	51	82	(1)	(1)
Engineering	1,989	353	(1)	244	1,392	(1)	(1)
Biological sciences	9,898	6,324	(1)	1,440	2,134	(1)	(1)
Agricultural sciences	621	249	(1)	130	242	(1)	(1)
Medical sciences	646	154	75	136	281	(1)	(1)
Psychology	72	(1)	(1)	23	49	(1)	(1)
Economics	23	(1)	(1)	(1)	23	(1)	(1)
Sociology and anthropology	24	(1)	(1)	(1)	24	(1)	(1)
Other social sciences	54	(1)	(1)	(1)	54	(1)	(1)
Business and commerce	447	(1)	(1)	422	25	(1)	(1)
All other subjects	1,581	202	76	594	709	(1)	(1)
Subject not reported	591	173	24	100	294	(1)	(1)
Physicists/ astronomers	27,519	16,874	(1)	5,860	4,785	(1)	(1)
Chemistry	212	134	(1)	12	66	(1)	(1)
Physics and astronomy	25,528	15,989	(1)	5,225	4,314	(1)	(1)
Mathematical sciences	173	12	(1)	63	98	(1)	(1)
Computer science and systems analysis	23	(1)	(1)	23	(1)	(1)	(1)
Earth, space, and marine sciences	164	24	(1)	140	(1)	(1)	
Engineering	564	342	(1)	133	89	(1)	

Table B-10—Con.

Field and major subject of study for highest degree	Total with a degree	Doctorate	Profes-sional/ medical	Master's	Bachelor's	Associate	Other
Biological sciences	39	13	(1)	11	15	(1)	(1)
Agricultural sciences	12	12	(1)	(1)	(1)	(1)	(1)
Medical sciences	35	23	(1)	12	(1)	(1)	(1)
Psychology	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Economics	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociology and anthropology	12	(1)	(1)	12	(1)	(1)	(1)
Other social sciences	25	12	(1)	13	(1)	(1)	(1)
Business and commerce	25	(1)	(1)	25	(1)	(1)	(1)
All other subjects	397	168	(1)	143	86	(1)	(1)
Subject not reported	310	145	(1)	48	117	(1)	(1)
Other physical scientists	6,158	1,894	(1)	1,746	2,518	(1)	(1)
Chemistry	612	213	(1)	102	297	(1)	(1)
Physics and astronomy	3,092	819	(1)	1,120	1,153	(1)	(1)
Mathematical sciences	218	(1)	(1)	13	205	(1)	(1)
Computer science and systems analysis	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth, space, and marine sciences	306	61	(1)	72	173	(1)	(1)
Engineering	1,056	608	(1)	146	302	(1)	(1)
Biological sciences	151	52	(1)	51	48	(1)	(1)
Agricultural sciences	199	(1)	(1)	29	170	(1)	(1)
Medical sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Psychology	12	12	(1)	(1)	(1)	(1)	(1)
Economics	18	(1)	(1)	18	(1)	(1)	(1)
Sociology and anthropology	9	(1)	(1)	(1)	9	(1)	(1)
Other social sciences	259	57	(1)	67	135	(1)	(1)
Business and commerce	26	(1)	(1)	26	(1)	(1)	(1)
All other subjects	174	72	(1)	89	13	(1)	(1)
Subject not reported	26	(1)	(1)	13	13	(1)	(1)
Mathematical scientists	27,833	10,022	147	9,328	8,336	(1)	(1)
Chemistry	78	39	(1)	12	27	(1)	(1)
Physics and astronomy	408	213	(1)	131	64	(1)	(1)
Mathematical sciences	22,176	8,638	(1)	7,742	5,796	(1)	(1)
Computer science and systems analysis	122	25	(1)	97	(1)	(1)	(1)
Earth, space, and marine sciences	31	(1)	(1)	31	(1)	(1)	(1)
Engineering	481	88	(1)	224	169	(1)	(1)
Biological sciences	194	96	(1)	(1)	98	(1)	(1)
Agricultural sciences	354	78	(1)	72	204	(1)	(1)
Medical sciences	152	13	58	52	29	(1)	(1)
Psychology	216	47	(1)	24	145	(1)	(1)
Economics	829	146	(1)	233	450	(1)	(1)
Sociology and anthropology	265	96	(1)	29	140	(1)	(1)
Other social sciences	133	(1)	(1)	25	108	(1)	(1)
Business and commerce	802	12	(1)	239	551	(1)	(1)
All other subjects	1,445	518	25	417	485	(1)	(1)
Subject not reported	147	13	64	(1)	70	(1)	(1)
Mathematicians	20,076	7,708	77	6,992	5,299	(1)	(1)
Chemistry	14	(1)	(1)	(1)	14	(1)	(1)
Physics and astronomy	396	201	(1)	131	64	(1)	(1)
Mathematical sciences	18,281	7,010	(1)	6,314	4,957	(1)	(1)
Computer science and systems analysis	96	25	(1)	71	(1)	(1)	(1)
Earth, space, and marine sciences	31	(1)	(1)	31	(1)	(1)	(1)
Engineering	269	88	(1)	145	36	(1)	(1)
Biological sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural sciences	16	(1)	(1)	(1)	16	(1)	(1)
Medical sciences	27	(1)	(1)	27	(1)	(1)	(1)
Psychology	18	(1)	(1)	(1)	18	(1)	(1)
Economics	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociology and anthropology	36	(1)	(1)	(1)	36	(1)	(1)
Other social sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-10—Con.

Field and major subject of study for highest degree	Total with a degree	Doctorate	Professional/ medical	Master's	Bachelor's	Associate	Other
Business and commerce	30	(1)	(1)	13	17	(1)	(1)
All other subjects	785	371	13	260	141	(1)	(1)
Subject not reported	77	13	64	(1)	(1)	(1)	(1)
Statisticians.....	7,757	2,314	70	2,336	3,037	(1)	(1)
Chemistry.....	64	39	(1)	12	13	(1)	(1)
Physics and astronomy	12	12	(1)	(1)	(1)	(1)	(1)
Mathematical sciences	3,895	1,628	(1)	1,428	839	(1)	(1)
Computer science and systems analysis.....	26	(1)	(1)	26	(1)	(1)	(1)
Earth, space, and marine sciences .	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineering	212	(1)	(1)	79	133	(1)	(1)
Biological sciences	194	96	(1)	(1)	98	(1)	(1)
Agricultural sciences	338	78	(1)	72	188	(1)	(1)
Medical sciences	125	13	58	25	29	(1)	(1)
Psychology.....	198	47	(1)	24	127	(1)	(1)
Economics	829	146	(1)	233	450	(1)	(1)
Sociology and anthropology ...	229	90	(1)	29	104	(1)	(1)
Other social sciences	133	(1)	(1)	25	108	(1)	(1)
Business and commerce	772	12	(1)	226	534	(1)	(1)
All other subjects	660	147	12	157	344	(1)	(1)
Subject not reported	70	(1)	(1)	(1)	70	(1)	(1)
Computer specialists	55,186	2,604	153	14,815	37,614	(1)	(1)
Chemistry.....	693	184	(1)	17	492	(1)	(1)
Physics and astronomy	2,355	371	(1)	230	1,754	(1)	(1)
Mathematical sciences	13,964	302	(1)	2,794	10,868	(1)	(1)
Computer science and systems analysis.....	5,595	599	(1)	3,923	1,073	(1)	(1)
Earth, space, and marine sciences .	546	87	(1)	65	394	(1)	(1)
Engineering	9,266	610	(1)	2,565	6,091	(1)	(1)
Biological sciences	597	(1)	(1)	57	540	(1)	(1)
Agricultural sciences	192	(1)	(1)	53	139	(1)	(1)
Medical sciences	428	137	(1)	124	167	(1)	(1)
Psychology.....	1,140	61	(1)	165	914	(1)	(1)
Economics	1,924	(1)	(1)	274	1,650	(1)	(1)
Sociology and anthropology ...	449	(1)	(1)	73	376	(1)	(1)
Other social sciences	1,253	54	(1)	210	989	(1)	(1)
Business and commerce	10,960	48	(1)	3,020	7,892	(1)	(1)
All other subjects	5,398	80	153	1,161	4,004	(1)	(1)
Subject not reported	426	71	(1)	84	271	(1)	(1)
Environmental scientists	29,466	8,054	62	8,443	12,907	(1)	(1)
Chemistry.....	264	151	(1)	(1)	113	(1)	(1)
Physics and astronomy	1,696	655	(1)	306	735	(1)	(1)
Mathematical sciences	555	32	(1)	24	499	(1)	(1)
Computer science and systems analysis.....	13	(1)	(1)	(1)	13	(1)	(1)
Earth, space, and marine sciences .	22,594	6,030	(1)	7,111	9,453	(1)	(1)
Engineering	1,535	338	(1)	180	1,017	(1)	(1)
Biological sciences	256	150	(1)	70	36	(1)	(1)
Agricultural sciences	785	153	(1)	179	453	(1)	(1)
Medical sciences	37	(1)	13	(1)	24	(1)	(1)
Psychology.....	25	(1)	(1)	(1)	25	(1)	(1)
Economics	104	64	(1)	16	24	(1)	(1)
Sociology and anthropology ...	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social sciences	715	296	(1)	245	174	(1)	(1)
Business and commerce	62	(1)	(1)	50	12	(1)	(1)
All other subjects	471	46	36	159	230	(1)	(1)
Subject not reported	354	139	13	103	99	(1)	(1)
Earth scientists ..	24,589	6,253	62	6,927	11,347	(1)	(1)
Chemistry.....	113	62	(1)	(1)	51	(1)	(1)
Physics and astronomy	1,151	414	(1)	219	518	(1)	(1)
Mathematical sciences	338	21	(1)	(1)	317	(1)	
Computer science and systems analysis.....	13	(1)	(1)	(1)	13	(1)	

Table B-10—Con.

