technical paper

33

Characteristics of Persons in Engineering and Scientific Occupations: 1972

U. S. DEPARTMENT OF COMMERCE
Social and Economic Statistics Administration
BUREAU OF THE CENSUS

technical pape

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Issued April 1974

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Library of Congress Card No. 74-600062

SUGGESTED CITATION

U.S. Bureau of the Census, *(Characteristics of Persons in Engineering and Scientific Occupations: 1972,)* Technical Paper No 33, U.S. Government Printing Office, Washington, D.C. 1974.

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price $2.65.

ACKNOWLEDGMENTS

The 1972 Professional, Technical, and Scientific Manpower Survey was sponsored by the National Science Foundation and conducted by the Bureau of the Census.

Within these organizations the individuals substantially involved in carrying out this project were:

National Science Foundation—The postcensal project was planned and coordinated by **Norman Seltzer**, Study Director, Manpower Utilization Studies Group, within the Manpower and Education Studies Section, **Robert W. Cain**, Head, of the Foundation's Division of Science Resources Studies.

Bureau of the Census—Overall direction was provided by **Murray S. Weitzman**, Assistant Division Chief (Socioeconomic Statistics Programs), Population Division. **Charles L. Kincannon**, Chief, Labor Force Statistics Branch, Population Division, had primary responsibility for carrying out the survey operations and reviewing the tabulations prepared. Other contributions by persons in the Labor Force Statistics Branch were: **Mary K. Friday** developed the computer systems and processing procedures and programs; **Thomas J. Palumbo**, under the supervision of **Paula J. Schneider**, prepared the textual content of this report; **Richard C. Downing** provided statistical assistance.

Clerical and related precomputer procedures and processing plans were developed and executed under the supervision of **Orville (Harry) Fisher** and **Stephen Sweely** of the Demographic Surveys Division. **Curtis A. Jacobs** of the Statistical Methods Division designed the appropriate survey sample; and **Roger Lepage, Richard Warren**, and **Marie Pees**, under the supervision of **David L. Kaplan**, Chief, Demographic Census Staff, executed the computer selection of the sample.

RELATED MATERIALS

Statistics from the 1960 Postcensal Survey generally comparable to the data in this report are found in: U.S. Bureau of the Census, **Characteristics of America's Engineers and Scientists: 1960 and 1962**, Technical Paper No. 21, 1969.

Preliminary data from the 1972 Professional Technical, and Scientific Manpower Survey were published by the Bureau of the Census in **Current Population Reports**, P-23, No. 45, "Persons in Engineering, Scientific, and Technical Occupations: 1970 and 1972," and by the National Science Foundation in, **Science Resource Studies Highlights**, "Selected Characteristics of Five Engineering and Scientific Occupational Groups, 1972" (NSF 73-306) July 20, 1973.

A previously unpublished Bureau of the Census report, "Selected Professional and Demographic Characteristics of Engineers: 1969" is produced in Appendix I of this technical paper.

PREFACE

This is the second in a series of reports based on the 1972 Professional, Technical, and Scientific Manpower Survey, which was sponsored by the National Science Foundation and conducted by the Bureau of the Census.*

The first report in the series, Current Population Reports series P-23, No. 45, Persons in Engineering, Scientific, and Technical Occupations: 1970 and 1972, included preliminary data highlighting information on the employment status, age, sex, and education of persons identified in the 1970 Census of Population as working in engineering, scientific, and technical occupations in the United States.

*A detailed discussion of this survey is presented in American Statistical Association, Proceedings of the Social Statistics Section, 1972, Chapter XII. Two articles from this chapter are reproduced in appendix A of this report.

Presented in this report are detailed statistics on the educational and career-related characteristics of persons reported in the 1970 Census of Population as being in the experienced civilian labor force in one of the following occupation groupings: Operations and computer specialists, engineers, mathematical specialists, life scientists, physical scientists, and social scientists. Statistics are presented for each of these occupation groupings as well as for each of the particular occupations these groupings subsume. Statistics from the 1960 Postcensal Survey generally comparable to the data in this report are found in Technical Paper 21, Characteristics of America's Engineers and Scientists: 1960 and 1962.

Further reports based on the 1972 Professional, Technical, and Scientific Manpower Survey will concentrate on such subjects as salary rates and geographic mobility as they relate to the educational and career development characteristics of engineering and scientific manpower.

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CHARACTERISTICS OF PERSONS IN ENGINEERING AND SCIENTIFIC OCCUPATIONS: 1972

INTRODUCTION

Scientific and technical workers, a prime resource in sustaining economic growth and development, possess a national and international importance far beyond their numerical size. The need for current data on scientific and technical manpower has increased considerably with the recognition of their growing importance and resultant impact on most sectors of the economy. The likelihood of having more effective scientific and technical manpower policies increases if educators, planners, and officials have access to current data pertaining to the demand, utilization, supply, and development of scientific and technical workers. The postcensal study, of which the 1972 Professional, Technical, and Scientific Manpower Survey is a part, was designed to provide information on these subjects in order to update and augment information from such sources as the Census of Population. Accordingly, the postcensal study provides an information profile on a sample of persons who in the 1970 Census of Population were in the experienced civilian labor force and were coded to scientific and engineering occupations. In addition, the use of the 1970 census as a sampling frame for the study affords the opportunity to examine changes that occurred to a representative sample of persons in scientific and technical occupations between 1970 and 1972.

This report presents detailed statistics on the demographic, educational, and career-related characteristics of engineering and scientific workers.[1] The term "career-related characteristics" encompasses such subjects as membership in national professional societies; licensing, certification, or registration; occupation of first full-time professional job; supplemental training received; and self-identification of professional field. Special emphasis is given to the relationships between educational attainment, in terms of highest degree held, and career development patterns.

Some highlights of this report are summarized under the following subjects:

1. Sex. Over three-fourths of the persons in nearly every occupation group were men. Only among mathematical specialists did women constitute more than one-fourth of the work force.

2. Age. Operations and computer specialists were somewhat younger, on the average, and engineers somewhat older than persons in the other occupation groups.

3. Marital Status. Within each occupation group men and women had slightly different marital profiles. A larger proportion of men than women were currently married, whereas women were more likely to be "separated or divorced" or "never married."

4. Residence. Over two-thirds of the persons in mo occupation groups resided in one of the following fo geographic divisions of the country--Middle Atlantic, Ea North Central, South Atlantic, and Pacific.

5. Educational Attainment. The proportion of perso with at least a bachelor's degree ranged from about ha for operations and computer specialists to more th 80 percent for life scientists, physical scientists, a social scientists.

6. Membership in National Professional Societie Within most occupation groups persons who held advanced degree (i.e., Masters or Ph.D.) were mo likely to belong to a national professional society th were persons with a bachelor's degree or lower

7. Professional Licenses, Certifications, and Re istrations. Although professional licensure is assum to be a common requirement among engineers, only abo one-fourth of all engineers reported having a licens certification, or registration. Among engineers holdi a bachelor's degree or higher, about 30 percent report professional licensure.

8. Supplemental Training. Over three-fourths of t operations and computer specialists and approximate 70 percent of the engineers had received some form supplemental training aside from formal education. Th proportion for the remaining occupation groups wa about 50 percent.

9. Professional Identification. For all occupatio groups except social scientists approximately half of th persons considered themselves to be best qualified, terms of education and experience, in a professiona field which agreed with their 1970 occupation classifica tion. Among social scientists approximately 42 percen made a coincident self-identification.

10. Occupation of First Full-Time Professional Jo There is some indication that social scientists ha greater variability than the other occupation groups the types of jobs held during their working years. On about 28 percent of persons identified as social scientis in 1970 reported that their first full-time professiona job was in social science. On the other hand, th proportions for engineers and physical scientists we 61 percent and 56 percent, respectively.

11. Major Field of Study for Highest Degree Hel About half to three-fourths of the persons in all occupa tion groups, except operations and computer specialist had majored for their highest degree in a field of stud that corresponded to their 1970 occupation. That onl about 12 percent of the operations and computer spe cialists majored in computer science and system analysis is perhaps explained by the relatively rece emergence of this field.

The following table presents selected key character istics of engineers and scientists in the 1970 experience civilian labor force:

[1] For additional statistics on engineers see "Selected Demographic and Professional Characteristics of Engineers: 1969" in appendix I of this report.

Selected characteristics	Occupation in 1970					
	Operations and computer specialists	Engineers	Mathematical specialists	Life scientists	Physical scientists	Social scientists
PERCENT						
Less than bachelor's degree[1]	47.4	33.3	19.8	11.4	15.9	10.4
Bachelor's degree[2]	40.2	49.7	28.1	38.6	38.9	27.5
Master's degree[2]	10.8	14.2	31.0	21.7	19.4	33.9
Ph.D. degree[2]	1.1	2.2	20.4	26.5	25.5	26.4
Highest degree held in same field as 1970 occupation	12.1	75.8	52.9	77.2	66.3	55.0
Professional identification same as 1970 occupation	66.0	69.7	49.9	57.5	67.6	41.7
First full-time professional job in same field as 1970 occupation	46.4	61.0	36.0	49.3	55.9	28.4
Member of national professional society	17.1	37.6	49.9	66.4	60.7	56.5
Supplemental training received	78.9	70.7	49.8	56.0	52.7	53.3

[1]Includes persons with no college, some college but no degree, and associate degrees. Excludes persons with degrees from the "other degree" category.
[2]Highest degree held in 1972.

Source: Table 1, 5, 7, 8, 9, 11.

SELECTED RELATIONSHIPS AMONG ENGINEERS AND SCIENTISTS[2]

I. A Profile of Demographic and Social Characteristics

Sex. Each of the six engineering and scientific occupation groups was predominantly male. With the exception of mathematical specialists, among whom nearly 30 percent were women, men held about 80 percent or more of the positions. More than any other group, engineering was a male domain: only about 1 percent of its incumbents were women. (See table 1.1.) For the experienced civilian labor force as a whole, women constituted about 38 percent in 1970.[3]

Table 1.1. Percent Distribution by Sex of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Total	Male	Female
Operations and computer specialists	100.0	83.2	16.8
Engineers	100.0	98.7	1.3
Mathematical specialists	100.0	72.6	27.4
Life scientists	100.0	81.5	18.5
Physical scientists	100.0	91.0	9.0
Social scientists	100.0	80.3	19.7

Source: Table 1.

Age. More than 75 percent of the persons in each occupation group were in the prime working ages, 25 years to 54 years old. Operations and computer specialists, as relatively new occupations, were the most youthful with over half the persons being under 35 years old and less than 20 percent 45 years or older. Engineers had the greatest concentration of persons 45 years old or older, and the smallest proportion under 35 years. Among most occupation groups, persons under 25 years old constituted the smallest proportion of persons, and persons between 25 years and 34 years old accounted for the largest proportion. Within each group other than engineers, there was a downward trend in the number of workers in each ascending age group above the "25 years to 34 years" group. (See table 1.2.)

There was little difference in the median age of men and women in the various occupation groups, except that female operations and computer specialists, physical scientists, and life scientists were somewhat younger than their respective male counterparts. (See table 2 at the end of this report.)

Race. Selected statistics on the characteristics of engineers and scientists from the 1972 Professional, Technical, and Scientific Manpower Survey were tabulated by race, as reported by the same persons in the 1970 census. These data are not published in the detailed tables of this report because the sample of persons of races other than white was too small to permit detailed cross-classifications. A brief summary of some of these statistics is, however, presented in Appendix B.

[2]Most observations and comparisons made herein are based on respondents in the specified occupation groups from the 1972 Professional, Technical, and Scientific Manpower Survey. Percent distributions in the text tables are based only upon persons who reported the characteristics under consideration. All observations referring to the total experienced civilian labor force (i.e., not restricted to engineers and scientists) are based on specified reports from the 1970 Census of Population.

[3]1970 Census of Population, Volume I, Characteristics of the Population, Part 1, United States Summary.

Table 1.2. Percent Distribution by Age in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Age in 1972					
	Total	Under 25 years	25 to 34 years	35 to 44 years	45 to 54 years	55 years and over
Operations and computer specialists	100.0	7.5	48.7	25.0	13.7	5.0
Engineers	100.0	2.1	26.9	29.3	26.0	15.6
Mathematical specialists	100.0	6.3	38.9	21.7	18.1	15.0
Life scientists	100.0	4.2	32.9	27.4	21.0	14.5
Physical scientists	100.0	3.7	31.3	29.2	22.2	13.6
Social scientists	100.0	2.2	36.4	26.7	21.1	13.6

Source: Table 1.

Marital Status. Nearly 9 out of 10 persons in each occupation group had married at least once in their lives (Table 1.3). Engineers were the most likely to have ever married (94.2 percent had married at least once); mathematical specialists, the occupation group with the largest proportion of women, were the least likely to have ever married (84.0 percent). The proportion of persons who were currently married in 1972 was from 3 to 8 percentage points lower in each instance than the proportion who had ever married. Again, engineers, of whom 90.8 percent were married in 1972, led this category; mathematical specialists occupied the last position with 78.8 percent married in 1972. Relatively few persons in each occupation group were separated or divorced in 1972, with the proportions ranging from only about 3 percent to slightly more than 5 percent. As compared with the entire experienced civilian labor force in 1970, all the designated engineering and scientific occupation groups had a higher proportion of persons who were currently married and most groups had a smaller proportion separated or divorced.[4]

Within each occupation group men had different marital profiles from women: moreover, these differences were consistent among occupation groups. Men were much more likely than women to have ever married; in addition, men were more frequently reported as "married in 1972," whereas women were more likely to be listed as "separated or divorced" or as "widowed." The same relationships were true for workers in all occupations in 1970.[5] (See table 1.4.)

With respect to age for most occupation groups, about 6 out of 10 persons under 25 years old, almost 8 out of 10 persons 25 years to 34 years old, and more than 9 out of 10 persons in the remaining age groups had married at least once by 1972. (Table 1.5.)

Residence. The engineering and scientific community, as represented by the occupations in this study, was largely concentrated in 1972 within four of the nine divisions of the United States--Middle Atlantic, East North Central, South Atlantic, and Pacific. Over half of the life and physical scientists and over two-thirds of the persons in the other groups resided in these divisions. (See table 1.6.) Similarly, approximately two-thirds of all employed persons in 1970 resided in these divisions.[6] The relatively high concentration of mathematical specialists in the South Atlantic Division, in part, reflects the number of such Federal Government workers in the Washington, D.C. metropolitan area.

[4] 1970 Census of Population, Subject Reports, Occupational Characteristics.

[5] Ibid.

[6] 1970 Census of Population, Volume I, Characteristics of the Population, Part 1, United States Summary.

Table 1.3. Percent Distribution by Marital Status in 1972 for Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Marital status in 1972					
	Total	Ever married				Never married
		Total	Married	Separated or divorced	Widowed	
Operations and computer specialists	100.0	86.5	81.3	4.5	0.7	13.5
Engineers	100.0	94.2	90.8	2.6	0.8	5.8
Mathematical specialists	100.0	84.0	78.8	3.4	1.8	16.0
Life scientists	100.0	89.8	85.4	3.5	0.9	10.2
Physical scientists	100.0	90.2	86.4	2.9	0.9	9.8
Social scientists	100.0	89.5	82.8	5.4	1.3	10.5

Source: Table 3.

Table 1.4. Percent Distribution by Marital Status in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970 and Sex

Occupation in 1970	Marital status in 1972									
	Ever married								Never married	
	Total		Married		Separated or divorced		Widowed			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Operations and computer specialists....	89.6	71.4	85.7	59.8	3.5	9.6	0.4	2.0	10.4	28.6
Engineers.....	94.4	75.8	91.2	60.2	2.5	10.3	0.7	5.4	5.6	24.2
Mathematical specialists.....	87.3	75.1	84.3	64.0	2.2	6.5	0.8	4.6	12.7	24.9
Life scientists.....	93.6	72.2	90.7	60.8	2.4	8.7	0.5	2.7	6.4	27.8
Physical scientists.....	92.2	70.1	88.8	62.2	2.6	6.1	0.8	1.7	7.8	29.9
Social scientists.....	92.7	76.2	88.6	58.5	3.6	12.9	0.5	4.7	7.3	23.8

Source: Table 3.

Table 1.5. Percent Ever Married of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Age in 1972 and Occupation in 1970

Occupation in 1970	Age in 1972				
	Under 25 years	25 to 34 years	35 to 44 years	45 to 54 years	55 years and over
Operations and computer specialists.....	60.9	84.1	93.1	94.9	93.2
Engineers.....	65.2	88.9	96.6	97.4	98.2
Mathematical specialists.....	54.6	80.6	91.0	88.5	90.9
Life scientists.....	62.2	86.8	94.1	93.8	91.7
Physical scientists.....	59.0	84.4	94.5	95.5	95.0
Social scientists.....	63.8	84.7	92.4	95.6	92.2

Source: Table 3.

Table 1.6. Percent Distribution by Division of Residence in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Division of residence	Occupation in 1970					
	Operations and computer specialists	Engineers	Mathematical specialists	Life scientists	Physical scientists	Social scientists
Total[1].....	100.0	100.0	100.0	100.0	100.0	100.0
New England.....	7.0	8.1	7.2	5.8	6.0	7.7
Middle Atlantic.....	22.2	19.1	19.6	12.8	21.0	21.3
East North Central.....	18.1	19.3	16.2	15.2	18.2	17.4
West North Central.....	6.4	5.8	6.6	9.1	5.2	7.2
South Atlantic.....	16.1	13.0	21.0	16.2	14.0	16.8
East South Central.....	3.3	4.1	3.9	5.8	4.2	3.3
West South Central.....	6.8	7.7	6.8	9.1	11.1	5.7
Mountain.....	3.5	4.4	4.6	7.9	6.8	4.4
Pacific.....	16.2	18.2	13.7	17.5	13.2	15.6

[1]Includes other than the United States.

Source: Table 4.

II. Educational Characteristics

Educational Attainment: A Profile. Among all the occupation groups, operations and computer specialists had the largest proportion of persons with less than a bachelor's degree[7] (47.4 percent); the second largest proportion (33.3 percent) belonged to engineers. For operations and computer specialists, this in part reflects that training for such positions is sometimes obtained through other than 4 year educational institutions (e.g., on-the-job training). This is especially plausible since the computer science area is relatively new, few colleges and universities until recently offered such a curriculum, and the demand for operations and computer science personnel has greatly increased in recent years. That one-third of the engineers did not hold a bachelor's degree is in some measure attributable to the fact that engineers are, on the average, older than persons in the other occupation groups and began their careers when a degree was not as strong a prerequisi as it is today. Also, the increased demand for enginee especially during the 1960's facilitated the entry persons with technical experience and aptitude, b without a degree, into engineering occupations.

Over two-thirds of the social scientists and mo than half of the physical scientists, life scientists, ar mathematical specialists held degrees beyond th bachelor's level.[8] Among degree holders, the large proportion of operations and computer specialists ar engineers held their highest degree at the bachelor' level; among mathematical specialists and social sc entists, the greatest proportion held their highest degre at the Master's level; and among physical scientist the largest proportion was at the Ph.D. level. For lif scientists, the bachelor's and the Ph.D. levels contain equally large proportions. Very few persons within eac occupation group possessed associate degrees or de grees from the "other degree" category as their highes degree held in 1972. (See table 2.1.)

[7]That is, persons whose highest degree is an associate degree or a registered nurse degree and persons with no degree.

[8]Excluding persons whose highest degree was classifi as "other degree."

Table 2.1 Percent Distribution by Highest Degree Held in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Highest degree held in 1972									
	Total	No degree			Associate	Bachelor's	Bachelor's plus[1]	Master's	Ph.D.	Other degree
		No college	1 to 3 years of college	4 or more years of college						
Operations and computer specialists..	100.0	19.4	20.7	2.6	4.7	28.5	11.7	10.8	1.1	0.
Engineers.....	100.0	13.9	12.7	2.7	4.0	32.5	17.2	14.2	2.2	0.
Mathematical specialists.....	100.0	9.8	7.0	1.7	1.3	16.3	11.8	31.0	20.4	0.
Life scientists.....	100.0	6.2	2.8	1.6	0.8	25.3	13.3	21.7	26.5	1.
Physical scientists.	100.0	6.3	6.4	1.7	1.5	23.6	15.3	19.4	25.5	0.
Social scientists...	100.0	4.0	4.3	1.5	0.6	15.9	11.6	33.9	26.4	1.

[1]Some graduate work but no graduate degree.
[2]Includes RN, LLB, MD, and academic degrees other than Associate, Bachelor's, Master's, or PH.D.

Source: Table 1.

Table 2.2. Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Educational Attainment in 1972 and Occupation in 1970

Occupation in 1970	Educational attainment in 1972 (Percent)				
	Some college[1]	Bachelor's degree or higher	Bachelor's plus[2] degree or higher	Master's degree or higher	Ph. D. degree
Operations and computer specialists.....	80.6	52.1	23.6	11.9	1.
Engineers.....	86.1	66.1	33.6	16.4	2.
Mathematical specialists.....	90.2	79.5	63.2	51.4	20.
Life scientists.....	93.8	86.8	61.5	48.2	26.
Physical scientists.....	93.7	83.8	60.2	44.9	25.
Social scientists.....	96.0	87.8	71.9	60.3	26.

[1]Comprises persons with any degree including persons in the "associate" and "other degree" categories, plus persons with no degree but with one or more years of college completed.
[2]Some graduate work but no graduate degree.

Source: Table 1.

In table 2.2, the percentage distributions of table 2.1 have been cumulated to indicate the proportion in each occupation group attaining at least the specified educational level. Perhaps the most important observation is that in general 8 out of 10 persons in these occupation groups had had some exposure to college.

Sex and Highest Degree Held. Within most occupation groups the proportions of men who had attained at least the master's or the Ph.D. degree levels were greater than the proportions of women who had attained these levels. There were individual differences among the occupation groups within each degree level, however. (See tables 2.3 and 2.4.)

Marital Status and Highest Degree Held. The data in table 2.5 reveal no clear or consistent relationship between level of highest degree held and likelihood of ever having married. Within almost every degree level at least 8 out of 10 persons had married by 1972.

Age and Highest Degree Held. In general, persons under 25 years and 55 years and over in the designated occupation groups were less likely than persons in any other age category to have a degree and persons in the 25 years to 34 years age category were more likely than other persons to hold a degree.

For mathematical specialists, life scientists, and social scientists the under 25 years age group was more likely than any other age group to contain persons whose highest degree was at the bachelor's level; for the remaining occupation groups, however, there was an equal or greater chance of finding such persons in one of the other age categories. For all occupation groups except life scientists, master's and Ph.D. degrees were more prevalent in the age groups from 25 to 44 years old than they were in either the younger or older groups. However, among life scientists in every age group but the youngest, about 60 to 65 percent of the persons held master's and Ph.D. degrees. (See table 2.6.)

Membership in National Professional Societies. Among persons in the designated occupation groups, life scientists, with a membership rate of 66 percent, were the most likely to belong to national professional societies in 1972. Operations and computer specialists, whose membership rate was 17.0 percent, were the least likely. Over half the physical scientists and social scientists were members of professional societies, and approximately 50 percent of the mathematical specialists and almost 40 percent of the engineers held membership. (See table 2.7.)

As is evident from the data in table 2.8, persons who possessed an advanced degree (Master's or Ph.D.) were more likely to belong to professional societies than other

Table 2.3. Percent Distribution by Highest Degree Held in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970 and Sex

Occupation in 1970	Highest degree held in 1972									
	No degree						Associate		Bachelor's	
	No college		1 to 3 years of college		4 or more years of college					
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Operations and computer specialists	18.7	23.2	21.5	16.5	2.8	1.7	4.9	3.8	26.3	39.6
Engineers	13.7	28.7	12.6	13.3	2.7	1.1	4.1	2.6	32.6	26.4
Mathematical specialists	5.3	22.3	5.0	12.6	1.4	2.4	1.3	1.6	14.4	21.6
Life scientists	5.9	7.7	2.4	4.6	1.5	1.8	0.5	2.5	25.4	24.6
Physical scientists	6.2	7.2	6.1	8.6	1.7	1.7	1.5	1.1	22.3	36.2
Social scientists	3.6	5.8	4.5	3.5	1.6	1.0	0.6	0.5	16.4	14.0

Occupation in 1970	Highest degree held in 1972							
	Bachelor's plus[1]		Master's		Ph. D.		Other degree[2]	
	Male	Female	Male	Female	Male	Female	Male	Female
Operations and computer specialists	12.8	6.3	11.3	8.1	1.2	0.4	0.5	0.3
Engineers	17.3	13.0	14.2	12.8	2.2	1.1	0.7	0.9
Mathematical specialists	12.1	11.0	33.8	23.0	25.8	5.1	0.9	0.5
Life scientists	12.9	15.0	20.6	26.6	28.9	15.7	1.8	1.4
Physical scientists	15.4	13.9	19.5	18.3	26.7	12.8	0.5	0.2
Social scientists	12.1	9.6	32.1	41.5	27.4	22.3	1.6	1.9

[1] Some graduate work but no graduate degree.
[2] Includes RN, LLB, and academic degrees other than Associate, Bachelor's, Master's, or PH.D.

Source: Table 1.

Table 2.4. Engineers and Scientists in the 1970 Experienced Civilian Labor Force by Educational Attainment in 1972, Occupation in 1970, and Sex

Occupation in 1970	Educational attainment in 1972 (Percent)									
	Some college[1]		Bachelor's degree or higher		Bachelor's plus[2] degree or higher		Master's degree or higher		Ph. D. degree	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Femal
Operations and computer specialists....	81.3	76.8	51.6	54.4	25.3	14.8	12.5	8.5	1.2	0
Engineers.....	86.3	71.3	66.3	53.3	33.7	26.9	16.4	13.9	2.2	1
Mathematical specialists.....	94.7	77.7	86.1	60.7	71.7	39.1	59.6	28.1	25.8	5
Life scientists.....	94.1	92.3	87.8	81.9	62.4	57.3	49.5	42.3	28.9	15
Physical scientists.....	93.8	92.8	83.9	81.2	61.6	45.0	46.2	31.1	26.7	12
Social scientists.....	96.4	94.2	88.0	87.4	71.6	73.4	59.5	63.8	27.4	22

[1]Comprises persons with any degree including persons in the "associate" and "other degree" categories, plus persons with no degree but with one or more years of college completed.
[2]Some graduate work but no graduate degree.

Source: Table 1.

Table 2.5. Percent Ever Married of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Highest Degree Held in 1972 and Occupation in 1970

Occupation in 1970	Highest degree held in 1972					
	No degree	Associate	Bachelor's	Bachelor's plus[1]	Master's	Ph.D
Operations and computer specialists....	88.7	89.4	83.7	82.4	84.4	89
Engineers.....	96.3	93.1	93.8	91.0	93.7	96
Mathematical specialists.....	82.0	[2]91.5	81.1	77.1	85.9	88
Life scientists.....	87.2	[2]74.3	90.1	85.0	89.0	93
Physical scientists.....	89.0	[2]92.1	88.5	84.8	91.4	94
Social scientists.....	93.9	[2]88.2	88.7	86.4	88.0	91

[1]Some graduate work but no graduate degree.
[2]Based on fewer than 70 sample cases.

Source: Table 3.

Table 2.6. Percent Distribution by Highest Degree Held in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Forc by Age in 1972 and Occupation in 1970

Occupation in 1970	Age and highest degree held in 1972[1]														
	Under 25 years			25 to 34 years			35 to 44 years			45 to 54 years			55 years and over		
	No degree	Bachelor's	Bachelor's plus or higher[2]	No degree	Bachelor's	Bachelor's plus or higher[2]	No degree	Bachelor's	Bachelor's plus or higher[2]	No degree	Bachelor's	Bachelor's plus or higher[2]	No degree	Bachelor's	Bache lor's plus o highe
Operations and computer specialists.....	47.6	28.5	14.1	35.5	32.6	26.3	43.8	26.8	24.7	57.4	20.6	19.7	62.3	18.1	15
Engineers.....	30.7	35.0	25.0	19.5	30.8	43.3	25.5	33.5	35.5	34.9	35.0	27.1	44.9	29.1	24
Mathematical specialists.....	29.8	20.4	43.4	9.6	17.9	71.0	14.1	18.0	65.5	26.2	11.7	59.3	34.7	13.4	51
Life scientists..	25.3	34.7	36.9	7.2	27.5	62.6	8.4	24.9	64.8	10.2	25.7	61.2	19.5	17.5	59
Physical scien-.. tists.....	30.2	28.0	35.8	10.7	21.7	65.7	11.7	21.8	64.6	16.5	27.5	54.3	21.0	24.4	53
Social scientists	22.1	37.4	38.5	4.9	16.9	76.3	8.6	15.9	73.6	14.9	14.4	68.2	16.6	12.2	67

[1]Sum of highest degree held categories may be less than 100.0 percent because proportions in the "associate" and "other degree" categories are not shown.
[2]Includes bachelor's plus (i.e. some graduate work but no graduate degree), Master's, and Ph.D. degrees.

Source: Table 1.

Table 2.7. Percent Distribution by Membership in National Professional Societies in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Membership in national professional societies		
	Total	Member of a national society	Not a member of a national society
Operations and computer specialists	100.0	17.1	82.9
Engineers	100.0	37.6	62.4
Mathematical specialists	100.0	49.9	50.1
Life scientists	100.0	66.4	33.6
Physical scientists	100.0	60.7	39.3
Social scientists	100.0	56.5	43.5

Source: Table 5.

persons within their respective occupation groups. Conversely, persons who did not belong to professional societies were heavily concentrated at the "no degree" level. Also, within most groups, persons who did not belong to professional societies more often had a bachelor's degree as their highest degree than was true for society members in the same occupation group. That a positive relationship existed between membership in professional societies and highest degree held is further shown by the data in table 2.9. Within almost every occupation group, as the degree level increased the proportion of persons who were members of national professional societies also increased.

For almost every occupation group, the youngest age group (under 25 years) contained the smallest proportion of persons belonging to professional societies. However, among operations and computer specialists and engineers the membership rate was fairly consistent across all age groups. Except for these two occupation groups, at least 45 percent of the persons in the age categories from 25 to 54 belonged to professional societies, a proportion that exceeded two-thirds for life scientists between the ages of 35 and 54 years. (See table 2.10.)

Professional Licenses, Certifications, and Registrations. The type of professional license, certification, or registration most likely differs markedly among the specific occupation groups. In particular, the only occupations having a licensure requirement are engineers and practicing psychologists. The types of licensure or certification reported by persons in other occupations probably reflect teaching certificates. (See table 2.11.)

Among the engineers, approximately 25 percent reported having a valid license, certification, or registration. The proportion with licensure ranged from about 12 percent for engineers under 25 years of age to approximately one-third of those 55 years old and over. For engineers with at least a bachelor's degree, the proportion was about 30 percent (see table 6 at the end of this report).

Table 2.8. Percent Distribution by Highest Degree Held in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Membership in National Professional Societies in 1972 and Occupation in 1970

Occupation in 1970 and membership in national professional societies in 1972	Highest degree held in 1972						
	Total[1]	No degree	Associate	Bachelor's	Bachelor's plus[2]	Master's	Ph.D.
Operations and computer specialists							
Member	100.0	21.6	2.7	27.2	19.3	25.0	4.2
Not a member	100.0	47.3	5.3	29.1	10.1	7.8	0.4
Engineers							
Member	100.0	14.3	2.2	34.6	21.7	22.1	5.1
Not a member	100.0	38.7	5.2	31.6	14.7	9.3	0.4
Mathematical specialists							
Member	100.0	3.7	0.6	8.4	9.8	41.2	36.4
Not a member	100.0	33.9	2.2	25.1	14.2	20.9	3.7
Life scientists							
Member	100.0	3.7	0.5	23.1	11.5	23.5	37.7
Not a member	100.0	25.4	1.4	31.3	17.4	19.4	5.2
Physical scientists							
Member	100.0	4.7	0.6	19.4	14.8	23.3	37.2
Not a member	100.0	30.1	2.8	30.8	16.3	13.4	6.5
Social scientists							
Member	100.0	3.1	0.3	8.6	9.1	36.9	42.0
Not a member	100.0	19.3	1.1	26.5	15.4	31.3	6.4

[1]Excludes persons in the "other degree" category. [2]Some graduate work but no graduate degree.

Source: Table 5.

Table 2.9. Percent Distribution by Membership in National Professional Societies in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Highest Degree Held in 1972 and Occupation in 1970

Occupations in 1970 and membership in national professional societies in 1972	Highest degree held in 1972					
	No degree	Associate	Bachelor's	Bachelor's plus[1]	Master's	Ph.D.
Operations and computer specialists..	100.0	100.0	100.0	100.0	100.0	100.0
Member	8.9	9.9	16.6	28.8	40.7	69.2
Not a member	91.1	90.1	83.4	71.2	59.3	30.8
Engineers	100.0	100.0	100.0	100.0	100.0	100.0
Member	18.9	21.2	40.8	48.2	59.8	88.7
Not a member	81.1	78.8	59.2	51.8	40.2	11.3
Mathematical specialists	100.0	100.0	100.0	100.0	100.0	100.0
Member	10.2	22.0	26.0	41.9	67.4	91.1
Not a member	89.8	78.0	74.0	58.1	32.6	8.9
Life scientists	100.0	100.0	100.0	100.0	100.0	100.0
Member	22.6	42.0	59.8	57.2	70.9	93.6
Not a member	77.4	58.0	40.2	42.8	29.1	6.4
Physical scientists	100.0	100.0	100.0	100.0	100.0	100.0
Member	20.1	25.9	50.6	59.7	73.8	90.3
Not a member	79.9	74.1	49.4	40.3	26.2	9.7
Social scientists	100.0	100.0	100.0	100.0	100.0	100.0
Member	17.9	25.7	30.4	44.2	61.2	89.7
Not a member	82.1	74.3	69.6	55.8	38.8	10.3

[1] Some graduate work but no graduate degree.

Source: Table 5.

Table 2.10. Percent Distribution by Membership In National Professional Societies in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Age in 1972 and Occupation in 1970

Occupation in 1970 and membership in national professional societies in 1972	Age in 1972				
	Under 25 years	25 to 34 years	35 to 44 years	45 to 54 years	55 years and over
Operations and computer specialists	100.0	100.0	100.0	100.0	100.0
Member	11.7	16.3	20.2	17.7	16.4
Not a member	88.3	83.7	79.8	82.3	83.6
Engineers	100.0	100.0	100.0	100.0	100.0
Member	33.3	36.1	38.1	38.8	37.6
Not a member	66.7	63.9	61.9	61.2	62.4
Mathematical specialists	100.0	100.0	100.0	100.0	100.0
Member	25.1	51.1	58.3	50.6	44.2
Not a member	74.9	48.9	41.7	49.4	55.8
Life scientists	100.0	100.0	100.0	100.0	100.0
Member	35.2	60.8	71.6	73.8	67.8
Not a member	64.8	39.2	28.4	26.2	32.2
Physical scientists	100.0	100.0	100.0	100.0	100.0
Member	26.7	55.9	67.2	65.1	59.9
Not a member	73.3	44.1	32.8	34.9	40.1
Social scientists	100.0	100.0	100.0	100.0	100.0
Member	22.8	51.4	62.2	60.6	58.4
Not a member	77.2	48.6	37.8	39.4	41.6

Source: Table 5.

Table 2.11. Percent Distribution by Possession of Valid Professional Licenses, Certification, or Registration in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Possession of valid licenses, certification, or registration		
	Total	With licenses, certification, or registration	Without licenses, certification, or registration
Operations and computer specialists	100.0	8.0	92.0
Engineers	100.0	24.7	75.3
Mathematical specialists	100.0	21.7	78.3
Life scientists	100.0	24.8	75.2
Physical scientists	100.0	13.7	86.3
Social scientists	100.0	29.3	70.7

Source: Table 6.