Field and major subject of study for highest degree	Total with a degree	Doctorate	Profes-sional/ medical	Master's	Bachelor's	Associate	Other
Earth, space, and marine sciences	19,555	4,778	(1)	6,025	8,752	(1)	(1)
Engineering	1,175	254	(1)	76	845	(1)	(1)
Biological sciences	148	113	(1)	12	23	(1)	(1)
Agricultural sciences	716	142	(1)	121	453	(1)	(1)
Medical sciences	13	(1)	13	(1)	(1)	(1)	(1)
Psychology	12	(1)	(1)	(1)	12	(1)	(1)
Economics	104	64	(1)	16	24	(1)	(1)
Sociology and anthropology	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social sciences	601	244	(1)	232	125	(1)	(1)
Business and commerce	38	(1)	(1)	38	(1)	(1)	(1)
All other subjects	283	35	36	85	127	(1)	(1)
Subject not reported	329	126	13	103	87	(1)	(1)
Oceanographers	1,563	957	(1)	449	157	(1)	(1)
Chemistry	37	24	(1)	(1)	13	(1)	(1)
Physics and astronomy	50	38	(1)	12	(1)	(1)	(1)
Mathematical sciences	11	11	(1)	(1)	(1)	(1)	(1)
Computer science and systems analysis	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth, space, and marine sciences	1,034	787	(1)	186	61	(1)	(1)
Engineering	145	47	(1)	65	33	(1)	(1)
Biological sciences	108	37	(1)	58	13	(1)	(1)
Agricultural sciences	58	(1)	(1)	58	(1)	(1)	(1)
Medical sciences	24	(1)	(1)	(1)	24	(1)	(1)
Psychology	13	(1)	(1)	(1)	13	(1)	(1)
Economics	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociology and anthropology	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social sciences	13	(1)	(1)	13	(1)	(1)	(1)
Business and commerce	(1)	(1)	(1)	(1)	(1)	(1)	(1)
All other subjects	57	(1)	(1)	57	(1)	(1)	(1)
Subject not reported	13	13	(1)	(1)	(1)	(1)	(1)

(1) See footnote at end of table.

Field and major subject of study for highest degree	Total with a degree	Doctorate	Profes-sional/ medical	Master's	Bachelor's	Associate	Other
Atmospheric scientists	3,314	844	(1)	1,067	1,403	(1)	(1)
Chemistry	114	65	(1)	(1)	49	(1)	(1)
Physics and astronomy	495	203	(1)	75	217	(1)	(1)
Mathematical sciences	206	(1)	(1)	24	182	(1)	(1)
Computer science and systems analysis	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth, space, and marine sciences	2,005	465	(1)	900	640	(1)	(1)
Engineering	215	37	(1)	39	139	(1)	(1)
Biological sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural sciences	11	11	(1)	(1)	(1)	(1)	(1)
Medical sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Psychology	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Economics	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociology and anthropology	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social sciences	101	52	(1)	(1)	49	(1)	(1)
Business and commerce	24	(1)	(1)	12	12	(1)	(1)
All other subjects	131	11	(1)	17	103	(1)	(1)
Subject not reported	12	(1)	(1)	(1)	12	(1)	(1)
Engineers	667,656	31,879	1,002	145,290	476,845	12,539	101
Chemistry	7,978	653	(1)	1,333	5,992	(1)	(1)
Physics and astronomy	14,506	1,374	(1)	3,580	9,503	49	(1)
Mathematical sciences	6,758	392	(1)	1,832	4,534	(1)	(1)
Computer science and systems analysis	1,109	152	(1)	832	125	(1)	(1)
Earth, space, and marine sciences	2,161	94	(1)	402	1,665	(1)	(1)
Engineering	576,789	27,462	70	119,352	428,563	1,342	(1)
Biological sciences	1,407	178	(1)	275	954	(1)	(1)
Agricultural sciences	1,711	74	(1)	232	1,405	(1)	(1)
Medical sciences	795	58	12	340	386	(1)	(1)

Table B-10—Con.

Field and major subject of study *for highest degree*	Total with a degree	Doctorate	Professional/ medical	Master's	Bachelor's	Associate	Other
Psychology	948	213	(1)	205	530	(1)	(1)
Economics	1,581	123	(1)	417	1,041	(1)	(1)
Sociology and anthropology	208	36	(1)	46	126	(1)	(1)
Other social sciences	2,111	86	(1)	852	1,135	38	(1)
Business and commerce	17,307	148	(1)	9,769	7,277	113	(1)
All other subjects	25,771	376	826	4,347	9,345	10,838	39
Subject not reported	6,516	460	94	1,476	4,265	159	62
Life scientists	75,462	31,765	1,416	16,789	25,492	(1)	(1)
Chemistry	1,026	556	(1)	217	253	(1)	(1)
Physics and astronomy	510	387	(1)	84	39	(1)	(1)
Mathematical sciences	292	93	(1)	51	149	(1)	(1)
Computer science and systems analysis	12	(1)	(1)	(1)	12	(1)	(1)
Earth, space, and marine sciences	129	106	(1)	12	11	(1)	(1)
Engineering	522	228	(1)	120	174	(1)	(1)
Biological sciences	37,226	22,493	(1)	8,351	6,382	(1)	(1)
Agricultural sciences	26,417	5,152	(1)	5,091	16,174	(1)	(1)
Medical sciences	3,957	1,423	988	840	706	(1)	(1)
Psychology	574	371	(1)	93	110	(1)	(1)
Economics	169	17	(1)	85	67	(1)	(1)
Sociology and anthropology	156	43	(1)	24	89	(1)	(1)
Other social sciences	189	14	(1)	104	71	(1)	(1)
Business and commerce	98	(1)	(1)	48	50	(1)	(1)
All other subjects	3,397	727	36	1,598	1,036	(1)	(1)
Subject not reported	788	155	392	72	169	(1)	(1)
Biological scientists	35,935	19,981	153	9,187	6,614	(1)	(1)
Chemistry	564	320	(1)	115	129	(1)	(1)
Physics and astronomy	250	175	(1)	48	27	(1)	(1)
Mathematical sciences	48	32	(1)	(1)	16	(1)	(1)
Computer science and systems analysis	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Field and major *subject of study* for highest degree	Total *with a* degree	Doctorate	Professional/ medical	Master's	Bachelor's	Associate	Other
Earth, space, and marine sciences	118	106	(1)	12	(1)	(1)	(1)
Engineering	190	76	(1)	87	27	(1)	(1)
Biological sciences	29,361	17,400	(1)	7,114	4,847	(1)	(1)
Agricultural sciences	2,646	953	(1)	803	890	(1)	(1)
Medical sciences	466	246	49	39	132	(1)	(1)
Psychology	139	114	(1)	13	12	(1)	(1)
Economics	12	(1)	(1)	(1)	12	(1)	(1)
Sociology and anthropology	23	(1)	(1)	11	12	(1)	(1)
Other social sciences	13	(1)	(1)	(1)	13	(1)	(1)
Business and commerce	64	(1)	(1)	25	39	(1)	(1)
All other subjects	1,822	503	24	848	447	(1)	(1)
Subject not reported	219	56	80	72	11	(1)	(1)
Agricultural scientists	28,790	6,519	25	5,618	16,628	(1)	(1)
Chemistry	43	(1)	(1)	30	13	(1)	(1)
Physics and astronomy	26	14	(1)	12	(1)	(1)	(1)
Mathematical sciences	132	(1)	(1)	13	119	(1)	(1)
Computer science and systems analysis	12	(1)	(1)	(1)	12	(1)	(1)
Earth, space, and marine sciences	11	(1)	(1)	(1)	11	(1)	(1)
Engineering	147	(1)	(1)	(1)	147	(1)	(1)
Biological sciences	3,821	2,331	(1)	892	598	(1)	(1)
Agricultural sciences	23,594	4,022	(1)	4,288	15,284	(1)	(1)
Medical sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Psychology	12	(1)	(1)	12	(1)	(1)	(1)
Economics	157	17	(1)	85	55	(1)	(1)
Sociology and anthropology	36	(1)	(1)	(1)	36	(1)	(1)
Other social sciences	99	14	(1)	59	26	(1)	(1)
Business and commerce	34	(1)	(1)	23	11	(1)	(1)
All other subjects	565	82	12	204	267	(1)	(1)
Subject not reported	101	39	13	(1)	49	(1)	

Table B-10—Con.

Field and major subject of study for highest degree	Total with a degree	Doctorate	Professional/ medical	Master's	Bachelor's	Associate	Other
Medical scientists	10,737	5,265	1,238	1,984	2,250	(1)	(1)
Chemistry	419	236	(1)	72	111	(1)	(1)
Physics and astronomy	234	198	(1)	24	12	(1)	(1)
Mathematical sciences	112	61	(1)	37	14	(1)	(1)
Computer science and systems analysis	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth, space, and marine sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineering	185	152	(1)	33	(1)	(1)	(1)
Biological sciences	4,044	2,762	(1)	345	937	(1)	(1)
Agricultural sciences	177	177	(1)	(1)	(1)	(1)	(1)
Medical sciences	3,491	1,177	939	801	574	(1)	(1)
Psychology	423	257	(1)	68	98	(1)	(1)
Economics	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociology and anthropology	97	43	(1)	13	41	(1)	(1)
Other social sciences	77	(1)	(1)	45	32	(1)	(1)
Business and commerce	(1)	(1)	(1)	(1)	(1)	(1)	(1)
All other subjects	1,010	142	(1)	546	322	(1)	(1)
Subject not reported	463	60	299	(1)	109	(1)	(1)
Psychologists	34,889	20,404	53	11,034	3,398	(1)	(1)
Chemistry	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Physics and astronomy	14	(1)	(1)	(1)	14	(1)	(1)
Mathematical sciences	31	(1)	(1)	15	16	(1)	(1)
Computer science and systems analysis	21	(1)	(1)	21	(1)	(1)	(1)
Earth, space, and marine sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineering	14	(1)	(1)	(1)	14	(1)	(1)
Biological sciences	174	122	(1)	38	14	(1)	(1)
Agricultural sciences	12	12	(1)	(1)	(1)	(1)	(1)
Medical sciences	51	38	(1)	13	(1)	(1)	(1)
Psychology	32,141	19,112	13	9,925	3,091	(1)	(1)
Economics	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociology and anthropology	38	25	(1)	13	(1)	(1)	(1)
Other social sciences	224	140	(1)	71	13	(1)	(1)
Business and commerce	91	52	(1)	26	13	(1)	(1)
All other subjects	1,868	760	27	858	223	(1)	(1)
Subject not reported	210	143	13	54	(1)	(1)	(1)
Social scientists	47,940	21,477	240	14,241	11,982	(1)	(1)
Chemistry	25	(1)	(1)	(1)	25	(1)	(1)
Physics and astronomy	42	(1)	(1)	14	28	(1)	(1)
Mathematical sciences	202	74	(1)	15	113	(1)	(1)
Computer science and systems analysis	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth, space, and marine sciences	17	17	(1)	(1)	(1)	(1)	(1)
Engineering	204	62	(1)	92	50	(1)	(1)
Biological sciences	27	15	(1)	(1)	12	(1)	(1)
Agricultural sciences	197	30	(1)	100	67	(1)	(1)
Medical sciences	74	37	(1)	25	12	(1)	(1)
Psychology	955	330	(1)	238	387	(1)	(1)
Economics	17,447	8,345	(1)	4,266	4,836	(1)	(1)
Sociology and anthropology	10,761	6,292	14	2,469	1,986	(1)	(1)
Other social sciences	10,374	4,927	(1)	2,649	2,798	(1)	(1)
Business and commerce	731	71	(1)	324	336	(1)	(1)
All other subjects	6,598	1,107	226	4,016	1,249	(1)	(1)
Subject not reported	286	170	(1)	33	83	(1)	(1)
Economists	19,754	8,792	181	5,119	5,662	(1)	(1)
Chemistry	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Physics and astronomy	14	(1)	(1)	14	(1)	(1)	(1)
Mathematical sciences	89	74	(1)	15	(1)	(1)	(1)
Computer science and systems analysis	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth, space, and marine sciences	17	17	(1)	(1)	(1)	(1)	(1)
Engineering	95	15	(1)	65	15	(1)	(1)
Biological sciences	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-10—Con.

Field and major subject of study for highest degree	Total with a degree	Doctorate	Profes-sional/ medical	Master's	Bachelor's	Associate	Other
Agricultural sciences	171	30	[1]	100	41	[1]	[1]
Medical sciences	24	24	[1]	[1]	[1]	[1]	[1]
Psychology	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Economics	16,886	8,128	[1]	4,095	4,663	[1]	[1]
Sociology and anthropology	102	24	[1]	16	62	[1]	[1]
Other social sciences	903	244	[1]	288	271	[1]	[1]
Business and commerce	682	71	[1]	292	319	[1]	[1]
All other subjects	622	16	181	217	208	[1]	[1]
Subject not reported	149	49	[1]	17	83	[1]	[1]
Sociologist/ anthropologists	11,158	6,470	14	2,937	1,737	[1]	[1]
Chemistry	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Physics and astronomy	15	[1]	[1]	[1]	15	[1]	[1]
Mathematical sciences	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Computer science and systems analysis	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Earth, space, and marine sciences	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Engineering	12	[1]	[1]	[1]	12	[1]	[1]
Biological sciences	15	15	[1]	[1]	[1]	[1]	[1]
Agricultural sciences	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Medical sciences	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Psychology	12	12	[1]	[1]	[1]	[1]	[1]
Economics	11	11	[1]	[1]	[1]	[1]	[1]
Sociology and anthropology	10,023	6,025	14	2,412	1,572	[1]	[1]
Other social sciences	250	164	[1]	86	[1]	[1]	[1]
Business and commerce	[1]	[1]	[1]	[1]	[1]	[1]	[1]
All other subjects	750	173	[1]	439	138	[1]	[1]
Subject not reported	70	70	[1]	[1]	[1]	[1]	[1]
Other social scientists	17,028	6,215	45	6,185	4,583	[1]	[1]
Chemistry	25	[1]	[1]	[1]	25	[1]	[1]
Physics and astronomy	13	[1]	[1]	[1]	13	[1]	[1]
Mathematical sciences	113	[1]	[1]	[1]	113	[1]	[1]
Computer science and systems analysis	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Earth, space, and marine sciences	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Engineering	97	47	[1]	27	23	[1]	[1]
Biological sciences	12	[1]	[1]	[1]	12	[1]	[1]
Agricultural sciences	26	[1]	[1]	[1]	26	[1]	[1]
Medical sciences	50	13	[1]	25	12	[1]	[1]
Psychology	943	318	[1]	238	387	[1]	[1]
Economics	550	206	[1]	171	173	[1]	[1]
Sociology and anthropology	636	243	[1]	41	352	[1]	[1]
Other social sciences	9,221	4,419	[1]	2,275	2,527	[1]	[1]
Business and commerce	49	[1]	[1]	32	17	[1]	[1]
All other subjects	5,226	918	45	3,360	903	[1]	[1]
Subject not reported	67	51	[1]	16	[1]	[1]	[1]

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

Table B-11.—Number of women scientists and engineers by field, race, and age: 1974

Field and race	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Total, all fields	53,957	73	13,582	11,457	6,924	5,755	4,635	4,478	2,803	2,426	1,304	520
White/ Caucasian ...	50,037	73	12,830	10,418	6,242	4,998	4,423	4,235	2,748	2,273	1,292	505
Black/Negro .	1,714	(1)	338	370	243	352	129	95	41	119	12	15
American Indian	45	(1)	(1)	13	(1)	18	(1)	14	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	1,422	(1)	178	433	312	276	69	120	(1)	34	(1)	(1)
Other races	739	(1)	236	223	127	111	14	14	14	(1)	(1)	(1)
Physical scientists.....	9,075	11	2,195	1,979	1,454	953	881	793	304	337	136	32
White/ Caucasian ...	7,820	11	1,910	1,546	1,153	828	831	766	304	303	136	32
Black/Negro .	282	(1)	51	164	51	(1)	16	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	548	(1)	70	112	215	56	34	27	(1)	34	(1)	(1)
Other races ..	425	(1)	164	157	35	69	(1)	(1)	(1)	(1)	(1)	(1)
Chemists	8,103	(1)	2,088	1,825	1,198	816	789	705	255	275	136	16
White/ Caucasian ...	6,952	(1)	1,854	1,392	913	712	755	678	255	241	136	16
Black/Negro .	199	(1)	(1)	164	35	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	527	(1)	70	112	215	35	34	27	(1)	34	(1)	(1)
Other races ..	425	(1)	164	157	35	69	(1)	(1)	(1)	(1)	(1)	(1)
Physicists/ astronomers ..	735	(1)	45	87	189	137	62	88	49	62	(1)	16
White/ Caucasian ...	682	(1)	29	87	189	116	46	88	49	62	(1)	16
Black/Negro .	32	(1)	16	(1)	(1)	(1)	16	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	21	(1)	(1)	(1)	(1)	21	(1)	(1)	(1)	(1)	(1)	(1)
Other races ..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	237	11	62	67	67	(1)	30	(1)	(1)	(1)	(1)	(1)
White/ Caucasian ...	186	11	27	67	51	(1)	30	(1)	(1)	(1)	(1)	(1)
Black/Negro .	51	(1)	35	(1)	16	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other races ..	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Mathematical scientists.....	4,038	16	1,083	963	393	273	402	269	282	217	109	26
White/ Caucasian ...	3,576	16	979	823	343	236	354	229	263	198	109	26
Black/Negro .	370	(1)	104	103	37	19	48	21	19	19	(1)	(1)
American Indian	18	(1)	(1)	(1)	(1)	18	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	56	(1)	(1)	19	18	(1)	(1)	19	(1)	(1)	(1)	(1)
Other races ..	18	(1)	(1)	18	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

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Table B-11—Cor

Field and race	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Mathematicians	2,664	(1)	794	596	350	176	354	107	115	107	65	(1)
White/ Caucasian	2,374	(1)	728	512	314	139	306	107	115	88	65	(1)
Black/Negro	254	(1)	66	84	18	19	48	(1)	(1)	19	(1)	(1)
American Indian	18	(1)	(1)	(1)	(1)	18	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	18	(1)	(1)	(1)	18	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	1,374	16	289	367	48	97	48	162	167	110	44	26
White/ Caucasian	1,202	16	251	311	29	97	48	122	148	110	44	26
Black/Negro	116	(1)	38	19	19	(1)	(1)	21	19	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	38	(1)	(1)	19	(1)	(1)	(1)	19	(1)	(1)	(1)	(1)
Other races	18	(1)	(1)	18	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Computer specialists	6,747	(1)	2,705	2,316	694	360	323	218	(1)	70	21	40
White/ Caucasian	6,429	(1)	2,648	2,190	672	269	301	218	(1)	70	21	40
Black/Negro	198	(1)	57	28	22	69	22	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	120	(1)	(1)	98	(1)	22	(1)	(1)	(1)	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Environmental scientists	894	(1)	208	89	30	165	32	264	33	73	(1)	(1)
White/ Caucasian	774	(1)	208	76	30	75	32	247	33	73	(1)	(1)
Black/Negro	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	13	(1)	(1)	13	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	107	(1)	(1)	(1)	(1)	90	(1)	17	(1)	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth scientists	817	(1)	196	89	30	165	32	199	33	73	(1)	(1)
White/ Caucasian	697	(1)	196	76	30	75	32	182	33	73	(1)	(1)
Black/Negro	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	13	(1)	(1)	13	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	107	(1)	(1)	(1)	(1)	90	(1)	17	(1)	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oceanographers	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
White/ Caucasian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Black/Negro	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Field and race	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Atmospheric scientists	77	(1)	12	(1)	(1)	(1)	(1)	65	(1)	(1)	(1)	(1)
White/ Caucasian	77	(1)	12	(1)	(1)	(1)	(1)	65	(1)	(1)	(1)	(1)
Black/Negro	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineers	3,359	(1)	1,099	685	278	307	268	239	128	195	160	(1)
White/ Caucasian	3,027	(1)	948	617	260	239	268	212	128	195	160	(1)
Black/Negro	57	(1)	57	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	169	(1)	22	34	18	68	(1)	27	(1)	(1)	(1)	(1)
Other races	106	(1)	72	34	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Life scientists	9,979	30	1,842	2,146	1,538	1,418	649	871	659	560	210	56
White/ Caucasian	9,126	30	1,728	1,971	1,374	1,231	594	801	645	486	210	56
Black/Negro	[illegible]	(1)	28	30	56	105	28	28	(1)	74	(1)	(1)
American Indian	14	(1)	(1)	(1)	(1)	(1)	(1)	14	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	333	(1)	86	145	35	40	13	14	(1)	(1)	(1)	(1)
Other races	157	(1)	(1)	(1)	73	42	14	14	14	(1)	(1)	(1)
Biological scientists	6,334	30	1,415	1,615	776	728	439	538	476	182	108	27
White/ Caucasian	5,783	30	1,301	1,497	612	701	413	510	476	108	108	27
Black/Negro	201	(1)	28	30	56	(1)	13	(1)	(1)	74	(1)	(1)
American Indian	14	(1)	(1)	(1)	(1)	(1)	(1)	14	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	249	(1)	86	88	35	13	13	14	(1)	(1)	(1)	(1)
Other races	87	(1)	(1)	(1)	73	14	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	340	(1)	59	15	176	(1)	(1)	17	(1)	(1)	60	13
White/ Caucasian	340	(1)	59	15	176	(1)	(1)	17	(1)	(1)	60	13
Black/Negro	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other races	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	3,305	(1)	368	516	586	690	210	316	183	378	42	16
White/ Caucasian	3,003	(1)	368	459	586	530	181	274	169	378	42	16
Black/Negro	148	(1)	(1)	(1)	(1)	105	15	28	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	84	(1)	(1)	57	(1)	27	(1)	(1)	(1)	(1)	(1)	(1)
Other races	70	(1)	(1)	(1)	(1)	28	14	14	14	(1)	(1)	(1)

(1) [illegible] at end of table.