Supplemental Training. Supplemental training refers to any courses, programs, etc. aside from formal education in regular school systems, and is intended to indicate to what extent additional training is required or given to persons working in the specified occupation groups.

It is noteworthy that the proportions of operations and computer specialists and engineers who had received supplemental training (78.9 percent and 70.7 percent respectively) were greater than the comparable proportions in the other occupation groups. As mentioned earlier, these groups contained more persons with a bachelor's degree or less than did the other groups, and it was hypothesized that, among other factors, the demand for persons in these occupations made the possession of an academic degree a less important requirement. The relatively high incidence of supplemental training lends credence to this assumption. Nevertheless, in each of the occupation groups approximately half or more of the persons had received some form of supplemental training. (See table 2.12.)

Table 2.12. Percent Distribution by Supplemental Training of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Supplemental training		
	Total	Received supplemental training	Did not receive supplemental training
Operations and computer specialists	100.0	78.9	21.1
Engineers	100.0	70.7	29.3
Mathematical specialists	100.0	49.8	50.2
Life scientists	100.0	56.0	44.0
Physical scientists	100.0	52.7	47.3
Social scientists	100.0	53.3	46.7

Source: Table 7.

The kinds of training received by persons in each group are summarized by the distributions of table 2.13. Types of supplemental training most frequently reported include formal on-the-job training programs (other than apprenticeship training) and courses at the employer's training school. Among mathematical specialists, life scientists, and social scientists, a relatively large proportion of persons with supplemental training received "other formal on-the-job training," whereas among operations and computer specialists and engineers, "courses at employer's training school" was a very common form of training.

The proportion of persons who had received supplemental training generally tended to decrease as degree

Table 2.13. Percent Distribution by Type of Supplemental Training Received by Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Type of supplemental training[1]							
	Apprenticeships	Other formal on-the-job training programs	Military training applicable to civilian occupations	Extension or correspondence courses	Courses at employer's training school	Courses at adult education center	Other supplemental training	No supplemental training received
Operations and computer specialists	4.6	43.9	15.8	19.3	45.8	15.1	16.9	21.1
Engineers	9.0	27.2	18.9	26.1	36.2	18.3	13.0	29.3
Mathematical specialists	2.6	19.2	9.4	14.4	17.1	10.9	12.9	50.2
Life scientists	3.8	24.9	11.5	16.7	19.5	11.5	15.0	44.0
Physical scientists	2.9	17.9	11.5	16.9	18.1	14.3	12.9	47.3
Social scientists	4.3	19.3	11.3	14.4	16.0	11.5	15.3	46.7

[1]Sum of individual categories may exceed 100.0 percent because persons may have received more than one type of training.

Source: Table 7.

level advanced. For operations and computer specialists and for mathematical specialists this decrease occurred after the bachelor's level; in most of the remaining occupation groups the decrease was after the associat degree level. (See table 2.14.)

Table 2.14. Percent Distribution by Supplemental Training of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Highest Degree Held in 1972 and Occupation in 1970

Occupation in 1970 and supplemental training	Highest degree held in 1972							
	No degree			Associate	Bachelor's	Bachelor's plus[1]	Master's	Ph.D.
	No college	1 to 3 years of college	4 or more years of college					
Operations and computer specialists..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Received supplemental training.....	78.6	79.4	80.2	78.4	81.8	74.7	73.7	63.5
Did not receive supplemental training....	21.4	20.6	19.8	21.6	18.2	25.3	26.3	36.5
Engineers.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Received supplemental training.....	73.2	75.5	74.8	74.2	69.5	69.0	67.8	54.3
Did not receive supplemental training....	26.8	24.5	25.2	25.8	30.5	31.0	32.2	45.7
Mathematical specialists.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Received supplemental training.....	58.5	59.4	62.4	50.7	67.0	56.0	46.7	28.5
Did not receive supplemental training....	41.5	40.6	37.6	49.3	33.0	44.0	53.3	71.5
Life scientists.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Received supplemental training.....	58.3	64.7	66.8	80.7	68.9	62.0	53.4	37.0
Did not receive supplemental training....	41.7	35.3	33.2	19.3	31.1	38.0	46.6	63.0
Physical scientists.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Received supplemental training.....	61.6	58.7	64.8	64.6	60.8	53.5	55.5	36.6
Did not receive supplemental training....	38.4	41.3	35.2	35.4	39.2	46.5	44.5	63.4
Social scientists.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Received supplemental training.....	66.5	71.7	50.1	85.4	63.7	59.2	49.5	41.4
Did not receive supplemental training....	33.5	28.3	49.9	14.6	36.3	40.8	50.5	58.6

[1]Some graduate work but no graduate degree.

Source: Table 7.

III. Professional Characteristics

Professional Identification in 1972. For most occupation groups at least half of the persons considered themselves to be best qualified, in terms of education and experience, in a professional field the same as their 1970 occupation classification. Among operations and computer specialists, engineers, and physical scientists the proportion was approximately two-thirds. However, only about half of the mathematical specialists and slightly over 40 percent of the social scientists made a coincident self-identification. (See table 3.1.) Among women engineers and scientists there were appreciable differences in this pattern of professional identification. For instance, only about one-third of the female engineers and about 40 percent of the mathematical specialists and life scientists reported a self-identification which agreed with their 1970 occupation. Within two occupation groups--operations and computer specialists and social scientists--women were more likely to identify themselves in a coincident field than were men; in the remaining groups, men were more likely to make such an identification. (See table 3.2.) Both men and women in each occupation group whose highest degree was in a field of study related to their 1970 occupation were more likely to report a coincident professional identification than persons with majors in other fields. (See table 3.3.)

Table 3.1. Percent Distribution--Occupation in 1970 by Professional Identification in 1972 for Engineers and Scientists in the 1970 Experienced Civilian Labor Force

Occupation in 1970	Professional identification in 1972							
	Total	Operations and computer specialists	Engineers	Mathematical specialists	Life scientists	Physical scientists	Social scientists	Other
BOTH SEXES								
Operations and computer specialists.....	100.0	66.0	5.3	1.0	0.2	0.7	0.6	26.1
Engineers.....	100.0	1.6	69.7	0.3	0.1	0.9	0.2	27.3
Mathematical specialists.	100.0	8.9	2.5	49.9	0.5	1.6	3.4	33.2
Life scientists.....	100.0	0.3	1.1	0.2	57.5	8.8	1.7	30.5
Physical scientists.....	100.0	0.9	8.5	0.3	2.3	67.6	0.3	20.2
Social scientists.....	100.0	2.1	2.4	1.1	0.7	1.0	41.7	51.1

Source: Table 9.

Table 3.2. Percent of Engineers and Scientists in the 1970 Experienced Civilian Labor Force With Coincident Professional Identification in 1972, by Occupation in 1970 and Sex

Occupation in 1970	Male	Female
Operations and computer specialists.....	63.9	76.7
Engineers.....	70.1	32.9
Mathematical specialists.....	53.4	39.7
Life scientists.....	61.0	41.6
Physical scientists.....	68.3	60.3
Social scientists.....	38.7	53.8

Source: Table 9.

Among persons who reported a professional identification which did not coincide with their 1970 occupation, the highest proportion identified themselves in areas other than the six specific engineering and scientific occupation groups. The proportion ranged from approximately 20 percent for physical scientists to about half for social scientists. (See table 3.1.) A large number of the engineers who identified in the "other" category reported themselves to be managers and administrators and many of the mathematical specialists identified themselves as teachers (see table 9 at the end of the report).

As can be seen in table 3.4, a large proportion of the persons who identified themselves in one of the six engineering and scientific areas also had a 1970 occupation in that specific field. This percentage was highest for persons identifying as engineers (96 percent), and dropped only to approximately three-fourths for persons identifying as mathematical specialists. Also, among persons who did not identify themselves in one of the designated engineering or scientific fields but who were working in one of these occupations in 1970, over half were classified as engineers in 1970. Nearly 30 percent were classified as either operations and computer specialists or social scientists.

Occupation of First Full-Time Professional Job. Among all occupation groups, engineers and physical scientists displayed the highest consistency between the occupation of their first full-time professional job and their 1970 occupation. (See table 3.5.) Sixty-one percent of the engineers and 56 percent of the physical

Table 3.3. Percent of Engineers and Scientists in the 1970 Experienced Civilian Labor Force With Coincident Professional Identification in 1972, by Major Field of Study for Highest Degree Held in 1972, Occupation in 1970, and Sex

Occupation in 1970 and major field of study for highest degree held in 1972	Total	Male	Female
OPERATIONS AND COMPUTER SPECIALISTS			
Coincident major field of study.	91.8	90.9	95.6
Other major field of study.....	64.9	62.4	78.7
ENGINEERS			
Coincident major field of study.	81.8	81.8	79.6
Other major field of study.....	49.9	50.8	18.8
MATHEMATICAL SPECIALISTS			
Coincident major field of study.	69.2	72.8	52.6
Other major field of study.....	31.2	32.4	27.5
LIFE SCIENTISTS			
Coincident major field of study.	70.3	72.5	58.3
Other major field of study.....	28.8	32.3	18.4
PHYSICAL SCIENTISTS			
Coincident major field of study.	86.1	86.1	86.1
Other major field of study.....	41.5	42.0	37.9
SOCIAL SCIENTISTS			
Coincident major field of study.	70.4	69.1	74.6
Other major field of study.....	11.6	9.9	22.3

Source: Table 10.

Table 3.4. Percent Distribution-Professional Identification in 1972 by Occupation in 1970 for Engineers and Scientists in the 1970 Experienced Civilian Labor Force

Occupation in 1970	Professional identification in 1972						
	Operations and computer specialists	Engineers	Mathematical specialists	Life scientists	Physical scientists	Social scientists	Other
Both sexes, total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Operations and computer specialists.	88.0	2.0	8.3	1.1	1.5	3.0	14.9
Engineers.....	7.8	95.5	9.5	2.2	7.1	2.9	57.3
Mathematical specialists	2.1	0.2	76.4	0.5	0.6	2.9	3.4
Life scientists.....	0.1	0.1	0.4	86.4	4.7	2.0	4.4
Physical scientists.....	0.7	1.9	1.5	7.9	85.1	0.7	6.8
Social scientists.....	1.3	0.4	4.1	1.8	0.9	88.5	13.1

Source: Table 9.

scientists reported that their first full-time professional job had been in the same field. The lowest level of coincidence, 28.4 percent, was for social scientists. Among those persons whose first full-time professional job was not in the same discipline as their 1970 occupation, the highest proportion reported first jobs outside of the six specified engineering and scientific categories. This proportion was quite high among social scientists (60 percent). However, approximately 10 percent and 8 percent, respectively, of the physical scientists and operations and computer specialists had held their first full-time professional job in engineering.

Table 3.5. Percent Distribution-Occupation in 1970 by Occupation of First Full-Time Professional Job for Engineers and Scientists in the 1970 Experienced Civilian Labor Force

1970 occupation	Total	Occupation of first full-time professional job						
		Operations and computer specialists	Engineers	Mathematical specialists	Life scientists	Physical scientists	Social scientists	Other occupations
BOTH SEXES								
Operations and computer specialists	100.0	46.4	7.5	2.2	0.3	1.1	0.4	42.0
Engineers	100.0	1.0	61.0	0.3	0.2	1.6	0.1	35.7
Mathematical specialists	100.0	7.6	3.7	36.0	0.8	2.2	2.1	47.5
Life scientists	100.0	0.3	1.3	0.3	49.3	5.5	1.0	42.3
Physical scientists	100.0	0.7	9.6	0.2	5.4	55.9	0.2	28.0
Social scientists	100.0	2.4	5.1	1.5	1.1	1.3	28.4	60.2

Source: Table 8.

For women the highest level of agreement between 1970 occupation and first job (51.9 percent) was observed for the occupation group operations and computer specialists. For female engineers, mathematical specialists, and life scientists the level of agreement between occupation of first full-time professional job and 1970 occupation was approximately one-fourth. A relatively greater proportion of women than men in two occupation groups--operations and computer specialists, and social scientists--reported that their first full-time occupation coincided with their 1970 occupation; in the remaining occupation groups the opposite was true. (See table 3.6.) In general, the proportion of persons whose occupation in 1970 was in the same field as their first full-time professional job decreased with each ascending age category. (See table 3.7.) However, for life scientists and physical scientists, there was no appreciable difference among age groups under 55 years.

For persons who had held their first full-time professional job in one of the designated engineering and scientific occupations, the majority were also in these occupation groups in 1970. The proportions ranged from about 60 percent for mathematical specialists to more than 90 percent for engineers. (See table 3.8.) The figures indicate that persons with an occupational origin as a mathematical specialist had some tendency to later become operations and computer specialists (21 percent) or engineers (10 percent). Nearly 20 percent of persons who initially worked as life scientists had become physical scientists by 1970. This may, in part, reflect such changes in occupation as the conversion from a biologist to a biochemist. On the other hand, only about 3 percent of persons who started their careers as physical scientists were life scientists in 1970. Instead, about 14 percent were working as engineers in 1970. Finally, of those persons who had moved from a first job not in one of the engineering or scientific categories into a 1970 job which was in one of these occupations, over half were classified in 1970 as engineers.

Table 3.6. Percent of Engineers and Scientists in the 1970 Experienced Civilian Labor Force With Coincident First Full-time Professional Job, by Occupation in 1970 and Sex

Occupation in 1970	Male	Female
Operations and computer specialists	45.3	51.9
Engineers	61.4	24.9
Mathematical specialists	38.8	27.8
Life scientists	54.6	25.3
Physical scientists	57.4	40.6
Social scientists	26.9	34.7

Source: Table 8.

Major Field of Study. The majority of persons in each occupation group except operations and computer specialists held their highest degree in a field of study that coincided with their 1970 occupation classification. (See table 3.9.) The proportions ranged from over 3 out of 4 for engineers and life scientists to slightly more than half for mathematical specialists and social scientists. Operations and computer specialists were more evenly distributed across the fields of study with only 12 percent having majored in computer science or systems analysis and 17 percent in mathematical sciences. That operations and computer specialists majored in various fields of study is not surprising since computer science and systems analysis are relatively new disciplines and have not been widely available in academic degree programs until recently.

Table 3.7. Percent Distribution by Occupation of First Full-time Professional Job of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Age in 1972 and Occupation in 1970

Occupation in 1970 and occupation of first full-time professional job	Age in 1972			
	25 to 34 years	35 to 44 years	45 to 54 years	55 years and over
Operations and computer specialists	100.0	100.0	100.0	100.0
Same as occupation in 1970	57.6	34.3	21.9	15.5
Other than occupation in 1970	42.4	65.7	78.1	84.5
Engineers	100.0	100.0	100.0	100.0
Same as occupation in 1970	66.1	61.2	58.7	53.3
Other than occupation in 1970	33.9	38.8	41.3	46.7
Mathematical specialists	100.0	100.0	100.0	100.0
Same as occupation in 1970	40.1	35.1	32.4	29.7
Other than occupation in 1970	59.9	64.9	67.6	70.3
Life scientists	100.0	100.0	100.0	100.0
Same as occupation in 1970	50.1	54.8	51.3	41.6
Other than occupation in 1970	49.9	45.2	48.7	58.4
Physical scientists	100.0	100.0	100.0	100.0
Same as occupation in 1970	55.9	59.4	57.6	49.0
Other than occupation in 1970	44.1	40.6	42.4	51.0
Social scientists	100.0	100.0	100.0	100.0
Same as occupation in 1970	31.0	30.5	27.0	19.4
Other than occupation in 1970	69.0	69.5	73.0	80.6

Source: Table 8.

Table 3.8. Percent Distribution--Occupation of First Full-Time Professional Job by Occupation in 1970 for Engineers and Scientists in the 1970 Experienced Civilian Labor Force

Occupation in 1970	Occupation of first full-time professional job						
	Operations and computer specialists	Engineers	Mathematical specialists	Life scientists	Physical scientists	Social scientists	Other occupations
Both sexes, total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Operations and computer specialists	87.5	3.2	20.9	1.9	2.6	2.8	17.9
Engineers	7.1	93.1	9.7	3.9	14.2	3.7	55.4
Mathematical specialists	2.6	0.3	61.4	0.9	0.9	2.7	3.7
Life scientists	0.1	0.1	0.7	72.2	3.3	1.7	4.5
Physical scientists	0.7	2.4	1.1	18.3	77.7	0.9	7.0
Social scientists	2.0	1.0	6.3	2.9	1.3	88.2	11.4

Source: Table 8

The role of highest degree held in the relationship between field study and occupation is illustrated in table 3.10. Within two occupation groups, mathematical specialists and social scientists, there was a definite trend toward increasing agreement between field of study and occupation as degree level advanced. For operations and computer specialists, however, this pattern was reversed to some extent; the proportion of persons whose field of study and occupation agreed was considerably less at the higher degree levels than for persons at the "Some college, no degree" level and at the associate degree level. For the remaining occupation groups, the only pattern evident was that persons whose highest degree was at least a bachelor's degree had a higher level of coincidence between field of study and occupation than did persons with no degree.

Table 3.9. Percent Distribution by Major Field of Study for Highest Degree Held in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Occupation in 1970

Occupation in 1970	Major field of study for highest degree held in 1972								
	Total	Computer science and systems analysis	Engineering	Mathematical sciences	Biological and agricultural sciences	Physical sciences	Social sciences	Business and commerce	Other field of study
Operations and computer specialists	100.0	12.1	14.4	17.0	2.2	4.0	10.2	22.4	17.8
Engineers	100.0	0.5	75.8	1.8	1.3	4.2	2.4	6.3	7.6
Mathematical specialists	100.0	1.3	4.4	52.9	2.5	3.2	8.8	8.5	18.3
Life scientists	100.0	0.1	1.9	0.4	77.2	2.4	3.5	0.4	14.2
Physical scientists	100.0	0.2	10.6	1.7	9.6	66.3	1.8	1.9	8.0
Social scientists	100.0	0.3	5.2	1.2	1.8	1.3	55.0	18.3	16.9

Source: Table 11.

Table 3.10. Percent Distribution by Major Field of Study for Highest Degree Held in 1972 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Highest Degree Held in 1972 and Occupation in 1970

Occupation in 1970 and major field of study for highest degree held in 1972	Highest degree held in 1972						
	No degree		Associate	Bachelor's	Bachelor's plus[1]	Master's	Ph.D.
	1 to 3 years of college	4 or more years of college					
Operations and computer specialists	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident major field of study	27.7	20.0	31.4	2.2	1.9	11.5	4.6
Other major field of study	72.3	80.0	68.6	97.8	98.1	88.5	95.4
Engineers	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident major field of study	62.3	64.3	76.2	82.1	81.9	68.9	78.2
Other major field of study	37.7	35.7	23.8	17.9	18.1	31.1	21.8
Mathematical specialists	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident major field of study	6.7	39.3	-	36.8	47.1	65.0	71.2
Other major field of study	93.3	60.7	100.0	63.2	52.9	35.0	28.8
Life scientists	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident major field of study	46.0	47.2	43.6	81.3	73.8	76.6	84.6
Other major field of study	54.0	52.8	56.4	18.7	26.2	23.4	15.4
Physical scientists	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident major field of study	31.3	43.9	5.8	67.3	66.5	68.0	77.9
Other major field of study	68.7	56.1	94.2	32.7	33.5	32.0	22.1
Social scientists	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident major field of study	7.7	32.2	-	26.9	42.0	57.2	87.2
Other major field of study	92.3	67.8	100.0	73.1	58.0	42.8	12.8

- Represents zero.
[1]Some graduate work but no graduate degree.

Source: Table 11.

Persons who majored in computer science or systems analysis or in engineering were more likely, in general, to be in a related occupation in 1970 than persons who majored in one of the other fields. (See table 3.11.) The general pattern for persons with highest degrees in mathematical sciences, physical sciences, and social sciences was one of increasing agreement between field of study and occupation as the level of educational attainment increased. For example, of all persons who had majored in mathematical sciences and who were in one of the six engineering and scientific occupation groups in 1970, only about 30 percent were mathematical specialists. However, among those who held Ph.D. degrees in mathematical sciences, approximately 91 percent were working as mathematical specialists in 1970. For persons who majored in computer sciences and systems analysis or in engineering, however, a somewhat different relationship was true. Although, overall, about 83 percent of the computer science and systems analysis majors were working in 1970 as operations and computer specialists, only 63 percent of the master's degree holders and 31 percent of those with a doctorate degree were in that occupation group.

IV. Conclusion

The statistics presented in this report provide a detailed profile on the educational and professional characteristics of scientists and engineers. Additional reports based on the 1972 Professional, Technical, and Scientific Manpower Survey will contain further data on these characteristics and their relationship to such subjects as salary rates, geographic mobility, and job history.

Table 3.11. Percent Distribution by Occupation in 1970 of Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Major Field of Study for Highest Degree Held in 1972

Major field of study for highest degree held in 1972 and occupation in 1970	Highest degree held in 1972							
	Total	No degree		Associate	Bachelor's	Bachelor's plus[1]	Master's	Ph. D.
		1 to 3 years of college	4 or more years of college					
Computer science and systems analysis..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident occupation in 1970.....	82.8	88.0	67.3	97.3	87.4	100.0	63.2	30.5
Other occupation in 1970.....	17.2	12.0	32.7	2.7	12.6	-	36.8	69.5
Engineering.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident occupation in 1970.....	91.9	87.1	91.6	88.1	94.4	92.7	90.4	84.9
Other occupation in 1970.....	8.1	12.9	8.4	11.9	5.6	7.3	9.6	15.1
Mathematical sciences.....	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0
Coincident occupation in 1970.....	30.3	2.8	18.2	-	10.9	19.8	52.7	90.5
Other occupation in 1970.....	69.7	97.2	81.8	-	89.1	80.2	17.3	9.5
Biological and agricultural sciences...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident occupation in 1970.....	60.0	18.1	42.5	9.5	57.8	55.0	74.5	70.1
Other occupation in 1970.....	40.0	81.9	57.5	90.5	42.2	45.0	25.4	29.9
Physical sciences.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident occupation in 1970.....	67.6	42.7	49.3	52.6	58.0	57.5	72.2	87.9
Other occupation in 1970.....	32.4	57.3	50.7	47.4	41.1	42.5	27.8	12.1
Social sciences.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coincident occupation in 1970.....	56.7	5.8	20.5	-	20.2	39.9	73.6	92.8
Other occupation in 1970.....	43.3	94.2	79.5	100.0	79.8	60.1	26.4	7.2

-Entry represents zero.

[1]Some graduate work but no graduate degree.

Source: Table 11.

THE SAMPLE

The basic reference point of the Professional, Technical, and Scientific Manpower Survey was the 1970 Census of Population, which classified 20 percent of the population by key characteristics, including occupation and education. Workers were classified in the 1970 census by occupation generally on the basis of responses given to the question, "What kind of work was he doing?" as reported on the 1970 census questionnaire. For this survey, samples ranging in size from less than 100 persons to over 9,000 persons were drawn from this 20 percent 1970 census sample for some 40 groups of scientific, technical, and professional occupations classified as "Professional, Technical, and Kindred" by the Census Bureau's detailed occupation classification scheme. The largest class of persons in the survey comprised persons reported as being in the experienced civilian labor force in 65 specific professional and technical occupations defined by the 1970 census. In addition, the postcensal survey included a sample of persons who had completed 4 years or more of college, but were not employed in any of the specific occupations in 1970. This report, however, covers only those persons in scientific and engineering occupations. A list of sample groups and sample sizes is presented as "List A" in appendix A; the occupations treated in this report comprise sample groups 1 through 25 on this list.

Postcensal survey questionnaires were mailed in the winter and spring of 1972 to 101,835 persons selected for the study. The mailing operations resulted in a response rate of 73.1 percent, representing 74,483 completed questionnaires. The 26.9 percent for whom a completed questionnaire was not obtained included persons who refused to participate, the deceased, and persons who returned questionnaires with insufficient information to permit processing. Appendix H presents a detailed distribution of response categories by occupation group, age, and education.

THE QUESTIONNAIRE

Each respondent was asked to complete by self-enumeration an eight-page questionnaire (reproduced as appendix C). This questionnaire was accompanied by a cover letter and a set of reference lists (reproduced in appendix D).

The questionnaire consisted of five major parts:

Part I solicited background information such as age, sex, residence, marital status, membership status in professional societies or associations, and father's occupation and educational attainment.

Part II sought information about education and training including college attended, field of study, type of degree granted, and years of attendance. Other topics covered here included sources of financing of post high school training (distinguishing between undergraduate and graduate level support) and other types of training respondents might have received such as apprenticeships, company training programs, correspondence courses, military training applicable to civilian occupations, and the like.

Part III covered employment status during the week prior to the completion of the questionnaire.

Part IV asked about the respondent's occupation industry, class of worker, salary, job activities and work relationships for the last three jobs, occupation and industry of current secondary job, and occupation of first professional job.

Part V was concerned with the number of weeks worked and earnings in 1971.

DEFINITIONS AND EXPLANATIONS

Experienced Civilian Labor Force. The "experienced civilian labor force" comprises the "employed" and the "experienced unemployed."

"Employed persons" include all civilians 16 years and over who were either (a) "at work"--those who did any work at all as paid employees or in their own business or profession, or worked 15 hours or more as unpaid workers on a family farm or in a family business; or (b) were "with a job but not at work"--those who did not work during the reference week[9] but had jobs or businesses from which they were temporarily absent because of bad weather, industrial dispute, vacation, illness, or other personal reasons.

Persons are classified as "unemployed" if they were civilians 16 years old and over and: (a) were neither "at work" nor "with a job, but not at work" during the reference week, (b) were looking for work during the past four weeks, and (c) were available to accept a job. Also included as unemployed are persons who did not work at all during the reference week and were waiting to be called back to a job from which they had been laid off. Unemployed persons who have worked at any time in the past are classified as the "experienced unemployed."

Occupation in 1970. This report covers only persons reported in the 1970 Census of Population as being in engineering or scientific occupations. The data on occupation in 1970, therefore, refer to the job reported on the 1970 Census of Population. The detailed census occupational categories constituting the respective occupational universes of the occupation groupings and subgroups in the table stubs of this report are identified in appendix E. Note that each of the occupation groupings except operations and computer specialists contains college and university teachers of related disciplines.

Median Age. The median age is that age which divides the distribution into two equal parts, one-half being older than the median age and one-half younger. The median ages in this report were determined by an estimation process that distributed the subject populations into five year age groups.

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[9]The reference week for data on employment status in the 1970 census refers to the calendar week prior to the date on which respondents completed their questionnaires or were interviewed by enumerators; for many persons this week was the last week in March 1970. For more information on this and related matters see, 1970 Census of Population, Volume 1, Characteristics of the Population, Part 1, United States Summary.

Highest Degree Held. Highest degree held in 1972 refers to the highest academic degree awarded or assumed to have been awarded to the respondent in 1971 or earlier. The data on highest degree held in 1972 were derived from answers to questions 10 and 14 of the questionnaire. Designations were made in the following ways:

A. The highest degree the respondent had worked for as reported in question 14, was tabulated as his highest degree held in 1972 (1) if in question 14 he reported 1971 or earlier as the date when this degree was awarded or (2) if he failed to provide any information on the date of award of this degree but did report in question 10 that he had completed at least a certain number of years of postsecondary education, specified for each degree in the following chart[10]:

Degree	Minimum years of postsecondary education
No degree	0
Other	0
AA	2
RN	3
BA	4
MA	5
LLB	7
MD	8
Ph.D	7

If, however, the respondent listed 1972 or later or "none" as the date of award of the highest degree he reported he had worked for, or if, in addition to failing to provide any information on this date he also lacked the minimum number of years of postsecondary necessary to assume award of this degree, then the date of the next highest degree worked for was examined, and so on, until in accord with either one of the above criteria a degree was determined or assumed to have an awarded date of 1971 or earlier and thereby tabulated as the highest degree held in 1972. If such a designation could not be made after all of the above possibilities were exhausted, the respondent was assigned to one of the "no degree" categories according to the number of years of postsecondary education he had completed.

B. If the respondent did not report in question 14 what degree or degrees he had ever worked for, he was assigned to the "no degree, no college" category if he had less than one year of postsecondary education or to the "degree not reported" classification if he had completed 1 year or more of postsecondary education.

C. If, for every institution of higher learning he had attended, the respondent reported "none" when asked what type of degree he had worked for, he was assigned to one of the "no degree" categories based on the number of years of postsecondary education completed.

For persons in any of the categories of the "no degree" classification educational attainment is presented in terms of years of college completed; persons with less than one year of college completed were assigned to the "no college" category. Persons with the bachelor's as their highest degree who also reported having completed 5 years or more beyond the high school level, were tabulated as having a "bachelor's plus" degree, i.e. with some graduate work but no graduate degree. The "other degree" classification includes persons whose highest degree was one of the following: RN, LLB, MD, and academic degrees other than the associate, bachelor's, master's, or Ph.D.

Marital Status. This classification refers to the marital status of the person at the time of the survey. Persons classified as "married" comprise, therefore, both those who have been married only once and those who remarried after having been widowed or divorced. The data on marital status were derived from answers to question 3 on the questionnaire.

Residence in 1972. Residence in 1972 refers to the residence reported by the respondent as his current address when he completed his questionnaire.

Membership in Professional Societies. The data on membership in professional societies were derived from answers to question 8 on the questionnaire.

Professional License, Certification, or Registration. The data on professional licenses, certifications, and registrations were derived from answers to question 9 on the questionnaire.

Occupation of First Full-Time Professional Job. The data on occupation of first full-time professional job were derived from answers to questions 38 and 39 on the questionnaire. Answers to occupation inquiries on the questionnaire were self-coded by the respondent using list C reproduced in appendix D.

Professional Identification. Question 41 of the questionnaire requested that the respondent complete the following statement: "Based on my total education and experience, I regard myself professionally as a (an)....." To complete this statement, the respondent chose among the occupations of list C in appendix D. The data on professional identification are derived from the respondents' entries.

Supplemental Training. The supplemental training information describes types of training other than formal training received by the respondent in 1972 or earlier. The data on supplemental training are derived from answers to question 16 on the questionnaire.

Major Field of Study for Highest Degree Held. The data on "Major Field of Study for Highest Degree Held" are based on responses to question 14 of the questionnaire. The "field not reported" category of table 10 includes all persons with "degree not reported"; in table 11, "not reported" includes all persons with "no college, no degree" as well as all persons with "degree not reported." The fields of study are presented in list A of appendix D. A more detailed level of classification was used in table 11 than in table 10: the correspondence between the two levels is shown by the table in appendix G.

[10]For a comparison of the numbers in each highest degree held category under alternate minimum year specifications see appendix F.

WEIGHTING AND ESTIMATING PROCEDURES

Estimation Procedure

The estimates for this survey were prepared by using a ratio estimation procedure. This 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 occupation category. 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 estimate procedure will improve the reliability of the estimate.

As a secondary by-product of the process, the estimates from this survey will be consistent with published census results for the occupation, age, and race cells used in the estimation process.[11] However, this consistency will not necessarily hold for other categories.

Reliability of the Estimates

The sample used for this survey is only one of a large number of possible samples of the same size 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. The standard error of a survey estimate is 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. The estimate and its associated standard error may be used to construct a confidence interval, that is, an interval having a prescribed probability that it 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 of 100 that it would be less than 2-1/2 times the standard error.

Tables 4.1 through 4.6 present estimates of standard errors for the summary groups of occupation categories, as defined in the tabulations. For example, table 4.1 presents standard errors for operations and computer specialists which comprises computer programmers, computer systems analysts, computer specialists n.e.c., and operations and systems analysts. However if a standard error is desired for a specific category e.g., computer programmers, tables 5.1 through 5. should be used.

Tables 4.1 through 4.6 were constructed using severa approximations and tend to be conservative estimate of the magnitude of the standard errors for the summar groups. If a more precise estimate of the standar error is required for a specified item of the summar group, the following procedure should be employed:

a. Determine from the tabulations the numbe of persons in each specific occupation category withi the summary occupation group for the specified item.

b. From the appropriate tables 5.1 through 5.6 determine the standard error for each of the componen estimates of the specific occupation categories.

c. The standard error for the specified item of th summary occupation group is the square root of th sum of the squares of the individual standard errors.

Tables 5.1 through 5.6 present estimates of standar errors for specific occupation categories. A give table may be applicable to more than one specifi occupation category. Thus, table 5.1 should be use for computer programmers, civil engineers, industria engineers, and mechanical engineers. The standar errors for estimated numbers or percents not show in either set of tables may be approximated by linea interpolation.

The figures in these tables are not directly applicabl to standard errors of differences between two sampl estimates. The standard error of an estimated difference between two figures may be approximated b the square root of the sum of the squares of the standar error of each estimate. This formula will accuratel represent the actual standard error for the differenc between separate and uncorrelated characteristics i the same area. If, however, there is a high positiv correlation between the two characteristics, the formul will overestimate the true standard error. For a difference between two sample estimates, one of whic represents a subclass of the other, the tables can b used directly with the difference considered as th sample estimate.

As mentioned in the section on the sample, the fina result of all data collection activities in the 197 Professional, Technical, and Scientific Manpower Surve was that completed questionnaires were obtained fo 73.1 percent of the sample. The 26.9 percent for whom a completed questionnaire was not obtained includes persons who refused to participate, the deceased, an persons who returned questionnaires with insufficient information to permit processing. Because of the large nonresponse rates to the survey questionnaires, the sample data may be subject to substantial biases, since the characteristics of respondents may be different from those of nonrespondents. Appendix H presents a detailed distribution of response categories by occupation group, age, and education.

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[11] Because the respondent's sex was determined from his reply to this survey and may therefore differ from the determination made in the 1970 Census which allocated sex when respondents did not report this characteristic, this consistency will not necessarily hold for estimates relating to sex.