Table B-11 – Con.

Field and sex	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Psychologists . .	9,784	16	1,570	1,670	1,331	1,300	1,137	879	706	549	403	223
White/ Caucasian . . .	9,408	16	1,540	1,612	1,267	1,154	1,122	846	706	534	403	208
Black/Negro .	314	(1)	30	30	30	146	15	33	(1)	15	(1)	15
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	29	(1)	(1)	14	15	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other races . .	33	(1)	(1)	14	19	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Social scientists	10,081	(1)	2,880	1,609	1,201	979	943	945	691	425	265	143
White/ Caucasian . . .	9,877	(1)	2,869	1,583	1,143	966	921	916	669	414	253	143
Black/Negro .	144	(1)	11	15	47	13	(1)	13	22	11	12	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	60	(1)	(1)	11	11	(1)	22	16	(1)	(1)	(1)	(1)
Other races . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Economists . . .	1,900	(1)	345	517	144	210	118	222	136	66	142	(1)
White/ Caucasian . . .	1,834	(1)	345	517	122	210	96	222	114	66	142	(1)
Black/Negro .	44	(1)	(1)	(1)	22	(1)	(1)	(1)	22	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	22	(1)	(1)	(1)	(1)	(1)	22	(1)	(1)	(1)	(1)	(1)
Other races . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociologists/ anthropologists	3,119	(1)	858	544	470	325	345	243	162	160	12	(1)
White/ Caucasian . . .	3,074	(1)	847	544	459	325	345	243	162	149	(1)	(1)
Black/Negro .	34	(1)	11	(1)	(1)	(1)	(1)	(1)	(1)	11	12	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	11	(1)	(1)	(1)	11	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other races . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social scientists	5,062	(1)	1,677	548	587	444	480	480	393	199	111	143
White/ Caucasian . . .	4,969	(1)	1,677	522	562	431	480	451	393	199	111	143
Black/Negro .	66	(1)	(1)	15	25	13	(1)	13	(1)	(1)	(1)	(1)
American Indian	(1)	(1)	(1)	(1)	(1)	(1)	(1)	( )	(1)	(1)	(1)	(1)
Chinese, Japanese, Korean	27	(1)	(1)	11	(1)	(1)	(1)	16	(1)	(1)	(1)	(1)
Other races . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

Table B-12.—Number of women scientists and engineers by field, highest degree, and age: 1974

Field and highest degree	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Total, all fields	53,957	73	13,582	11,457	6,924	5,755	4,635	4,478	2,803	2,426	1,304	520
Doctorate	13,389	(1)	885	2,729	2,369	2,348	1,532	1,290	823	708	512	193
Professional/ medical	285	(1)	(1)	14	51	39	63	14	29	62	13	(1)
Master's	19,213	(1)	4,686	4,017	2,612	1,790	1,542	1,483	1,313	960	528	282
Bachelor's	21,055	73	8,011	4,697	1,892	1,563	1,498	1,691	638	696	251	45
Associate	15	(1)	(1)	(1)	(1)	15	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Physical scientists	9,075	11	2,195	1,979	1,454	953	881	793	304	337	136	32
Doctorate	2,543	(1)	196	664	538	377	255	247	43	114	109	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	2,116	(1)	368	419	535	175	184	160	124	135	(1)	16
Bachelor's	4,416	11	1,631	896	381	401	442	386	137	88	27	16
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Physicists/ astronomers	735	(1)	45	87	189	137	62	88	49	62	(1)	16
Doctorate	474	(1)	14	28	175	91	46	58	16	46	(1)	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	197	(1)	16	59	14	30	16	14	16	16	(1)	16
Bachelor's	64	(1)	15	(1)	(1)	16	(1)	16	17	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Chemists	8,103	(1)	2,088	1,825	1,198	816	789	705	255	275	136	16
Doctorate	2,054	(1)	167	636	363	286	209	189	27	68	109	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,808	(1)	352	333	454	145	151	146	108	119	(1)	(1)
Bachelor's	4,241	(1)	1,569	856	381	385	429	370	120	82	27	16
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	237	11	62	67	67	(1)	30	(1)	(1)	(1)	(1)	(1)
Doctorate	15	(1)	15	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	111	(1)	(1)	27	67	(1)	17	(1)	(1)	(1)	(1)	(1)
Bachelor's	111	11	47	40	(1)	(1)	13	(1)	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Mathematical scientists	4,038	16	1,083	963	398	273	402	269	282	217	109	26
Doctorate	532	(1)	71	146	52	97	13	65	24	39	12	13
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,654	(1)	373	439	220	104	212	67	80	107	39	13
Bachelor's	1,852	16	639	378	126	72	177	137	178	71	58	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-12—Con.

Field and highest degree	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Mathematicians	2,664	(1)	794	596	350	176	354	107	115	107	65	(1)
Doctorate	372	(1)	71	52	52	84	13	25	24	39	12	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,252	(1)	293	296	220	74	198	53	38	68	12	(1)
Bachelor's	1,040	(1)	430	248	78	18	143	29	53	(1)	41	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	1,374	16	289	367	48	97	48	162	167	110	44	26
Doctorate	160	(1)	(1)	94	(1)	13	(1)	40	(1)	(1)	(1)	13
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	402	(1)	80	143	(1)	30	14	14	42	39	27	13
Bachelor's	812	16	209	130	48	54	34	108	125	71	17	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Computer specialists	6,747	(1)	2,705	2,310	694	360	323	218	(1)	70	21	40
Doctorate	166	(1)	(1)	110	15	26	15	(1)	(1)	(1)	(1)	(1)
Professional/ medical	20	(1)	(1)	(1)	(1)	(1)	20	(1)	(1)	(1)	(1)	(1)
Master's	1,437	(1)	556	435	193	39	123	13	(1)	38	(1)	40
Bachelor's	5,124	(1)	2,149	1,771	486	295	165	205	(1)	32	21	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Environmental scientists	894	(1)	208	89	30	165	32	264	33	73	(1)	(1)
Doctorate	230	(1)	(1)	27	15	47	(1)	111	17	13	(1)	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	560	(1)	165	62	(1)	103	17	137	16	60	(1)	(1)
Bachelor's	104	(1)	43	(1)	15	15	15	16	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Earth scientists	817	(1)	196	89	30	165	32	199	33	73	(1)	(1)
Doctorate	165	(1)	(1)	27	15	47	(1)	46	17	13	(1)	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	548	(1)	153	62	(1)	103	17	137	16	60	(1)	(1)
Bachelor's	104	(1)	43	(1)	15	15	15	16	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oceanographers	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Doctorate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Bachelor's	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

Table B-12—Con.

Field and highest degree	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Atmospheric scientists	77	(1)	12	(1)	(1)	(1)	(1)	65	(1)	(1)	(1)	(1)
Doctorate	65	(1)	(1)	(1)	(1)	(1)	(1)	65	(1)	(1)	(1)	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	12	(1)	12	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Bachelor's	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Engineers	3,359	(1)	1,099	685	278	307	268	239	128	195	160	(1)
Doctorate	26	(1)	(1)	(1)	14	(1)	12	(1)	(1)	(1)	(1)	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,234	(1)	408	237	167	88	16	77	128	64	49	(1)
Bachelor's	2,084	(1)	691	448	97	204	240	162	(1)	131	111	(1)
Associate	15	(1)	(1)	(1)	(1)	15	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Life scientists	9,979	30	1,842	2,146	1,538	1,418	649	871	659	560	210	56
Doctorate	3,034	(1)	177	683	493	539	274	266	378	100	97	27
Professional/ medical	192	(1)	(1)	14	51	39	29	14	13	32	(1)	(1)
Master's	3,594	(1)	751	792	554	493	240	218	114	303	113	16
Bachelor's	3,159	30	914	657	440	347	106	373	154	125	(1)	13
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Biological scientists	6,334	30	1,415	1,615	776	728	439	538	476	182	108	27
Doctorate	2,318	(1)	177	615	396	301	181	225	288	39	69	27
Professional/ medical	14	(1)	(1)	14	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	2,401	(1)	720	674	223	206	189	131	89	130	39	(1)
Bachelor's	1,601	30	518	312	157	221	69	182	99	13	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	340	(1)	59	15	176	(1)	(1)	17	(1)	(1)	60	13
Doctorate	67	(1)	(1)	(1)	67	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	184	(1)	15	(1)	109	(1)	(1)	(1)	(1)	(1)	60	(1)
Bachelor's	89	(1)	44	15	(1)	(1)	(1)	17	(1)	(1)	(1)	13
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	3,305	(1)	368	516	586	690	210	316	183	378	42	16
Doctorate	649	(1)	(1)	68	30	238	93	41	90	61	28	(1)
Professional/ medical	178	(1)	(1)	(1)	51	39	29	14	13	32	(1)	(1)
Master's	1,009	(1)	16	118	222	287	51	87	25	173	14	16
Bachelor's	1,469	(1)	352	330	283	126	37	174	55	112	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-12—Con.

Field and highest degree	Total	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & over
Psychologists . .	9,784	16	1,570	1,670	1,331	1,300	1,137	879	706	549	403	223
Doctorate	4,141	(1)	263	539	861	742	645	397	208	222	123	141
Professional/ medical	13	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	13	(1)
Master's	4,617	(1)	881	954	444	544	402	405	498	173	250	66
Bachelor's . . .	1,013	16	426	177	26	14	90	77	(1)	154	17	16
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree . . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Social scientists	10,081	(1)	2,880	1,609	1,201	979	943	945	691	425	265	143
Doctorate	2,717	(1)	178	560	381	520	318	204	153	220	171	12
Professional/ medical	60	(1)	(1)	(1)	(1)	(1)	14	(1)	16	30	(1)	(1)
Master's	4,001	(1)	1,184	679	499	244	348	406	353	80	77	131
Bachelor's . . .	3,303	(1)	1,518	370	321	215	263	335	169	95	17	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree . . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Economists . . .	1,900	(1)	345	517	144	210	118	222	136	66	142	(1)
Doctorate	529	(1)	29	114	106	31	53	63	22	(1)	111	(1)
Professional/ medical	46	(1)	(1)	(1)	(1)	(1)	(1)	(1)	16	30	(1)	(1)
Master's	559	(1)	123	212	16	65	(1)	63	48	18	14	(1)
Bachelor's . . .	766	(1)	193	191	22	114	65	96	50	18	17	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree . . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Sociologists/ anthropologists	3,119	(1)	858	544	470	325	345	243	162	160	12	(1)
Doctorate	1,215	(1)	(1)	267	153	288	168	88	91	160	(1)	(1)
Professional/ medical	14	(1)	(1)	(1)	(1)	(1)	14	(1)	(1)	(1)	(1)	(1)
Master's	1,255	(1)	461	245	172	25	114	155	71	(1)	12	(1)
Bachelor's . . .	635	(1)	397	32	145	12	49	(1)	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree . . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other social scientists	5,062	(1)	1,677	548	587	444	480	480	393	199	111	143
Doctorate	973	(1)	149	179	122	201	97	53	40	60	60	12
Professional/ medical	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Master's	2,187	(1)	600	222	311	154	234	188	234	62	51	131
Bachelor's . . .	1,902	(1)	928	147	154	89	149	239	119	77	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
No degree . . .	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

Table B-13.—Number of women scientists and engineers by field, highest degree, and race: 1974

Field and highest degree	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Total, all fields	53,957	50,037	1,714	45	1,422	739
Doctorate	13,389	12,354	360	13	458	204
Professional/medical	285	243	(1)	(1)	14	28
Master's	13,213	17,832	638	(1)	605	138
Bachelor's	21,055	19,593	716	32	345	369
Associate	15	15	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Physical scientists	9,075	7,820	282	(1)	548	425
Doctorate	2,543	2,143	25	(1)	305	70
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	2,116	1,887	83	(1)	112	34
Bachelor's	4,416	3,790	174	(1)	131	321
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Chemists	8,103	6,952	199	(1)	527	425
Doctorate	2,054	1,675	25	(1)	284	70
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,808	1,627	35	(1)	112	34
Bachelor's	4,241	3,650	139	(1)	131	321
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Physicists/astronomers	735	682	32	(1)	21	(1)
Doctorate	474	453	(1)	(1)	21	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	197	165	32	(1)	(1)	(1)
Bachelor's	64	64	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Other physical scientists	237	186	51	(1)	(1)	(1)
Doctorate	15	15	(1)	(1)	(1)	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	111	95	16	(1)	(1)	(1)
Bachelor's	111	76	35	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Mathematical scientists	4,038	3,576	370	18	56	18
Doctorate	532	473	40	(1)	19	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,654	1,477	122	(1)	37	18
Bachelor's	1,852	1,626	208	18	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Mathematicians	2,664	2,374	254	18	18	(1)
Doctorate	372	353	19	(1)	(1)	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,252	1,131	103	(1)	18	(1)
Bachelor's	1,040	890	132	18	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Statisticians	1,374	1,202	116	(1)	38	18
Doctorate	160	120	21	(1)	19	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	402	346	19	(1)	19	18
Bachelor's	812	736	76	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Computer specialists	6,747	6,429	198	(1)	120	(1)
Doctorate	166	166	(1)	(1)	(1)	(1)
Professional/medical	20	20	(1)	(1)	(1)	(1)
Master's	1,437	1,437	(1)	(1)	(1)	(1)
Bachelor's	5,124	4,806	198	(1)	120	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Environmental scientists	894	774	(1)	13	107	(1)
Doctorate	230	183	(1)	13	34	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	560	487	(1)	(1)	73	(1)
Bachelor's	104	104	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)

See footnote at end of table.

Table B-13—Con.

Field and highest degree	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Earth scientists	817	697	(1)	13	107	(1)
Doctorate	165	118	(1)	13	34	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	548	475	(1)	(1)	73	(1)
Bachelor's	104	104	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Oceanographers	(1)	(1)	(1)	(1)	(1)	(1)
Doctorate	(1)	(1)	(1)	(1)	(1)	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	(1)	(1)	(1)	(1)	(1)	(1)
Bachelor's	(1)	(1)	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Atmospheric scientists	77	77	(1)	(1)	(1)	(1)
Doctorate	65	65	(1)	(1)	(1)	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	12	12	(1)	(1)	(1)	(1)
Bachelor's	(1)	(1)	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Engineers	3,359	3,027	57	(1)	169	106
Doctorate	26	26	(1)	(1)	(1)	
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	1,234	1,015	(1)	(1)	147	72
Bachelor's	2,084	1,971	57	(1)	22	34
Associate	15	15	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Life scientists	9,979	9,126	349	14	333	157
Doctorate	3,034	2,807	56	(1)	56	115
Professional/medical	192	150	(1)	(1)	14	28
Master's	3,594	3,152	251	(1)	191	(1)
Bachelor's	3,159	3,017	42	14	72	14
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)

Field and highest degree	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Biologists	6,334	5,783	201	14	249	87
Doctorate	2,318	2,147	41	(1)	43	87
Professional/medical	14	14	(1)	(1)	(1)	(1)
Master's	2,401	2,121	146	(1)	134	(1)
Bachelor's	1,601	1,501	14	14	72	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Agricultural scientists	340	340	(1)	(1)	(1)	(1)
Doctorate	67	67	(1)	(1)	(1)	(1)
Professional/medical	(1)	(1)	(1)	(1)	(1)	(1)
Master's	184	184	(1)	(1)	(1)	(1)
Bachelor's	89	89	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Medical scientists	3,305	3,003	148	(1)	84	70
Doctorate	649	593	15	(1)	13	28
Professional/medical	178	136	(1)	(1)	14	28
Master's	1,009	847	105	(1)	57	(1)
Bachelor's	1,469	1,427	28	(1)	(1)	14
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Psychologists	9,784	9,408	314	(1)	29	33
Doctorate	4,141	3,916	206	(1)	(1)	19
Professional/medical	13	13	(1)	(1)	(1)	(1)
Master's	4,617	4,466	108	(1)	29	14
Bachelor's	1,013	1,013	(1)	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)
Social scientists	10,081	9,877	144	(1)	60	(1)
Doctorate	2,717	2,640	33	(1)	44	(1)
Professional/medical	60	60	(1)	(1)	(1)	(1)
Master's	4,001	3,911	74	(1)	16	(1)
Bachelor's	3,303	3,266	37	(1)	(1)	(1)
Associate	(1)	(1)	(1)	(1)	(1)	(1)
Other	(1)	(1)	(1)	(1)	(1)	(1)
No degree	(1)	(1)	(1)	(1)	(1)	(1)

Table B-13—Con.

Field and highest degree	Total	White/ Caucasian	Black/ Negro	American Indian	Chinese, Japanese, Korean	Other
Economists	1,900	1,834	44	[1]	22	[1]
Doctorate	529	485	22	[1]	22	[1]
Professional/medical	46	46	[1]	[1]	[1]	[1]
Master's	559	559	[1]	[1]	[1]	[1]
Bachelor's	766	744	22	[1]	[1]	[1]
Associate	[1]	[1]	[1]	[1]	[1]	[1]
Other	[1]	[1]	[1]	[1]	[1]	[1]
No degree	[1]	[1]	[1]	[1]	[1]	[1]
Sociologists/ anthropologists	3,119	3,074	34	[1]	11	[1]
Doctorate	1,215	1,193	11	[1]	11	[1]
Professional/medical	14	14	[1]	[1]	[1]	[1]
Master's	1,255	1,232	23	[1]	[1]	[1]
Bachelor's	635	635	[1]	[1]	[1]	[1]
Associate	[1]	[1]	[1]	[1]	[1]	[1]
Other	[1]	[1]	[1]	[1]	[1]	[1]
No degree	[1]	[1]	[1]	[1]	[1]	[1]
Other social scientists	5,062	4,969	66	[1]	27	[1]
Doctorate	973	962	[1]	[1]	11	[1]
Professional/medical	[1]	[1]	[1]	[1]	[1]	[1]
Master's	2,187	2,120	51	[1]	16	[1]
Bachelor's	1,902	1,887	15	[1]	[1]	[1]
Associate	[1]	[1]	[1]	[1]	[1]	[1]
Other	[1]	[1]	[1]	[1]	[1]	[1]
No degree	[1]	[1]	[1]	[1]	[1]	[1]

[1]No cases reported.
SOURCE: National Science Foundation, National Sample, 1974.

APPENDIX C

A Listing of Detailed Statistical Tables in Parts II and III (To be published later)

PART II. EMPLOYMENT CHARACTERISTICS

SCIENTISTS AND ENGINEERS BY FIELD

By highest degree and employment status: 1974
By highest degree and type of employer: 1974
By highest degree and primary work activity: 1974
By age and type of employer: 1974
By primary work activity and type of employer: 1974
By highest degree and critical national interest: 1974
By sex and employment status: 1974
By age and employment status: 1974
By race and employment status: 1974
Receiving Federal support, by type of employer and agency of support: 1974
Receiving Federal support, by highest degree and agency of support: 1974
Receiving Federal support, by primary work activity and agency of support: 1974
Doctorates by primary work activity and type of employer: 1974
Master's-degree holders by primary work activity and type of employer: 1974
Bachelor's-degree holders by primary work activity and type of employer: 1974

WOMEN SCIENTISTS AND ENGINEERS BY FIELD

By type of employer: 1974
By primary work activity: 1974
Median annual salary by race and age: 1974
Median annual salary by highest degree: 1974

MEDIAN ANNUAL SALARIES OF SCIENTISTS AND ENGINEERS BY FIELD

By highest degree and type of employer: 1974
By highest degree and primary work activity: 1974
By primary work activity and type of employer: 1974
By [illegible] age: 1974
By [illegible] age: 1974
By sex and race: 1974
By highest degree and employed in science and engineering or other than science and engineering: 1974
By type of employer and employed in science and engineering or other than science and engineering: 1974
Doctorates by primary work activity and type of employer: 1974
Master's-degree holders by primary work activity and type of employer: 1974
Bachelor's-degree holders by primary work activity and type of employer: 1974

PART III. GEOGRAPHIC CHARACTERISTICS

SCIENTISTS AND ENGINEERS BY STANDARD METROPOLITAN STATISTICAL AREA

By field: 1974
By highest degree: 1974
By type of employer: 1974
By primary work activity: 1974

MEDIAN ANNUAL SALARIES BY STANDARD METROPOLITAN STATISTICAL AREA

By field: 1974
By highest degree: 1974
By type of employer: 1974
By primary work activity: 1974

Scientists and engineers receiving Federal support by State and agency of support: 1974

APPENDIX D

Reproduction of 1974 Questionnaire and Reference Lists

O.M.B. No. 41-S730b4; Approval Expires December 31, 1974

FORM FMS-14A (10-23-73)

U.S. DEPARTMENT OF COMMERCE
SOCIAL AND ECONOMIC STATISTICS ADMIN.
BUREAU OF THE CENSUS

1974 NATIONAL SURVEY OF SCIENTISTS AND ENGINEERS

NOTICE – Your report to the Census Bureau is confidential by law (Title 13, U.S. Code). It may be seen only by sworn Census employees and may be used only for statistical purposes.