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR OPERATIONS AND COMPUTER SPECIALISTS

Table 4.1A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000.....	240
5,000.....	530
10,000.....	740
20,000.....	1,030
50,000.....	1,560
75,000.....	1,840
100,000.....	2,030
150,000.....	2,250
180,000.....	2,300
200,000.....	2,300
220,000.....	2,270
250,000.....	2,194
337,933.....	1,473

Table 4.1B. 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
1,000.....	3.3	5.2	7.1	9.5	10.3	11.8
5,000.....	1.5	2.3	3.2	4.2	4.6	5.3
10,000.....	1.0	1.6	2.2	3.0	3.2	3.7
20,000.....	0.7	1.2	1.6	2.1	2.3	2.6
50,000.....	0.5	0.7	1.0	1.3	1.5	1.7
75,000.....	0.4	0.6	0.8	1.1	1.2	1.4
100,000.....	0.3	0.5	0.7	0.9	1.0	1.2
150,000.....	0.3	0.4	0.6	0.8	0.8	1.0
180,000.....	0.2	0.4	0.5	0.7	0.8	0.9
200,000.....	0.2	0.4	0.5	0.7	0.7	0.8
220,000.....	0.2	0.3	0.5	0.6	0.7	0.8
250,000.....	0.2	0.3	0.4	0.6	0.6	0.7
337,900.....	0.2	0.3	0.4	0.5	0.6	0.6

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR ENGINEERS

Table 4.2A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000.....	280
5,000.....	630
10,000.....	890
25,000.....	1,390
50,000.....	1,950
100,000.....	2,690
300,000.....	4,230
500,000.....	4,830
700,000.....	4,860
900,000.....	4,340
1,000,000.....	3,800
1,243,000.....	2,220

Table 4.2B. 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
1,000.....	3.9	6.1	8.4	11.2	12.2	14.0
5,000.....	1.8	2.7	3.8	5.0	5.4	6.3
10,000.....	1.2	1.9	2.7	3.6	3.8	4.4
25,000.....	0.8	1.2	1.7	2.2	2.4	2.8
50,000.....	0.6	0.9	1.2	1.6	1.7	2.0
100,000.....	0.4	0.6	0.8	1.1	1.2	1.4
300,000.....	0.2	0.4	0.5	0.6	0.7	0.8
500,000.....	0.2	0.3	0.4	0.5	0.5	0.6
700,000.....	0.1	0.2	0.3	0.4	0.5	0.5
900,000.....	0.1	0.2	0.3	0.4	0.4	0.5
1,000,000....	0.1	0.2	0.3	0.4	0.4	0.4
1,243,000....	0.1	0.2	0.2	0.3	0.3	0.4

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR MATHEMATICAL SPECIALISTS

Table 4.3A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000	150
2,000	210
3,000	250
5,000	320
10,000	440
20,000	570
40,000	640
50,000	590
62,000	460

Table 4.3B. 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
1,000	2.1	3.3	4.5	6.0	6.5	7.5
2,000	1.5	2.3	3.2	4.2	4.6	5.3
3,000	1.2	1.9	2.6	3.5	3.7	4.3
5,000	0.9	1.5	2.0	2.7	2.9	3.3
10,000	0.7	1.0	1.4	1.9	2.1	2.4
20,000	0.5	0.7	1.0	1.3	1.5	1.7
40,000	0.3	0.5	0.7	0.9	1.0	1.2
50,000	0.3	0.5	0.6	0.8	0.9	1.1
62,000	0.3	0.4	0.6	0.8	0.8	1.0

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR LIFE SCIENTISTS

Table 4.4A. Standard Errors of Totals

Size of estimate	Estimated standard error
500	150
1,000	210
2,000	290
5,000	450
10,000	620
15,000	730
20,000	820
25,000	880
30,000	930
40,000	980
50,000	970
60,000	920
70,000	800
83,500	470

Table 4.4B. 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
500	4.1	6.4	8.8	11.8	12.7	14.7
1,000	2.9	4.5	6.2	8.3	9.0	10.4
2,000	2.1	3.2	4.4	5.9	6.4	7.4
5,000	1.3	2.0	2.8	3.7	4.0	4.6
10,000	0.9	1.4	2.0	2.6	2.8	3.3
15,000	0.8	1.2	1.6	2.1	2.3	2.7
20,000	0.7	1.0	1.4	1.9	2.0	2.3
25,000	0.6	0.9	1.2	1.7	1.8	2.1
30,000	0.5	0.8	1.1	1.5	1.6	1.9
40,000	0.5	0.7	1.0	1.3	1.4	1.6
50,000	0.4	0.6	0.9	1.2	1.3	1.5
60,000	0.4	0.6	0.8	1.1	1.2	1.3
70,000	0.3	0.5	0.7	1.0	1.1	1.2
83,500	0.3	0.5	0.7	0.9	1.0	1.1

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR PHYSICAL SCIENTISTS

Table 4.5A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000.....	210
2,000.....	290
5,000.....	460
10,000.....	640
15,000.....	780
20,000.....	890
25,000.....	980
50,000.....	1,290
75,000.....	1,460
100,000.....	1,530
125,000.....	1,510
150,000.....	1,400
196,000.....	850

Table 4.5B. 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
1,000.....	2.9	4.6	6.3	8.4	9.0	10.4
2,000.....	2.1	3.2	4.4	5.9	6.4	7.4
5,000.....	1.3	2.0	2.8	3.7	4.0	4.7
10,000.....	0.9	1.4	2.0	2.6	2.9	3.3
15,000.....	0.8	1.2	1.6	2.2	2.3	2.7
20,000.....	0.7	1.0	1.4	1.9	2.0	2.3
25,000.....	0.6	0.9	1.3	1.7	1.8	2.1
50,000.....	0.4	0.6	0.9	1.2	1.3	1.5
75,000.....	0.3	0.5	0.7	1.0	1.0	1.2
100,000.....	0.3	0.5	0.6	0.8	0.9	1.0
125,000.....	0.3	0.4	0.6	0.7	0.8	0.9
150,000.....	0.2	0.4	0.5	0.7	0.7	0.9
196,000.....	0.2	0.3	0.4	0.6	0.6	0.7

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR SOCIAL SCIENTISTS

Table 4.6A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000.....	180
5,000.....	400
10,000.....	550
30,000.....	900
50,000.....	1,080
70,000.....	1,170
90,000.....	1,200
100,000.....	1,190
130,000.....	1,070
151,000.....	870

Table 4.6B. 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
1,000.....	2.5	3.9	5.4	7.2	7.8	9.0
5,000.....	1.1	1.8	2.4	3.2	3.5	4.0
10,000.....	0.8	1.2	1.7	2.3	2.5	2.8
30,000.....	0.5	0.7	1.0	1.3	1.4	1.6
50,000.....	0.4	0.6	0.8	1.0	1.1	1.3
70,000.....	0.3	0.5	0.6	0.9	0.9	1.1
90,000.....	0.3	0.4	0.6	0.8	0.8	0.9
100,000.....	0.3	0.4	0.5	0.7	0.8	0.9
130,000.....	0.2	0.3	0.5	0.6	0.7	0.8
151,000.....	0.2	0.3	0.4	0.6	0.6	0.7

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR COMPUTER PROGRAMMERS, CIVIL ENGINEERS, INDUSTRIAL ENGINEERS, AND MECHANICAL ENGINEERS

Table 5.1A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000	280
5,000	620
10,000	860
30,000	1,400
60,000	1,770
90,000	1,880
120,000	1,790
140,000	1,590
160,000	1,230
180,000	390

Table 5.1B. 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
1,000	3.9	6.1	8.4	11.2	12.1	14.
5,000	1.7	2.7	3.7	5.0	5.4	6.
10,000	1.2	1.9	2.7	3.5	3.8	4.
30,000	0.7	1.1	1.5	2.0	2.2	2.
60,000	0.5	0.8	1.1	1.4	1.6	1.
90,000	0.4	0.6	0.9	1.2	1.3	1.
120,000	0.4	0.6	0.8	1.0	1.1	1.
140,000	0.3	0.5	0.7	0.9	1.0	1.
160,000	0.3	0.5	0.7	0.9	1.0	1.
180,000	0.3	0.5	0.6	0.8	0.9	1.

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR ENGINEERS, N.E.C., AND ENGINEERING TEACHERS

Table 5.2A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000	290
5,000	640
10,000	900
30,000	1,500
70,000	2,110
110,000	2,380
140,000	2,430
170,000	2,380
200,000	2,200
209,000	2,120

Table 5.2B. 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
1,000	4.1	6.3	8.7	11.6	12.6	14.5
5,000	1.8	2.8	3.9	5.2	5.6	6.5
10,000	1.3	2.0	2.8	3.7	4.0	4.6
30,000	0.7	1.2	1.6	2.1	2.3	2.7
70,000	0.5	0.8	1.0	1.4	1.5	1.7
110,000	0.4	0.6	0.8	1.1	1.2	1.4
140,000	0.3	0.5	0.7	1.0	1.1	1.2
170,000	0.3	0.5	0.7	0.9	1.0	1.1
200,000	0.3	0.4	0.6	0.8	0.9	1.0
209,000	0.3	0.4	0.6	0.8	0.9	1.0

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR COMPUTER SYSTEMS ANALYSTS, AERONAUTICAL AND ASTRONAUTICAL ENGINEERS, OPERATIONS AND SYSTEMS ANALYSTS, AND ECONOMISTS

Table 5.3A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000.....	190
5,000.....	420
10,000.....	590
20,000.....	800
30,000.....	950
40,000.....	1,050
50,000.....	1,130
60,000.....	1,180
70,000.....	1,210
81,000.....	1,220

Table 5.3B. 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
1,000.....	2.7	4.2	5.8	7.7	8.3	9.6
5,000.....	1.2	1.9	2.6	3.4	3.7	4.3
10,000.....	0.8	1.3	1.8	2.4	2.6	3.0
20,000.....	0.6	0.9	1.3	1.7	1.9	2.1
30,000.....	0.5	0.8	1.1	1.4	1.5	1.8
40,000.....	0.4	0.7	0.9	1.2	1.3	1.5
50,000.....	0.4	0.6	0.8	1.1	1.2	1.4
60,000.....	0.3	0.5	0.7	1.0	1.1	1.2
70,000.....	0.3	0.5	0.7	0.9	1.0	1.1
81,000.....	0.3	0.5	0.6	0.9	0.9	1.1

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR CHEMISTS

Table 5.4A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000.....	240
5,000.....	520
10,000.....	720
15,000.....	860
30,000.....	1,150
50,000.....	1,330
70,000.....	1,390
90,000.....	1,320
110,000.....	1,110
121,000.....	900

Table 5.4B. 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
1,000.....	3.3	5.2	7.1	9.5	10.2	11.8
5,000.....	1.5	2.3	3.2	4.2	4.6	5.3
10,000.....	1.0	1.6	2.2	3.0	3.2	3.7
15,000.....	0.9	1.3	1.8	2.4	2.6	3.1
30,000.....	0.6	0.9	1.3	1.7	1.9	2.2
50,000.....	0.5	0.7	1.0	1.3	1.4	1.7
70,000.....	0.4	0.6	0.8	1.1	1.2	1.4
90,000.....	0.3	0.5	0.7	1.0	1.1	1.2
110,000.....	0.3	0.5	0.7	0.9	1.0	1.1
121,000.....	0.3	0.5	0.6	0.9	0.9	1.1

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR ELECTRICAL AND ELECTRONIC ENGINEERS

Table 5.5A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000	360
5,000	800
10,000	1,120
50,000	2,310
90,000	2,830
120,000	3,020
160,000	3,050
200,000	2,850
300,000	2,060
400,000	1,890
500,000	1,720
600,000	1,550

Table 5.5B. 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
1,000	5.0	7.8	10.8	14.4	15.6	18.0
5,000	2.2	3.5	4.8	6.4	7.0	8.0
10,000	1.6	2.5	3.4	4.5	4.9	5.7
50,000	0.7	1.1	1.5	2.0	2.2	2.5
90,000	0.5	0.8	1.1	1.5	1.6	1.9
120,000	0.5	0.7	1.0	1.3	1.4	1.6
160,000	0.4	0.6	0.9	1.1	1.2	1.4
200,000	0.4	0.6	0.8	1.0	1.1	1.3
300,000	0.3	0.5	0.6	0.8	0.9	1.0
400,000	0.3	0.4	0.5	0.7	0.8	0.9
500,000	0.2	0.4	0.5	0.6	0.7	0.8
600,000	0.2	0.3	0.4	0.5	0.6	0.7

STANDARD ERRORS OF TOTALS AND PERCENTAGES FOR ALL OTHER INDIVIDUAL OCCUPATIONS

Table 5.6A. Standard Errors of Totals

Size of estimate	Estimated standard error
1,000	160
2,500	240
5,000	330
10,000	450
15,000	520
20,000	560
25,000	590
30,000	590
39,000	550
45,000	480
55,000	220

Table 5.6B. 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
1,000	2.2	3.4	4.7	6.3	6.8	7.8
2,500	1.4	2.2	3.0	4.0	4.3	4.9
5,000	1.0	1.5	2.1	2.8	3.0	3.5
10,000	0.7	1.1	1.5	2.0	2.1	2.5
15,000	0.6	0.9	1.2	1.6	1.7	2.0
20,000	0.5	0.8	1.0	1.4	1.5	1.7
25,000	0.4	0.7	0.9	1.3	1.4	1.6
30,000	0.4	0.6	0.9	1.1	1.2	1.4
39,000	0.4	0.5	0.8	1.0	1.1	1.3
45,000	0.3	0.5	0.7	0.9	1.0	1.2
55,000	0.3	0.5	0.6	0.8	0.9	1.1

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES											
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL	337 933	60 150	64 012	7 963	14 648	88 362	36 323	33 442	3 315	1 409	28 309
AGE											
UNDER 25 YEARS	25 326	3 531	6 586	776	2 147	6 520	2 709	515	-	80	2 464
25 TO 34 YEARS	164 571	18 779	32 050	3 641	7 998	49 931	20 174	18 629	1 527	600	11 242
35 TO 44 YEARS	84 619	17 676	14 399	1 798	3 207	20 746	9 159	9 021	947	451	7 216
45 TO 54 YEARS	46 447	13 871	8 636	1 262	832	8 517	3 625	3 862	673	109	5 062
55 YEARS AND OVER	16 970	6 294	2 341	487	464	2 649	656	1 416	168	169	2 326
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	17.8	18.9	2.4	4.3	26.1	10.7	9.9	1.0	0.4	8.4
UNDER 25 YEARS	100.0	13.9	26.0	3.1	8.5	25.7	10.7	2.0	-	0.3	9.7
25 TO 34 YEARS	100.0	11.4	19.5	2.2	4.9	30.3	12.3	11.3	0.9	0.4	6.8
35 TO 44 YEARS	100.0	20.9	17.0	2.1	3.8	24.5	10.8	10.7	1.1	0.5	8.5
45 TO 54 YEARS	100.0	29.9	18.6	2.7	1.8	18.3	7.8	8.3	1.4	0.2	10.9
55 YEARS AND OVER	100.0	37.1	13.8	2.9	2.7	15.6	3.9	8.3	1.0	1.0	13.7
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	7.5	5.9	10.3	9.7	14.7	7.4	7.5	1.5	-	*5.7	8.7
25 TO 34 YEARS	48.7	31.2	50.1	45.7	54.6	56.5	55.5	55.7	46.1	*42.6	39.7
35 TO 44 YEARS	25.0	29.4	22.5	22.6	21.9	23.5	25.2	27.0	28.6	*32.0	25.5
45 TO 54 YEARS	13.7	23.1	13.5	15.8	5.7	9.6	10.0	11.5	20.3	*7.7	17.9
55 YEARS AND OVER	5.0	10.5	3.7	6.1	3.2	3.0	1.8	4.2	5.1	*12.0	8.2
COMPUTER PROGRAMMERS	163 244	24 814	34 984	4 052	8 852	45 127	17 156	13 335	683	689	13 552
AGE											
UNDER 25 YEARS	19 359	2 334	5 332	776	1 630	5 280	1 743	472	-	80	1 713
25 TO 34 YEARS	94 671	11 342	20 490	1 925	5 222	29 317	10 614	8 356	384	388	6 633
35 TO 44 YEARS	34 761	7 379	6 194	933	1 578	8 013	3 475	3 221	232	221	3 515
45 TO 54 YEARS	11 383	3 147	2 301	418	220	1 903	1 325	850	-	-	1 140
55 YEARS AND OVER	3 070	612	588	-	202	614	-	436	67	-	552
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	15.2	21.4	2.5	5.4	27.6	10.5	8.2	0.4	0.4	8.3
UNDER 25 YEARS	100.0	12.1	27.5	4.0	8.4	27.3	9.0	2.4	-	0.4	8.8
25 TO 34 YEARS	100.0	12.0	21.6	2.0	5.5	31.0	11.2	8.8	0.4	0.4	7.0
35 TO 44 YEARS	100.0	21.2	17.8	2.7	4.5	23.1	10.0	9.3	0.7	0.6	10.1
45 TO 54 YEARS	100.0	27.6	20.9	3.7	1.9	16.7	11.6	7.5	-	-	10.0
55 YEARS AND OVER	*100.0	*19.9	*19.1	-	*6.6	*20.0	-	*14.2	*2.2	-	*18.0
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	11.9	9.4	15.2	*19.1	18.4	11.7	10.2	3.5	-	*11.6	12.6
25 TO 34 YEARS	58.0	45.7	58.6	*47.5	59.0	65.0	61.9	62.7	*56.3	*56.3	48.9
35 TO 44 YEARS	21.3	29.7	17.7	*23.0	17.8	17.8	20.3	24.2	*33.9	*32.1	25.9
45 TO 54 YEARS	7.0	12.7	6.8	*10.3	2.5	4.2	7.7	6.4	-	-	8.4
55 YEARS AND OVER	1.9	2.5	1.7	-	2.3	1.4	-	3.3	*9.8	-	4.1
COMPUTER SYSTEMS ANALYSTS	80 589	12 999	13 060	1 678	2 652	23 024	9 775	10 067	818	183	6 303
AGE											
UNDER 25 YEARS	3 252	797	577	-	288	814	339	43	-	-	393
25 TO 34 YEARS	38 063	3 396	6 273	953	1 447	12 106	5 386	5 604	374	72	2 451
35 TO 44 YEARS	23 547	4 212	3 560	355	567	7 075	3 079	2 799	142	35	1 724
45 TO 54 YEARS	12 511	3 501	2 323	216	233	2 468	898	1 123	302	39	1 408
55 YEARS AND OVER	3 187	1 093	327	153	118	561	73	498	-	36	328
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	16.1	16.2	2.1	3.3	28.6	12.1	12.5	1.0	0.2	7.8
UNDER 25 YEARS	100.0	24.5	17.8	-	8.8	25.0	10.4	1.3	-	-	12.1
25 TO 34 YEARS	100.0	8.9	16.5	2.5	3.8	31.8	14.2	14.7	1.0	0.2	6.4
35 TO 44 YEARS	100.0	17.9	15.1	1.5	2.4	30.0	13.1	11.9	0.6	0.2	7.3
45 TO 54 YEARS	100.0	28.0	18.6	1.7	1.9	19.7	7.2	9.0	2.4	0.3	11.3
55 YEARS AND OVER	100.0	34.3	10.3	4.8	3.7	17.6	2.3	15.6	-	1.1	10.3
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	4.0	6.1	4.4	-	10.8	3.5	3.5	0.4	-	-	6.2
25 TO 34 YEARS	47.2	26.1	48.0	*56.8	54.6	52.6	55.1	55.7	*45.7	*39.2	38.9
35 TO 44 YEARS	29.2	32.4	27.3	*21.2	21.4	30.7	31.5	27.8	*17.3	*19.4	27.3
45 TO 54 YEARS	15.5	26.9	17.8	*12.9	8.8	10.7	9.2	11.2	*36.9	*21.6	22.3
55 YEARS AND OVER	4.0	8.4	2.5	*9.1	4.4	2.4	0.7	4.9	-	*19.8	5.2

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
COMPUTER SPECIALISTS, N.E.C.	13 263	1 746	2 558	301	403	3 314	1 462	1 868	462	83	1 066
AGE											
UNDER 25 YEARS	615	121	129	-	69	66	69	-	-	-	161
25 TO 34 YEARS	5 470	460	1 204	52	220	1 522	561	836	240	-	356
35 TO 44 YEARS	4 373	533	806	111	86	1 045	606	668	135	83	299
45 TO 54 YEARS	2 176	456	264	138	27	523	198	283	87	-	200
55 YEARS AND OVER	629	156	156	-	-	159	27	80	-	-	51
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	13.2	19.3	2.3	3.0	25.0	11.0	14.1	3.5	0.6	8.0
UNDER 25 YEARS	*100.0	*19.7	*20.9	-	*11.3	*10.7	*11.3	-	-	-	*26.2
25 TO 34 YEARS	100.0	8.8	22.0	0.9	4.0	27.8	10.3	15.3	4.4	-	6.5
35 TO 44 YEARS	100.0	12.2	18.4	2.5	2.0	23.9	13.9	15.3	3.1	1.9	6.8
45 TO 54 YEARS	100.0	21.0	12.1	6.4	1.2	24.0	9.1	13.0	4.0	-	9.2
55 YEARS AND OVER	*100.0	*24.8	*24.8	-	-	*25.2	*4.3	*12.8	-	-	*8.1
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	100.0	*100.0	*100.0	100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	4.6	*6.9	5.0	-	*17.2	2.0	*4.8	-	-	-	*15.1
25 TO 34 YEARS	41.2	*27.5	47.0	*17.2	*54.7	45.9	*38.4	*44.8	*52.0	-	*33.3
35 TO 44 YEARS	33.0	*30.5	31.5	*36.8	*21.4	31.5	*41.5	*35.8	*29.1	*100.0	*28.0
45 TO 54 YEARS	16.4	*26.1	10.3	*46.0	*6.7	15.8	*13.6	*15.1	*18.9	-	*18.7
55 YEARS AND OVER	4.7	*8.9	6.1	-	-	4.8	*1.8	*4.3	-	-	*4.8
OPERATIONS AND SYSTEMS ANALYSTS	80 867	20 591	13 409	1 932	2 741	16 898	7 930	8 173	1 352	455	7 387
AGE											
UNDER 25 YEARS	2 100	278	548	-	160	360	557	-	-	-	197
25 TO 34 YEARS	26 367	3 561	4 083	711	1 109	6 987	3 613	3 833	528	140	1 803
35 TO 44 YEARS	21 939	5 552	3 840	399	975	4 613	2 000	2 333	439	112	1 678
45 TO 54 YEARS	20 377	6 768	3 668	490	352	3 623	1 204	1 606	283	70	2 314
55 YEARS AND OVER	10 084	4 432	1 270	333	144	1 316	557	401	101	133	1 395
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	25.5	16.6	2.4	3.4	20.9	9.8	10.1	1.7	0.6	9.1
UNDER 25 YEARS	*100.0	*13.3	*26.1	-	*7.6	*17.1	*26.5	-	-	-	*9.4
25 TO 34 YEARS	100.0	13.5	15.5	2.7	4.2	26.5	13.7	14.5	2.0	0.5	6.8
35 TO 44 YEARS	100.0	25.3	17.5	1.8	4.4	21.0	9.1	10.6	2.0	0.5	7.6
45 TO 54 YEARS	100.0	33.2	18.0	2.4	1.7	17.8	5.9	7.9	1.4	0.3	11.4
55 YEARS AND OVER	100.0	44.0	12.6	3.3	1.4	13.0	5.5	4.0	1.0	1.3	13.8
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	2.6	1.4	4.1	-	5.8	2.1	7.0	-	-	-	2.7
25 TO 34 YEARS	32.6	17.3	30.4	*36.8	40.5	41.3	45.6	46.9	*39.1	*30.9	24.4
35 TO 44 YEARS	27.1	27.0	28.6	*20.6	35.6	27.3	25.2	28.5	*32.5	*24.5	22.7
45 TO 54 YEARS	25.2	32.9	27.4	*25.3	12.8	21.4	15.2	19.7	*21.0	*15.3	31.3
55 YEARS AND OVER	12.5	21.5	9.5	*17.2	5.3	7.8	7.0	4.9	*7.5	*29.3	18.9
ENGINEERS, TOTAL	1 242 519	159 074	145 151	30 528	46 256	372 828	197 771	162 753	25 092	7 611	95 457
AGE											
UNDER 25 YEARS	26 180	2 635	4 026	819	2 182	8 511	4 871	1 123	87	92	1 833
25 TO 34 YEARS	334 014	22 780	33 784	5 841	18 255	98 464	69 991	60 538	7 756	2 282	14 323
35 TO 44 YEARS	364 567	38 681	40 808	7 298	16 316	113 937	59 253	52 094	9 617	2 500	24 063
45 TO 54 YEARS	323 376	50 155	42 965	9 533	7 440	103 028	41 845	33 226	4 746	1 438	28 999
55 YEARS AND OVER	194 384	44 821	23 568	7 038	2 063	48 888	21 810	15 773	2 886	1 298	26 240
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	12.8	11.7	2.5	3.7	30.0	15.9	13.1	2.0	0.6	7.7
UNDER 25 YEARS	100.0	10.1	15.4	3.1	8.3	32.5	18.6	4.3	0.3	0.4	7.0
25 TO 34 YEARS	100.0	6.8	10.1	1.7	5.5	29.5	21.0	18.1	2.3	0.7	4.3
35 TO 44 YEARS	100.0	10.6	11.2	2.0	4.5	31.3	16.3	14.3	2.6	0.7	6.6
45 TO 54 YEARS	100.0	15.5	13.3	2.9	2.3	31.9	12.9	10.3	1.5	0.4	9.0
55 YEARS AND OVER	100.0	23.1	12.1	3.6	1.1	25.2	11.2	8.1	1.5	0.7	13.5
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
UNDER 25 YEARS	2.1	1.7	2.8	2.7	4.7	2.3	2.5	0.7	0.3	1.2	1.9
25 TO 34 YEARS	26.9	14.3	23.3	19.1	39.5	26.4	35.4	37.2	30.9	30.0	15.0
35 TO 44 YEARS	29.3	24.3	28.1	23.9	35.3	30.6	30.0	32.0	38.3	32.9	25.2
45 TO 54 YEARS	26.0	31.5	29.6	31.2	16.1	27.6	21.2	20.4	18.9	18.9	30.4
55 YEARS AND OVER	15.6	28.2	16.2	23.1	4.5	13.1	11.0	9.7	11.5	17.0	27.5

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS	68 525	5 388	7 920	2 145	2 600	20 901	12 317	11 407	1 183	274	4 389
AGE											
UNDER 25 YEARS	1 243	30	30	90	128	636	180	87	-	-	62
25 TO 34 YEARS	16 924	445	1 364	326	463	4 938	4 146	3 999	422	58	763
35 TO 44 YEARS	22 698	1 286	2 831	542	1 108	7 319	3 823	4 168	317	154	1 150
45 TO 54 YEARS	19 823	2 075	2 628	841	779	6 426	2 775	2 553	187	30	1 529
55 YEARS AND OVER	7 837	1 553	1 067	346	122	1 583	1 392	600	257	33	884
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	7.9	11.6	3.1	3.8	30.5	18.0	16.6	1.7	0.4	6.4
UNDER 25 YEARS	*100.0	*2.4	*2.4	*7.2	*10.3	*51.1	*14.5	*7.0	-	-	*5.0
25 TO 34 YEARS	100.0	2.6	8.1	1.9	2.7	29.2	24.5	23.6	2.5	0.3	4.5
35 TO 44 YEARS	100.0	5.7	12.5	2.4	4.9	32.2	16.8	18.4	1.4	0.7	5.1
45 TO 54 YEARS	100.0	10.5	13.3	4.2	3.9	32.4	14.0	12.9	0.9	0.2	7.7
55 YEARS AND OVER	100.0	19.8	13.6	4.4	1.6	20.2	17.8	7.7	3.3	0.4	11.3
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	1.8	0.6	0.4	4.2	4.9	3.0	1.5	0.8	-	-	1.4
25 TO 34 YEARS	24.7	8.3	17.2	15.2	17.8	23.6	33.7	35.1	*35.7	*21.0	17.4
35 TO 44 YEARS	33.1	23.9	35.7	25.3	42.6	35.0	31.0	36.5	*26.8	*56.2	26.2
45 TO 54 YEARS	28.9	38.5	33.2	39.2	30.0	30.7	22.5	22.4	*15.8	*10.9	34.8
55 YEARS AND OVER	11.4	28.8	13.5	16.1	4.7	7.6	11.3	5.3	*21.7	*12.0	20.1
CHEMICAL ENGINEERS	52 445	1 993	1 938	915	588	19 448	11 082	10 983	3 011	225	2 261
AGE											
UNDER 25 YEARS	1 427	27	134	27	27	834	297	27	-	-	54
25 TO 34 YEARS	16 734	315	360	366	182	5 878	3 929	4 154	1 133	53	365
35 TO 44 YEARS	13 503	505	550	82	274	4 556	3 058	2 896	1 032	150	400
45 TO 54 YEARS	10 277	695	539	181	78	6 159	2 507	2 755	536	-	826
55 YEARS AND OVER	6 505	452	355	259	27	2 021	1 291	1 151	310	23	616
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	3.8	3.7	1.7	1.1	37.1	21.1	20.9	5.7	0.4	4.3
UNDER 25 YEARS	*100.0	*1.9	*9.4	*1.9	*1.9	*58.5	*20.8	*1.9	-	-	*3.8
25 TO 34 YEARS	100.0	1.9	2.1	2.2	1.1	35.1	23.5	24.8	6.8	0.3	2.2
35 TO 44 YEARS	100.0	3.7	4.1	0.6	2.0	33.7	22.6	21.4	7.6	1.1	3.0
45 TO 54 YEARS	100.0	4.9	3.8	1.3	0.5	43.1	17.6	19.3	3.8	-	5.8
55 YEARS AND OVER	100.0	6.9	5.5	4.0	0.4	31.1	19.8	17.7	4.8	0.3	9.5
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	2.7	1.3	6.9	*3.0	*4.6	4.3	2.7	0.2	-	-	2.4
25 TO 34 YEARS	31.9	15.8	18.6	*39.9	*31.0	30.2	35.5	37.8	37.6	*23.3	16.2
35 TO 44 YEARS	25.7	25.3	28.4	*9.0	*46.7	23.4	27.6	26.4	34.3	*66.7	17.7
45 TO 54 YEARS	27.2	34.9	27.8	*19.8	*13.3	31.7	22.6	25.1	17.8	-	36.5
55 YEARS AND OVER	12.4	22.7	18.3	*28.3	*4.5	10.4	11.7	10.5	10.3	*10.0	27.2
CIVIL ENGINEERS	174 442	28 039	16 648	4 369	6 167	58 259	29 098	16 592	861	908	13 499
AGE											
UNDER 25 YEARS	4 500	791	1 155	185	277	739	984	-	-	92	277
25 TO 34 YEARS	44 094	4 419	3 719	506	3 040	13 747	9 557	6 860	294	141	1 809
35 TO 44 YEARS	49 169	8 033	3 640	929	1 650	17 759	8 632	4 946	214	367	2 999
45 TO 54 YEARS	41 200	7 225	4 341	1 695	982	15 200	5 634	2 256	-	149	3 718
55 YEARS AND OVER	35 479	7 571	3 794	1 054	219	10 814	4 291	2 530	353	158	4 695
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	16.1	9.5	2.5	3.5	33.4	16.7	9.5	0.5	0.5	7.7
UNDER 25 YEARS	*100.0	*17.6	*25.7	*4.1	*6.2	*16.4	*21.9	-	-	*2.1	*6.2
25 TO 34 YEARS	100.0	10.0	8.4	1.1	6.9	31.2	21.7	15.6	0.7	0.3	4.1
35 TO 44 YEARS	100.0	16.3	7.4	1.9	3.4	36.1	17.6	10.1	0.4	0.7	6.1
45 TO 54 YEARS	100.0	17.5	10.5	4.1	2.4	36.9	13.7	5.5	-	0.4	9.0
55 YEARS AND OVER	100.0	21.3	10.7	3.0	0.6	30.5	12.1	7.1	1.0	0.4	13.2
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	2.6	2.8	6.9	*4.2	4.5	1.3	3.4	-	-	*10.2	2.1
25 TO 34 YEARS	25.3	15.8	22.3	*11.6	49.3	23.6	32.8	41.3	*34.2	*15.6	13.4
35 TO 44 YEARS	28.2	28.7	21.9	*21.3	26.7	30.5	29.7	29.8	*24.8	*40.4	22.2
45 TO 54 YEARS	23.6	25.8	26.1	*38.8	15.9	26.1	19.4	13.6	-	*16.4	27.5
55 YEARS AND OVER	20.3	27.0	22.8	*24.1	3.6	18.6	14.7	15.2	*41.0	*17.4	34.8

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
ELECTRICAL AND ELECTRONIC ENGINEERS.	285 016	30 156	33 232	6 165	13 162	84 414	47 090	44 871	4 794	1 199	19 93
AGE											
UNDER 25 YEARS	6 932	221	663	111	774	2 795	1 461	442	-	-	46
25 TO 34 YEARS	86 565	6 132	8 434	1 727	5 175	23 956	17 768	17 502	2 217	459	3 19
35 TO 44 YEARS	93 034	7 325	9 761	1 650	5 079	28 407	15 828	16 885	1 933	439	5 72
45 TO 54 YEARS	65 982	9 184	9 749	1 647	1 922	19 752	8 569	7 827	421	201	6 71
55 YEARS AND OVER.	32 503	7 294	4 626	1 030	212	9 505	3 464	2 215	222	101	3 83
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	10.6	11.7	2.2	4.6	29.6	16.5	15.7	1.7	0.4	7.
UNDER 25 YEARS	*100.0	*3.2	*9.6	*1.6	*11.2	*40.3	*21.1	*6.4	-	-	*6.
25 TO 34 YEARS	100.0	7.1	9.7	2.0	6.0	27.7	20.5	20.2	2.6	0.5	3.
35 TO 44 YEARS	100.0	7.9	10.5	1.8	5.5	30.5	17.0	18.1	2.1	0.5	6.
45 TO 54 YEARS	100.0	13.9	14.8	2.5	2.9	29.9	13.0	11.9	0.6	0.3	10.
55 YEARS AND OVER.	100.0	22.4	14.2	3.2	0.7	29.2	10.7	6.8	0.7	0.3	11.
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.
UNDER 25 YEARS	2.4	0.7	2.0	*1.8	5.9	3.3	3.1	1.0	-	-	2.
25 TO 34 YEARS	30.4	20.3	25.4	*28.0	39.3	28.4	37.7	39.0	*46.3	*38.3	16.
35 TO 44 YEARS	32.6	24.3	29.4	*26.8	38.6	33.7	33.6	37.6	*40.3	*36.6	28.
45 TO 54 YEARS	23.2	30.5	29.3	*26.7	14.6	23.4	18.2	17.4	*8.8	*16.8	33.
55 YEARS AND OVER.	11.4	24.2	13.9	*16.7	1.6	11.3	7.4	4.9	*4.6	*8.4	19.
INDUSTRIAL ENGINEERS	167 366	34 047	30 557	4 083	7 125	50 472	23 831	17 749	1 162	1 769	16 571
AGE											
UNDER 25 YEARS	3 574	578	413	83	251	1 241	413	-	-	-	596
25 TO 34 YEARS	46 217	3 923	7 379	339	2 956	15 228	8 367	5 052	-	590	2 382
35 TO 44 YEARS	52 521	7 137	7 742	1 572	2 234	15 849	7 021	5 533	415	496	4 522
45 TO 54 YEARS	52 970	12 983	9 464	1 333	1 099	12 499	5 249	4 815	496	334	4 699
55 YEARS AND OVER.	32 084	9 426	5 559	756	585	5 654	2 781	2 349	252	348	4 373
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	18.2	16.3	2.2	3.8	26.9	12.7	9.5	0.6	0.9	8.8
UNDER 25 YEARS	*100.0	*16.2	*11.6	*2.3	*7.0	*34.7	*11.6	-	-	-	*16.6
25 TO 34 YEARS	100.0	8.5	16.0	0.7	6.4	32.9	18.1	10.9	-	1.3	5.2
35 TO 44 YEARS	100.0	13.6	14.7	3.0	4.3	30.2	13.4	10.5	0.8	0.9	8.6
45 TO 54 YEARS	100.0	24.5	17.9	2.5	2.1	23.6	9.9	9.1	0.9	0.6	8.9
55 YEARS AND OVER.	100.0	29.4	17.3	2.4	1.8	17.6	8.7	7.3	0.8	1.1	13.6
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	1.9	1.7	1.4	*2.0	3.5	2.5	1.7	-	-	-	3.6
25 TO 34 YEARS	24.7	11.5	24.1	*8.3	41.5	30.2	35.1	28.5	-	*33.4	14.4
35 TO 44 YEARS	28.0	21.0	25.3	*38.5	31.4	31.4	29.5	31.2	*35.7	*28.1	27.3
45 TO 54 YEARS	28.3	38.1	31.0	*32.6	15.4	24.8	22.0	27.1	*42.6	*18.9	26.4
55 YEARS AND OVER.	17.1	27.7	18.2	*18.5	8.2	11.2	11.7	13.2	*21.7	*19.7	26.4
MECHANICAL ENGINEERS	180 479	25 670	19 131	5 308	6 034	57 728	30 123	20 281	1 688	706	13 810
AGE											
UNDER 25 YEARS	3 975	686	606	261	174	941	697	174	87	-	348
25 TO 34 YEARS	45 409	2 425	3 471	659	1 658	14 297	11 942	8 176	803	161	1 617
35 TO 44 YEARS	48 533	5 616	5 367	1 028	2 296	16 300	8 207	5 760	407	317	3 234
45 TO 54 YEARS	52 363	7 985	5 914	2 299	1 319	18 812	6 926	4 036	307	78	4 686
55 YEARS AND OVER.	30 199	8 958	3 773	1 062	387	7 377	2 350	2 134	83	149	3 925
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	14.2	10.6	2.9	3.3	32.0	16.7	11.2	0.9	0.4	7.7
UNDER 25 YEARS	*100.0	*17.3	*15.2	*6.6	*4.4	*23.7	*17.5	*4.4	*2.2	-	*8.8
25 TO 34 YEARS	100.0	5.3	7.6	1.5	4.1	31.5	26.3	18.0	1.8	0.4	3.6
35 TO 44 YEARS	100.0	11.6	11.1	2.1	4.7	33.6	16.9	11.9	0.8	0.7	6.7
45 TO 54 YEARS	100.0	15.2	11.3	4.4	2.5	35.9	13.2	7.7	0.6	0.1	8.9
55 YEARS AND OVER.	100.0	29.7	12.5	3.5	1.3	24.4	7.8	7.1	0.3	0.5	13.0
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	2.2	2.7	3.2	*4.9	2.9	1.6	2.3	0.9	*5.2	-	2.5
25 TO 34 YEARS	25.2	9.4	18.1	*12.4	30.8	24.8	39.6	40.3	*47.6	*22.8	11.7
35 TO 44 YEARS	26.9	21.9	28.1	*19.4	38.0	28.2	27.2	28.4	*24.1	*45.0	23.4
45 TO 54 YEARS	29.0	31.1	30.9	*43.3	21.9	32.6	23.0	19.9	*18.2	*11.1	33.9
55 YEARS AND OVER.	16.7	34.9	19.7	*20.0	6.4	12.8	7.8	10.5	*4.9	*21.1	28.4