Please read instructions carefully before answering questions.

Answer as accurately as you can by printing your reply clearly or by entering an "X" in the box next to the appropriate reply.

If the instructions for a question direct you to enter a code and description from a list, please refer to the reference list attached to this questionnaire.

A. Is the information shown in the mailing label above correct?

☐ YES

☐ NO – *Please enter the correct information*

Name

Number and street

City or town | State (if USA) (010) | ZIP code

Foreign country

B. Is this mailing address the same address as your place of residence?

☐ SAME

☐ DIFFERENT – *Please enter your city and State or foreign country of residence.*

City or town | State (if USA) (011) | ZIP code

Foreign country

Dear Friend:

Let us express our appreciation for your cooperation in the 1972 Professional, Technical, and Scientific Manpower Survey which we conducted under the sponsorship of the National Science Foundation. Reports including statistical summaries based on this survey are now being used in analysis and planning by Federal and State manpower agencies, private businesses, nonprofit research organizations, industrial and trade associations, and university scholars.

As you are very likely aware, there have been significant changes in the past few years in the patterns of both public and private expenditures related to science and technology. It is important to know how these changes affect highly trained persons. The sample of persons canvassed in the 1972 survey is unique in its coverage of scientific and technical manpower and, for this reason, the National Science Foundation has asked the Bureau to again survey this panel to obtain current employment information and related data. For the survey to be successful and yield truly representative information, it is important that each person fill out and return his questionnaire.

Please complete the questions which follow on pages 2 through 4 and return your questionnaire in the enclosed preaddressed envelope. For most persons only a portion of the questions are applicable and need to be completed. For some questions you are instructed to enter a code and description from Reference List A, B, or C. These lists are attached to the questionnaire.

Please be assured that the information you provide is confidential by law and may be seen only by sworn Census employees; it cannot be used for anything but statistical purposes and cannot be given to any other Government agency, private concern, or individual except in the form of statistical summaries from which it is impossible to identify information about any particular person.

Your participation in this voluntary survey will be appreciated.

Thank you for your cooperation.

Sincerely,

Vincent P. Barabba

VINCENT P. BARABBA
Director
Bureau of the Census

Enclosure

PART I – EDUCATION AND TRAINING

1. EDUCATIONAL ATTAINMENT

How many years of education or formal training BEYOND HIGH SCHOOL have you COMPLETED? (Include college, junior college, graduate school, law school, business college, technical institute, etc., but **do not include** work taken through correspondence courses, on-the-job training, apprenticeship, or at employer's training facility. For any education received in foreign or ungraded schools, mark the equivalent number of years in the regular American school system.)

(012)
- ☐ 0 years
- ☐ 1 year
- ☐ 2 years
- ☐ 3 years
- ☐ 4 years
- ☐ 5 years
- ☐ 6 years
- ☐ 7 years
- ☐ 8 years or more

2. EDUCATION SINCE 1971

a. Since 1971, have you attended any college, university, or other post-high school institution?

(013)
- 1 ☐ Yes – *Continue with 2b*
- 2 ☐ No – *SKIP to question 3*

b. List below each institution from which you have obtained or are currently obtaining formal training beyond the high school level and give the other information requested. Begin with the most recent and work back through 1972. Use a separate column for each degree granted or worked for. Designate degrees by abbreviation (e.g., A.A., B.A., M.A., Ph.D., LL.B., M.D., etc.). **Do not include** work taken through correspondence courses, on-the-job training, apprenticeship, or at employer's training facility.

	MOST RECENT	SECOND-TO-LAST	THIRD-TO-LAST
	(014)	(015)	(016)
(1) College, university, etc. *(Enter name, city, and State or foreign country)*	Name _____ City _____ State or foreign country	Name _____ City _____ State or foreign country	Name _____ City _____ State or foreign country
(2) Year attendance ended	(017) 2 ☐ 1972 3 ☐ 1973 4 ☐ 1974 5 ☐ Now enrolled	(018) 2 ☐ 1972 3 ☐ 1973 4 ☐ 1974	(019) 2 ☐ 1972 3 ☐ 1973
(3) Type of degree worked for, if any *(Enter A.A., B.S.E.E., B.A., etc. or mark "None" box)*	(020) _____ x ☐ None	(021) _____ x ☐ None	(022) _____ x ☐ None
(4) Year degree awarded or to be awarded *(Enter year or mark "None" box)*	(023) 19_____ x ☐ None	(024) 19_____ x ☐ None	_____ x ☐ None
(5) Major field of study *(Enter code and description from Reference List A.)*	(026) Code ☐☐☐ Description	(027) Code ☐☐☐ Description	(028) Code ☐☐☐ Description

3. OTHER TRAINING SINCE 1971

Aside from formal education, which of the following types of training did you receive in 1972 or 1973?

(Mark the appropriate year for each type of training you have received.)

	(029) 1972	(030) 1973
1. On-the-job training	1 ☐	1 ☐
2. Military training applicable to civilian occupations	2 ☐	2 ☐
3. Extension or correspondence courses	3 ☐	3 ☐
4. Courses at employers training facility	4 ☐	4 ☐
5. Courses at adult education center	5 ☐	5 ☐
6. Other training	6 ☐	6 ☐
7. None	7 ☐	7 ☐

PART II – WORK STATUS

(Complete questions 4 through 9 for column (A) and then for column (B))

	Work status during the last full week in January 1974 (January 20–26) (A)	Work status during the last full week in January 1973 (January 21–27) (B)
4. Were you working during that week?	(031) 1 ☐ Yes, working full time – *SKIP to 6* 2 ☐ Yes, working part time – *Continue with 5* 3 ☐ No, not working – *SKIP to 8*	(032) 1 ☐ Yes, working full time – *SKIP to 6* 2 ☐ Yes, working part time – *Continue with 5* 3 ☐ No, not working – *SKIP to 8*
5. If you worked part time, were you seeking full-time employment?	(033) 1 ☐ Yes, seeking full-time work 2 ☐ No, preferred part-time work 3 ☐ No, full-time work not available	(034) 1 ☐ Yes, seeking full-time work 2 ☐ No, preferred part-time work 3 ☐ No, full-time work not available
6. Were you working in a position related to science or engineering?	(035) 1 ☐ Yes – *SKIP to 9* 2 ☐ No – *Continue with 7*	(036) 1 ☐ Yes – *SKIP to 9* 2 ☐ No – *Continue with 7*
7. If you were working in a position NOT related to science or engineering, what was the MOST important reason for taking this position?	*(MARK ONLY ONE BOX)* (037) 1 ☐ Preferred nonscience or nonengineering position 2 ☐ Promoted out of science or engineering position 3 ☐ Pay was better in nonscience or nonengineering position 4 ☐ Locational preference 5 ☐ Science or engineering position not available 6 ☐ Other – *Specify* _____	*(MARK ONLY ONE BOX)* (038) 1 ☐ Preferred nonscience or nonengineering position 2 ☐ Promoted out of science or engineering position 3 ☐ Pay was better in nonscience or nonengineering position 4 ☐ Locational preference 5 ☐ Science or engineering position not available 6 ☐ Other – *Specify* _____
8. If you were not working, were you principally —	*(MARK ONLY ONE BOX)* (039) 1 ☐ On vacation or otherwise temporarily absent from a job for health or personal reasons 2 ☐ On temporary layoff from a job 3 ☐ Looking for work 4 ☐ Retired 5 ☐ Student 6 ☐ Tending to family responsibilities 7 ☐ Other – *Specify* _____	*(MARK ONLY ONE BOX)* (040) 1 ☐ On vacation or otherwise temporarily absent from a job for health or personal reasons 2 ☐ On temporary layoff from a job 3 ☐ Looking for work 4 ☐ Retired 5 ☐ Student 6 ☐ Tending to family responsibilities 7 ☐ Other – *Specify* _____
9. Were you on a post doctoral appointment?	(041) 1 ☐ Yes 2 ☐ No	(042) 1 ☐ Yes 2 ☐ No

PART III – JOB ACTIVITIES

INSTRUCTIONS FOR COMPLETING QUESTIONS 10–18

a. Complete column (A) for questions 10 through 18 for the job held during the last full week of January 1974 or for your most recent prior job held.

b. Column (B) should be completed if the job you had during the last full week of January 1973 differed from the job described in column (A). If the job was the same, mark (X) the "Same job as column (A)" box at the top of column (B). **NOTE:** Consider a change in jobs to have occurred if there were significant changes in duties, level of responsibility, or occupation even if you continued to work for the same employer.

c. If you held more than one job during the weeks mentioned above, please report only the job at which you worked the greatest number of hours.