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
METALLURGICAL AND MATERIALS ENGINEERS	15 436	1 472	1 238	359	317	4 831	2 897	2 432	711	309	870
AGE											
UNDER 25 YEARS	243	-	108	-	27	81	27	-	-	-	-
25 TO 34 YEARS	3 773	243	189	-	189	1 402	783	729	106	27	106
35 TO 44 YEARS	4 554	330	353	50	50	1 167	991	783	401	154	276
45 TO 54 YEARS	4 102	414	384	234	51	1 447	566	592	128	52	233
55 YEARS AND OVER	2 764	484	204	75	-	734	531	328	76	76	255
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	9.5	8.0	2.3	2.1	31.3	18.8	15.8	4.6	2.0	5.6
UNDER 25 YEARS	*100.0	-	*44.4	-	*11.1	*33.3	*11.1	-	-	-	-
25 TO 34 YEARS	100.0	6.4	5.0	-	5.0	37.1	20.7	19.3	2.8	0.7	2.8
35 TO 44 YEARS	100.0	7.3	7.7	1.1	1.1	25.6	21.8	17.2	8.8	3.4	6.1
45 TO 54 YEARS	100.0	10.1	9.4	5.7	1.2	35.3	13.8	14.4	3.1	1.3	5.7
55 YEARS AND OVER	100.0	17.5	7.4	2.7	-	26.6	19.2	11.9	2.8	2.8	9.2
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	1.6	-	*8.7	-	*8.5	1.7	0.9	-	-	-	-
25 TO 34 YEARS	24.4	*16.5	*15.3	-	*59.6	29.0	27.0	30.0	*14.9	*8.7	*12.2
35 TO 44 YEARS	29.5	*22.4	*28.5	*13.9	*15.7	24.2	34.2	32.2	*56.4	*49.8	*31.8
45 TO 54 YEARS	26.6	*28.2	*31.0	*65.1	*16.1	30.0	19.5	24.4	*18.0	*16.8	*26.8
55 YEARS AND OVER	17.9	*32.9	*16.5	*21.0	-	15.2	18.3	13.5	*10.7	*24.7	*29.3
MINING AND PETROLEUM ENGINEERS	15 643	1 496	601	259	136	5 586	4 232	1 958	405	273	696
AGE											
UNDER 25 YEARS	400	31	68	30	-	213	57	-	-	-	-
25 TO 34 YEARS	3 466	61	123	31	61	1 126	1 030	670	152	121	91
35 TO 44 YEARS	4 715	538	153	79	51	1 550	1 377	619	83	27	236
45 TO 54 YEARS	4 114	269	180	81	24	1 776	1 135	322	106	22	199
55 YEARS AND OVER	2 948	598	76	37	-	920	633	347	65	102	169
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	9.6	3.8	1.7	0.9	35.7	27.1	12.5	2.6	1.7	4.4
UNDER 25 YEARS	*100.0	*7.7	*17.1	*7.6	-	*53.2	*14.4	-	-	-	-
25 TO 34 YEARS	100.0	1.7	3.5	0.9	1.8	32.5	29.7	19.3	4.4	3.5	2.6
35 TO 44 YEARS	100.0	11.4	3.3	1.7	1.1	32.9	29.2	13.1	1.8	0.6	5.0
45 TO 54 YEARS	100.0	6.5	4.4	2.0	0.6	43.2	27.6	7.8	2.6	0.5	4.8
55 YEARS AND OVER	100.0	20.3	2.6	1.3	-	31.2	21.5	11.8	2.2	3.5	5.7
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	2.6	*2.1	*11.4	*11.7	-	3.8	1.4	-	-	-	-
25 TO 34 YEARS	22.2	*4.1	*20.5	*11.9	*44.8	20.2	24.3	*34.2	*37.4	*44.4	*13.1
35 TO 44 YEARS	30.1	*36.0	*25.5	*30.5	*37.7	27.8	32.5	*31.6	*20.4	*10.1	*34.0
45 TO 54 YEARS	26.3	*17.9	*29.9	*31.4	*17.5	31.8	26.8	*16.5	*26.1	*8.1	*28.6
55 YEARS AND OVER	18.8	*40.0	*12.7	*14.5	-	16.5	14.9	*17.7	*16.1	*37.4	*24.3
SALES ENGINEERS	54 653	6 623	8 062	1 939	1 744	18 820	7 704	2 990	144	205	6 420
AGE											
UNDER 25 YEARS	471	32	64	32	-	247	64	-	-	-	32
25 TO 34 YEARS	13 115	966	1 869	473	723	4 016	2 710	1 282	29	29	1 021
35 TO 44 YEARS	15 485	1 396	2 142	432	655	6 144	2 123	817	61	82	1 632
45 TO 54 YEARS	15 576	1 988	2 551	569	217	5 887	1 921	596	54	-	1 793
55 YEARS AND OVER	10 006	2 241	1 436	433	150	2 528	887	295	-	94	1 942
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	12.1	14.8	3.5	3.2	34.4	14.1	5.5	0.3	0.4	11.7
UNDER 25 YEARS	*100.0	*6.8	*13.6	*6.8	-	*52.4	*13.6	-	-	-	*6.8
25 TO 34 YEARS	100.0	7.4	14.2	3.6	5.5	30.6	20.7	9.8	0.2	0.2	7.8
35 TO 44 YEARS	100.0	9.0	13.8	2.8	4.2	39.7	13.7	5.3	0.4	0.5	10.5
45 TO 54 YEARS	100.0	12.8	16.4	3.7	1.4	37.8	12.3	3.8	0.3	-	11.5
55 YEARS AND OVER	100.0	22.4	14.4	4.3	1.5	25.3	8.9	2.9	-	0.9	19.4
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	0.9	0.5	0.8	*1.7	-	1.3	0.8	-	-	-	0.5
25 TO 34 YEARS	24.0	14.6	23.2	*24.4	*41.4	21.3	35.2	42.9	*20.1	*14.1	15.9
35 TO 44 YEARS	28.3	21.1	26.6	*22.3	*37.5	32.6	27.6	27.3	*42.6	*40.2	25.4
45 TO 54 YEARS	28.5	30.0	31.6	*29.4	*12.4	31.3	24.9	19.9	*37.3	-	27.9
55 YEARS AND OVER	18.3	33.8	17.8	*22.3	*8.6	13.4	11.5	9.9	-	*45.7	30.2

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
ENGINEERS, N.E.C., AND ENGINEERING TEACHERS	208 515	24 188	25 823	4 986	8 382	52 368	29 396	33 490	11 133	1 742	17 008
AGE											
UNDER 25 YEARS	3 415	240	785	-	523	785	691	392	-	-	-
25 TO 34 YEARS	57 717	3 852	6 878	1 414	3 608	13 877	9 759	12 114	2 600	644	2 971
35 TO 44 YEARS	60 355	6 515	8 269	933	2 920	14 887	8 192	9 687	4 753	313	3 886
45 TO 54 YEARS	52 969	7 337	7 215	653	970	15 069	6 562	7 473	2 512	571	4 606
55 YEARS AND OVER	34 060	6 245	2 677	1 985	362	7 750	4 191	3 824	1 267	214	5 546
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	11.6	12.4	2.4	4.0	25.1	14.1	16.1	5.3	0.8	8.2
UNDER 25 YEARS	*100.0	*7.0	*23.0	-	*15.3	*23.0	*20.2	*11.5	-	-	-
25 TO 34 YEARS	100.0	6.7	11.9	2.5	6.3	24.0	16.9	21.0	4.5	1.1	5.1
35 TO 44 YEARS	100.0	10.8	13.7	1.5	4.8	24.7	13.6	16.0	7.9	0.5	6.4
45 TO 54 YEARS	100.0	13.9	13.6	1.2	1.8	28.4	12.4	14.1	4.7	1.1	8.7
55 YEARS AND OVER	100.0	18.3	7.9	5.8	1.1	22.8	12.3	11.2	3.7	0.6	16.3
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	1.6	1.0	3.0	-	6.2	1.5	2.3	1.2	-	-	-
25 TO 34 YEARS	27.7	15.9	26.6	*28.4	43.0	26.5	33.2	36.2	23.4	*37.0	17.5
35 TO 44 YEARS	28.9	26.9	32.0	*18.7	34.8	28.4	27.9	28.9	42.7	*18.0	22.8
45 TO 54 YEARS	25.4	30.3	27.9	*13.1	11.6	28.8	22.3	22.3	22.6	*32.8	27.1
55 YEARS AND OVER	16.3	25.8	10.4	*39.8	4.3	14.8	14.3	11.4	11.4	*12.3	32.6
MATHEMATICAL SPECIALISTS, TOTAL	61 679	5 781	4 143	981	791	9 654	6 974	18 312	12 065	463	2 515
AGE											
UNDER 25 YEARS	3 913	515	516	71	238	754	888	718	-	-	213
25 TO 34 YEARS	23 991	749	1 213	302	260	4 213	3 202	8 688	4 803	88	472
35 TO 44 YEARS	13 388	968	594	249	156	2 309	1 168	3 438	3 821	152	532
45 TO 54 YEARS	11 163	1 699	941	120	100	1 234	1 168	3 138	1 939	195	629
55 YEARS AND OVER	9 224	1 850	878	239	37	1 144	548	2 330	1 502	27	669
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	9.4	6.7	1.6	1.3	15.7	11.3	29.7	19.6	0.8	4.1
UNDER 25 YEARS	100.0	13.2	13.2	1.8	6.1	19.3	22.7	18.3	-	-	5.4
25 TO 34 YEARS	100.0	3.1	5.1	1.3	1.1	17.6	13.3	36.2	20.0	0.4	2.0
35 TO 44 YEARS	100.0	7.2	4.4	1.9	1.2	17.2	8.7	25.7	28.5	1.1	4.0
45 TO 54 YEARS	100.0	15.2	8.4	1.1	0.9	11.1	10.5	28.1	17.4	1.8	5.6
55 YEARS AND OVER	100.0	20.1	9.5	2.6	0.4	12.4	5.9	25.3	16.3	0.3	7.3
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	6.3	8.9	12.5	*7.3	*30.1	7.8	12.7	3.9	-	-	8.5
25 TO 34 YEARS	38.9	13.0	29.3	*30.8	*32.9	43.6	45.9	47.4	39.8	*19.0	18.8
35 TO 44 YEARS	21.7	16.7	14.3	*25.4	*19.7	23.9	16.7	18.8	31.7	*32.9	21.2
45 TO 54 YEARS	18.1	29.4	22.7	*12.2	*12.7	12.8	16.7	17.1	16.1	*42.2	25.0
55 YEARS AND OVER	15.0	32.0	21.2	*24.3	*4.7	11.8	7.9	12.7	12.4	*5.9	26.6
ACTUARIES AND STATISTICIANS	27 909	5 303	3 685	467	548	6 958	3 296	4 612	877	301	1 862
AGE											
UNDER 25 YEARS	1 789	444	374	-	184	358	168	140	-	-	120
25 TO 34 YEARS	8 982	668	1 045	109	163	3 061	1 328	2 033	236	26	312
35 TO 44 YEARS	5 485	942	571	123	129	1 589	686	689	266	126	362
45 TO 54 YEARS	6 096	1 572	854	97	71	996	787	990	187	121	422
55 YEARS AND OVER	5 557	1 678	841	138	-	952	328	759	189	27	645
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	19.0	13.2	1.7	2.0	24.9	11.8	16.5	3.1	1.1	6.7
UNDER 25 YEARS	*100.0	*24.8	*20.9	-	*10.3	*20.0	*9.4	*7.8	-	-	*6.7
25 TO 34 YEARS	100.0	7.4	11.6	1.2	1.8	34.1	14.8	22.6	2.6	0.3	3.5
35 TO 44 YEARS	100.0	17.2	10.4	2.2	2.4	29.0	12.5	12.6	4.8	2.3	6.6
45 TO 54 YEARS	100.0	25.8	14.0	1.6	1.2	16.3	12.9	16.2	3.1	2.0	6.9
55 YEARS AND OVER	100.0	30.2	15.1	2.5	-	17.1	5.9	13.7	3.4	0.5	11.6
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	6.4	8.4	10.2	-	*33.6	5.2	5.1	3.0	-	-	*6.4
25 TO 34 YEARS	32.2	12.6	28.4	*23.3	*29.7	44.0	40.3	44.1	*26.9	*8.7	*16.8
35 TO 44 YEARS	19.7	17.8	15.5	*26.4	*23.6	22.8	20.8	14.9	*30.3	*42.0	*19.5
45 TO 54 YEARS	21.8	29.6	23.2	*20.7	*13.0	14.3	23.9	21.5	*21.3	*40.3	*22.6
55 YEARS AND OVER	19.9	31.6	22.8	*29.6	-	13.7	9.9	16.5	*21.5	*9.1	*34.7

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
MATHEMATICIANS	33 770	478	457	513	243	2 696	3 678	13 700	11 187	162	654
AGE											
UNDER 25 YEARS	2 124	71	142	71	54	395	720	578	-	-	93
25 TO 34 YEARS	15 009	82	168	193	97	1 152	1 875	6 654	4 567	62	159
35 TO 44 YEARS	7 903	26	23	126	26	720	482	2 749	3 555	26	170
45 TO 54 YEARS	5 067	127	87	23	29	238	361	2 148	1 752	74	208
55 YEARS AND OVER	3 667	172	37	101	37	192	220	1 571	1 313	-	24
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	1.4	1.4	1.5	0.7	8.0	10.9	40.6	33.1	0.5	1.9
UNDER 25 YEARS	100.0	3.3	6.7	3.4	2.5	18.6	33.9	27.2	-	-	4.4
25 TO 34 YEARS	100.0	0.5	1.1	1.3	0.6	7.7	12.5	44.3	30.4	0.4	1.1
35 TO 44 YEARS	100.0	0.3	0.3	1.6	0.3	9.1	6.1	34.8	45.0	0.3	2.1
45 TO 54 YEARS	100.0	2.5	1.7	0.5	0.6	4.7	7.5	42.4	34.6	1.5	4.1
55 YEARS AND OVER	100.0	4.7	1.0	2.7	1.0	5.2	6.0	42.8	35.8	-	0.7
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	6.3	*14.8	*31.0	*13.9	*22.1	14.7	19.6	4.2	-	-	*14.3
25 TO 34 YEARS	44.4	*17.1	*36.8	*37.6	*40.0	42.7	51.0	48.6	40.8	*38.0	*24.4
35 TO 44 YEARS	23.4	*5.5	*5.0	*24.5	*10.8	26.7	13.1	20.1	31.8	*16.2	*26.0
45 TO 54 YEARS	15.0	*26.6	*19.1	*4.5	*11.9	8.8	10.4	15.7	15.7	*45.8	*31.8
55 YEARS AND OVER	10.9	*36.1	*8.1	*19.6	*15.3	7.1	6.0	11.5	11.7	-	*3.7
LIFE SCIENTISTS, TOTAL	83 509	5 042	2 292	1 272	686	20 493	10 750	17 570	21 497	1 416	2 490
AGE											
UNDER 25 YEARS	3 512	223	436	177	101	1 146	925	256	37	-	211
25 TO 34 YEARS	27 462	902	608	431	378	7 399	4 504	7 004	5 350	336	550
35 TO 44 YEARS	22 858	1 260	465	147	129	5 576	2 398	4 363	7 755	321	445
45 TO 54 YEARS	17 556	1 164	337	242	51	4 379	1 600	3 537	5 286	423	536
55 YEARS AND OVER	12 121	1 494	445	276	26	1 993	1 322	2 411	3 069	336	749
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	6.0	2.7	1.5	0.8	24.5	12.9	21.0	25.7	1.7	3.0
UNDER 25 YEARS	100.0	6.3	12.4	5.0	2.9	32.6	26.3	7.3	1.0	-	6.0
25 TO 34 YEARS	100.0	3.3	2.2	1.6	1.4	26.9	16.4	25.5	19.5	1.2	2.0
35 TO 44 YEARS	100.0	5.5	2.0	0.6	0.6	24.4	10.5	19.1	33.9	1.4	1.9
45 TO 54 YEARS	100.0	6.6	1.9	1.4	0.3	24.9	9.1	20.1	30.1	2.4	3.1
55 YEARS AND OVER	100.0	12.3	3.7	2.3	0.2	16.4	10.9	19.9	25.3	2.8	6.2
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	4.2	4.4	19.0	*13.9	*14.7	5.6	8.6	1.5	0.2	-	8.5
25 TO 34 YEARS	32.9	17.9	26.5	*33.9	*55.1	36.1	41.9	39.9	24.9	*23.7	22.1
35 TO 44 YEARS	27.4	25.0	20.3	*11.5	*18.8	27.2	22.3	24.8	36.1	*22.7	17.9
45 TO 54 YEARS	21.0	23.1	14.7	*19.0	*7.5	21.4	14.9	20.1	24.6	*29.9	21.5
55 YEARS AND OVER	14.5	29.6	19.4	*21.7	*3.8	9.7	12.3	13.7	14.3	*23.7	30.1
AGRICULTURAL SCIENTISTS	17 330	3 058	623	253	223	2 558	1 713	3 751	4 032	101	1 017
AGE											
UNDER 25 YEARS	494	147	116	-	-	116	87	-	-	-	29
25 TO 34 YEARS	4 241	643	144	87	118	633	585	1 132	752	-	147
35 TO 44 YEARS	4 474	648	144	27	54	796	472	856	1 199	54	224
45 TO 54 YEARS	4 269	621	76	70	51	569	270	984	1 391	24	213
55 YEARS AND OVER	3 852	998	143	70	-	444	300	778	690	23	404
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	17.6	3.6	1.5	1.3	14.8	9.9	21.6	23.3	0.6	5.9
UNDER 25 YEARS	*100.0	*29.8	*23.4	-	-	*23.5	*17.5	-	-	-	*5.8
25 TO 34 YEARS	100.0	15.2	3.4	2.0	2.8	14.9	13.8	26.7	17.7	-	3.5
35 TO 44 YEARS	100.0	14.5	3.2	0.6	1.2	17.8	10.6	19.1	26.8	1.2	5.0
45 TO 54 YEARS	100.0	14.6	1.8	1.6	1.2	13.3	6.3	23.0	32.6	0.6	5.0
55 YEARS AND OVER	100.0	25.9	3.7	1.8	-	11.5	7.8	20.2	17.9	0.6	10.5
PERCENT DISTRIBUTION BY AGE	100.0	100.0	*100.0	*100.0	*100.0	100.0	*100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	2.8	4.8	*18.6	-	-	4.5	*5.1	-	-	-	*2.8
25 TO 34 YEARS	24.5	21.0	*23.2	*34.2	*52.9	24.8	*34.1	30.2	18.6	-	*14.4
35 TO 44 YEARS	25.8	21.2	*23.1	*10.6	*24.1	31.1	*27.6	22.8	29.7	*52.9	*22.0
45 TO 54 YEARS	24.6	20.3	*12.1	*27.5	*23.0	22.2	*15.7	26.2	34.5	*24.0	*21.0
55 YEARS AND OVER	22.2	32.6	*23.0	*27.7	-	17.4	*17.5	20.8	17.1	*23.1	*39.7

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
FORESTERS AND CONSERVATIONISTS	15 957	73	23	165	47	9 938	2 882	2 199	165	96	369
AGE											
UNDER 25 YEARS	186	-	-	-	-	163	23	-	-	-	-
25 TO 34 YEARS	4 851	23	-	47	47	2 866	1 120	629	23	23	73
35 TO 44 YEARS	4 834	-	23	46	-	3 183	789	606	116	23	46
45 TO 54 YEARS	3 731	23	-	23	-	2 471	443	629	-	23	119
55 YEARS AND OVER	2 356	26	-	49	-	1 255	507	336	26	26	130
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	0.5	0.1	1.0	0.3	62.3	18.1	13.8	1.0	0.6	2.3
UNDER 25 YEARS	*100.0	-	-	-	-	*87.5	*12.5	-	-	-	-
25 TO 34 YEARS	100.0	0.5	-	1.0	1.0	59.1	23.1	13.0	0.5	0.5	1.5
35 TO 44 YEARS	100.0	-	0.5	1.0	-	65.9	16.3	12.5	2.4	0.5	1.0
45 TO 54 YEARS	100.0	0.6	-	0.6	-	66.2	11.9	16.9	-	0.6	3.2
55 YEARS AND OVER	100.0	1.1	-	2.1	-	53.3	21.5	14.3	1.1	1.1	5.5
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	1.2	-	-	-	-	1.6	0.8	-	-	-	-
25 TO 34 YEARS	30.4	*32.0	-	*28.2	*100.0	28.8	38.9	28.6	*14.0	*24.3	*19.7
35 TO 44 YEARS	30.3	-	*100.0	*28.0	-	32.0	27.4	27.6	*70.2	*24.2	*12.6
45 TO 54 YEARS	23.4	*32.1	-	*14.0	-	24.9	15.4	28.6	-	*24.3	*32.4
55 YEARS AND OVER	14.8	*35.9	-	*29.8	-	12.6	17.6	15.3	*15.7	*27.2	*35.3
BIOLOGICAL SCIENTISTS	50 222	1 911	1 646	854	416	7 997	6 154	11 620	17 300	1 219	1 105
AGE											
UNDER 25 YEARS	2 832	76	321	177	101	867	816	256	37	-	182
25 TO 34 YEARS	18 370	235	464	298	213	3 899	2 799	5 243	4 575	313	330
35 TO 44 YEARS	13 551	611	298	73	75	1 597	1 137	2 901	6 440	245	175
45 TO 54 YEARS	9 556	519	262	149	-	1 339	888	1 924	3 895	375	204
55 YEARS AND OVER	5 913	470	301	156	26	295	515	1 296	2 353	286	214
PERCENT DISTRIBUTION BY HIGHEST DEGREF HELD	100.0	3.8	3.3	1.7	0.8	15.9	12.3	23.1	34.4	2.4	2.2
UNDER 25 YEARS	100.0	2.7	11.3	6.3	3.6	30.6	28.8	9.0	1.3	-	6.4
25 TO 34 YEARS	100.0	1.3	2.5	1.6	1.2	21.2	15.2	28.5	24.9	1.7	1.8
35 TO 44 YEARS	100.0	4.5	2.2	0.5	0.6	11.8	8.4	21.4	47.5	1.8	1.3
45 TO 54 YEARS	100.0	5.4	2.7	1.6	-	14.0	9.3	20.1	40.8	3.9	2.1
55 YEARS AND OVER	100.0	7.9	5.1	2.6	0.4	5.0	8.7	21.9	39.8	4.8	3.6
PERCENT DISTRIBUTION BY AGE	100.0	100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	5.6	4.0	*19.5	*20.8	*24.3	10.8	13.3	2.2	0.2	-	*16.5
25 TO 34 YEARS	36.6	12.3	*28.2	*34.9	*51.3	48.8	45.5	45.1	26.4	*25.7	*29.9
35 TO 44 YEARS	27.0	32.0	*18.1	*8.6	*18.1	20.0	18.5	25.0	37.2	*20.1	*15.8
45 TO 54 YEARS	19.0	27.2	*15.9	*17.4	-	16.7	14.4	16.6	22.5	*30.8	*18.4
55 YEARS AND OVER	11.8	24.6	*18.3	*18.3	*6.2	3.7	8.4	11.2	13.6	*23.5	*19.4
PHYSICAL SCIENTISTS, TOTAL	196 353	11 840	12 010	3 290	2 762	44 581	28 901	36 678	48 179	815	7 296
AGE											
UNDER 25 YEARS	7 329	706	1 280	87	410	1 922	2 076	384	-	-	464
25 TO 34 YEARS	61 556	2 651	2 916	898	988	13 064	11 199	13 116	15 250	140	1 334
35 TO 44 YEARS	57 257	2 461	3 215	789	1 025	12 048	6 848	11 024	17 868	74	1 905
45 TO 54 YEARS	43 603	3 213	2 683	948	243	11 414	5 278	8 215	9 025	417	2 168
55 YEARS AND OVER	26 608	2 809	1 917	569	97	6 134	3 499	3 939	6 036	184	1 424
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	6.0	6.1	1.7	1.4	22.7	14.7	18.7	24.5	0.4	3.7
UNDER 25 YEARS	100.0	9.6	17.5	1.2	5.6	26.2	28.3	5.2	-	-	6.3
25 TO 34 YEARS	100.0	4.3	4.7	1.5	1.6	21.2	18.2	21.3	24.8	0.2	2.2
35 TO 44 YEARS	100.0	4.3	5.6	1.4	1.8	21.0	12.0	19.3	31.2	0.1	3.3
45 TO 54 YEARS	100.0	7.4	6.2	2.2	0.6	26.2	12.1	18.8	20.7	1.0	5.0
55 YEARS AND OVER	100.0	10.6	7.2	2.1	0.4	23.1	13.2	14.8	22.7	0.7	5.4
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	3.7	6.0	10.7	2.6	*14.9	4.3	7.2	1.0	-	-	6.4
25 TO 34 YEARS	31.3	22.4	24.3	27.3	*35.8	29.3	38.7	35.8	31.7	*17.2	18.3
35 TO 44 YEARS	29.2	20.8	26.8	24.0	*37.1	27.0	23.7	30.1	37.1	*9.1	26.1
45 TO 54 YEARS	22.2	27.1	22.3	28.8	*8.8	25.6	18.3	22.4	18.7	*51.1	29.7
55 YEARS AND OVER	13.6	23.7	16.0	17.3	*3.5	13.8	12.1	10.7	12.5	*22.6	19.5

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[3]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
CHEMISTS	125 414	9 491	8 988	2 425	2 165	32 940	17 443	18 766	27 535	428	5 234
AGE											
UNDER 25 YEARS	5 114	656	951	61	296	1 460	1 100	177	-	-	413
25 TO 34 YEARS	40 928	2 159	2 407	739	765	10 692	7 616	6 805	8 653	64	1 028
35 TO 44 YEARS	33 935	1 727	2 327	549	835	8 167	3 918	5 072	10 097	-	1 242
45 TO 54 YEARS	27 168	2 560	1 909	621	216	7 817	2 552	4 453	5 311	312	1 417
55 YEARS AND OVER	18 269	2 389	1 394	457	52	4 804	2 256	2 259	3 474	52	1 133
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	7.6	7.2	1.9	1.7	26.3	13.9	15.0	22.0	0.3	4.2
UNDER 25 YEARS	100.0	12.8	18.6	1.2	5.8	28.5	21.5	3.5	-	-	8.1
25 TO 34 YEARS	100.0	5.3	5.9	1.8	1.9	26.1	18.6	16.6	21.1	0.2	2.5
35 TO 44 YEARS	100.0	5.1	6.9	1.6	2.5	24.1	11.5	14.9	29.8	-	3.7
45 TO 54 YEARS	100.0	9.4	7.0	2.3	0.8	28.8	9.4	16.4	19.5	1.1	5.2
55 YEARS AND OVER	100.0	13.1	7.6	2.5	0.3	26.3	12.3	12.4	19.0	0.3	6.2
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	4.1	6.9	10.6	*2.5	*13.7	4.4	6.3	0.9	-	-	7.9
25 TO 34 YEARS	32.6	22.7	26.8	*30.5	*35.4	32.5	43.7	36.3	31.4	*15.0	19.6
35 TO 44 YEARS	27.1	18.2	25.9	*22.6	*38.6	24.8	22.5	27.0	36.7	-	23.7
45 TO 54 YEARS	21.7	27.0	21.2	*25.6	*10.0	23.7	14.6	23.7	19.3	*72.8	27.1
55 YEARS AND OVER	14.6	25.2	15.5	*18.8	*2.4	14.6	12.9	12.0	12.6	*12.2	21.7
PHYSICISTS	36 211	687	1 162	444	348	3 156	4 752	9 636	14 725	283	1 018
AGE											
UNDER 25 YEARS	1 348	29	214	-	59	266	572	178	-	-	29
25 TO 34 YEARS	12 837	197	235	78	139	1 020	1 989	3 949	5 070	50	110
35 TO 44 YEARS	11 698	235	282	116	102	971	1 117	3 034	5 434	50	358
45 TO 54 YEARS	6 714	104	231	138	26	722	807	1 694	2 579	81	332
55 YEARS AND OVER	3 614	122	200	112	22	178	268	781	1 641	103	188
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	1.9	3.2	1.2	1.0	8.7	13.1	26.6	40.7	0.8	2.8
UNDER 25 YEARS	*100.0	*2.2	*15.9	-	*4.4	*19.7	*42.4	*13.2	-	-	*2.2
25 TO 34 YEARS	100.0	1.5	1.8	0.6	1.1	7.9	15.5	30.8	39.5	0.4	0.9
35 TO 44 YEARS	100.0	2.0	2.4	1.0	0.9	8.3	9.5	25.9	46.5	0.4	3.1
45 TO 54 YEARS	100.0	1.5	3.4	2.1	0.4	10.7	12.0	25.2	38.4	1.2	4.9
55 YEARS AND OVER	100.0	3.4	5.5	3.1	0.6	4.9	7.4	21.6	45.4	2.8	5.2
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	3.7	*4.3	*18.4	-	*16.9	8.4	12.0	1.8	-	-	*2.9
25 TO 34 YEARS	35.5	*28.7	*20.2	*17.6	*40.0	32.3	41.9	41.0	34.4	*17.6	*10.8
35 TO 44 YEARS	32.3	*34.2	*24.2	*26.0	*29.2	30.8	23.5	31.5	36.9	*17.6	*35.2
45 TO 54 YEARS	18.5	*15.1	*19.9	*31.2	*7.5	22.9	17.0	17.6	17.5	*28.5	*32.6
55 YEARS AND OVER	10.0	*17.7	*17.2	*25.2	*6.3	5.6	5.6	8.1	11.1	*36.3	*18.5
OTHER PHYSICAL SCIENTISTS	34 728	1 663	1 861	421	249	8 485	6 706	8 276	5 920	104	1 044
AGE											
UNDER 25 YEARS	867	21	115	26	55	197	404	29	-	-	21
25 TO 34 YEARS	7 791	295	274	81	83	1 352	1 594	2 362	1 527	26	197
35 TO 44 YEARS	11 624	499	606	125	88	2 910	1 813	2 918	2 337	24	305
45 TO 54 YEARS	9 722	550	543	189	-	2 875	1 920	2 068	1 135	24	419
55 YEARS AND OVER	4 725	299	323	-	23	1 152	976	900	921	29	103
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	4.8	5.4	1.2	0.7	24.4	19.3	23.8	17.0	0.3	3.0
UNDER 25 YEARS	*100.0	*2.4	*13.2	*3.0	*6.3	*22.7	*46.6	*3.3	-	-	*2.4
25 TO 34 YEARS	100.0	3.8	3.5	1.0	1.1	17.4	20.5	30.3	19.6	0.3	2.5
35 TO 44 YEARS	100.0	4.3	5.2	1.1	0.8	25.0	15.6	25.1	20.1	0.2	2.6
45 TO 54 YEARS	100.0	5.7	5.6	1.9	-	29.6	19.7	21.3	11.7	0.3	4.3
55 YEARS AND OVER	100.0	6.3	6.8	-	0.5	24.4	20.7	19.0	19.5	0.6	2.2
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	2.5	*1.3	6.2	*6.2	*22.1	2.3	6.0	0.3	-	-	*2.0
25 TO 34 YEARS	22.4	*17.7	14.7	*19.3	*33.3	15.9	23.8	28.5	25.8	*25.1	*18.8
35 TO 44 YEARS	33.5	*30.0	32.6	*29.7	*35.4	34.3	27.0	35.3	39.5	*23.5	*29.2
45 TO 54 YEARS	28.0	*33.1	29.2	*44.8	-	33.9	28.6	25.0	19.2	*23.5	*40.1
55 YEARS AND OVER	13.6	*18.0	17.4	-	*9.2	13.6	14.6	10.9	15.6	*27.9	*9.8

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
SOCIAL SCIENTISTS, TOTAL . .	151 299	5 889	6 275	2 209	905	23 242	16 892	49 523	38 504	2 466	5 395
AGE											
UNDER 25 YEARS	3 361	167	283	229	59	1 147	572	553	56	-	295
25 TO 34 YEARS	55 045	638	1 319	678	415	9 153	8 025	22 514	10 773	618	912
35 TO 44 YEARS	40 463	1 208	1 620	573	194	6 268	3 948	12 614	12 410	539	1 089
45 TO 54 YEARS	31 905	2 317	1 856	351	139	4 374	2 664	8 698	9 393	622	1 492
55 YEARS AND OVER.	20 525	1 558	1 196	378	99	2 300	1 682	5 143	5 872	687	1 608
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	3.9	4.1	1.5	0.6	15.4	11.2	32.7	25.4	1.6	3.6
UNDER 25 YEARS	100.0	5.0	8.4	6.8	1.7	34.1	17.0	16.5	1.7	-	8.8
25 TO 34 YEARS	100.0	1.2	2.4	1.2	0.8	16.6	14.6	40.9	19.6	1.1	1.7
35 TO 44 YEARS	100.0	3.0	4.0	1.4	0.5	15.5	9.8	31.2	30.7	1.3	2.7
45 TO 54 YEARS	100.0	7.3	5.8	1.1	0.4	13.7	8.3	27.3	29.4	1.9	4.7
55 YEARS AND OVER.	100.0	7.6	5.8	1.8	0.5	11.2	8.2	25.1	28.6	3.3	7.8
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	100.0	100.0
UNDER 25 YEARS	2.2	2.8	4.5	10.4	*6.5	4.9	3.4	1.1	0.1	-	5.5
25 TO 34 YEARS	36.4	10.8	21.0	30.7	*45.8	39.4	47.5	45.5	28.0	25.1	16.9
35 TO 44 YEARS	26.7	20.5	25.8	26.0	*21.4	27.0	23.4	25.5	32.2	21.9	20.2
45 TO 54 YEARS	21.1	39.3	29.6	15.9	*15.3	18.8	15.8	17.6	24.4	25.2	27.7
55 YEARS AND OVER.	13.6	26.5	19.1	17.1	*10.9	9.9	10.0	10.4	15.3	27.9	29.8
ECONOMISTS	76 683	4 490	5 024	1 078	687	19 408	9 399	21 872	9 487	1 289	3 949
AGE											
UNDER 25 YEARS	1 765	136	170	-	-	809	269	196	-	-	185
25 TO 34 YEARS	27 879	316	1 125	373	308	7 502	3 645	11 154	2 541	308	607
35 TO 44 YEARS	19 727	978	1 313	349	168	5 315	2 611	5 047	2 826	201	919
45 TO 54 YEARS	16 501	1 930	1 637	137	112	3 747	1 772	3 512	2 203	376	1 074
55 YEARS AND OVER.	10 811	1 129	779	219	99	2 034	1 102	1 963	1 917	404	1 163
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	5.9	6.6	1.4	0.9	25.3	12.3	28.5	12.4	1.7	5.1
UNDER 25 YEARS	*100.0	*7.7	*9.6	-	-	*45.8	*15.2	*11.1	-	-	*10.5
25 TO 34 YEARS	100.0	1.1	4.0	1.3	1.1	26.9	13.1	40.0	9.1	1.1	2.2
35 TO 44 YEARS	100.0	5.0	6.7	1.8	0.9	26.9	13.2	25.6	14.3	1.0	4.7
45 TO 54 YEARS	100.0	11.7	9.9	0.8	0.7	22.7	10.7	21.3	13.4	2.3	6.5
55 YEARS AND OVER.	100.0	10.4	7.2	2.0	0.9	18.8	10.2	18.2	17.7	3.7	10.8
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	2.3	3.0	3.4	-	-	4.2	2.9	0.9	-	-	4.7
25 TO 34 YEARS	36.4	7.0	22.4	*34.6	*44.8	38.7	38.8	51.0	26.8	*23.9	15.4
35 TO 44 YEARS	25.7	21.8	26.1	*32.4	*24.4	27.4	27.8	23.1	29.8	*15.6	23.3
45 TO 54 YEARS	21.5	43.0	32.6	*12.7	*16.3	19.3	18.9	16.1	23.2	*29.2	27.2
55 YEARS AND OVER.	14.1	25.2	15.5	*20.4	*14.4	10.5	11.7	9.0	20.2	*31.3	29.5
PSYCHOLOGISTS.	40 822	556	311	535	85	1 089	3 313	15 299	18 465	413	757
AGE											
UNDER 25 YEARS	847	31	58	110	29	227	54	251	29	-	58
25 TO 34 YEARS	14 968	147	-	174	56	431	2 206	6 072	5 629	115	140
35 TO 44 YEARS	11 340	109	115	87	-	169	563	3 901	6 196	58	142
45 TO 54 YEARS	8 828	205	77	88	-	136	282	3 120	4 574	151	195
55 YEARS AND OVER.	4 838	63	61	77	-	126	208	1 955	2 036	89	222
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	1.4	0.8	1.3	0.2	2.7	8.1	37.5	45.2	1.0	1.9
UNDER 25 YEARS	*100.0	*3.7	*6.9	*13.0	*3.4	*26.8	*6.4	*29.6	*3.4	-	*6.9
25 TO 34 YEARS	100.0	1.0	-	1.2	0.4	2.9	14.7	40.6	37.6	0.8	0.9
35 TO 44 YEARS	100.0	1.0	1.0	0.8	-	1.5	5.0	34.4	54.6	0.5	1.2
45 TO 54 YEARS	100.0	2.3	0.9	1.0	-	1.5	3.2	35.3	51.8	1.7	2.2
55 YEARS AND OVER.	100.0	1.3	1.3	1.6	-	2.6	4.3	40.4	42.1	1.8	4.6
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	2.1	*5.6	*18.7	*20.5	*34.3	*20.9	1.6	1.6	0.2	-	*7.7
25 TO 34 YEARS	36.7	*26.4	-	*32.5	*65.7	*39.5	66.6	39.7	30.5	*27.8	*18.5
35 TO 44 YEARS	27.8	*19.7	*37.1	*16.2	-	*15.6	17.0	25.5	33.6	*14.1	*18.7
45 TO 54 YEARS	21.6	*36.9	*24.7	*16.4	-	*12.5	8.5	20.4	24.8	*36.6	*25.8
55 YEARS AND OVER.	11.9	*11.3	*19.5	*14.4	-	*11.6	6.3	12.8	11.0	*21.5	*29.4

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
BOTH SEXES--CONTINUED											
OTHER SOCIAL SCIENTISTS. . . .	33 794	843	940	595	133	2 745	4 179	12 352	10 553	765	689
AGE											
UNDER 25 YEARS	749	-	55	119	30	110	249	107	27	-	51
25 TO 34 YEARS	12 197	175	194	131	51	1 220	2 174	5 288	2 604	196	165
35 TO 44 YEARS	9 396	121	192	138	26	783	775	3 666	3 388	280	28
45 TO 54 YEARS	6 576	181	143	126	27	491	610	2 066	2 616	94	223
55 YEARS AND OVER.	4 876	366	357	81	-	140	371	1 226	1 919	195	222
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	2.5	2.8	1.8	0.4	8.1	12.4	36.6	31.2	2.3	2.0
UNDER 25 YEARS	*100.0	-	*7.4	*16.0	*4.0	*14.7	*33.3	*14.3	*3.6	-	*6.8
25 TO 34 YEARS	100.0	1.4	1.6	1.1	0.4	10.0	17.8	43.4	21.3	1.6	1.4
35 TO 44 YEARS	100.0	1.3	2.0	1.5	0.3	8.3	8.2	39.0	36.1	3.0	0.3
45 TO 54 YEARS	100.0	2.8	2.2	1.9	0.4	7.5	9.3	31.4	39.8	1.4	3.4
55 YEARS AND OVER.	100.0	7.5	7.3	1.7	-	2.9	7.6	25.1	39.3	4.0	4.6
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	2.2	-	*5.9	*20.1	*22.3	4.0	6.0	0.9	0.3	-	*7.4
25 TO 34 YEARS	36.1	*20.8	*20.6	*21.9	*38.5	44.5	52.0	42.8	24.7	*25.6	*23.9
35 TO 44 YEARS	27.8	*14.3	*20.4	*23.2	*19.3	28.5	18.5	29.7	32.1	*36.6	*4.1
45 TO 54 YEARS	19.5	*21.5	*15.2	*21.2	*19.9	17.9	14.6	16.7	24.8	*12.3	*32.4
55 YEARS AND OVER.	14.4	*43.4	*37.9	*13.7	-	5.1	8.9	9.9	18.2	*25.5	*32.2
MALE											
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL.	281 140	48 025	55 384	7 087	12 665	67 659	33 009	29 204	3 087	1 255	23 766
AGE											
UNDER 25 YEARS	15 638	2 071	4 678	480	1 286	2 757	2 325	368	-	80	1 593
25 TO 34 YEARS	136 412	15 640	28 380	3 253	7 397	35 983	18 160	16 062	1 455	516	9 566
35 TO 44 YEARS	75 549	14 524	12 778	1 798	2 949	18 929	8 496	8 273	876	420	6 505
45 TO 54 YEARS	39 502	10 758	7 405	1 113	658	7 538	3 456	3 423	588	70	4 494
55 YEARS AND OVER.	14 039	5 032	2 143	442	375	2 451	572	1 078	168	169	1 608
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	17.1	19.7	2.5	4.5	24.1	11.7	10.4	1.1	0.4	8.5
UNDER 25 YEARS	100.0	13.2	29.9	3.1	8.2	17.6	14.9	2.4	-	0.5	10.2
25 TO 34 YEARS	100.0	11.5	20.8	2.4	5.4	26.4	13.3	11.8	1.1	0.4	7.0
35 TO 44 YEARS	100.0	19.2	16.9	2.4	3.9	25.1	11.2	11.0	1.2	0.6	8.6
45 TO 54 YEARS	100.0	27.2	18.7	2.8	1.7	19.1	8.7	8.7	1.5	0.2	11.4
55 YEARS AND OVER.	100.0	35.8	15.3	3.1	2.7	17.5	4.1	7.7	1.2	1.2	11.5
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	5.6	4.3	8.4	6.8	10.2	4.1	7.0	1.3	-	*6.4	6.7
25 TO 34 YEARS	48.5	32.6	51.2	45.9	58.4	53.2	55.0	55.0	47.1	*41.1	40.2
35 TO 44 YEARS	26.9	30.2	23.1	25.4	23.3	28.0	25.7	28.3	28.4	*33.4	27.4
45 TO 54 YEARS	14.1	22.4	13.4	15.7	5.2	11.1	10.5	11.7	19.1	*5.5	18.9
55 YEARS AND OVER.	5.0	10.5	3.9	6.2	3.0	3.6	1.7	3.7	5.4	*13.5	6.8
COMPUTER PROGRAMMERS	127 838	18 765	29 585	3 285	7 382	30 516	15 295	10 929	683	605	10 793
AGE											
UNDER 25 YEARS	11 458	1 365	3 773	480	881	1 985	1 522	324	-	80	1 049
25 TO 34 YEARS	75 364	9 068	17 994	1 537	4 772	19 494	9 474	6 758	384	304	5 578
35 TO 44 YEARS	29 698	5 924	5 114	933	1 391	6 859	3 059	2 899	232	221	3 066
45 TO 54 YEARS	9 243	2 209	2 202	334	136	1 565	1 240	672	-	-	886
55 YEARS AND OVER.	2 076	200	503	-	202	614	-	276	67	-	214
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	14.7	23.1	2.6	5.8	23.9	12.0	8.5	0.5	0.5	8.4
UNDER 25 YEARS	100.0	11.9	32.9	4.2	7.7	17.3	13.3	2.8	-	0.7	9.2
25 TO 34 YEARS	100.0	12.0	23.9	2.0	6.3	25.9	12.6	9.0	0.5	0.4	7.4
35 TO 44 YEARS	100.0	19.9	17.2	3.1	4.7	23.1	10.3	9.8	0.8	0.7	10.3
45 TO 54 YEARS	100.0	23.9	23.8	3.6	1.5	16.9	13.4	7.3	-	-	9.6
55 YEARS AND OVER.	*100.0	*9.6	*24.2	-	*9.7	*29.6	-	*13.3	*3.2	-	*10.3
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	9.0	7.3	12.8	*14.6	11.9	6.5	9.9	3.0	-	*13.2	9.7
25 TO 34 YEARS	59.0	48.3	60.8	*46.8	64.6	63.9	61.9	61.8	*56.3	*50.3	51.7
35 TO 44 YEARS	23.2	31.6	17.3	*28.4	18.8	22.5	20.0	26.5	*33.9	*36.5	28.4
45 TO 54 YEARS	7.2	11.8	7.4	*10.2	1.8	5.1	8.1	6.1	-	-	8.2
55 YEARS AND OVER.	1.6	1.1	1.7	-	2.7	2.0	-	2.5	*9.8	-	2.0

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
COMPUTER SYSTEMS ANALYSTS. . .	68 527	9 604	11 225	1 634	2 259	19 110	9 221	9 260	701	143	5 371
AGE											
UNDER 25 YEARS	1 977	436	296	-	217	462	304	43	-	-	217
25 TO 34 YEARS	32 586	2 859	5 484	953	1 295	9 456	4 988	5 169	302	72	2 009
35 TO 44 YEARS	21 377	3 264	3 360	355	531	6 640	3 003	2 515	142	35	1 532
45 TO 54 YEARS	10 026	2 355	1 756	216	144	2 080	853	1 078	258	-	1 284
55 YEARS AND OVER.	2 561	691	327	109	73	472	73	453	-	36	328
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	14.0	16.4	2.4	3.3	27.9	13.5	13.5	1.0	0.2	7.8
UNDER 25 YEARS	*100.0	*22.0	*15.0	-	*11.0	*23.4	*15.4	*2.2	-	-	*11.0
25 TO 34 YEARS	100.0	8.8	16.8	2.9	4.0	29.0	15.3	15.9	0.9	0.2	6.2
35 TO 44 YEARS	100.0	15.3	15.7	1.7	2.5	31.1	14.0	11.8	0.7	0.2	7.2
45 TO 54 YEARS	100.0	23.5	17.5	2.2	1.4	20.8	8.5	10.8	2.6	-	12.8
55 YEARS AND OVER.	100.0	27.0	12.8	4.2	2.8	18.4	2.8	17.7	-	1.4	12.8
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	2.9	4.5	2.6	-	*9.6	2.4	3.3	0.5	-	-	4.0
25 TO 34 YEARS	47.6	29.8	48.9	*58.4	*57.3	49.5	54.1	55.8	*43.0	*50.0	37.4
35 TO 44 YEARS	31.2	34.0	29.9	*21.7	*23.5	34.7	32.6	27.2	*20.2	*24.7	28.5
45 TO 54 YEARS	14.6	24.5	15.7	*13.2	*6.4	10.9	9.3	11.6	*36.7	-	23.9
55 YEARS AND OVER.	3.7	7.2	2.9	*6.7	*3.2	2.5	0.8	4.9	-	*25.3	6.1
COMPUTER SPECIALISTS, N.E.C.	11 428	1 239	2 293	270	403	2 838	1 345	1 702	431	52	856
AGE											
UNDER 25 YEARS	443	35	104	-	69	35	69	-	-	-	130
25 TO 34 YEARS	4 821	449	1 111	52	220	1 225	506	725	240	-	294
35 TO 44 YEARS	3 945	409	775	111	86	952	544	644	104	52	268
45 TO 54 YEARS	1 711	239	171	107	27	492	198	252	87	-	138
55 YEARS AND OVER.	507	107	132	-	-	134	27	80	-	-	27
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	10.8	20.1	2.4	3.5	24.8	11.8	14.9	3.8	0.5	7.5
UNDER 25 YEARS	*100.0	*7.8	*23.5	-	*15.7	*7.8	*15.7	-	-	-	*29.4
25 TO 34 YEARS	100.0	9.3	23.0	1.1	4.6	25.4	10.5	15.0	5.0	-	6.1
35 TO 44 YEARS	100.0	10.4	19.6	2.8	2.2	24.1	13.8	16.3	2.6	1.3	6.8
45 TO 54 YEARS	*100.0	*14.0	*10.0	*6.3	*1.6	*28.7	*11.6	*14.7	*5.1	-	*8.0
55 YEARS AND OVER.	*100.0	*21.2	*26.0	-	-	*26.4	*5.3	*15.9	-	-	*5.3
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	100.0	*100.0	*100.0	100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	3.9	*2.8	4.5	-	*17.2	1.2	*5.2	-	-	-	*15.2
25 TO 34 YEARS	42.2	*36.2	48.4	*19.2	*54.7	43.2	*37.6	*42.6	*55.7	-	*34.3
35 TO 44 YEARS	34.5	*33.0	33.8	*41.1	*21.4	33.6	*40.5	*37.9	*24.0	*100.0	*31.3
45 TO 54 YEARS	15.0	*19.3	7.5	*39.8	*6.7	17.3	*14.7	*14.8	*20.3	-	*16.1
55 YEARS AND OVER.	4.4	*8.7	5.7	-	-	4.7	*2.0	*4.7	-	-	*3.1
OPERATIONS AND SYSTEMS ANALYSTS.	73 346	18 417	12 281	1 899	2 620	15 195	7 149	7 313	1 272	455	6 747
AGE											
UNDER 25 YEARS	1 761	236	505	-	118	275	430	-	-	-	197
25 TO 34 YEARS	23 641	3 264	3 792	711	1 109	5 809	3 192	3 409	528	140	1 685
35 TO 44 YEARS	20 529	4 927	3 529	399	941	4 478	1 890	2 214	399	112	1 638
45 TO 54 YEARS	18 522	5 956	3 273	456	352	3 401	1 164	1 421	243	70	2 186
55 YEARS AND OVER.	8 895	4 033	1 182	333	100	1 231	472	268	101	133	1 040
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	25.1	16.7	2.6	3.6	20.7	9.7	10.0	1.7	0.6	9.2
UNDER 25 YEARS	*100.0	*13.4	*28.7	-	*6.7	*15.6	*24.4	-	-	-	*11.2
25 TO 34 YEARS	100.0	13.8	16.0	3.0	4.7	24.6	13.5	14.4	2.2	0.6	7.1
35 TO 44 YEARS	100.0	24.0	17.2	1.9	4.6	21.8	9.2	10.8	1.9	0.5	8.0
45 TO 54 YEARS	100.0	32.2	17.7	2.5	1.9	18.4	6.3	7.7	1.3	0.4	11.8
55 YEARS AND OVER.	100.0	45.3	13.3	3.7	1.1	13.8	5.3	3.0	1.1	1.5	11.7
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	2.4	1.3	4.1	-	4.5	1.8	6.0	-	-	-	2.9
25 TO 34 YEARS	32.2	17.7	30.9	*37.4	42.3	38.2	44.7	46.6	*41.5	*30.9	25.0
35 TO 44 YEARS	28.0	26.8	28.7	*21.0	35.9	29.5	26.4	30.3	*31.4	*24.5	24.3
45 TO 54 YEARS	25.3	32.3	26.7	*24.0	13.4	22.4	16.3	19.4	*19.1	*15.3	32.4
55 YEARS AND OVER.	12.1	21.9	9.6	*17.6	3.8	8.1	6.6	3.7	*8.0	*29.3	15.4

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
ENGINEERS, TOTAL	1 226 626	154 960	143 242	30 366	45 876	369 035	195 905	160 912	24 934	7 478	93 918
AGE											
UNDER 25 YEARS	25 553	2 548	3 895	819	2 182	8 224	4 871	1 096	87	92	1 738
25 TO 34 YEARS	329 280	22 056	33 494	5 814	18 255	97 058	68 891	59 657	7 756	2 282	14 016
35 TO 44 YEARS	361 706	37 630	40 613	7 298	16 237	113 160	59 078	51 823	9 617	2 500	23 751
45 TO 54 YEARS	318 086	48 305	42 056	9 506	7 139	102 347	41 527	32 790	4 589	1 438	28 389
55 YEARS AND OVER	192 002	44 421	23 184	6 929	2 063	48 246	21 538	15 545	2 886	1 165	26 024
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	12.6	11.7	2.5	3.7	30.1	16.0	13.1	2.0	0.6	7.7
UNDER 25 YEARS	100.0	10.0	15.2	3.2	8.5	32.2	19.1	4.3	0.3	0.4	6.8
25 TO 34 YEARS	100.0	6.7	10.2	1.8	5.5	29.5	20.9	18.1	2.4	0.7	4.3
35 TO 44 YEARS	100.0	10.4	11.2	2.0	4.5	31.3	16.3	14.3	2.7	0.7	6.6
45 TO 54 YEARS	100.0	15.2	13.2	3.0	2.2	32.2	13.1	10.3	1.4	0.5	8.9
55 YEARS AND OVER	100.0	23.1	12.1	3.6	1.1	25.1	11.2	8.1	1.5	0.6	13.6
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
UNDER 25 YEARS	2.1	1.6	2.7	2.7	4.8	2.2	2.5	0.7	0.3	1.2	1.9
25 TO 34 YEARS	26.8	14.2	23.4	19.1	39.8	26.3	35.2	37.1	31.1	30.5	14.9
35 TO 44 YEARS	29.5	24.3	28.4	24.0	35.4	30.7	30.2	32.2	38.6	33.4	25.3
45 TO 54 YEARS	25.9	31.2	29.4	31.3	15.6	27.7	21.2	20.4	18.4	19.2	30.2
55 YEARS AND OVER	15.7	28.7	16.2	22.8	4.5	13.1	11.0	9.7	11.6	15.6	27.7
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS	67 568	5 225	7 674	2 088	2 573	20 765	12 153	11 325	1 183	274	4 307
AGE											
UNDER 25 YEARS	1 189	30	30	90	128	608	180	60	-	-	62
25 TO 34 YEARS	16 706	445	1 282	326	463	4 856	4 119	3 971	422	58	763
35 TO 44 YEARS	22 452	1 286	2 749	542	1 108	7 291	3 714	4 168	317	154	1 122
45 TO 54 YEARS	19 578	1 993	2 546	814	752	6 426	2 775	2 526	187	30	1 529
55 YEARS AND OVER	7 644	1 471	1 067	316	122	1 583	1 365	600	257	33	830
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	7.7	11.4	3.1	3.8	30.7	18.0	16.8	1.8	0.4	6.4
UNDER 25 YEARS	*100.0	*2.5	*2.5	*7.6	*10.8	*51.2	*15.2	*5.1	-	-	*5.2
25 TO 34 YEARS	100.0	2.7	7.7	2.0	2.8	29.1	24.7	23.8	2.5	0.3	4.6
35 TO 44 YEARS	100.0	5.7	12.2	2.4	4.9	32.5	16.5	18.6	1.4	0.7	5.0
45 TO 54 YEARS	100.0	10.2	13.0	4.2	3.8	32.8	14.2	12.9	1.0	0.2	7.8
55 YEARS AND OVER	100.0	19.2	14.0	4.1	1.6	20.7	17.9	7.8	3.4	0.4	10.9
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	1.8	0.6	0.4	*4.3	5.0	2.9	1.5	0.5	-	-	1.4
25 TO 34 YEARS	24.7	8.5	16.7	*15.6	18.0	23.4	33.9	35.1	*35.7	*21.0	17.7
35 TO 44 YEARS	33.2	24.6	35.8	*26.0	43.1	35.1	30.6	36.8	*26.8	*56.2	26.1
45 TO 54 YEARS	29.0	38.1	33.2	*39.0	29.2	30.9	22.8	22.3	*15.8	*10.9	35.5
55 YEARS AND OVER	11.3	28.1	13.9	*15.1	4.8	7.6	11.2	5.3	*21.7	*12.0	19.3
CHEMICAL ENGINEERS	52 177	1 961	1 912	889	588	19 291	11 082	10 983	3 011	225	2 235
AGE											
UNDER 25 YEARS	1 374	27	108	27	27	808	297	27	-	-	54
25 TO 34 YEARS	16 602	315	360	339	182	5 773	3 929	4 154	1 133	53	365
35 TO 44 YEARS	13 419	473	550	82	274	4 530	3 058	2 896	1 032	150	373
45 TO 54 YEARS	14 277	695	539	181	78	6 159	2 507	2 755	536	-	826
55 YEARS AND OVER	6 505	452	355	259	27	2 021	1 291	1 151	310	23	616
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	3.8	3.7	1.7	1.1	37.0	21.2	21.0	5.8	0.4	4.3
UNDER 25 YEARS	*100.0	*1.9	*7.8	*2.0	*2.0	*58.8	*21.6	*2.0	-	-	*3.9
25 TO 34 YEARS	100.0	1.9	2.2	2.0	1.1	34.8	23.7	25.0	6.8	0.3	2.2
35 TO 44 YEARS	100.0	3.5	4.1	0.6	2.0	33.8	22.8	21.6	7.7	1.1	2.8
45 TO 54 YEARS	100.0	4.9	3.8	1.3	0.5	43.1	17.6	19.3	3.8	-	5.8
55 YEARS AND OVER	100.0	6.9	5.5	4.0	0.4	31.1	19.8	17.7	4.8	0.5	9.5
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	2.6	1.4	5.6	*3.0	*4.6	4.2	2.7	0.2	-	-	2.4
25 TO 34 YEARS	31.8	16.1	18.8	*38.2	*31.0	29.9	35.5	37.8	37.6	*23.3	16.3
35 TO 44 YEARS	25.7	24.1	28.8	*9.3	*46.7	23.5	27.6	26.4	34.3	*66.7	16.7
45 TO 54 YEARS	27.4	35.4	28.2	*20.4	*13.3	31.9	22.6	25.1	17.8	-	37.0
55 YEARS AND OVER	12.5	23.0	18.6	*29.2	*4.5	10.5	11.7	10.5	10.3	*10.0	27.6

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
CIVIL ENGINEERS.	172 739	27 900	16 515	4 369	6 167	57 644	28 760	16 320	861	908	13 293
AGE											
UNDER 25 YEARS	4 434	791	1 088	185	277	739	984	-	-	92	277
25 TO 34 YEARS	43 550	4 353	3 719	506	3 040	13 614	9 358	6 788	294	141	1 736
35 TO 44 YEARS	48 764	7 961	3 640	929	1 650	17 626	8 565	4 879	214	367	2 933
45 TO 54 YEARS	40 645	7 225	4 274	1 695	982	14 916	5 561	2 124	-	149	3 718
55 YEARS AND OVER.	35 346	7 571	3 794	1 054	219	10 748	4 291	2 530	353	158	4 629
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	16.2	9.6	2.5	3.6	33.4	16.6	9.4	0.5	0.5	7.7
UNDER 25 YEARS	*100.0	*17.8	*24.5	*4.2	*6.3	*16.7	*22.2	-	-	*2.1	*6.3
25 TO 34 YEARS	100.0	10.0	8.5	1.2	7.0	31.3	21.5	15.6	0.7	0.3	4.0
35 TO 44 YEARS	100.0	16.3	7.5	1.9	3.4	36.1	17.6	10.0	0.4	0.8	6.0
45 TO 54 YEARS	100.0	17.8	10.5	4.2	2.4	36.7	13.7	5.2	-	0.4	9.1
55 YEARS AND OVER.	100.0	21.4	10.7	3.0	0.6	30.4	12.1	7.2	1.0	0.4	13.1
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	2.6	2.8	6.6	*4.2	4.5	1.3	3.4	-	-	*10.2	2.1
25 TO 34 YEARS	25.2	15.6	22.5	*11.6	49.3	23.6	32.5	41.6	*34.2	*15.6	13.1
35 TO 44 YEARS	28.2	28.5	22.0	*21.3	26.7	30.6	29.8	29.9	*24.8	*40.4	22.1
45 TO 54 YEARS	23.5	25.9	25.9	*38.8	15.9	25.9	19.3	13.0	-	*16.4	28.0
55 YEARS AND OVER.	20.5	27.1	23.0	*24.1	3.6	18.6	14.9	15.5	*41.0	*17.4	34.8
ELECTRICAL AND ELECTRONIC ENGINEERS.	281 936	29 143	33 232	6 165	13 162	83 662	46 187	44 761	4 794	1 199	19 632
AGE											
UNDER 25 YEARS	6 782	221	663	111	774	2 644	1 461	442	-	-	465
25 TO 34 YEARS	85 401	5 872	8 434	1 727	5 175	23 655	17 166	17 502	2 217	459	3 195
35 TO 44 YEARS	92 473	7 174	9 761	1 650	5 079	28 106	15 828	16 775	1 933	439	5 728
45 TO 54 YEARS	64 928	8 582	9 749	1 647	1 922	19 752	8 419	7 827	421	201	6 409
55 YEARS AND OVER.	32 352	7 294	4 626	1 030	212	9 505	3 313	2 215	222	101	3 835
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	10.3	11.8	2.2	4.7	29.7	16.4	15.9	1.7	0.4	7.0
UNDER 25 YEARS	*100.0	*3.3	*9.8	*1.6	*11.4	*39.0	*21.5	*6.5	-	-	*6.9
25 TO 34 YEARS	100.0	6.9	9.9	2.0	6.1	27.7	20.1	20.5	2.6	0.5	3.7
35 TO 44 YEARS	100.0	7.8	10.6	1.8	5.5	30.4	17.1	18.1	2.1	0.5	6.2
45 TO 54 YEARS	100.0	13.2	15.0	2.5	3.0	30.4	13.0	12.1	0.6	0.3	9.9
55 YEARS AND OVER.	100.0	22.5	14.3	3.2	0.7	29.4	10.2	6.8	0.7	0.3	11.9
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	2.4	0.8	2.0	*1.8	5.9	3.2	3.2	1.0	-	-	2.4
25 TO 34 YEARS	30.3	20.1	25.4	*28.0	39.3	28.3	37.2	39.1	*46.3	*38.3	16.3
35 TO 44 YEARS	32.8	24.6	29.4	*26.8	38.6	33.6	34.3	37.5	*40.3	*36.6	29.2
45 TO 54 YEARS	23.0	29.4	29.3	*26.7	14.6	23.6	18.2	17.5	*8.8	*16.8	32.6
55 YEARS AND OVER.	11.5	25.0	13.9	*16.7	1.6	11.4	7.2	4.9	*4.6	*8.4	19.5
INDUSTRIAL ENGINEERS	182 101	32 351	29 619	4 083	6 936	49 452	23 642	17 180	1 162	1 674	16 002
AGE											
UNDER 25 YEARS	3 479	578	413	83	251	1 241	413	-	-	-	499
25 TO 34 YEARS	44 900	3 638	7 284	339	2 956	14 858	8 367	4 578	-	590	2 289
35 TO 44 YEARS	51 785	6 672	7 742	1 572	2 234	15 672	7 021	5 438	415	496	4 522
45 TO 54 YEARS	50 887	12 320	8 896	1 333	909	12 215	5 154	4 815	496	334	4 415
55 YEARS AND OVER.	31 051	9 142	5 284	756	585	5 465	2 686	2 349	252	253	4 278
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	17.8	16.3	2.2	3.8	27.2	13.0	9.4	0.6	0.9	8.8
UNDER 25 YEARS	*100.0	*16.6	*11.9	*2.4	*7.2	*35.7	*11.9	-	-	-	*14.3
25 TO 34 YEARS	100.0	8.1	16.2	0.8	6.6	33.1	18.6	10.2	-	1.3	5.1
35 TO 44 YEARS	100.0	12.9	15.0	3.0	4.3	30.3	13.6	10.5	0.8	1.0	8.7
45 TO 54 YEARS	100.0	24.2	17.5	2.6	1.8	24.0	10.1	9.5	1.0	0.7	8.7
55 YEARS AND OVER.	100.0	29.4	17.0	2.4	1.9	17.6	8.7	7.6	0.8	0.8	13.8
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	1.9	1.8	1.4	*2.0	3.6	2.5	1.7	-	-	-	3.1
25 TO 34 YEARS	24.7	11.2	24.6	*8.3	42.6	30.0	35.4	26.6	-	*35.3	14.3
35 TO 44 YEARS	28.4	20.6	26.1	*38.5	32.2	31.7	29.7	31.7	*35.7	*29.7	28.3
45 TO 54 YEARS	27.9	38.1	30.0	*32.6	13.1	24.7	21.8	28.0	*42.6	*19.9	27.6
55 YEARS AND OVER.	17.1	28.3	17.8	*18.5	8.4	11.1	11.4	13.7	*21.7	*15.1	26.7

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[5]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
MECHANICAL ENGINEERS	179 572	25 339	19 131	5 308	5 949	57 399	30 123	20 198	1 688	706	13 732
AGE											
UNDER 25 YEARS	3 805	599	606	261	174	858	697	174	87	-	348
25 TO 34 YEARS	45 329	2 425	3 471	659	1 858	14 217	11 942	8 176	803	161	1 617
35 TO 44 YEARS	48 376	5 538	5 367	1 028	2 296	16 300	8 207	5 760	407	317	3 155
45 TO 54 YEARS	52 029	7 819	5 914	2 299	1 234	18 812	6 926	3 953	307	78	4 686
55 YEARS AND OVER	30 033	8 958	3 773	1 062	387	7 212	2 350	2 134	83	149	3 925
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	14.1	10.7	3.0	3.3	32.0	16.8	11.2	0.9	0.4	7.6
UNDER 25 YEARS	*100.0	*15.7	*15.9	*6.9	*4.6	*22.6	*18.3	*4.6	*2.3	-	*9.2
25 TO 34 YEARS	100.0	5.3	7.7	1.5	4.1	31.4	26.3	18.0	1.8	0.4	3.6
35 TO 44 YEARS	100.0	11.4	11.1	2.1	4.7	33.7	17.0	11.9	0.8	0.7	6.5
45 TO 54 YEARS	100.0	15.0	11.4	4.4	2.4	36.2	13.3	7.6	0.6	0.2	9.0
55 YEARS AND OVER	100.0	29.8	12.6	3.5	1.3	24.0	7.8	7.1	0.3	0.5	13.1
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	2.1	2.4	3.2	*4.9	2.9	1.5	2.3	0.9	*5.2	-	2.5
25 TO 34 YEARS	25.2	9.6	18.1	*12.4	31.2	24.8	39.6	40.5	*47.6	*22.8	11.8
35 TO 44 YEARS	26.9	21.9	28.1	*19.4	38.6	28.4	27.2	28.5	*24.1	*45.0	23.0
45 TO 54 YEARS	29.0	30.9	30.9	*43.3	20.7	32.8	23.0	19.6	*18.2	*11.1	34.1
55 YEARS AND OVER	16.7	35.4	19.7	*20.0	6.5	12.6	7.8	10.6	*4.9	*21.1	28.6
METALLURGICAL AND MATERIALS ENGINEERS	15 361	1 447	1 238	359	317	4 831	2 897	2 432	711	309	820
AGE											
UNDER 25 YEARS	243	-	108	-	27	81	27	-	-	-	-
25 TO 34 YEARS	3 748	243	189	-	189	1 402	783	729	106	27	81
35 TO 44 YEARS	4 529	305	353	50	50	1 167	991	783	401	154	276
45 TO 54 YEARS	4 077	414	384	234	51	1 447	566	592	128	52	208
55 YEARS AND OVER	2 764	484	204	75	-	734	531	328	76	76	255
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	9.4	8.1	2.3	2.1	31.4	18.9	15.8	4.6	2.0	5.3
UNDER 25 YEARS	*100.0	-	*44.4	-	*11.1	*33.3	*11.1	-	-	-	-
25 TO 34 YEARS	100.0	6.5	5.0	-	5.0	37.4	20.9	19.4	2.8	0.7	2.2
35 TO 44 YEARS	100.0	6.7	7.8	1.1	1.1	25.8	21.9	17.3	8.9	3.4	6.1
45 TO 54 YEARS	100.0	10.2	9.4	5.7	1.3	35.5	13.9	14.5	3.1	1.3	5.1
55 YEARS AND OVER	100.0	17.5	7.4	2.7	-	26.6	19.2	11.9	2.8	2.8	9.2
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	1.6	-	*8.7	-	*8.5	1.7	0.9	-	-	-	-
25 TO 34 YEARS	24.4	*16.8	*15.3	-	*59.6	29.0	27.0	30.0	*14.9	*8.7	*9.9
35 TO 44 YEARS	29.5	*21.1	*28.5	*13.9	*15.7	24.2	34.2	32.2	*56.4	*49.8	*33.7
45 TO 54 YEARS	26.5	*28.6	*31.0	*65.1	*16.1	30.0	19.5	24.4	*18.0	*16.8	*25.4
55 YEARS AND OVER	18.0	*33.5	*16.5	*21.0	-	15.2	18.3	13.5	*10.7	*24.7	*31.1
MINING AND PETROLEUM ENGINEERS	15 568	1 496	564	259	136	5 586	4 232	1 958	405	235	696
AGE											
UNDER 25 YEARS	362	31	31	30	-	213	57	-	-	-	-
25 TO 34 YEARS	3 466	61	123	31	61	1 126	1 030	670	152	121	91
35 TO 44 YEARS	4 715	538	153	79	51	1 550	1 377	619	83	27	236
45 TO 54 YEARS	4 114	269	180	81	24	1 776	1 135	322	106	22	199
55 YEARS AND OVER	2 910	598	76	37	-	920	633	347	65	65	169
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	9.6	3.6	1.7	0.9	35.9	27.2	12.6	2.6	1.5	4.5
UNDER 25 YEARS	*100.0	*8.5	*8.5	*8.4	-	*58.7	*15.9	-	-	-	-
25 TO 34 YEARS	100.0	1.7	3.5	0.9	1.8	32.5	29.7	19.3	4.4	3.5	2.6
35 TO 44 YEARS	100.0	11.4	3.3	1.7	1.1	32.9	29.2	13.1	1.8	0.6	5.0
45 TO 54 YEARS	100.0	6.5	4.4	2.0	0.6	43.2	27.6	7.8	2.6	0.5	4.8
55 YEARS AND OVER	100.0	20.6	2.6	1.3	-	31.6	21.7	11.9	2.2	2.2	5.8
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	2.3	*2.1	*5.5	*11.7	-	3.8	1.4	-	-	-	-
25 TO 34 YEARS	22.3	*4.1	*21.8	*11.9	*44.8	20.2	24.3	*34.2	*37.4	*51.5	*13.1
35 TO 44 YEARS	30.3	*36.0	*27.2	*30.5	*37.7	27.8	32.5	*31.6	*20.4	*11.7	*34.0
45 TO 54 YEARS	26.4	*17.9	*31.9	*31.4	*17.5	31.8	26.8	*16.5	*26.1	*9.4	*28.6
55 YEARS AND OVER	18.7	*40.0	*13.6	*14.5	-	16.5	14.9	*17.7	*16.1	*27.4	*24.3