	Job held during week of January 20–26, 1974 or most recent prior job (A)	Job held during week of January 21–27, 1973 (B) — (043) SAME JOB AS COLUMN (A) ☐
10. Where did you work? *Location (city and State or foreign country) of company, business, agency, or other employer.*	(044) ☐☐☐ City _____ (046) ☐☐☐ State or foreign country _____	(045) ☐☐☐ City _____ (047) ☐☐☐ State or foreign country _____
11. What kind of business was this? *Enter code and description from Reference List B. If the organization conducted activities at different locations (e.g., research at one location and manufacturing at another), enter the activity at the location where you worked.*	(048) Code ☐☐☐ Description _____	(049) Code ☐☐☐ Description _____
12. What was your occupation? *Enter code and description from Reference List C.*	(050) Code ☐☐☐ Description _____	(051) Code ☐☐☐ Description _____
13. What work activities were related to this position? *(Mark all activities in which you spent time)*	01 ☐ Management or administration of research and development 02 ☐ Management or administration of other than research and development 03 ☐ Teaching and training – preparing and teaching courses, guiding and counseling students or trainees 04 ☐ Basic research 05 ☐ Applied research 06 ☐ Development – product, process, and technical development 07 ☐ Report and technical writing, editing, information retrieval 08 ☐ Clinical diagnosis – diagnosis, tie[illegible], etc. for patients or clients 09 ☐ Design – of equipment, processes, [illegible] drafting, drawing, blueprints 10 ☐ Quality control, testing, evaluat[illegible] inspection of equipment, materia[illegible] devices 11 ☐ Operations – production, maintenance, construction, installation 12 ☐ Distribution – sales, traffic, purchasing, customer and public relations 13 ☐ Statistical work – designing and conducting sample and other surveys, forecasting, statistical analysis 14 ☐ Consulting – on technical aspects of professional, scientific, and management fields or products 15 ☐ Computer applications – programming, data systems analysis, development of programming techniques, controlling computer operations 16 ☐ Other activities – *Specify*	01 ☐ Management or administration of research and development 02 ☐ Management or administration of other than research and development 03 ☐ Teaching and training – preparing and teaching courses, guiding and counseling students or trainees 04 ☐ Basic research 05 ☐ Applied research 06 ☐ Development – product, process, and technical development 07 ☐ Report and technical writing, editing, information retrieval 08 ☐ Clinical diagnosis – diagnosis, tie[illegible], etc. for patients or clients 09 ☐ Design – of equipment, processes, [illegible] drafting, drawing, blueprints 10 ☐ Quality control, testing, evaluat[illegible] inspection of equipment, materia[illegible] devices 11 ☐ Operations – production, maintenance, construction, installation 12 ☐ Distribution – sales, traffic, purchasing, customer and public relations 13 ☐ Statistical work – designing and conducting sample and other surveys, forecasting, statistical analysis 14 ☐ Consulting – on technical aspects of professional, scientific, and management fields or products 15 ☐ Computer applications – programming, data systems analysis, development of programming techniques, controlling computer operations 16 ☐ Other activities – *Specify*
14. Among all the activities marked above (in question 13) which in terms of working hours spent was your primary and which was your major secondary activity? *Fill in the appropriate code numbers from the activities in question 13.*	CODE (052) _____ Primary (054) _____ Secondary	CODE (053) _____ Primary (055) _____ Secondary
15. Were you primarily —	*(MARK ONLY ONE BOX)* (056) 1 ☐ Employee of private company, business, or individual for wages, salary, or commissions 2 ☐ Employee of nonprofit organization (excluding government) 3 ☐ Federal government employee 4 ☐ State government employee 5 ☐ Local government employee (city, county, etc.) 6 ☐ Employee of international organization Self-employed in own business, profession, or farm 7 ☐ Own business – not incorporated 8 ☐ Own business – incorporated 9 ☐ Working without pay in family business or farm	*(MARK ONLY ONE BOX)* (057) 1 ☐ Employee of private company, business, or individual for wages, salary, or commissions 2 ☐ Employee of nonprofit organization (excluding government) 3 ☐ Federal government employee 4 ☐ State government employee 5 ☐ Local government employee (city, county, etc.) 6 ☐ Employee of international organization Self-employed in own business, profession, or farm 7 ☐ Own business – not incorporated 8 ☐ Own business – incorporated 9 ☐ Working without pay in family business or farm

PART III – JOB ACTIVITIES – Continued

	Job held during week of January 20–26, 1974, or most recent prior job (A)	Job held during week of January 21–27, 1973 (B)	SAME JOB AS COLUMN (A)
16. Between what dates did you hold this position? *Enter month and year*	(058) From ____ (059) To ____	(060) From ____ (061) To ____	☐
17. What was the basic salary associated with this position? If you were on a post-doctoral appointment, include stipend plus allowances. Indicate whether the figure entered is per year, per month, or per week. (Basic salary refers to salary before deductions for income tax, social security, retirement, etc., but does not include bonuses, overtime, summer teaching, or other payment for secondary jobs.)	(062) $ _____.00 (064) 1 ☐ Per year 2 ☐ Per month 3 ☐ Per week **If academically employed, mark whether salary is for –** (066) 1 ☐ 9–10 months 2 ☐ 11–12 months	(063) $ _____.00 (065) 1 ☐ Per year 2 ☐ Per month 3 ☐ Per week **If academically employed, mark whether salary is for –** (067) 1 ☐ 9–10 months 2 ☐ 11–12 months	
18a. Was ANY of your work supported or sponsored by U.S. Government funds?	(068) 1 ☐ Yes – *Continue with 18b* 2 ☐ No 3 ☐ Don't know } *SKIP to 19a*	(069) 1 ☐ Yes – *Continue with 18b* 2 ☐ No 3 ☐ Don't know } *SKIP to 19a*	
b. Which of the following agencies or departments were supporting the work?	(070) 1 ☐ Department of Housing and Urban Development 2 ☐ Department of the Interior 3 ☐ Department of Labor 4 ☐ Department of Defense 5 ☐ Department of Commerce 6 ☐ Department of Agriculture	(071) 1 ☐ Department of Housing and Urban Development 2 ☐ Department of the Interior 3 ☐ Department of Labor 4 ☐ Department of Defense 5 ☐ Department of Commerce 6 ☐ Department of Agriculture	
	(072) 7 ☐ Department of Transportation 8 ☐ Department of Justice Department of Health, Education and Welfare 9 ☐ NIH (National Institutes of Health) 10 ☐ Health Services and Mental Health Administration	(073) 7 ☐ Department of Transportation 8 ☐ Department of Justice Department of Health, Education and Welfare 9 ☐ NIH (National Institutes of Health) 10 ☐ Health Services and Mental Health Administration	
	(074) 11 ☐ Office of Education 12 ☐ Other H.E.W. – *Specify* ____ 13 ☐ NASA (National Aeronautic and Space Administration)	(075) 11 ☐ Office of Education 12 ☐ Other H.E.W. – *Specify* ____ 13 ☐ NASA (National Aeronautic and Space Administration)	
	(076) 14 ☐ NSF (National Science Foundation) 15 ☐ EPA (Environmental Protection Agency) 16 ☐ AEC (Atomic Energy Commission)	(077) 14 ☐ NSF (National Science Foundation) 15 ☐ EPA (Environmental Protection Agency) 16 ☐ AEC (Atomic Energy Commission)	
	(078) 17 ☐ AID (Agency for International Development) 18 ☐ Other agency or department – *Specify* ____ 19 ☐ Don't know source agency	(079) 17 ☐ AID (Agency for International Development) 18 ☐ Other agency or department – *Specify* ____ 19 ☐ Don't know source agency	

PART IV – OTHER INFORMATION

19a. At anytime during calendar year 1973, were you without a job AND actively seeking employment?	(080) 1 ☐ Yes – *Continue with 19b* 2 ☐ No – *SKIP to question 20*
b. For how many weeks were you seeking employment?	(081) ☐ 1 week ☐ 2 weeks ☐ 3 weeks ☐ 4 weeks or more
20. Based on my total education and experience, I now regard myself professionally as a (an) – *Enter code and description from Reference List C*	(082) Code ☐☐☐ Description ____
21. Listed at the right, are selected topics of critical national interest. If you devote a significant proportion of your professional time to any of these problem areas, please mark the box for the one on which you spend the MOST time. *Mark only one box*	(083) 01 ☐ Health Education: 02 ☐ Teaching 03 ☐ Other 04 ☐ Environment protection, pollution control 05 ☐ Space 06 ☐ Crime prevention and control 07 ☐ Food production and technology 08 ☐ Energy and fuel 09 ☐ Other mineral resources 10 ☐ Community development and services 11 ☐ Housing (planning, design, construction) 12 ☐ Does not apply
22. In the event that it is necessary to contact you to clarify some of the information you provide, may we contact you by telephone? *If "Yes," please enter the telephone number(s) on which you can be reached.*	☐ Yes → Area code ____ Telephone number ____ ☐ No
23. Please enter the name of a person at an address other than yours through whom you can be reached	Name ____ Address *(Number and street)* ____ City ____ State or foreign country ____ ZIP code ____
Print your name here	Date prepared ____

☆ U. S. GOVERNMENT PRINTING OFFICE : 1973-756-679

REFERENCE LIST A – MAJOR FIELDS OF STUDY

This list is to be used in answering question 2b about the field(s) in which you have obtained study or training. It is divided into two sections: Section I is a list of fields of academic study generally leading to bachelor's or higher degrees; Section II is a list of fields of study and training below that generally leading to a bachelor's degree.

Please scan the entire list, choose the appropriate answer for the question and then enter the code and description in the appropriate section of question 2b. If none of the categories listed below adequately describes what you were studying or being trained in, use the "Other" category (code 600 or 625) and enter a brief description of what you were studying in the space provided on the questionnaire.

Section I – FIELDS OF ACADEMIC STUDY LEADING TO BACHELOR'S OR HIGHER DEGREES

Code	Description
	Biological and Agricultural Sciences and Related Fields
501	Agriculture, business
502	Agriculture, general
503	Agronomy, field crops
504	Anatomy and histology
505	Animal physiology
506	Animal science
507	Bacteriology, virology, mycology, parasitology
508	Biochemistry
509	Biology, general
510	Biophysics
511	Botany, general
512	Dairy science (dairy husbandry)
513	Entomology
514	Farm management
515	Fish and game or wildlife management
516	Food science (food technology and processing, dairy manufacturing and technology, food industry)
517	Forestry
518	Genetics
519	Horticulture
520	Immunology
521	Microbiology
522	Plant pathology
523	Plant physiology
524	Soil science (soil management, soil conservation)
525	Zoology, general
526	Biological and agricultural sciences, other fields
	Education
527	Biological sciences education
528	Mathematics education
529	Physical sciences education
530	Trade and industrial training
531	Education, other fields
	Engineering
532	Aerospace, aeronautical, astronautical, and [illegible]
533	Agricultural
534	Architectural
535	Chemical, petroleum refining
536	Civil, construction, transportation
537	Electrical, electronics
538	Engineering sciences, mechanics, physics
539	Engineering, technology
540	Environmental/Sanitary engineering
541	General or unified
542	Industrial
543	Mechanical
544	Metallurgical, materials, ceramics
545	Mining, mineral
546	Naval architecture and marine engineering
547	Nuclear
548	Operations Research/Systems Engineering
549	Petroleum
550	Engineering, other fields
	Health Fields
551	Medicine or premedicine, and clinical medical sciences
552	Nursing (4 year or longer program)
553	Pathology
554	Pharmacology
555	Pharmacy
556	Health professions, other fields (4 year or longer program)