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
SALES ENGINEERS.	54 560	6 588	8 033	1 939	1 744	18 791	7 704	2 990	144	205	6 420
AGE											
UNDER 25 YEARS	471	32	64	32	-	247	64	-	-	-	32
25 TO 34 YEARS	13 086	966	1 869	473	723	3 987	2 710	1 282	29	29	1 021
35 TO 44 YEARS	15 485	1 396	2 142	432	655	6 144	2 123	817	61	82	1 632
45 TO 54 YEARS	15 576	1 988	2 551	569	217	5 887	1 921	596	54	-	1 793
55 YEARS AND OVER.	9 942	2 206	1 407	433	150	2 528	887	295	-	94	1 942
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	12.1	14.7	3.6	3.2	34.4	14.1	5.5	0.3	0.4	11.8
UNDER 25 YEARS	*100.0	*6.8	*13.6	*6.8	-	*52.4	*13.6	-	-	-	*6.8
25 TO 34 YEARS	100.0	7.4	14.3	3.6	5.5	30.5	20.7	9.8	0.2	0.2	7.8
35 TO 44 YEARS	100.0	9.0	13.8	2.8	4.2	39.7	13.7	5.3	0.4	0.5	10.5
45 TO 54 YEARS	100.0	12.8	16.4	3.7	1.4	37.8	12.3	3.8	0.3	-	11.5
55 YEARS AND OVER.	100.0	22.2	14.1	4.4	1.5	25.4	8.9	3.0	-	0.9	19.5
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	0.9	0.5	0.8	*1.7	-	1.3	0.8	-	-	-	0.5
25 TO 34 YEARS	24.0	14.7	23.3	*24.4	*41.4	21.2	35.2	42.9	*20.1	*14.1	15.9
35 TO 44 YEARS	28.4	21.2	26.7	*22.3	*37.5	32.7	27.6	27.3	*42.6	*40.2	25.4
45 TO 54 YEARS	28.5	30.2	31.8	*29.4	*12.4	31.3	24.9	19.9	*37.3	-	27.9
55 YEARS AND OVER.	18.2	33.5	17.5	*22.3	*8.6	13.5	11.5	9.9	-	*45.7	30.2
ENGINEERS, N.E.C., AND ENGINEERING TEACHERS.	205 044	23 510	25 324	4 907	8 303	51 614	29 124	32 763	10 975	1 742	16 781
AGE											
UNDER 25 YEARS	3 415	240	785	-	523	785	691	392	-	-	-
25 TO 34 YEARS	56 492	3 738	6 764	1 414	3 608	13 571	9 488	11 808	2 600	644	2 857
35 TO 44 YEARS	59 708	6 287	8 155	933	2 841	14 774	8 192	9 687	4 753	313	3 772
45 TO 54 YEARS	51 976	7 000	7 022	653	970	14 955	6 562	7 280	2 354	571	4 606
55 YEARS AND OVER.	33 455	6 245	2 599	1 906	362	7 530	4 191	3 596	1 267	214	5 546
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	11.5	12.4	2.4	4.0	25.2	14.2	16.0	5.4	0.8	8.2
UNDER 25 YEARS	*100.0	*7.0	*23.0	-	*15.3	*23.0	*20.2	*11.5	-	-	-
25 TO 34 YEARS	100.0	6.6	12.0	2.5	6.4	24.0	16.8	20.9	4.6	1.1	5.1
35 TO 44 YEARS	100.0	10.5	13.7	1.6	4.8	24.7	13.7	16.2	8.0	0.5	6.3
45 TO 54 YEARS	100.0	13.5	13.5	1.3	1.9	28.8	12.6	14.0	4.5	1.1	8.9
55 YEARS AND OVER.	100.0	18.7	7.8	5.7	1.1	22.5	12.5	10.7	3.8	0.6	16.6
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	1.7	1.0	3.1	-	6.3	1.5	2.4	1.2	-	-	-
25 TO 34 YEARS	27.6	15.9	26.7	*28.8	43.4	26.3	32.6	36.0	23.7	*37.0	17.0
35 TO 44 YEARS	29.1	26.7	32.2	*19.0	34.2	28.6	28.1	29.6	43.3	*18.0	22.5
45 TO 54 YEARS	25.3	29.8	27.7	*13.3	11.7	29.0	22.5	22.2	21.5	*32.8	27.4
55 YEARS AND OVER.	16.3	26.6	10.3	*38.8	4.4	14.6	14.4	11.0	11.5	*12.3	33.0
MATHEMATICAL SPECIALISTS, TOTAL	44 782	2 318	2 183	616	547	6 296	5 268	14 737	11 275	392	1 150
AGE											
UNDER 25 YEARS	1 867	113	136	-	118	370	641	432	-	-	58
25 TO 34 YEARS	18 402	236	861	167	202	2 540	2 376	7 124	4 573	88	235
35 TO 44 YEARS	11 027	442	315	249	156	1 863	979	2 965	3 583	152	323
45 TO 54 YEARS	7 458	659	435	23	71	877	902	2 459	1 733	124	175
55 YEARS AND OVER.	6 027	869	436	177	-	646	370	1 757	1 385	27	359
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	5.2	4.9	1.4	1.2	14.1	11.8	32.9	25.2	0.9	2.6
UNDER 25 YEARS	*100.0	*6.0	*7.3	-	*6.3	*19.8	*34.3	*23.2	-	-	*3.1
25 TO 34 YEARS	100.0	1.3	4.7	0.9	1.1	13.8	12.9	38.7	24.9	0.5	1.3
35 TO 44 YEARS	100.0	4.0	2.9	2.3	1.4	16.9	8.9	26.9	32.5	1.4	2.9
45 TO 54 YEARS	100.0	8.8	5.8	0.3	1.0	11.8	12.1	33.0	23.2	1.7	2.3
55 YEARS AND OVER.	100.0	14.4	7.2	2.9	-	10.7	6.1	29.2	23.0	0.5	6.0
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	4.2	4.9	6.2	-	*21.6	5.9	12.2	2.9	-	-	*5.0
25 TO 34 YEARS	41.1	10.2	39.4	*27.1	*37.0	40.3	45.1	48.3	40.6	*22.4	*20.4
35 TO 44 YEARS	24.6	19.1	14.4	*40.4	*28.4	29.6	18.6	20.1	31.8	*38.9	*28.1
45 TO 54 YEARS	16.7	28.4	19.9	*3.7	*13.1	13.9	17.1	16.7	15.4	*31.7	*15.2
55 YEARS AND OVER.	13.5	37.5	20.0	*28.8	-	10.3	7.0	11.9	12.3	*6.9	*31.2

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
ACTUARIES AND STATISTICIANS. .	17 393	2 164	1 943	307	370	4 655	2 308	3 866	814	230	736
AGE											
UNDER 25 YEARS	637	90	113	-	64	178	51	140	-	-	-
25 TO 34 YEARS	6 006	207	717	78	105	2 005	879	1 643	236	26	111
35 TO 44 YEARS	3 976	416	292	123	129	1 284	525	624	266	126	191
45 TO 54 YEARS	3 446	606	385	-	71	639	587	855	154	50	99
55 YEARS AND OVER.	3 327	845	436	105	-	549	265	604	158	27	335
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	12.4	11.2	1.8	2.1	26.8	13.3	22.2	4.7	1.3	4.2
UNDER 25 YEARS	*100.0	*14.1	*17.7	-	*10.1	*28.0	*8.1	*22.0	-	-	-
25 TO 34 YEARS	100.0	3.4	11.9	1.3	1.7	33.4	14.6	27.3	3.9	0.4	1.9
35 TO 44 YEARS	100.0	10.5	7.3	3.1	3.3	32.3	13.2	15.7	6.7	3.2	4.8
45 TO 54 YEARS	100.0	17.6	11.2	-	2.1	18.5	17.0	24.8	4.5	1.5	2.9
55 YEARS AND OVER.	100.0	25.4	13.1	3.2	-	16.5	8.0	18.2	4.8	0.8	10.1
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	3.7	4.2	5.8	-	*17.4	3.8	2.2	3.6	-	-	-
25 TO 34 YEARS	34.5	9.6	36.9	*25.5	*28.3	43.1	38.1	42.5	*29.0	*11.4	*15.1
35 TO 44 YEARS	22.9	19.2	15.0	*40.2	*35.0	27.6	22.8	16.1	*32.7	*55.0	*25.9
45 TO 54 YEARS	19.8	28.0	19.8	-	*19.3	13.7	25.4	22.1	*16.9	*21.8	*13.4
55 YEARS AND OVER.	19.1	39.1	22.5	*34.4	-	11.8	11.5	15.6	*19.4	*11.9	*45.5
MATHEMATICIANS	27 390	155	240	309	177	1 641	2 960	10 872	10 461	162	413
AGE											
UNDER 25 YEARS	1 230	23	23	-	54	192	589	292	-	-	58
25 TO 34 YEARS	12 396	29	144	89	97	535	1 497	5 481	4 338	62	124
35 TO 44 YEARS	7 051	26	23	126	26	579	453	2 341	3 318	26	133
45 TO 54 YEARS	4 012	53	50	23	-	238	315	1 605	1 579	74	76
55 YEARS AND OVER.	2 700	24	-	72	-	97	105	1 153	1 227	-	24
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	0.0	0.9	1.1	0.6	6.0	10.8	39.7	38.2	0.6	1.5
UNDER 25 YEARS	*100.0	*1.9	*1.9	-	*4.4	*15.6	*47.9	*23.8	-	-	*4.7
25 TO 34 YEARS	100.0	0.2	1.2	0.7	0.8	4.3	12.1	44.2	35.0	0.5	1.0
35 TO 44 YEARS	100.0	0.4	0.3	1.8	0.4	8.2	6.4	33.2	47.0	0.4	1.9
45 TO 54 YEARS	100.0	1.3	1.2	0.6	-	5.9	7.8	40.0	39.4	1.9	1.9
55 YEARS AND OVER.	100.0	0.9	-	2.7	-	3.6	3.9	42.7	45.4	-	0.9
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	4.5	*14.7	*9.5	-	*30.3	*11.7	19.9	2.7	-	-	*13.9
25 TO 34 YEARS	45.3	*18.7	*60.1	*28.7	*54.9	*32.6	50.6	50.4	41.5	*38.0	*29.9
35 TO 44 YEARS	25.7	*17.0	*9.5	*40.7	*14.8	*35.3	15.3	21.5	31.7	*16.2	*32.1
45 TO 54 YEARS	14.6	*34.1	*20.9	*7.4	-	*14.5	10.6	14.8	15.1	*45.8	*18.3
55 YEARS AND OVER.	9.9	*15.5	-	*23.2	-	*5.9	3.5	10.6	11.7	-	*5.8
LIFE SCIENTISTS, TOTAL . . .	68 097	3 924	1 620	1 003	321	16 907	8 562	13 701	19 215	1 218	1 627
AGE											
UNDER 25 YEARS	1 988	172	258	94	-	593	637	139	37	-	58
25 TO 34 YEARS	21 459	752	473	370	187	5 569	3 527	5 252	4 717	311	302
35 TO 44 YEARS	19 596	934	336	147	83	5 014	2 075	3 572	6 886	287	263
45 TO 54 YEARS	14 948	912	213	168	51	3 928	1 241	2 873	4 774	336	452
55 YEARS AND OVER.	10 107	1 154	340	224	-	1 804	1 082	1 866	2 801	284	553
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	5.8	2.4	1.5	0.5	24.8	12.6	20.1	28.2	1.8	2.4
UNDER 25 YEARS	*100.0	*8.7	*13.0	*4.7	-	*29.8	*32.0	*7.0	*1.8	-	*2.9
25 TO 34 YEARS	100.0	3.5	2.2	1.7	0.9	26.0	16.4	24.5	22.0	1.4	1.4
35 TO 44 YEARS	100.0	4.8	1.7	0.7	0.4	25.6	10.6	18.2	35.1	1.5	1.3
45 TO 54 YEARS	100.0	6.1	1.4	1.1	0.3	26.3	8.3	19.2	31.9	2.2	3.0
55 YEARS AND OVER.	100.0	11.4	3.4	2.2	-	17.8	10.7	18.5	27.7	2.8	5.5
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	2.9	4.4	*15.9	*9.4	-	3.5	7.4	1.0	0.2	-	*3.5
25 TO 34 YEARS	31.5	19.2	*29.2	*36.9	*58.2	32.9	41.2	38.3	24.6	*25.5	*18.5
35 TO 44 YEARS	28.8	23.8	*20.7	*14.6	*25.8	29.7	24.2	26.1	35.8	*23.6	*16.2
45 TO 54 YEARS	22.0	23.2	*13.1	*16.7	*16.0	23.2	14.5	21.0	24.8	*27.8	*27.8
55 YEARS AND OVER.	14.8	29.4	*21.0	*22.3	-	10.7	12.6	13.6	14.6	*23.3	*34.0

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
AGRICULTURAL SCIENTISTS. . . .	16 369	2 652	565	253	192	2 436	1 624	3 656	3 968	101	922
AGE											
UNDER 25 YEARS	149	147	66	-	-	58	87	-	-	-	29
25 TO 34 YEARS	4 114	611	144	87	87	602	585	1 101	752	-	147
35 TO 44 YEARS	4 252	553	112	27	54	796	441	856	1 167	54	192
45 TO 54 YEARS	4 021	500	76	70	51	569	270	921	1 359	24	182
55 YEARS AND OVER.	3 872	841	143	70	-	412	242	778	690	23	372
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	16.2	3.5	1.5	1.2	14.9	9.9	22.3	24.2	0.6	5.6
UNDER 25 YEARS	*100.0	*35.9	*21.8	-	-	*14.1	*21.1	-	-	-	*7.0
25 TO 34 YEARS	100.0	14.9	3.5	2.1	2.1	14.6	14.2	26.8	18.3	-	3.6
35 TO 44 YEARS	100.0	13.0	2.6	0.6	1.3	18.7	10.4	20.1	27.4	1.3	4.5
45 TO 54 YEARS	100.0	12.4	1.9	1.7	1.3	14.1	6.7	22.9	33.8	0.6	4.5
55 YEARS AND OVER.	100.0	23.5	4.0	2.0	-	11.5	6.8	21.6	19.3	0.7	10.4
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	*100.0	*100.0	*100.0	100.0	*100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	2.5	5.5	*15.8	-	-	2.4	*5.3	-	-	-	*3.1
25 TO 34 YEARS	25.1	23.1	*25.5	*34.2	*45.2	24.7	*36.0	30.1	18.9	-	*15.9
35 TO 44 YEARS	26.0	20.9	*19.9	*10.6	*28.1	32.7	*27.1	23.4	29.4	*52.9	*20.8
45 TO 54 YEARS	24.6	18.8	*13.4	*27.5	*26.8	23.3	*16.6	25.2	34.3	*24.0	*19.7
55 YEARS AND OVER.	21.8	31.7	*25.4	*27.7	-	16.9	*14.9	21.3	17.4	*23.1	*40.4
FORESTERS AND CONSERVATIONISTS.	15 856	73	23	165	47	9 837	2 882	2 199	165	96	369
AGE											
UNDER 25 YEARS	186	-	-	-	-	163	23	-	-	-	-
25 TO 34 YEARS	4 801	23	-	47	47	2 817	1 120	629	23	23	73
35 TO 44 YEARS	4 808	-	23	46	-	3 157	789	606	116	23	46
45 TO 54 YEARS	3 731	23	-	23	-	2 471	443	629	-	23	119
55 YEARS AND OVER.	2 329	26	-	49	-	1 229	507	336	26	26	130
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	0.5	0.1	1.0	0.3	62.0	18.2	13.9	1.0	0.6	2.3
UNDER 25 YEARS	*100.0	-	-	-	-	*87.5	*12.5	-	-	-	-
25 TO 34 YEARS	100.0	0.5	-	1.0	1.0	58.7	23.3	13.1	0.5	0.5	1.5
35 TO 44 YEARS	100.0	-	0.5	1.0	-	65.7	16.4	12.6	2.4	0.5	1.0
45 TO 54 YEARS	100.0	0.6	-	0.6	-	66.2	11.9	16.9	-	0.6	3.2
55 YEARS AND OVER.	100.0	1.1	-	2.1	-	52.7	21.8	14.4	1.1	1.1	5.6
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	1.2	-	-	-	-	1.7	0.8	-	-	-	-
25 TO 34 YEARS	30.3	*32.0	-	*28.2	*100.0	28.6	38.9	28.6	*14.0	*24.3	*19.7
35 TO 44 YEARS	30.3	-	*100.0	*28.0	-	32.1	27.4	27.6	*70.2	*24.2	*12.6
45 TO 54 YEARS	23.5	*32.1	-	*14.0	-	25.1	15.4	28.6	-	*24.3	*32.4
55 YEARS AND OVER.	14.7	*35.9	-	*29.8	-	12.5	17.6	15.3	*15.7	*27.2	*35.3
BIOLOGICAL SCIENTISTS.	35 873	1 200	1 032	584	82	4 635	4 056	7 846	15 081	1 021	337
AGE											
UNDER 25 YEARS	1 392	25	169	94	-	372	527	139	37	-	29
25 TO 34 YEARS	12 544	117	329	237	53	2 150	1 822	3 523	3 942	288	82
35 TO 44 YEARS	10 536	380	200	73	29	1 061	845	2 109	5 603	210	24
45 TO 54 YEARS	7 195	389	137	75	-	888	529	1 324	3 415	288	151
55 YEARS AND OVER.	4 205	288	196	105	-	163	333	751	2 084	234	50
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	3.3	2.9	1.6	0.2	12.9	11.3	21.9	42.0	2.8	0.9
UNDER 25 YEARS	*100.0	*1.8	*12.2	*6.8	-	*26.7	*37.8	*10.0	*2.6	-	*2.1
25 TO 34 YEARS	100.0	0.9	2.6	1.9	0.4	17.1	14.5	28.1	31.4	2.3	0.7
35 TO 44 YEARS	100.0	3.6	1.9	0.7	0.3	10.1	8.0	20.0	53.2	2.0	0.2
45 TO 54 YEARS	100.0	5.4	1.9	1.0	-	12.3	7.3	18.4	47.5	4.0	2.1
55 YEARS AND OVER.	100.0	6.8	4.7	2.5	-	3.9	7.9	17.9	49.6	5.6	1.2
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	3.9	*2.1	*16.4	*16.1	-	8.0	13.0	1.8	0.2	-	*8.6
25 TO 34 YEARS	35.0	*9.8	*31.9	*40.6	*64.8	46.4	44.9	44.9	26.1	*28.2	*24.4
35 TO 44 YEARS	29.4	*31.7	*19.4	*12.6	*35.2	22.9	20.8	26.9	37.2	*20.6	*7.3
45 TO 54 YEARS	20.1	*32.4	*13.3	*12.8	-	19.2	13.0	16.9	22.6	*28.2	*44.8
55 YEARS AND OVER.	11.7	*24.0	*19.0	*17.9	-	3.5	8.2	9.6	13.8	*23.0	*15.0

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
PHYSICAL SCIENTISTS, TOTAL	178 624	10 630	10 559	3 012	2 577	38 492	26 558	33 607	46 019	778	6 391
AGE											
UNDER 25 YEARS	5 760	596	1 079	87	410	1 161	1 828	268	-	-	332
25 TO 34 YEARS	54 828	2 466	2 430	788	802	10 455	10 006	12 015	14 585	140	1 143
35 TO 44 YEARS	53 512	2 290	2 849	714	1 025	10 936	6 472	10 397	17 048	74	1 707
45 TO 54 YEARS	39 821	2 703	2 417	891	243	10 277	5 059	7 383	8 570	380	1 899
55 YEARS AND OVER	24 703	2 576	1 784	532	97	5 665	3 194	3 546	5 816	184	1 310
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	6.0	5.9	1.7	1.4	21.5	14.9	18.8	25.8	0.4	3.6
UNDER 25 YEARS	100.0	10.3	18.7	1.5	7.1	20.2	31.7	4.6	-	-	5.8
25 TO 34 YEARS	100.0	4.5	4.4	1.4	1.5	19.1	18.2	21.9	26.6	0.3	2.1
35 TO 44 YEARS	100.0	4.3	5.3	1.3	1.9	20.4	12.1	19.4	31.9	0.1	3.2
45 TO 54 YEARS	100.0	6.8	6.1	2.2	0.6	25.8	12.7	18.5	21.5	1.0	4.8
55 YEARS AND OVER	100.0	10.4	7.2	2.2	0.4	22.9	12.9	14.4	23.5	0.7	5.3
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	3.2	5.6	10.2	2.9	*15.9	3.0	6.9	0.8	-	-	5.2
25 TO 34 YEARS	30.7	23.2	23.0	26.2	*31.1	27.2	37.7	35.8	31.7	*18.0	17.9
35 TO 44 YEARS	30.0	21.5	27.0	23.7	*39.8	28.4	24.4	30.9	37.0	*9.5	26.7
45 TO 54 YEARS	22.3	25.4	22.9	29.6	*9.4	26.7	19.0	22.0	18.6	*48.8	29.7
55 YEARS AND OVER	13.8	24.2	16.9	17.6	*3.8	14.7	12.0	10.6	12.6	*23.6	20.5
CHEMISTS	110 701	8 549	7 775	2 205	2 001	27 496	15 448	16 546	25 738	428	4 515
AGE											
UNDER 25 YEARS	3 833	545	786	61	296	791	990	61	-	-	303
25 TO 34 YEARS	35 026	1 995	1 969	629	601	8 316	6 522	6 013	8 053	64	864
35 TO 44 YEARS	30 868	1 620	1 998	495	835	7 255	3 579	4 618	9 387	-	1 081
45 TO 54 YEARS	24 217	2 170	1 686	564	216	6 800	2 385	3 887	5 007	312	1 191
55 YEARS AND OVER	16 758	2 219	1 337	457	52	4 335	1 971	1 967	3 290	52	1 077
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	7.7	7.0	2.0	1.8	24.8	14.0	14.9	23.3	0.4	4.1
UNDER 25 YEARS	*100.0	*14.2	*20.5	*1.6	*7.7	*20.6	*25.8	*1.6	-	-	*7.9
25 TO 34 YEARS	100.0	5.7	5.6	1.8	1.7	23.7	18.6	17.2	23.0	0.2	2.5
35 TO 44 YEARS	100.0	5.2	6.5	1.6	2.7	23.5	11.6	15.0	30.4	-	3.5
45 TO 54 YEARS	100.0	9.0	7.0	2.3	0.9	28.1	9.8	16.0	20.7	1.3	4.9
55 YEARS AND OVER	100.0	13.2	8.0	2.7	0.3	25.9	11.8	11.7	19.6	0.3	6.4
PERCENT DISTRIBUTION BY AGE	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	3.5	6.4	10.1	*2.7	*14.8	2.9	6.4	0.4	-	-	6.7
25 TO 34 YEARS	31.6	23.3	25.3	*28.5	*30.0	30.2	42.2	36.3	31.3	*15.0	19.1
35 TO 44 YEARS	27.9	18.9	25.7	*22.4	*41.7	26.4	23.2	27.9	36.5	-	23.9
45 TO 54 YEARS	21.9	25.4	21.7	*25.6	*10.8	24.7	15.4	23.5	19.5	*72.8	26.4
55 YEARS AND OVER	15.1	26.0	17.2	*20.7	*2.6	15.6	12.8	11.9	12.8	*12.2	23.8
PHYSICISTS	34 801	651	1 090	407	348	2 933	4 606	9 037	14 541	246	943
AGE											
UNDER 25 YEARS	1 237	29	178	-	59	229	534	178	-	-	29
25 TO 34 YEARS	12 480	197	235	78	139	983	1 917	3 738	5 033	50	110
35 TO 44 YEARS	11 331	235	246	116	102	896	1 080	2 889	5 398	50	321
45 TO 54 YEARS	6 324	68	231	138	26	647	807	1 526	2 505	44	332
55 YEARS AND OVER	3 429	122	200	75	22	178	268	707	1 605	103	151
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	1.9	3.1	1.2	1.0	8.4	13.2	26.0	41.8	0.7	2.7
UNDER 25 YEARS	*100.0	*2.4	*14.4	-	*4.8	*16.5	*43.2	*14.4	-	-	*2.4
25 TO 34 YEARS	100.0	1.6	1.9	0.6	1.1	7.9	15.4	30.0	40.3	0.4	0.9
35 TO 44 YEARS	100.0	2.1	2.2	1.0	0.9	7.9	9.5	25.5	47.6	0.4	2.8
45 TO 54 YEARS	100.0	1.1	3.7	2.2	0.4	10.2	12.8	24.1	39.6	0.7	5.3
55 YEARS AND OVER	100.0	3.5	5.8	2.2	0.6	5.2	7.8	20.6	46.8	3.0	4.4
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	3.6	*4.5	*16.3	-	*16.9	7.8	11.6	2.0	-	-	*3.1
25 TO 34 YEARS	35.9	*30.3	*21.6	*19.2	*40.0	33.5	41.6	41.4	34.6	*20.2	*11.6
35 TO 44 YEARS	32.6	*36.1	*22.5	*28.4	*29.2	30.6	23.4	32.0	37.1	*20.2	*34.0
45 TO 54 YEARS	18.2	*10.4	*21.2	*34.0	*7.5	22.1	17.5	16.9	17.2	*17.7	*35.2
55 YEARS AND OVER	9.9	*18.7	*18.3	*18.4	*6.3	6.1	5.8	7.8	11.0	*41.8	*16.0

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
OTHER PHYSICAL SCIENTISTS. . .	33 122	1 431	1 694	400	228	8 063	6 505	8 025	5 740	104	933
AGE											
UNDER 25 YEARS	690	21	115	26	55	142	303	29	-	-	-
25 TO 34 YEARS	7 322	274	226	81	62	1 156	1 566	2 264	1 498	26	169
35 TO 44 YEARS	11 313	435	606	104	88	2 785	1 813	2 890	2 263	24	305
45 TO 54 YEARS	9 281	465	501	189	-	2 829	1 867	1 970	1 058	24	377
55 YEARS AND OVER.	4 516	235	247	-	23	1 152	955	872	921	29	82
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	4.3	5.1	1.2	0.7	24.3	19.6	24.2	17.3	0.3	2.8
UNDER 25 YEARS	*100.0	*3.0	*16.6	*3.8	*8.0	*20.5	*43.9	*4.2	-	-	-
25 TO 34 YEARS	100.0	3.7	3.1	1.1	0.8	15.8	21.4	30.9	20.5	0.4	2.3
35 TO 44 YEARS	100.0	3.8	5.4	0.9	0.8	24.6	16.0	25.5	20.0	0.2	2.7
45 TO 54 YEARS	100.0	5.0	5.4	2.0	-	30.5	20.1	21.2	11.4	0.3	4.1
55 YEARS AND OVER.	100.0	5.2	5.5	-	0.5	25.5	21.2	19.3	20.4	0.6	1.8
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	2.1	*1.5	*6.8	*6.5	*24.1	1.8	4.7	0.4	-	-	-
25 TO 34 YEARS	22.1	*19.1	*13.3	*20.4	*27.1	14.3	24.1	28.2	26.1	*25.1	*18.1
35 TO 44 YEARS	34.2	*30.4	*35.8	*26.0	*38.7	34.5	27.9	36.0	39.4	*23.5	*32.7
45 TO 54 YEARS	28.0	*32.5	*29.6	*47.2	-	35.1	28.7	24.5	18.4	*23.5	*40.4
55 YEARS AND OVER.	13.6	*16.4	*14.6	-	*10.1	14.3	14.7	10.9	16.0	*27.9	*8.8
SOCIAL SCIENTISTS, TOTAL . .	121 459	4 242	5 290	1 922	756	19 245	14 166	37 702	32 150	1 933	4 053
AGE											
UNDER 25 YEARS	2 035	45	105	168	-	730	471	297	27	-	191
25 TO 34 YEARS	43 986	323	1 141	562	324	6 999	6 267	17 919	9 195	545	710
35 TO 44 YEARS	33 884	1 061	1 362	542	194	5 740	3 668	9 922	10 251	396	749
45 TO 54 YEARS	25 725	1 687	1 609	272	139	3 847	2 411	6 337	7 774	523	1 128
55 YEARS AND OVER.	15 828	1 126	1 073	378	99	1 929	1 349	3 227	4 904	469	1 275
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	3.5	4.4	1.6	0.6	15.8	11.7	31.0	26.5	1.6	3.3
UNDER 25 YEARS	*100.0	*2.2	*5.2	*8.3	-	*35.9	*23.2	*14.6	*1.3	-	*9.4
25 TO 34 YEARS	100.0	0.7	2.6	1.3	0.7	15.9	14.2	40.7	20.9	1.2	1.6
35 TO 44 YEARS	100.0	3.1	4.0	1.6	0.6	16.9	10.8	29.3	30.3	1.2	2.2
45 TO 54 YEARS	100.0	6.6	6.3	1.1	0.5	15.0	9.4	24.6	30.2	2.0	4.4
55 YEARS AND OVER.	100.0	7.1	6.8	2.4	0.6	12.2	8.5	20.4	31.0	3.0	8.1
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	1.7	1.1	2.0	*8.7	-	3.8	3.3	0.8	0.1	-	4.7
25 TO 34 YEARS	36.2	7.6	21.6	*29.2	*42.9	36.4	44.2	47.5	28.6	*28.2	17.5
35 TO 44 YEARS	27.9	25.0	25.7	*28.2	*25.6	29.8	25.9	26.3	31.9	*20.5	18.5
45 TO 54 YEARS	21.2	39.8	30.4	*14.1	*18.4	20.0	17.0	16.8	24.2	*27.0	27.8
55 YEARS AND OVER.	13.0	26.5	20.3	*19.7	*13.1	10.0	9.5	8.6	15.3	*24.3	31.4
ECONOMISTS	68 401	3 599	4 533	1 078	597	16 639	8 601	20 192	8 928	1 076	3 158
AGE											
UNDER 25 YEARS	1 109	45	80	-	-	538	224	82	-	-	140
25 TO 34 YEARS	24 642	181	947	373	218	6 023	3 253	10 358	2 506	263	518
35 TO 44 YEARS	18 408	944	1 198	349	168	4 904	2 507	4 796	2 675	201	665
45 TO 54 YEARS	14 640	1 495	1 529	137	112	3 385	1 668	3 191	1 925	340	858
55 YEARS AND OVER.	9 603	934	779	219	99	1 789	949	1 765	1 822	272	976
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	5.3	6.6	1.6	0.9	24.3	12.6	29.5	13.1	1.6	4.6
UNDER 25 YEARS	*100.0	*4.1	*7.2	-	-	*48.5	*20.2	*7.4	-	-	*12.6
25 TO 34 YEARS	100.0	0.7	3.8	1.5	0.9	24.4	13.2	42.0	10.2	1.1	2.1
35 TO 44 YEARS	100.0	5.1	6.5	1.9	0.9	26.6	13.6	26.1	14.5	1.1	3.6
45 TO 54 YEARS	100.0	10.2	10.4	0.9	0.8	23.1	11.4	21.8	13.1	2.3	5.9
55 YEARS AND OVER.	100.0	9.7	8.1	2.3	1.0	18.6	9.9	18.4	19.0	2.8	10.2
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	100.0
UNDER 25 YEARS	1.6	1.3	1.8	-	-	3.2	2.6	0.4	-	-	4.4
25 TO 34 YEARS	36.0	5.0	20.9	*34.6	*36.5	36.2	37.8	51.3	28.1	*24.5	16.4
35 TO 44 YEARS	26.9	26.2	26.4	*32.4	*28.1	29.5	29.1	23.8	30.0	*18.7	21.1
45 TO 54 YEARS	21.4	41.5	33.7	*12.7	*18.8	20.3	19.4	15.8	21.6	*31.6	27.2
55 YEARS AND OVER.	14.0	26.0	17.2	*20.4	*16.6	10.7	11.0	8.7	20.4	*25.3	30.9

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
MALE--CONTINUED											
PSYCHOLOGISTS.	26 473	188	55	357	56	501	2 095	8 378	14 134	327	382
AGE											
UNDER 25 YEARS	412	-	-	110	-	110	29	163	-	-	-
25 TO 34 YEARS	9 967	57	-	87	56	167	1 358	3 616	4 426	115	86
35 TO 44 YEARS	7 796	28	29	55	-	141	433	2 222	4 775	29	84
45 TO 54 YEARS	5 766	103	-	28	-	53	192	1 554	3 632	126	78
55 YEARS AND OVER.	2 532	-	26	77	-	32	82	823	1 301	57	134
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	0.7	0.2	1.3	0.2	1.9	7.9	31.6	53.4	1.2	1.4
UNDER 25 YEARS	*100.0	-	-	*26.6	-	*26.6	*7.1	*39.7	-	-	-
25 TO 34 YEARS	100.0	0.6	-	0.9	0.6	1.7	13.6	36.3	44.4	1.2	0.9
35 TO 44 YEARS	100.0	0.4	0.4	0.7	-	1.8	5.6	28.5	61.3	0.4	1.1
45 TO 54 YEARS	100.0	1.8	-	0.5	-	0.9	3.3	27.0	63.0	2.2	1.4
55 YEARS AND OVER.	100.0	-	1.0	3.0	-	1.2	3.3	32.5	51.4	2.3	5.3
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	1.6	-	-	*30.8	-	*21.9	1.4	2.0	-	-	-
25 TO 34 YEARS	37.6	*30.5	-	*24.3	*100.0	*33.2	64.8	43.2	31.3	*35.1	*22.6
35 TO 44 YEARS	29.4	*14.7	*52.9	*15.5	-	*28.0	20.7	26.5	33.8	*8.9	*21.9
45 TO 54 YEARS	21.8	*54.8	-	*7.8	-	*10.5	9.2	18.6	25.7	*38.5	*20.4
55 YEARS AND OVER.	9.6	-	*47.1	*21.6	-	*6.3	3.9	9.8	9.2	*17.5	*35.1
OTHER SOCIAL SCIENTISTS. . . .	26 584	455	702	487	103	2 104	3 470	9 132	9 088	529	514
AGE											
UNDER 25 YEARS	514	-	26	58	-	83	218	51	27	-	51
25 TO 34 YEARS	9 377	85	194	102	51	810	1 656	3 945	2 262	167	105
35 TO 44 YEARS	7 681	90	135	138	26	695	728	2 904	2 801	166	-
45 TO 54 YEARS	5 320	89	80	107	27	408	550	1 592	2 218	57	192
55 YEARS AND OVER.	3 693	192	268	81	-	109	318	639	1 781	140	165
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	1.7	2.6	1.8	0.4	7.9	13.1	34.3	34.2	2.0	1.9
UNDER 25 YEARS	*100.0	-	*5.0	*11.4	-	*16.1	*42.4	*10.0	*5.2	-	*10.0
25 TO 34 YEARS	100.0	0.9	2.1	1.1	0.5	8.6	17.7	42.1	24.1	1.8	1.1
35 TO 44 YEARS	100.0	1.2	1.8	1.8	0.3	9.0	9.5	37.8	36.5	2.2	-
45 TO 54 YEARS	100.0	1.7	1.5	2.0	0.5	7.7	10.3	29.9	41.7	1.1	3.6
55 YEARS AND OVER.	100.0	5.2	7.3	2.2	-	2.9	8.6	17.3	48.2	3.8	4.5
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	1.9	-	*3.6	*12.0	-	3.9	6.3	0.6	0.3	-	*10.0
25 TO 34 YEARS	35.3	*18.6	*27.5	*21.0	*49.6	38.5	47.7	43.2	24.9	*31.6	*20.5
35 TO 44 YEARS	28.9	*19.7	*19.2	*28.3	*24.8	33.0	21.0	31.8	30.8	*31.3	-
45 TO 54 YEARS	20.0	*19.5	*11.4	*22.0	*25.7	19.4	15.9	17.4	24.4	*10.7	*37.3
55 YEARS AND OVER.	13.9	*42.2	*38.2	*16.7	-	5.2	9.2	7.0	19.6	*26.5	*32.2
FEMALE											
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL.	56 794	12 126	8 628	877	1 983	20 703	3 314	4 238	228	154	4 543
AGE											
UNDER 25 YEARS	9 686	1 459	1 908	295	861	3 763	384	148	-	-	671
25 TO 34 YEARS	28 159	3 139	3 670	388	601	13 948	2 014	2 567	73	84	1 676
35 TO 44 YEARS	9 071	3 152	1 621	-	257	1 817	663	748	71	31	711
45 TO 54 YEARS	6 945	3 113	1 231	149	174	979	169	439	84	39	568
55 YEARS AND OVER.	2 931	1 262	198	45	89	198	84	338	-	-	718
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	21.4	15.2	1.5	3.5	36.5	5.8	7.5	0.4	0.3	8.0
UNDER 25 YEARS	100.0	15.1	19.7	3.0	8.9	38.8	4.0	1.5	-	-	9.0
25 TO 34 YEARS	100.0	11.1	13.0	1.4	2.1	49.5	7.2	9.1	0.3	0.3	6.0
35 TO 44 YEARS	100.0	34.8	17.9	-	2.8	20.0	7.3	8.2	0.8	0.3	7.8
45 TO 54 YEARS	100.0	44.8	17.7	2.1	2.5	14.1	2.4	6.3	1.2	0.6	8.2
55 YEARS AND OVER.	*100.0	*43.1	*6.7	*1.5	*3.0	*6.8	*2.9	*11.5	-	-	*24.5
PERCENT DISTRIBUTION BY AGE. .	100.0	100.0	100.0	*100.0	*100.0	100.0	*100.0	100.0	*100.0	*100.0	100.0
UNDER 25 YEARS	17.1	12.0	22.1	*33.7	*43.4	18.2	*11.6	3.5	-	-	19.2
25 TO 34 YEARS	49.6	25.9	42.5	*44.2	*30.3	67.4	*60.8	60.6	*31.9	*54.3	36.9
35 TO 44 YEARS	16.0	26.0	18.8	-	*13.0	8.8	*20.0	17.6	*31.1	*20.1	15.6
45 TO 54 YEARS	12.2	25.7	14.3	*17.0	*8.8	4.7	*5.1	10.4	*37.1	*25.6	12.5
55 YEARS AND OVER.	5.2	10.4	2.3	*5.1	*4.5	1.0	*2.5	8.0	-	-	15.8

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
COMPUTER PROGRAMMERS	35 405	6 048	5 399	767	1 470	14 611	1 861	2 405	-	84	2 760
AGE											
UNDER 25 YEARS	7 601	969	1 560	295	749	3 295	221	148	-	-	664
25 TO 34 YEARS	19 307	2 274	2 497	388	449	9 823	1 140	1 598	-	84	1 055
35 TO 44 YEARS	5 063	1 455	1 080	-	188	1 154	416	322	-	-	449
45 TO 54 YEARS	2 140	938	178	85	85	338	85	178	-	-	254
55 YEARS AND OVER	994	412	85	-	-	-	-	160	-	-	338
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	17.1	15.2	2.2	4.2	41.3	5.3	6.8	-	0.2	7.8
UNDER 25 YEARS	100.0	12.3	19.7	3.7	9.5	41.7	2.8	1.9	-	-	8.4
25 TO 34 YEARS	100.0	11.8	12.9	2.0	2.3	50.9	5.9	8.3	-	0.4	5.5
35 TO 44 YEARS	*100.0	*28.7	*21.3	-	*3.7	*22.8	*8.2	*6.4	-	-	*8.9
45 TO 54 YEARS	*100.0	*43.8	*8.3	*3.9	*3.9	*15.8	*3.9	*8.3	-	-	*11.8
55 YEARS AND OVER	*100.0	*41.4	*8.5	-	-	-	-	*16.1	-	-	*34.0
PERCENT DISTRIBUTION BY AGE	100.0	100.0	*100.0	*100.0	*100.0	100.0	*100.0	*100.0	-	*100.0	*100.0
UNDER 25 YEARS	22.3	16.0	*28.9	*38.5	*50.9	22.6	*11.9	*6.1	-	-	*24.1
25 TO 34 YEARS	54.5	37.6	*46.2	*50.5	*30.6	67.2	*61.2	*66.4	-	*100.0	*38.2
35 TO 44 YEARS	14.3	24.1	*20.0	-	*12.8	7.9	*22.3	*13.4	-	-	*16.3
45 TO 54 YEARS	6.0	15.5	*3.3	*11.0	*5.7	2.3	*4.5	*7.4	-	-	*9.2
55 YEARS AND OVER	2.8	6.8	*1.6	-	-	-	-	*6.6	-	-	*12.3
COMPUTER SYSTEMS ANALYSTS	12 033	3 396	1 835	45	393	3 914	554	808	117	39	932
AGE											
UNDER 25 YEARS	1 275	361	281	-	70	352	35	-	-	-	176
25 TO 34 YEARS	5 477	538	789	-	152	2 650	398	435	73	-	442
35 TO 44 YEARS	2 170	948	199	-	36	435	76	284	-	-	191
45 TO 54 YEARS	2 485	1 146	565	-	89	388	45	45	45	39	124
55 YEARS AND OVER	626	402	-	45	45	89	-	45	-	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	28.2	15.3	0.4	3.3	32.5	4.6	6.7	1.0	0.3	7.7
UNDER 25 YEARS	*100.0	*28.3	*22.1	-	*5.5	*27.6	*2.8	-	-	-	*13.8
25 TO 34 YEARS	100.0	9.8	14.4	-	2.8	48.4	7.3	7.9	1.3	-	8.1
35 TO 44 YEARS	*100.0	*43.7	*9.2	-	*1.7	*20.1	*3.5	*13.1	-	-	*8.8
45 TO 54 YEARS	*100.0	*46.1	*22.7	-	*3.6	*15.6	*1.8	*1.8	*1.8	*1.6	*5.0
55 YEARS AND OVER	*100.0	*64.3	-	*7.1	*7.1	*14.3	-	*7.1	-	-	-
PERCENT DISTRIBUTION BY AGE	100.0	100.0	*100.0	*100.0	*100.0	100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	10.6	10.6	*15.3	-	*17.9	9.0	*6.3	-	-	-	*18.9
25 TO 34 YEARS	45.5	15.8	*43.0	-	*38.7	67.7	*71.9	*53.8	*61.9	-	*47.4
35 TO 44 YEARS	18.0	27.9	*10.9	-	*9.2	11.1	*13.7	*35.1	-	-	*20.5
45 TO 54 YEARS	20.7	33.8	*30.8	-	*22.8	9.9	*8.1	*5.5	*38.1	*100.0	*13.3
55 YEARS AND OVER	5.2	11.8	-	*100.0	*11.4	2.3	-	*5.5	-	-	-
COMPUTER SPECIALISTS, N.E.C.	1 835	507	266	31	-	476	117	166	31	31	210
AGE											
UNDER 25 YEARS	173	86	24	-	-	31	-	-	-	-	31
25 TO 34 YEARS	649	31	93	-	-	297	55	111	-	-	62
35 TO 44 YEARS	427	124	31	-	-	93	62	24	31	31	31
45 TO 54 YEARS	465	217	93	31	-	31	-	31	-	-	62
55 YEARS AND OVER	122	49	24	-	-	24	-	-	-	-	24
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*27.6	*14.5	*1.7	-	*25.9	*6.4	*9.0	*1.7	*1.7	*11.5
UNDER 25 YEARS	*100.0	*50.0	*14.1	-	-	*17.9	-	-	-	-	*17.9
25 TO 34 YEARS	*100.0	*4.8	*14.3	-	-	*45.7	*8.5	*17.1	-	-	*9.6
35 TO 44 YEARS	*100.0	*29.0	*7.3	-	-	*21.8	*14.5	*5.7	*7.3	*7.3	*7.3
45 TO 54 YEARS	*100.0	*46.7	*20.0	*6.7	-	*6.7	-	*6.7	-	-	*13.3
55 YEARS AND OVER	*100.0	*40.0	*20.0	-	-	*20.0	-	-	-	-	*20.0
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	*100.0	-	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	*9.4	*17.0	*9.2	-	-	*6.5	-	-	-	-	*14.7
25 TO 34 YEARS	*35.3	*6.1	*35.0	-	-	*62.3	*47.2	*66.7	-	-	*29.5
35 TO 44 YEARS	*23.3	*24.5	*11.7	-	-	*19.5	*52.8	*14.7	*100.0	*100.0	*14.7
45 TO 54 YEARS	*25.3	*42.8	*35.0	*100.0	-	*6.5	-	*18.7	-	-	*29.5
55 YEARS AND OVER	*6.6	*9.6	*9.2	-	-	*5.1	-	-	-	-	*11.6

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
OPERATIONS AND SYSTEMS ANALYSTS	7 520	2 175	1 128	34	120	1 703	781	860	80	-	641
AGE											
UNDER 25 YEARS	339	42	42	-	42	85	127	-	-	-	-
25 TO 34 YEARS	2 727	296	291	-	-	1 178	421	423	-	-	117
35 TO 44 YEARS	1 410	625	311	-	34	134	109	118	40	-	40
45 TO 54 YEARS	1 455	812	395	34	-	222	40	185	40	-	129
55 YEARS AND OVER	1 189	399	89	-	44	84	84	133	-	-	355
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	28.9	15.0	0.4	1.6	22.6	10.4	11.4	1.1	-	8.5
UNDER 25 YEARS	*100.0	*12.5	*12.5	-	*12.5	*25.0	*37.5	-	-	-	-
25 TO 34 YEARS	*100.0	*10.9	*10.7	-	-	*43.2	*15.4	*15.5	-	-	*4.3
35 TO 44 YEARS	*100.0	*44.3	*22.0	-	*2.4	*9.5	*7.8	*8.4	*2.8	-	*2.8
45 TO 54 YEARS	*100.0	*43.8	*21.3	*1.8	-	*12.0	*2.1	*10.0	*2.1	-	*6.9
55 YEARS AND OVER	*100.0	*33.6	*7.5	-	*3.7	*7.1	*7.1	*11.2	-	-	*29.9
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	-	*100.0
UNDER 25 YEARS	4.5	*1.9	*3.8	-	*35.2	*5.0	*16.3	-	-	-	-
25 TO 34 YEARS	36.3	*13.6	*25.8	-	-	*69.2	*53.9	*49.3	-	-	*18.3
35 TO 44 YEARS	18.8	*28.7	*27.5	-	*27.9	*7.9	*14.0	*13.8	*50.0	-	*6.2
45 TO 54 YEARS	24.7	*37.3	*35.0	*100.0	-	*13.0	*5.1	*21.5	*50.0	-	*20.1
55 YEARS AND OVER	15.8	*18.4	*7.9	-	*36.9	*4.9	*10.8	*15.5	-	-	*55.4
ENGINEERS, TOTAL	15 894	4 113	1 909	162	380	3 793	1 866	1 841	158	132	1 539
AGE											
UNDER 25 YEARS	627	87	130	-	-	287	-	27	-	-	95
25 TO 34 YEARS	4 734	725	290	27	-	1 406	1 100	880	-	-	307
35 TO 44 YEARS	2 861	1 051	196	-	79	777	175	271	-	-	312
45 TO 54 YEARS	5 290	1 849	909	27	302	681	318	435	158	-	610
55 YEARS AND OVER	2 382	401	384	109	-	641	273	228	-	132	216
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	25.9	12.0	1.0	2.4	23.9	11.7	11.6	1.0	0.8	9.7
UNDER 25 YEARS	*100.0	*13.9	*20.8	-	-	*45.8	-	*4.4	-	-	*15.1
25 TO 34 YEARS	*100.0	*15.3	*6.1	*0.6	-	*29.7	*23.2	*18.6	-	-	*6.5
35 TO 44 YEARS	*100.0	*36.7	*6.8	-	*2.8	*27.1	*6.1	*9.5	-	-	*10.9
45 TO 54 YEARS	*100.0	*35.0	*17.2	*0.5	*5.7	*12.9	*6.0	*8.2	*3.0	-	*11.5
55 YEARS AND OVER	*100.0	*16.8	*16.1	*4.6	-	*26.9	*11.4	*9.6	-	*5.5	*9.0
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	3.9	*2.1	*6.8	-	-	*7.6	-	*1.5	-	-	*6.2
25 TO 34 YEARS	29.8	*17.6	*15.2	*16.3	-	*37.1	*58.9	*47.8	-	-	*19.9
35 TO 44 YEARS	18.0	*25.6	*10.2	-	*20.7	*20.5	*9.4	*14.7	-	-	*20.3
45 TO 54 YEARS	33.3	*45.0	*47.6	*16.8	*79.3	*18.0	*17.1	*23.6	*100.0	-	*39.6
55 YEARS AND OVER	15.0	*9.7	*20.1	*66.9	-	*16.9	*14.6	*12.4	-	*100.0	*14.0
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS	957	164	245	57	27	136	164	82	-	-	82
AGE											
UNDER 25 YEARS	55	-	-	-	-	27	-	27	-	-	-
25 TO 34 YEARS	218	-	82	-	-	82	27	27	-	-	-
35 TO 44 YEARS	245	-	82	-	-	27	109	-	-	-	27
45 TO 54 YEARS	245	82	82	27	27	-	-	27	-	-	-
55 YEARS AND OVER	193	82	-	30	-	-	27	-	-	-	55
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*17.1	*25.6	*6.0	*2.8	*14.2	*17.1	*8.5	-	-	*8.5
UNDER 25 YEARS	*100.0	-	-	-	-	*50.0	-	*50.0	-	-	-
25 TO 34 YEARS	*100.0	-	*37.5	-	-	*37.5	*12.5	*12.5	-	-	-
35 TO 44 YEARS	*100.0	-	*33.3	-	-	*11.1	*44.4	-	-	-	*11.1
45 TO 54 YEARS	*100.0	*33.3	*33.3	*11.1	*11.1	-	-	*11.1	-	-	-
55 YEARS AND OVER	*100.0	*42.3	-	*15.4	-	-	*14.1	-	-	-	*28.2
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	-	-	*100.0
UNDER 25 YEARS	*5.7	-	-	-	-	*20.0	-	*33.3	-	-	-
25 TO 34 YEARS	*22.8	-	*33.3	-	-	*60.0	*16.7	*33.3	-	-	-
35 TO 44 YEARS	*25.6	-	*33.3	-	-	*20.0	*66.7	-	-	-	*33.3
45 TO 54 YEARS	*25.6	*50.0	*33.3	*47.8	*100.0	-	-	*33.3	-	-	-
55 YEARS AND OVER	*20.2	*50.0	-	*52.2	-	-	*16.7	-	-	-	*66.7

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
CHEMICAL ENGINEERS	269	32	27	27	-	157	-	-	-	-	27
AGE											
UNDER 25 YEARS	53	-	27	-	-	27	-	-	-	-	-
25 TO 34 YEARS	132	-	-	27	-	105	-	-	-	-	-
35 TO 44 YEARS	84	32	-	-	-	26	-	-	-	-	27
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	-	-	-	-	-	-	-	-	-	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*11.9	*9.9	*9.9	-	*58.5	-	-	-	-	*9.9
UNDER 25 YEARS	*100.0	-	*50.0	-	-	*50.0	-	-	-	-	-
25 TO 34 YEARS	*100.0	-	-	*20.1	-	*79.9	-	-	-	-	-
35 TO 44 YEARS	*100.0	*38.0	-	-	-	*30.5	-	-	-	-	*31.5
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	-	-	-	-	-	-	-	-	-	-	-
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	*100.0	-	*100.0	-	-	-	-	*100.0
UNDER 25 YEARS	*19.7	-	*100.0	-	-	*16.9	-	-	-	-	-
25 TO 34 YEARS	*49.0	-	-	*100.0	-	*66.9	-	-	-	-	-
35 TO 44 YEARS	*31.3	*100.0	-	-	-	*16.3	-	-	-	-	*100.0
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	-	-	-	-	-	-	-	-	-	-	-
CIVIL ENGINEERS	1 702	139	133	-	-	615	338	272	-	-	206
AGE											
UNDER 25 YEARS	66	-	66	-	-	-	-	-	-	-	-
25 TO 34 YEARS	544	66	-	-	-	133	199	73	-	-	73
35 TO 44 YEARS	404	73	-	-	-	133	66	66	-	-	66
45 TO 54 YEARS	555	-	66	-	-	283	73	133	-	-	-
55 YEARS AND OVER	133	-	-	-	-	66	-	-	-	-	66
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*8.2	*7.8	-	-	*36.1	*19.9	*16.0	-	-	*12.1
UNDER 25 YEARS	*100.0	-	*100.0	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*100.0	*12.2	-	-	-	*24.4	*36.6	*13.4	-	-	*13.4
35 TO 44 YEARS	*100.0	*18.0	-	-	-	*32.8	*16.4	*16.4	-	-	*16.4
45 TO 54 YEARS	*100.0	-	*11.9	-	-	*51.0	*13.1	*23.9	-	-	-
55 YEARS AND OVER	*100.0	-	-	-	-	*50.0	-	-	-	-	*50.0
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	-	-	*100.0	*100.0	*100.0	-	-	*100.0
UNDER 25 YEARS	*3.9	-	*50.0	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*31.9	*47.6	-	-	-	*21.6	*58.8	*26.8	-	-	*35.5
35 TO 44 YEARS	*23.8	*52.4	-	-	-	*21.6	*19.6	*24.4	-	-	*32.3
45 TO 54 YEARS	*32.6	-	*50.0	-	-	*46.1	*21.6	*48.8	-	-	-
55 YEARS AND OVER	*7.8	-	-	-	-	*10.8	-	-	-	-	*32.3
ELECTRICAL AND ELECTRONIC ENGINEERS	3 080	1 013	-	-	-	753	903	110	-	-	301
AGE											
UNDER 25 YEARS	151	-	-	-	-	151	-	-	-	-	-
25 TO 34 YEARS	1 164	260	-	-	-	301	602	-	-	-	-
35 TO 44 YEARS	562	151	-	-	-	301	-	110	-	-	-
45 TO 54 YEARS	1 054	602	-	-	-	-	151	-	-	-	301
55 YEARS AND OVER	151	-	-	-	-	-	151	-	-	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*32.9	-	-	-	*24.4	*29.3	*3.6	-	-	*9.8
UNDER 25 YEARS	*100.0	-	-	-	-	*100.0	-	-	-	-	-
25 TO 34 YEARS	*100.0	*22.4	-	-	-	*25.9	*51.7	-	-	-	-
35 TO 44 YEARS	*100.0	*26.8	-	-	-	*53.6	-	*19.6	-	-	-
45 TO 54 YEARS	*100.0	*57.1	-	-	-	-	*14.3	-	-	-	*28.6
55 YEARS AND OVER	*100.0	-	-	-	-	-	*100.0	-	-	-	-
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	-	-	-	*100.0	*100.0	*100.0	-	-	*100.0
UNDER 25 YEARS	*4.9	-	-	-	-	*20.0	-	-	-	-	-
25 TO 34 YEARS	*37.8	*25.7	-	-	-	*40.0	*66.7	-	-	-	-
35 TO 44 YEARS	*18.2	*14.9	-	-	-	*40.0	-	*100.0	-	-	-
45 TO 54 YEARS	*34.2	*59.4	-	-	-	-	*16.7	-	-	-	*100.0
55 YEARS AND OVER	*4.9	-	-	-	-	-	*16.7	-	-	-	-

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
INDUSTRIAL ENGINEERS	5 265	1 696	938	-	189	1 020	189	568	-	95	568
AGE											
UNDER 25 YEARS	95	-	-	-	-	-	-	-	-	-	95
25 TO 34 YEARS	1 317	284	95	-	-	370	-	474	-	-	95
35 TO 44 YEARS	736	465	-	-	-	176	-	95	-	-	-
45 TO 54 YEARS	2 084	663	568	-	189	284	95	-	-	-	284
55 YEARS AND OVER	1 033	284	275	-	-	189	95	-	-	95	95
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*32.2	*17.8	-	*3.6	*19.4	*3.6	*10.8	-	*1.8	*10.8
UNDER 25 YEARS	*100.0	-	-	-	-	-	-	-	-	-	*100.0
25 TO 34 YEARS	*100.0	*21.6	*7.2	-	-	*28.1	-	*36.0	-	-	*7.2
35 TO 44 YEARS	*100.0	*63.2	-	-	-	*24.0	-	*12.9	-	-	-
45 TO 54 YEARS	*100.0	*31.8	*27.3	-	*9.1	*13.6	*4.5	-	-	-	*13.6
55 YEARS AND OVER	*100.0	*27.5	*26.7	-	-	*18.3	*9.2	-	-	*9.2	*9.2
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	-	*100.0	*100.0	*100.0	*100.0	-	*100.0	*100.0
UNDER 25 YEARS	*1.8	-	-	-	-	-	-	-	-	-	*16.7
25 TO 34 YEARS	*25.0	*16.8	*10.1	-	-	*36.3	-	*83.3	-	-	*16.7
35 TO 44 YEARS	*14.0	*27.4	-	-	-	*17.3	-	*16.7	-	-	-
45 TO 54 YEARS	*39.6	*39.1	*60.6	-	*100.0	*27.9	*50.0	-	-	-	*50.0
55 YEARS AND OVER	*19.6	*16.8	*29.3	-	-	*18.6	*50.0	-	-	*100.0	*16.7
MECHANICAL ENGINEERS	907	331	-	-	85	329	-	83	-	-	78
AGE											
UNDER 25 YEARS	170	87	-	-	-	83	-	-	-	-	-
25 TO 34 YEARS	80	-	-	-	-	80	-	-	-	-	-
35 TO 44 YEARS	157	78	-	-	-	-	-	-	-	-	78
45 TO 54 YEARS	334	166	-	-	85	-	-	83	-	-	-
55 YEARS AND OVER	166	-	-	-	-	166	-	-	-	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*36.5	-	-	*9.4	*36.3	-	*9.1	-	-	*8.6
UNDER 25 YEARS	*100.0	*51.2	-	-	-	*48.8	-	-	-	-	-
25 TO 34 YEARS	*100.0	-	-	-	-	*100.0	-	-	-	-	-
35 TO 44 YEARS	*100.0	*50.0	-	-	-	-	-	-	-	-	*50.0
45 TO 54 YEARS	*100.0	*49.7	-	-	*25.5	-	-	*24.8	-	-	-
55 YEARS AND OVER	*100.0	-	-	-	-	*100.0	-	-	-	-	-
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	-	-	*100.0	*100.0	-	*100.0	-	-	*100.0
UNDER 25 YEARS	*18.8	*26.3	-	-	-	*25.2	-	-	-	-	-
25 TO 34 YEARS	*8.9	-	-	-	-	*24.4	-	-	-	-	-
35 TO 44 YEARS	*17.3	*23.7	-	-	-	-	-	-	-	-	*100.0
45 TO 54 YEARS	*36.8	*50.0	-	-	*100.0	-	-	*100.0	-	-	-
55 YEARS AND OVER	*18.3	-	-	-	-	*50.4	-	-	-	-	-
METALLURGICAL AND MATERIALS ENGINEERS	75	25	-	-	-	-	-	-	-	-	50
AGE											
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	25	-	-	-	-	-	-	-	-	-	25
35 TO 44 YEARS	25	25	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	25	-	-	-	-	-	-	-	-	-	25
55 YEARS AND OVER	-	-	-	-	-	-	-	-	-	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*33.3	-	-	-	-	-	-	-	-	*66.7
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*100.0	-	-	-	-	-	-	-	-	-	*100.0
35 TO 44 YEARS	*100.0	*100.0	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	*100.0	-	-	-	-	-	-	-	-	-	*100.0
55 YEARS AND OVER	-	-	-	-	-	-	-	-	-	-	-
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	-	-	-	-	-	-	-	-	*100.0
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*33.3	-	-	-	-	-	-	-	-	-	*50.0
35 TO 44 YEARS	*33.3	*100.0	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	*33.3	-	-	-	-	-	-	-	-	-	*50.0
55 YEARS AND OVER	-	-	-	-	-	-	-	-	-	-	-

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
MINING AND PETROLEUM ENGINEERS	75	-	37	-	-	-	-	-	-	37	-
AGE											
UNDER 25 YEARS	37	-	37	-	-	-	-	-	-	-	-
25 TO 34 YEARS	-	-	-	-	-	-	-	-	-	-	-
35 TO 44 YEARS	-	-	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	37	-	-	-	-	-	-	-	-	37	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	-	*50.0	-	-	-	-	-	-	*50.0	-
UNDER 25 YEARS	*100.0	-	*100.0	-	-	-	-	-	-	-	-
25 TO 34 YEARS	-	-	-	-	-	-	-	-	-	-	-
35 TO 44 YEARS	-	-	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	*100.0	-	-	-	-	-	-	-	-	*100.0	-
PERCENT DISTRIBUTION BY AGE	*100.0	-	*100.0	-	-	-	-	-	-	*100.0	-
UNDER 25 YEARS	*50.0	-	*100.0	-	-	-	-	-	-	-	-
25 TO 34 YEARS	-	-	-	-	-	-	-	-	-	-	-
35 TO 44 YEARS	-	-	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	*50.0	-	-	-	-	-	-	-	-	*100.0	-
SALES ENGINEERS	93	35	29	-	-	29	-	-	-	-	-
AGE											
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	29	-	-	-	-	29	-	-	-	-	-
35 TO 44 YEARS	-	-	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	64	35	29	-	-	-	-	-	-	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*37.3	*31.6	-	-	*31.1	-	-	-	-	-
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*100.0	-	-	-	-	*100.0	-	-	-	-	-
35 TO 44 YEARS	-	-	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	*100.0	*54.1	*45.9	-	-	-	-	-	-	-	-
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	-	-	*100.0	-	-	-	-	-
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*31.1	-	-	-	-	*100.0	-	-	-	-	-
35 TO 44 YEARS	-	-	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	*68.9	*100.0	*100.0	-	-	-	-	-	-	-	-
ENGINEERS, N.E.C., AND ENGINEERING TEACHERS	3 471	678	499	79	79	754	271	726	158	-	228
AGE											
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	1 225	114	114	-	-	306	271	306	-	-	114
35 TO 44 YEARS	648	228	114	-	79	114	-	-	-	-	114
45 TO 54 YEARS	993	336	193	-	-	114	-	193	158	-	-
55 YEARS AND OVER	605	-	79	79	-	220	-	228	-	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*19.5	*14.4	*2.3	*2.3	*21.7	*7.8	*20.9	*4.5	-	*6.6
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*100.0	*9.3	*9.3	-	-	*25.0	*22.1	*25.0	-	-	*9.3
35 TO 44 YEARS	*100.0	*35.1	*17.6	-	*12.2	*17.6	-	-	-	-	*17.6
45 TO 54 YEARS	*100.0	*33.9	*19.4	-	-	*11.5	-	*19.4	*15.9	-	-
55 YEARS AND OVER	*100.0	-	*13.0	*13.0	-	*36.3	-	*37.6	-	-	-
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	-	*100.0
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*35.3	*16.8	*22.8	-	-	*40.6	*100.0	*42.2	-	-	*50.0
35 TO 44 YEARS	*18.7	*33.6	*22.8	-	*100.0	*15.1	-	-	-	-	*50.0
45 TO 54 YEARS	*28.6	*49.8	*38.6	-	-	*15.1	-	*26.5	*100.0	-	-
55 YEARS AND OVER	*17.4	-	*15.8	*100.0	-	*29.2	-	*31.3	-	-	-

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
MATHEMATICAL SPECIALISTS, TOTAL	16 897	3 462	1 959	365	244	3 358	1 706	3 575	790	71	1 366
AGE											
UNDER 25 YEARS	2 046	402	380	71	120	384	247	285	-	-	156
25 TO 34 YEARS	5 589	514	353	135	58	1 673	826	1 564	230	-	237
35 TO 44 YEARS	2 361	526	279	-	-	446	189	474	238	-	209
45 TO 54 YEARS	3 705	1 040	506	97	29	357	266	679	206	71	455
55 YEARS AND OVER	3 197	981	441	62	37	498	178	573	117	-	310
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	20.5	11.6	2.2	1.4	19.9	10.1	21.2	4.7	0.4	8.1
UNDER 25 YEARS	*100.0	*19.7	*18.6	*3.5	*5.9	*18.8	*12.1	*14.0	-	-	*7.6
25 TO 34 YEARS	100.0	9.2	6.3	2.4	1.0	29.9	14.8	28.0	4.1	-	4.2
35 TO 44 YEARS	100.0	22.3	11.8	-	-	18.9	8.0	20.1	10.1	-	8.8
45 TO 54 YEARS	100.0	28.1	13.7	2.6	0.8	9.6	7.2	18.3	5.6	1.9	12.3
55 YEARS AND OVER	100.0	30.7	13.8	1.9	1.2	15.6	5.6	17.9	3.7	-	9.7
PERCENT DISTRIBUTION BY AGE	100.0	100.0	*100.0	*100.0	*100.0	100.0	*100.0	100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	12.1	11.6	*19.4	*19.6	*49.2	11.4	*14.5	8.0	-	-	*11.4
25 TO 34 YEARS	33.1	14.8	*18.0	*37.0	*23.8	49.8	*48.4	43.7	*29.0	-	*17.3
35 TO 44 YEARS	14.0	15.2	*14.2	-	-	13.3	*11.1	13.2	*30.1	-	*15.3
45 TO 54 YEARS	21.9	30.0	*25.8	*26.5	*11.8	10.6	*15.6	19.0	*26.0	*100.0	*33.3
55 YEARS AND OVER	18.9	28.3	*22.5	*16.9	*15.2	14.8	*10.4	16.0	*14.8	-	*22.7
ACTUARIES AND STATISTICIANS	10 515	3 139	1 742	160	178	2 302	988	746	64	71	1 125
AGE											
UNDER 25 YEARS	1 152	354	261	-	120	180	116	-	-	-	120
25 TO 34 YEARS	2 976	463	329	31	58	1 057	449	391	-	-	201
35 TO 44 YEARS	1 509	526	279	-	-	305	160	66	-	-	172
45 TO 54 YEARS	2 660	966	469	97	-	357	200	135	33	71	323
55 YEARS AND OVER	2 231	832	404	33	-	403	63	155	31	-	310
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	29.9	16.6	1.5	1.7	21.9	9.4	7.1	0.6	0.7	10.7
UNDER 25 YEARS	*100.0	*30.8	*22.7	-	*10.4	*15.6	*10.1	-	-	-	*10.4
25 TO 34 YEARS	100.0	15.5	11.0	1.0	2.0	35.5	15.1	13.1	-	-	6.8
35 TO 44 YEARS	*100.0	*34.9	*18.5	-	-	*20.2	*10.6	*4.3	-	-	*11.4
45 TO 54 YEARS	100.0	36.4	17.7	3.6	-	13.5	7.5	5.1	1.2	2.7	12.2
55 YEARS AND OVER	100.0	37.3	18.1	1.5	-	18.1	2.8	7.0	1.4	-	13.9
PERCENT DISTRIBUTION BY AGE	100.0	100.0	*100.0	*100.0	*100.0	100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	11.0	11.3	*15.0	-	*67.4	7.8	*11.8	-	-	-	*10.7
25 TO 34 YEARS	28.3	14.7	*16.9	*19.3	*32.6	45.9	*45.5	*52.4	-	-	*17.9
35 TO 44 YEARS	14.3	16.8	*16.0	-	-	13.3	*16.2	*8.8	-	-	*15.3
45 TO 54 YEARS	25.2	30.8	*26.9	*60.2	-	15.5	*20.2	*18.1	*51.6	*100.0	*28.7
55 YEARS AND OVER	21.2	26.5	*23.2	*20.4	-	17.5	*6.3	*20.8	*48.4	-	*27.5
MATHEMATICIANS	6 380	323	217	204	66	1 055	718	2 829	727	-	240
AGE											
UNDER 25 YEARS	894	48	119	71	-	204	131	285	-	-	36
25 TO 34 YEARS	2 613	53	24	104	-	616	377	1 173	230	-	36
35 TO 44 YEARS	852	-	-	-	-	140	29	408	238	-	37
45 TO 54 YEARS	1 055	74	37	-	29	-	66	544	173	-	132
55 YEARS AND OVER	966	148	37	29	37	95	115	418	87	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	5.1	3.4	3.2	1.0	16.5	11.3	44.3	11.4	-	3.8
UNDER 25 YEARS	*100.0	*5.3	*13.3	*8.0	-	*22.8	*14.6	*31.9	-	-	*4.0
25 TO 34 YEARS	100.0	2.0	0.9	4.0	-	23.6	14.4	44.9	8.8	-	1.4
35 TO 44 YEARS	*100.0	-	-	-	-	*16.5	*3.4	*47.9	*27.9	-	*4.4
45 TO 54 YEARS	*100.0	*7.0	*3.5	-	*2.7	-	*6.3	*51.6	*16.4	-	*12.5
55 YEARS AND OVER	*100.0	*15.4	*3.8	*3.0	*3.8	*9.8	*11.9	*43.3	*9.0	-	-
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	100.0	*100.0	-	*100.0
UNDER 25 YEARS	14.0	*14.8	*54.8	*34.9	-	*19.3	*18.2	10.1	-	-	*14.8
25 TO 34 YEARS	41.0	*16.3	*11.0	*51.0	-	*58.4	*52.5	41.5	*31.6	-	*14.8
35 TO 44 YEARS	13.4	-	-	-	-	*13.3	*4.0	14.4	*32.7	-	*15.4
45 TO 54 YEARS	16.5	*23.0	*17.1	-	*43.7	-	*9.2	19.2	*23.8	-	*54.9
55 YEARS AND OVER	15.1	*46.9	*17.1	*14.1	*56.3	*9.0	*16.1	14.8	*11.9	-	-