Code	Description
	Mathematical Sciences
557	Mathematics
558	Statistics and actuarial sciences
559	Computer sciences and systems analysis
	Physical Sciences
560	Astronomy
561	Chemistry
593	Geography
563	Meteorology
564	Physics
565	Physical sciences, general
566	Geology and geophysics
567	Oceanography
568	Physical sciences, other fields
	Psychology
569	Clinical
570	Educational
571	General psychology
572	Psychology, other fields
	Social Sciences
573	Anthropology
574	Area studies, regional studies
575	Economics, agricultural
576	Economics, except agricultural
577	Foreign service programs
93	Geography
579	History
580	Industrial relations
581	International relations
582	Political science or government
583	Public administration
584	Social sciences, general
585	Social work, social administration, social welfare
586	Sociology
587	Social sciences, other fields
	Arts, Humanities, and Other Specialties
588	Arts, general
589	Business and commerce, including accounting, hotel and restaurant administration, and secretarial studies
590	English and journalism
591	Fine and applied arts, all fields
592	Foreign language and literature, all fields
593	Geography
594	Home economics, all fields
595	Law or prelaw
596	Library science
597	Military science, including merchant marine deck officer
598	Philosophy, all fields
599	Religion and theology, all fields
600	Other *(Describe briefly under the applicable item on the questionnaire.)*

Section II – FIELDS OF ACADEMIC STUDY AND OCCUPATIONAL TRAINING RELATED TO PROGRAMS BELOW THE BACCALAUREATE

Code	Description
	Data Processing-related fields of study or training
601	Computer programming
602	Computer operating
603	All other data processing fields of study or training
	Engineering-related fields of study or training
604	Drafting and design, all fields
605	Aeronautical technology
606	Architectural or building technology
607	Chemical technology
608	Civil technology
609	Electrical and electronics technology
610	Industrial technology
611	Mechanical technology
612	All other engineering-related fields of study or training
	Science-related fields of study or training
613	Agriculture
614	Forestry
615	Other science-related fields of study or training

Code	Description
	Other fields of study or training
616	Business and commerce-related fields of study or training
617	Craft (skilled) occupations-related fields of study or training (such as carpentry, bricklaying, tool and die making, etc.)
618	Educational-related fields of study or training
619	Home economics
620	Nursing and other health service-related fields of study or training
621	Operative occupations-related fields of study or training (such as machine operation, driving, inspecting, etc.)
622	Police technology or law enforcement
623	Sales and marketing-related fields of study or training
624	Service occupations-related fields of study or training (such as cook, beautician, firefighter, etc.)
625	All other fields of study or training *(Describe briefly under the applicable item on the questionnaire.)*

REFERENCE LIST B – KINDS OF BUSINESSES

This list is to be used in answering question 11 about the kind(s) of business or industry for which you worked. Please scan the entire list, choose the appropriate answer for the question and enter the code and description from this list. If none of the categories listed below adequately describes the kind of business for which you worked, use the "Other" category (code 731).

Code	Description
	Manufacturing
701	Aircraft, aircraft engines, parts
702	Chemicals and allied products
703	Electrical machinery, equipment and supplies for the generation, storage, transformation, transmission, and utilization of electrical energy
704	Electronic apparatus, radio, television and communication equipment and parts
705	Electronic computers, accounting, calculating and office machinery and equipment
706	Fabricated metal products (except ordnance, machinery and transportation equipment)
707	Machinery (except electrical) including engines and turbines, farming and construction machinery, mining, metalworking and other manufacturing and service industry machines
708	Motor vehicles and motor vehicle equipment including trucks, buses, automobiles, railroad engines and cars
709	Ordnance, including manufacture of arms, ammunition, tanks, and complete guided missiles, space vehicles and equipment
710	Petroleum refining and related industries
711	Primary metal industries, including smelting, refining, rolling, drawing, alloying, and manufacture of castings, forgings and other basic metal products
712	Professional and scientific equipment and [illegible]
713	Other manufacturing including printing [illegible]
	Educational Institutions
	College or university (offering at least a Bachelor's degree)
	Junior college or technical institute
	Medical school
	Other educational institutions
	Health Services
718	Hospital or clinic
719	Other medical and health services

Code	Description
	Other Kinds of Business
720	Agriculture, forestry, and fisheries
721	Business, personal, and repair services
722	Construction
723	Engineering or architectural services
724	Finance, insurance, or real estate
725	Mining and petroleum extraction
726	Private, nonprofit organizations other than educational institutions and hospitals
727	Professional and technical societies
728	Research institutions
729	Retail and wholesale trade
730	Transportation, communication, or other public utilities
731	Other *(Describe briefly under applicable item on the questionnaire.)*
	Public Administration (Include only uniquely governmental activities, such as the U.S. Postal Service, U.S. Air Force, State court, Department of Motor Vehicles, city building inspection, or city public welfare. For example, if you work for the U.S. Postal Service use code 733, Federal public administration; on the other hand, if you work at a Veterans' Administration Hospital, use code 718, Hospital or clinic; if you work at a State university, use code 714, College or university; if you work for a county road building agency, use code 722, Construction; if you work in a Defense Department research laboratory, use code 726, Research institution.)
732	Uniformed military service
733	Federal public administration
734	State public administration
735	Local public administration (city, county, etc.)
736	Other government

REFERENCE LIST C – OCCUPATIONS

This list is to be used in answering questions 12 and 20 about your occupational classification. Please scan the entire list, choose the appropriate entry and enter the code and description from this list. If you cannot find exactly the right entry, please choose the one that comes nearest to it. If none of the entries is at all appropriate, use the "Other" category (code 475) and enter a brief description in the space provided on the questionnaire.

Code	Description
	Engineers, including college professors and instructors
401	Engineer, aeronautical and astronautical
402	Engineer, agricultural
403	Engineer, chemical
404	Engineer, civil and architectural
405	Engineer, electrical and electronic
406	Engineer, industrial
407	Engineer, mechanical
408	Engineer, metallurgical and materials
409	Engineer, mining and petroleum
410	Engineer, nuclear
411	Engineer, environmental and sanitary
412	Engineer, operations research/systems
413	Engineer, other fields *(Describe briefly under the applicable item on the questionnaire.)*
	Computer Specialist, including college professors and instructors
414	Computer programmer
415	Computer systems analyst
416	Computer scientist
417	Other computer specialist *(Describe briefly under the applicable item on the questionnaire.)*
	Mathematicians and Statisticians, including college professors and instructors
418	Actuary
419	Mathematician
420	Statistician
421	Operations research analyst
	Physical Scientists, including college professors and instructors
422	Chemist
423	Earth scientists including geologists, geophysicists, etc.
424	Physicist, astronomer
425	Atmospheric scientist, meteorologist
426	Oceanographer
427	Other physical scientist *(Describe)*
	Biological Scientists, including college professors and instructors
428	Agricultural scientists, including foresters and conservationists
429	Biological scientist
430	Biochemist
431	Biophysicist
432	Medical scientist, excluding persons who are primarily medical practioners; see Health Occupations
433	Other biological scientist *(Describe)*
	Social scientists, including college professors and instructors
434	Economist
435	Psychologist
436	Sociologist or anthropologist
437	Other social scientist *(Describe briefly under the applicable item on the questionnaire.)*

Code	Description
	Health Occupations, including persons who are primarily practitioners. Persons engaged primarily in medical research, teaching, and similar activities use code 432, Medical scientist.
438	Physician or surgeon
439	Technician, dental
440	Technician, medical
441	Other health occupation *(Describe briefly under the applicable item on the questionnaire.)*
	Technicians and Technologists, except medical
442	Designer, electronic parts and machine tools
443	Designer, industrial
444	Designer, other
445	Draftsman
446	Surveyor
447	Technician, biological and agricultural
448	Technician, electrical and electronic
449	Technician, construction, highways, and architectural
450	Technician, mechanical
451	Technician, other engineering
452	Technician, physical science
453	Technician, other fields *(Describe briefly under the applicable item on the questionnaire.)*
	Teachers
454	Teacher, elementary school
455	Teacher, secondary school
456	Teacher, college and university, excluding engineering and science *(Engineering and science teachers see codes 401–437 above.)*
	Administrators, Managers, and Officials, excluding farm
457	College president or dean
458	Administrator or manager, scientific and technical research and development
459	Administrator or manager, production and operations
460	Administrator, manager, or official, all other, excluding self-employed
461	Self-employed proprietor
	All Other Occupations
462	Accountant
463	Attorney or judge
464	Sales worker
465	Clerical worker (such as bookkeeper, secretary, etc.)
466	Clergy
467	Craft worker (such as baker, carpenter, electrician, mechanic, repair worker)
468	Farmer (owner, manager, tenant, or farm laborer)
469	Fire fighter or police
470	Laborer, except farm
471	Librarian
472	Merchant or shopkeeper, self-employed
473	Operative (such as assembler, factory worker, miner, welder, truck driver, etc.)
474	Postal worker
475	Other occupations, not specified above *(Describe briefly under the applicable item on the questionnaire.)*

Other Science Resources Publications

REPORTS	NSF No.	Price
Federal Support to Universities, Colleges, and Selected Nonprofit Institutions, Fiscal Year 1974	76-305	In press
Expenditures for Scientific and Engineering Activities at Universities and Colleges, Fiscal Year 1974	76-303	In press
Reviews of Data on Science Resources, No. 26, "Energy and Energy-Related R&D Activities of Federal Installations and Federally Funded Research and Development Centers: Estimated Funds and Manpower, FY 1973-75"	76-306	——
Reviews of Data on Science Resources, No. 25, "Doctoral Scientists and Engineers in Private Industry, 1973"	75-335	In press
"Doctoral Scientists and Engineers in Private Industry, 1973"	76-302	In press
Projections of Degrees and Enrollment in Science and Engineering Fields to 1985	76-301	In press
Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1974, 1975, and 1976, Volume XXIV	75-334	In press
An Analysis of Federal R&D Funding by Function, Fiscal Years 1969-1976	75-330	$1.80
Detailed Statistical Tables. Manpower Resources for Scientific Activities at Universities and Colleges, January 1975	75-329	——
Detailed Statistical Tables. Federal Support to Universities, Colleges, and Selected Nonprofit Institutions, Fiscal Year 1974	75-325	——
Detailed Statistical Tables. Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1974, 1975, and 1976, Volume XXIV	75-323	——
Detailed Statistical Tables. Graduate Science Education: Student Support and Postdoctorals, Fall 1974	75-322	——
Research and Development in Industry, 1973. Funds, 1973; Scientists & Engineers, January 1974	75-315	$1.95
HIGHLIGHTS		
"Industrial R&D Expenditures Rise to $22 Billion in 1974"	76-300	——
"Graduate Science Enrollment in Fall 1975 is Up Again for Second Straight Year"	75-335	——
"Employment of Academic Scientists and Engineers Increase From January 1974 to January 1975"	75-331	——