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—*Continued*

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
LIFE SCIENTISTS, TOTAL . . .	15 411	1 118	672	269	365	3 585	2 188	3 869	2 283	198	863
AGE											
UNDER 25 YEARS	1 524	51	176	83	101	553	289	117	-	-	153
25 TO 34 YEARS	6 002	150	135	60	192	1 830	977	1 752	633	25	248
35 TO 44 YEARS	3 262	326	129	-	46	561	323	792	869	34	182
45 TO 54 YEARS	2 609	251	124	74	-	451	360	664	512	87	85
55 YEARS AND OVER.	2 014	340	105	52	26	190	240	545	269	52	196
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	7.3	4.4	1.7	2.4	23.3	14.2	25.1	14.8	1.3	5.6
UNDER 25 YEARS	*100.0	*3.3	*11.7	*5.4	*6.6	*36.3	*18.9	*7.7	-	-	*10.0
25 TO 34 YEARS	100.0	2.5	2.3	1.0	3.2	30.5	16.3	29.2	10.5	0.4	4.1
35 TO 44 YEARS	100.0	10.0	4.0	-	1.4	17.2	9.9	24.3	26.6	1.0	5.6
45 TO 54 YEARS	100.0	9.6	4.8	2.8	-	17.3	13.8	25.4	19.6	3.3	3.2
55 YEARS AND OVER.	100.0	16.9	5.2	2.6	1.3	9.4	11.9	27.1	13.3	2.6	9.7
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	9.9	*4.5	*26.5	*30.8	*27.7	15.4	13.2	3.0	-	-	*17.7
25 TO 34 YEARS	38.9	*13.4	*20.1	*22.4	*52.5	51.0	44.6	45.3	27.7	*12.7	*28.7
35 TO 44 YEARS	21.2	*29.1	*19.2	-	*12.7	15.7	14.8	20.5	38.1	*17.2	*21.1
45 TO 54 YEARS	16.9	*22.5	*18.5	*27.5	-	12.6	16.4	17.2	22.4	*43.9	*9.8
55 YEARS AND OVER.	13.1	*30.4	*15.6	*19.3	*7.1	5.3	11.0	14.1	11.8	*26.2	*22.7
AGRICULTURAL SCIENTISTS, . . .	961	407	58	-	32	121	90	95	63	-	95
AGE											
UNDER 25 YEARS	85	-	26	-	-	58	-	-	-	-	-
25 TO 34 YEARS	127	32	-	-	32	32	-	32	-	-	-
35 TO 44 YEARS	222	95	32	-	-	-	32	-	32	-	32
45 TO 54 YEARS	248	121	-	-	-	-	-	63	32	-	32
55 YEARS AND OVER.	280	158	-	-	-	32	58	-	-	-	32
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*42.3	*6.1	-	*3.3	*12.6	*9.3	*9.9	*6.6	-	*9.9
UNDER 25 YEARS	*100.0	-	*31.3	-	-	*68.7	-	-	-	-	-
25 TO 34 YEARS	*100.0	*25.0	-	-	*25.0	*25.0	-	*25.0	-	-	-
35 TO 44 YEARS	*100.0	*42.9	*14.3	-	-	-	*14.3	-	*14.3	-	*14.3
45 TO 54 YEARS	*100.0	*49.0	-	-	-	-	-	*25.5	*12.8	-	*12.8
55 YEARS AND OVER.	*100.0	*56.6	-	-	-	*11.3	*20.8	-	-	-	*11.3
PERCENT DISTRIBUTION BY AGE. .	*100.0	*100.0	*100.0	-	*100.0	*100.0	*100.0	*100.0	*100.0	-	*100.0
UNDER 25 YEARS	*8.8	-	*45.6	-	-	*47.9	-	-	-	-	-
25 TO 34 YEARS	*13.2	*7.8	-	-	*100.0	*26.1	-	*33.3	-	-	-
35 TO 44 YEARS	*23.1	*23.4	*54.4	-	-	-	*35.3	-	*50.0	-	*33.3
45 TO 54 YEARS	*25.8	*29.9	-	-	-	-	-	*66.7	*50.0	-	*33.3
55 YEARS AND OVER.	*29.1	*39.0	-	-	-	*26.1	*64.7	-	-	-	*33.3
FORESTERS AND CONSERVATIONISTS, ...	101	-	-	-	-	101	-	-	-	-	-
AGE											
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	49	-	-	-	-	49	-	-	-	-	-
35 TO 44 YEARS	26	-	-	-	-	26	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER.	26	-	-	-	-	26	-	-	-	-	-
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	-	-	-	-	*100.0	-	-	-	-	-
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*100.0	-	-	-	-	*100.0	-	-	-	-	-
35 TO 44 YEARS	*100.0	-	-	-	-	*100.0	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER.	*100.0	-	-	-	-	*100.0	-	-	-	-	-
PERCENT DISTRIBUTION BY AGE. .	*100.0	-	-	-	-	*100.0	-	-	-	-	-
UNDER 25 YEARS	-	-	-	-	-	-	-	-	-	-	-
25 TO 34 YEARS	*48.6	-	-	-	-	*48.6	-	-	-	-	-
35 TO 44 YEARS	*25.7	-	-	-	-	*25.7	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER.	*25.7	-	-	-	-	*25.7	-	-	-	-	-

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
BIOLOGICAL SCIENTISTS.	14 349	711	614	269	333	3 363	2 098	3 774	2 219	198	768
AGE											
UNDER 25 YEARS	1 439	51	152	83	101	494	289	117	-	-	153
25 TO 34 YEARS	5 626	118	135	60	160	1 749	977	1 720	633	25	248
35 TO 44 YEARS	3 015	231	98	-	46	535	292	792	837	34	150
45 TO 54 YEARS	2 360	130	124	74	-	451	360	600	481	87	53
55 YEARS AND OVER.	1 708	182	105	52	26	132	182	545	269	52	164
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	5.0	4.3	1.9	2.3	23.4	14.6	26.3	15.5	1.4	5.4
UNDER 25 YEARS	*100.0	*3.5	*10.5	*5.8	*7.0	*34.4	*20.1	*8.1	-	-	*10.6
25 TO 34 YEARS	100.0	2.0	2.3	1.0	2.7	30.0	16.8	29.5	10.9	0.4	4.3
35 TO 44 YEARS	100.0	7.7	3.2	-	1.5	17.8	9.7	26.3	27.8	1.1	5.0
45 TO 54 YEARS	100.0	5.5	5.3	3.1	-	19.1	15.2	25.4	20.4	3.7	2.2
55 YEARS AND OVER.	*100.0	*10.6	*6.1	*3.0	*1.5	*7.7	*10.6	*31.9	*15.7	*3.0	*9.6
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	10.0	*7.1	*24.7	*30.8	*30.3	14.7	13.8	3.1	-	-	*19.9
25 TO 34 YEARS	40.6	*16.6	*22.0	*22.4	*48.0	52.0	46.6	45.6	28.5	*12.7	*32.3
35 TO 44 YEARS	21.0	*32.4	*15.9	-	*13.9	15.9	13.9	21.0	37.7	*17.2	*19.5
45 TO 54 YEARS	16.4	*18.3	*20.3	*27.5	-	13.4	17.1	15.9	21.7	*43.9	*6.9
55 YEARS AND OVER.	11.9	*25.6	*17.1	*19.3	*7.8	3.9	8.7	14.4	12.1	*26.2	*21.3
PHYSICAL SCIENTISTS. TOTAL .	17 729	1 210	1 451	278	186	6 089	2 343	3 071	2 160	37	905
AGE											
UNDER 25 YEARS	1 569	110	201	-	-	761	248	116	-	-	131
25 TO 34 YEARS	6 728	185	486	110	186	2 609	1 193	1 101	666	-	191
35 TO 44 YEARS	3 745	171	365	75	-	1 112	376	627	820	-	199
45 TO 54 YEARS	3 782	511	265	57	-	1 138	219	832	455	37	268
55 YEARS AND OVER.	1 905	233	133	37	-	469	305	394	220	-	115
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	6.8	8.2	1.6	1.0	34.3	13.2	17.3	12.2	0.2	5.1
UNDER 25 YEARS	*100.0	*7.0	*12.8	-	-	*48.5	*15.8	*7.4	-	-	*8.4
25 TO 34 YEARS	100.0	2.8	7.2	1.6	2.8	38.8	17.7	16.4	9.9	-	2.8
35 TO 44 YEARS	100.0	4.6	9.7	2.0	-	29.7	10.1	16.7	21.9	-	5.3
45 TO 54 YEARS	100.0	13.5	7.0	1.5	-	30.1	5.8	22.0	12.0	1.0	7.1
55 YEARS AND OVER.	*100.0	*12.2	*7.0	*2.0	-	*24.6	*16.0	*20.7	*11.5	-	*6.0
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	8.8	*9.1	*13.9	-	-	12.5	*10.6	*3.8	-	-	*14.5
25 TO 34 YEARS	37.9	*15.3	*33.5	*39.4	*100.0	42.8	*50.9	*35.9	*30.8	-	*21.2
35 TO 44 YEARS	21.1	*14.1	*25.2	*26.9	-	18.3	*16.1	*20.4	*38.0	-	*22.0
45 TO 54 YEARS	21.3	*42.2	*18.3	*20.3	-	18.7	*9.3	*27.1	*21.1	*100.0	*29.7
55 YEARS AND OVER.	10.7	*19.3	*9.1	*13.4	-	7.7	*13.0	*12.8	*10.2	-	*12.7
CHEMISTS	14 713	942	1 212	220	164	5 444	1 995	2 221	1 796	-	718
AGE											
UNDER 25 YEARS	1 281	110	165	-	-	669	110	116	-	-	110
25 TO 34 YEARS	5 902	164	438	110	164	2 376	1 094	792	600	-	164
35 TO 44 YEARS	3 068	108	329	54	-	913	339	454	710	-	161
45 TO 54 YEARS	2 951	390	223	57	-	1 017	167	566	304	-	226
55 YEARS AND OVER.	1 512	176	57	-	-	469	285	292	183	-	57
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	6.4	8.2	1.5	1.1	37.0	13.6	15.1	12.2	-	4.9
UNDER 25 YEARS	*100.0	*9.6	*12.9	-	-	*52.2	*8.6	*9.1	-	-	*8.6
25 TO 34 YEARS	100.0	2.8	7.4	1.9	2.8	40.3	18.5	13.4	10.2	-	2.8
35 TO 44 YEARS	*100.0	*3.5	*10.7	*1.8	-	*29.8	*11.1	*14.8	*23.1	-	*5.3
45 TO 54 YEARS	*100.0	*13.2	*7.6	*1.9	-	*34.5	*5.7	*19.2	*10.3	-	*7.7
55 YEARS AND OVER.	*100.0	*11.2	*3.7	-	-	*31.0	*18.8	*19.3	*12.1	-	*3.7
PERCENT DISTRIBUTION BY AGE. .	100.0	*100.0	*100.0	*100.0	*100.0	100.0	*100.0	*100.0	*100.0	-	*100.0
UNDER 25 YEARS	8.7	*11.7	*13.6	-	-	12.3	*5.5	*5.2	-	-	*15.3
25 TO 34 YEARS	40.1	*17.4	*36.1	*49.9	*100.0	43.6	*54.8	*35.7	*33.4	-	*22.8
35 TO 44 YEARS	20.9	*11.4	*27.1	*24.4	-	16.8	*17.0	*20.4	*39.5	-	*22.5
45 TO 54 YEARS	20.1	*41.4	*18.4	*25.7	-	18.7	*8.4	*25.5	*16.9	-	*31.5
55 YEARS AND OVER.	10.3	*18.0	*4.7	-	-	8.6	*14.3	*13.1	*10.2	-	*7.9

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—*Continued*

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
PHYSICISTS	1 410	36	72	37	-	223	147	599	184	37	74
AGE											
UNDER 25 YEARS	111	-	36	-	-	37	37	-	-	-	-
25 TO 34 YEARS	358	-	-	-	-	37	72	211	37	-	-
35 TO 44 YEARS	367	-	36	-	-	74	37	146	36	-	37
45 TO 54 YEARS	390	36	-	-	-	74	-	168	74	37	-
55 YEARS AND OVER	185	-	-	37	-	-	-	74	36	-	37
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*2.6	*5.1	*2.6	-	*15.8	*10.4	*42.5	*13.0	*2.6	*5.3
UNDER 25 YEARS	*100.0	-	*32.7	-	-	*33.7	*33.7	-	-	-	-
25 TO 34 YEARS	*100.0	-	-	-	-	*10.4	*20.2	*59.0	*10.4	-	-
35 TO 44 YEARS	*100.0	-	*9.8	-	-	*20.3	*10.2	*39.7	*9.8	-	*10.2
45 TO 54 YEARS	*100.0	*9.3	-	-	-	*19.1	-	*43.1	*19.1	*9.5	-
55 YEARS AND OVER	*100.0	-	-	*20.1	-	-	-	*40.2	*19.5	-	*20.1
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	*100.0	-	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	*7.8	-	*50.0	-	-	*16.7	*25.4	-	-	-	-
25 TO 34 YEARS	*25.4	-	-	-	-	*16.7	*49.2	*35.2	*20.2	-	-
35 TO 44 YEARS	*26.0	-	*50.0	-	-	*33.3	*25.4	*24.3	*19.6	-	*50.0
45 TO 54 YEARS	*27.7	*100.0	-	-	-	*33.3	-	*28.1	*40.5	*100.0	-
55 YEARS AND OVER	*13.1	-	-	*100.0	-	-	-	*12.4	*19.6	-	*50.0
OTHER PHYSICAL SCIENTISTS	1 606	232	166	21	21	422	201	251	180	-	112
AGE											
UNDER 25 YEARS	177	-	-	-	-	55	101	-	-	-	21
25 TO 34 YEARS	468	21	48	-	21	196	27	98	29	-	27
35 TO 44 YEARS	311	63	-	21	-	125	-	27	74	-	-
45 TO 54 YEARS	441	84	42	-	-	46	52	98	77	-	42
55 YEARS AND OVER	209	63	76	-	-	-	21	27	-	-	21
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	*100.0	*14.5	*10.4	*1.3	*1.3	*26.2	*12.5	*15.6	*11.2	-	*7.0
UNDER 25 YEARS	*100.0	-	-	-	-	*31.1	*57.0	-	-	-	*11.9
25 TO 34 YEARS	*100.0	*4.5	*10.3	-	*4.5	*41.8	*5.9	*20.9	*6.2	-	*5.9
35 TO 44 YEARS	*100.0	*20.4	-	*6.8	-	*40.1	-	*8.8	*23.8	-	-
45 TO 54 YEARS	*100.0	*19.1	*9.5	-	-	*10.4	*11.8	*22.2	*17.4	-	*9.6
55 YEARS AND OVER	*100.0	*30.4	*36.5	-	-	-	*10.0	*13.2	-	-	*10.0
PERCENT DISTRIBUTION BY AGE	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	-	*100.0
UNDER 25 YEARS	*11.0	-	-	-	-	*13.0	*50.1	-	-	-	*18.9
25 TO 34 YEARS	*29.2	*9.1	*29.0	-	*100.0	*46.5	*13.7	*39.1	*16.1	-	*24.6
35 TO 44 YEARS	*19.4	*27.3	-	*100.0	-	*29.6	-	*11.0	*41.3	-	-
45 TO 54 YEARS	*27.5	*36.3	*25.2	-	-	*10.9	*25.9	*39.0	*42.7	-	*37.8
55 YEARS AND OVER	*13.0	*27.3	*45.7	-	-	-	*10.4	*11.0	-	-	*18.7
SOCIAL SCIENTISTS, TOTAL	29 841	1 646	985	287	149	3 998	2 726	11 820	6 354	534	1 342
AGE											
UNDER 25 YEARS	1 326	122	178	61	59	416	101	257	29	-	103
25 TO 34 YEARS	11 059	315	178	116	90	2 154	1 758	4 595	1 579	73	202
35 TO 44 YEARS	6 579	148	258	31	-	528	281	2 692	2 159	143	340
45 TO 54 YEARS	6 180	630	247	79	-	528	253	2 361	1 619	99	364
55 YEARS AND OVER	4 696	433	123	-	-	372	333	1 916	969	218	333
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	5.5	3.3	1.0	0.5	13.4	9.1	39.6	21.3	1.8	4.5
UNDER 25 YEARS	*100.0	*9.2	*13.4	*4.6	*4.4	*31.4	*7.6	*19.4	*2.2	-	*7.8
25 TO 34 YEARS	100.0	2.8	1.6	1.0	0.8	19.5	15.9	41.5	14.3	0.7	1.8
35 TO 44 YEARS	100.0	2.2	3.9	0.5	-	8.0	4.3	40.9	32.8	2.2	5.2
45 TO 54 YEARS	100.0	10.2	4.0	1.3	-	8.5	4.1	38.2	26.2	1.6	5.9
55 YEARS AND OVER	100.0	9.2	2.6	-	-	7.9	7.1	40.8	20.6	4.6	7.1
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	4.4	*7.4	*18.1	*21.3	*39.4	10.4	3.7	2.2	0.5	-	*7.7
25 TO 34 YEARS	37.1	*19.1	*18.1	*40.3	*60.6	53.9	64.5	38.9	24.8	*13.7	*15.1
35 TO 44 YEARS	22.0	*9.0	*26.2	*10.9	-	13.2	10.3	22.8	34.0	*26.8	*25.3
45 TO 54 YEARS	20.7	*38.3	*25.1	*27.5	-	13.2	9.3	20.0	25.5	*18.6	*27.1
55 YEARS AND OVER	15.7	*26.3	*12.5	-	-	9.3	12.2	16.2	15.2	*40.9	*24.8

SEE FOOTNOTES AT END OF TABLE.

Table 1. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE, HIGHEST DEGREE HELD, AND SEX IN 1972—Continued

DETAILED OCCUPATION IN 1970, AGE IN 1972, AND SEX	TOTAL	HIGHEST DEGREE HELD IN 1972									
		NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
		NO COLLEGE	1-3 YEARS COLLEGE	4 OR MORE YEARS OF COLLEGE							
FEMALE--CONTINUED											
ECONOMISTS	8 281	891	491	-	90	2 769	799	1 679	558	212	791
AGE											
UNDER 25 YEARS	656	90	90	-	-	271	45	114	-	-	45
25 TO 34 YEARS	3 237	135	178	-	90	1 479	391	796	34	44	89
35 TO 44 YEARS	1 320	35	115	-	-	411	104	251	151	-	253
45 TO 54 YEARS	1 861	436	108	-	-	362	104	321	278	36	215
55 YEARS AND OVER	1 207	195	-	-	-	246	154	197	96	132	188
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	10.8	5.9	-	1.1	33.4	9.6	20.3	6.7	2.6	9.6
UNDER 25 YEARS	*100.0	*13.8	*13.8	-	-	*41.3	*6.9	*17.3	-	-	*6.9
25 TO 34 YEARS	100.0	4.2	5.5	-	2.8	45.7	12.1	24.6	1.1	1.4	2.7
35 TO 44 YEARS	*100.0	*2.6	*8.7	-	-	*31.1	*7.9	*19.0	*11.4	-	*19.2
45 TO 54 YEARS	*100.0	*23.4	*5.8	-	-	*19.4	*5.6	*17.3	*14.9	*1.9	*11.6
55 YEARS AND OVER	*100.0	*16.2	-	-	-	*20.4	*12.7	*16.3	*7.9	*10.9	*15.6
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	-	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	7.9	*10.1	*18.4	-	-	*9.8	*5.7	*6.8	-	-	*5.7
25 TO 34 YEARS	39.1	*15.1	*36.2	-	*100.0	*53.4	*49.0	*47.4	*6.1	*20.9	*11.2
35 TO 44 YEARS	15.9	*3.9	*23.3	-	-	*14.6	*13.0	*15.0	*27.0	-	*32.0
45 TO 54 YEARS	22.5	*48.9	*22.1	-	-	*13.1	*13.1	*19.1	*49.8	*17.0	*27.2
55 YEARS AND OVER	14.6	*21.9	-	-	-	*6.9	*19.2	*11.7	*17.1	*62.1	*23.8
PSYCHOLOGISTS	14 349	367	256	179	29	586	1 217	6 921	4 331	86	375
AGE											
UNDER 25 YEARS	435	31	58	-	29	118	25	87	29	-	58
25 TO 34 YEARS	5 001	89	-	87	-	264	848	2 456	1 203	-	54
35 TO 44 YEARS	3 545	89	86	31	-	29	129	1 679	1 421	29	58
45 TO 54 YEARS	3 062	102	77	60	-	83	89	1 566	942	26	117
55 YEARS AND OVER	2 306	63	35	-	-	94	126	1 132	735	31	88
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	2.6	1.8	1.2	0.2	4.1	8.5	48.2	30.2	0.6	2.6
UNDER 25 YEARS	*100.0	*7.2	*13.4	-	*6.7	*27.0	*5.7	*20.0	*6.7	-	*13.4
25 TO 34 YEARS	100.0	1.6	-	1.7	-	5.3	17.0	49.1	24.1	-	1.1
35 TO 44 YEARS	100.0	2.3	2.4	0.9	-	0.8	3.6	47.4	40.1	0.8	1.6
45 TO 54 YEARS	100.0	3.3	2.5	2.0	-	2.7	2.9	51.1	30.8	0.8	3.8
55 YEARS AND OVER	100.0	2.7	1.5	-	-	4.1	5.5	49.1	31.9	1.4	3.8
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	100.0	100.0	*100.0	*100.0
UNDER 25 YEARS	3.0	*8.5	*22.7	-	*100.0	*20.0	*2.0	1.3	0.7	-	*15.5
25 TO 34 YEARS	34.9	*24.3	-	*48.8	-	*44.9	*69.7	35.5	27.8	-	*14.3
35 TO 44 YEARS	24.7	*22.2	*33.8	*17.5	-	*4.9	*10.6	24.3	32.8	*33.6	*15.4
45 TO 54 YEARS	21.3	*27.8	*29.9	*33.7	-	*14.2	*7.3	22.6	21.8	*29.7	*31.2
55 YEARS AND OVER	16.1	*17.1	*13.6	-	-	*16.1	*10.3	16.4	17.0	*36.7	*23.6
OTHER SOCIAL SCIENTISTS	7 210	388	237	108	30	641	710	3 221	1 465	235	176
AGE											
UNDER 25 YEARS	235	-	30	61	30	27	31	56	-	-	-
25 TO 34 YEARS	2 821	91	-	28	-	411	518	1 343	341	28	59
35 TO 44 YEARS	1 715	31	57	-	-	88	47	761	587	114	28
45 TO 54 YEARS	1 256	92	62	19	-	83	60	474	398	37	31
55 YEARS AND OVER	1 183	174	88	-	-	31	53	587	138	55	57
PERCENT DISTRIBUTION BY HIGHEST DEGREE HELD	100.0	5.4	3.3	1.5	0.4	8.9	9.8	44.7	20.3	3.3	2.4
UNDER 25 YEARS	*100.0	-	*12.6	*26.0	*12.6	*11.6	*13.3	*23.8	-	-	-
25 TO 34 YEARS	100.0	3.2	-	1.0	-	14.6	18.4	47.6	12.1	1.0	2.1
35 TO 44 YEARS	*100.0	*1.8	*3.3	-	-	*5.1	*2.8	*44.4	*34.2	*6.7	*1.7
45 TO 54 YEARS	*100.0	*7.3	*5.0	*1.5	-	*6.6	*4.7	*37.7	*31.7	*3.0	*2.5
55 YEARS AND OVER	*100.0	*14.7	*7.5	-	-	*2.6	*4.5	*49.6	*11.6	*4.6	*4.8
PERCENT DISTRIBUTION BY AGE	100.0	*100.0	*100.0	*100.0	*100.0	*100.0	*100.0	100.0	*100.0	*100.0	*100.0
UNDER 25 YEARS	3.3	-	*12.5	*56.4	*100.0	*4.3	*4.4	1.7	-	-	-
25 TO 34 YEARS	39.1	*23.3	-	*26.3	-	*64.1	*73.0	41.7	*23.3	*12.1	*33.8
35 TO 44 YEARS	23.8	*8.0	*24.0	-	-	*13.8	*6.7	23.6	*40.1	*48.6	*16.2
45 TO 54 YEARS	17.4	*23.7	*26.3	*17.3	-	*13.0	*8.4	14.7	*27.2	*15.9	*17.8
55 YEARS AND OVER	16.4	*44.9	*37.2	-	-	*4.9	*7.5	18.2	*9.4	*23.4	*32.2

- ENTRY REPRESENTS ZERO.
* BASED ON FEWER THAN 70 SAMPLE CASES.
? LESS THAN 0.05 PERCENT.
[1] SOME GRADUATE WORK BUT NO GRADUATE DEGREE.

Table 2. MEDIAN AGE AND HIGHEST DEGREE HELD IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY SEX

OCCUPATION IN 1970 AND SEX	NUMBER	MEDIAN AGE								
		TOTAL	NO DEGREE	ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[1]	MASTER'S	PH.D.	OTHER DEGREE	DEGREE NOT REPORTED
BOTH SEXES										
OPERATIONS AND COMPUTER SPECIALISTS	337 933	34	35	30	32	32	34	36	36	36
ENGINEERS	1 242 519	42	46	36	43	39	38	39	41	47
MATHEMATICAL SPECIALISTS	61 679	37	46	29	35	32	35	38	45	46
LIFE SCIENTISTS	63 509	40	43	30	38	35	38	42	46	46
PHYSICAL SCIENTISTS	196 353	40	43	35	41	37	39	39	49	45
SOCIAL SCIENTISTS	151 299	39	46	35	37	35	36	42	47	47
MALE										
OPERATIONS AND COMPUTER SPECIALISTS	281 140	34	35	31	33	33	34	36	36	36
ENGINEERS	1 226 626	42	46	36	42	39	38	39	40	47
MATHEMATICAL SPECIALISTS	44 780	37	45	32	36	33	35	38	44	44
LIFE SCIENTISTS	68 097	40	43	33	39	36	38	42	45	51
PHYSICAL SCIENTISTS	178 624	40	43	36	42	37	39	39	49	45
SOCIAL SCIENTISTS	121 459	39	46	36	38	36	36	41	46	48
FEMALE										
OPERATIONS AND COMPUTER SPECIALISTS	56 794	30	35	27	28	29	32	41	(B)	33
ENGINEERS	15 894	44	47	46	39	31	35	(B)	(B)	46
MATHEMATICAL SPECIALISTS	16 897	36	46	25	31	31	35	43	(B)	49
LIFE SCIENTISTS	15 411	36	43	26	30	31	36	40	52	37
PHYSICAL SCIENTISTS	17 729	36	41	(B)	33	32	38	39	(B)	42
SOCIAL SCIENTISTS	29 841	39	46	(B)	30	30	34	42	51	46

B MEDIAN NOT SHOWN WHEN BASE IS LESS THAN 6 SAMPLE CASES.
[1]SOME GRADUATE WORK BUT NO GRADUATE DEGREE.

Table 3. MARITAL STATUS IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY SEX, AGE, AND HIGHEST DEGREE HELD IN 1972

OCCUPATION IN 1970 AND SEX, AGE, AND HIGHEST DEGREE HELD IN 1972	NUMBER						PERCENT[2]					
	TOTAL[1]	EVER MARRIED				NEVER MARRIED	TOTAL	EVER MARRIED				NEVER MARRIED
		TOTAL	MARRIED	SEPARATED OR DIVORCED	WIDOWED			TOTAL	MARRIED	SEPARATED OR DIVORCED	WIDOWED	
BOTH SEXES												
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	337 933	259 293	243 733	13 538	2 022	40 573	100.0	86.5	81.3	4.5	0.7	13.5
AGE												
UNDER 25 YEARS	25 326	14 003	13 392	611	-	8 990	100.0	60.9	58.2	2.7	-	39.1
25 TO 34 YEARS	164 571	123 800	116 432	7 249	118	23 404	100.0	84.1	79.1	4.9	0.1	15.9
35 TO 44 YEARS	84 619	68 739	64 633	3 687	418	5 078	100.0	93.1	87.6	5.0	0.6	6.9
45 TO 54 YEARS	46 447	38 773	36 374	1 621	778	2 089	100.0	94.9	89.0	4.0	1.9	5.1
55 YEARS AND OVER	16 970	13 978	12 902	369	707	1 013	100.0	93.2	86.1	2.5	4.7	6.8
HIGHEST DEGREE HELD												
NO DEGREE	132 125	107 446	99 772	6 499	1 176	13 677	100.0	88.7	82.4	5.4	1.0	11.3
ASSOCIATE	14 648	11 705	10 952	709	44	1 390	100.0	89.4	83.6	5.4	0.3	10.6
BACHELOR'S	88 362	67 180	63 977	2 678	525	13 074	100.0	83.7	79.7	3.3	0.7	16.3
BACHELOR'S PLUS[4]	36 323	27 572	25 852	1 675	45	5 879	100.0	82.4	77.3	5.0	0.1	17.6
MASTER'S	33 442	25 526	24 497	956	73	4 717	100.0	84.4	81.0	3.2	0.2	15.6
PH.D.	3 315	2 847	2 821	26	-	337	100.0	89.4	88.6	0.8	-	10.6
ENGINEERS, TOTAL[3]	1 242 519	1 026 761	989 737	28 353	8 672	63 079	100.0	94.2	90.8	2.6	0.8	5.8
AGE												
UNDER 25 YEARS	26 180	15 961	15 369	593	-	8 532	100.0	65.2	62.7	2.4	-	34.8
25 TO 34 YEARS	334 014	266 075	258 392	7 454	229	33 251	100.0	88.9	86.3	2.5	0.1	11.1
35 TO 44 YEARS	364 567	309 276	298 991	9 136	1 149	10 899	100.0	96.6	93.4	2.9	0.4	3.4
45 TO 54 YEARS	323 376	271 976	261 422	8 059	2 495	7 337	100.0	97.4	93.6	2.9	0.9	2.6
55 YEARS AND OVER	194 384	163 472	155 562	3 110	4 800	3 060	100.0	98.2	93.4	1.9	2.9	1.8
HIGHEST DEGREE HELD												
NO DEGREE	334 752	289 180	275 769	9 952	3 460	11 018	100.0	96.3	91.9	3.3	1.2	3.7
ASSOCIATE	46 256	37 788	36 587	1 074	128	2 788	100.0	93.1	90.2	2.6	0.3	6.9
BACHELOR'S	372 828	311 096	300 838	7 545	2 713	20 630	100.0	93.8	90.7	2.3	0.8	6.2
BACHELOR'S PLUS[4]	197 771	161 866	156 459	4 606	802	16 060	100.0	91.0	87.9	2.6	0.5	9.0
MASTER'S	162 753	140 100	136 071	3 598	431	9 351	100.0	93.7	91.0	2.4	0.3	6.3
PH.D.	25 092	22 196	21 962	136	98	904	100.0	96.1	95.1	0.6	0.4	3.9
MATHEMATICAL SPECIALISTS, TOTAL[3]	61 679	47 004	44 098	1 879	1 027	8 936	100.0	84.0	78.8	3.4	1.8	16.0
AGE												
UNDER 25 YEARS	3 913	1 976	1 918	23	35	1 646	100.0	54.6	53.0	0.6	1.0	45.4
25 TO 34 YEARS	23 991	18 040	17 421	584	35	4 344	100.0	80.6	77.8	2.6	0.2	19.4
35 TO 44 YEARS	13 388	11 127	10 601	440	87	1 100	100.0	91.0	86.7	3.6	0.7	9.0
45 TO 54 YEARS	11 163	8 509	7 775	545	189	1 111	100.0	88.5	80.8	5.7	2.0	11.5
55 YEARS AND OVER	9 224	7 352	6 382	287	682	735	100.0	90.9	78.9	3.6	8.4	9.1
HIGHEST DEGREE HELD												
NO DEGREE	10 904	8 036	7 168	423	445	1 760	100.0	82.0	73.2	4.3	4.5	18.0
ASSOCIATE	791	613	518	95	-	57	*100.0	*91.5	*77.3	*14.2	-	*8.5
BACHELOR'S	9 654	7 134	6 701	312	121	1 665	100.0	81.1	76.2	3.5	1.4	18.9
BACHELOR'S PLUS[4]	6 974	4 910	4 699	182	29	1 461	100.0	77.1	73.8	2.9	0.5	22.9
MASTER'S	18 312	14 651	14 100	389	162	2 407	100.0	85.9	82.7	2.3	1.0	14.1
PH.D.	12 065	9 941	9 418	382	141	1 285	100.0	88.6	83.9	3.4	1.3	11.4
LIFE SCIENTISTS, TOTAL[3]	83 509	68 552	65 179	2 668	705	7 762	100.0	89.8	85.4	3.5	0.9	10.2
AGE												
UNDER 25 YEARS	3 512	2 120	2 046	74	-	1 288	100.0	62.2	60.0	2.2	-	37.8
25 TO 34 YEARS	27 462	22 151	21 202	873	76	3 363	100.0	86.8	83.1	3.4	0.3	13.2
35 TO 44 YEARS	22 858	19 610	18 754	775	80	1 237	100.0	94.1	90.0	3.7	0.4	5.9
45 TO 54 YEARS	17 556	14 753	14 032	584	136	975	100.0	93.8	89.2	3.7	0.9	6.2
55 YEARS AND OVER	12 121	9 918	9 144	362	412	899	100.0	91.7	84.5	3.3	3.8	8.3
HIGHEST DEGREE HELD												
NO DEGREE	8 606	6 776	6 491	154	130	991	100.0	87.2	83.6	2.0	1.7	12.8
ASSOCIATE	686	368	340	28	-	127	*100.0	*74.3	*68.7	*5.7	-	*25.7
BACHELOR'S	20 493	17 275	16 645	421	208	1 902	100.0	90.1	86.8	2.2	1.1	9.9
BACHELOR'S PLUS[4]	10 750	8 307	7 783	442	81	1 467	100.0	85.0	79.6	4.5	0.8	15.0
MASTER'S	17 570	14 398	13 657	655	85	1 776	100.0	89.0	84.4	4.1	0.5	11.0
PH.D.	21 497	18 511	17 577	765	168	1 255	100.0	93.6	88.9	3.9	0.9	6.4
PHYSICAL SCIENTISTS, TOTAL[3]	196 353	160 182	153 458	5 147	1 578	17 423	100.0	90.2	86.4	2.9	0.9	9.8
AGE												
UNDER 25 YEARS	7 329	4 047	3 894	153	-	2 808	100.0	59.0	56.8	2.2	-	41.0
25 TO 34 YEARS	61 556	48 093	46 561	1 478	54	8 875	100.0	84.4	81.7	2.6	0.1	15.6
35 TO 44 YEARS	57 257	48 269	46 541	1 451	277	2 799	100.0	94.5	91.1	2.8	0.5	5.5
45 TO 54 YEARS	43 603	36 715	34 835	1 431	448	1 715	100.0	95.5	90.6	3.7	1.2	4.5
55 YEARS AND OVER	26 608	23 058	21 626	633	799	1 226	100.0	95.0	89.1	2.6	3.3	5.0
HIGHEST DEGREE HELD												
NO DEGREE	27 141	21 938	20 732	857	349	2 698	100.0	89.0	84.2	3.5	1.4	11.0
ASSOCIATE	2 762	2 363	2 210	153	-	202	*100.0	*92.1	*86.1	*6.0	-	*7.9
BACHELOR'S	44 581	35 798	34 129	1 169	501	4 647	100.0	88.5	84.4	2.9	1.2	11.5
BACHELOR'S PLUS[4]	28 901	22 133	21 150	766	217	3 965	100.0	84.8	81.0	2.9	0.8	15.2
MASTER'S	36 678	30 377	29 191	1 014	172	2 860	100.0	91.4	87.8	3.1	0.5	8.6
PH.D.	48 179	42 552	41 256	1 115	181	2 619	100.0	94.2	91.3	2.5	0.4	5.8

SEE FOOTNOTES AT END OF TABLE.

Table 3. MARITAL STATUS IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY SEX, AGE, AND HIGHEST DEGREE HELD IN 1972—Continued

OCCUPATION IN 1970 AND SEX, AGE, AND HIGHEST DEGREE HELD IN 1972	NUMBER						PERCENT[2]					
	TOTAL[1]	EVER MARRIED				NEVER MARRIED	TOTAL	EVER MARRIED				NEVER MARRIED
		TOTAL	MARRIED	SEPARATED OR DIVORCED	WIDOWED			TOTAL	MARRIED	SEPARATED OR DIVORCED	WIDOWED	
BOTH SEXES--CONTINUED												
SOCIAL SCIENTISTS, TOTAL[3]	151 299	120 487	111 432	7 265	1 791	14 121	100.0	89.5	82.8	5.4	1.3	10.5
AGE												
UNDER 25 YEARS	3 361	1 937	1 855	82	-	1 099	100.0	63.8	61.1	2.7	-	36.2
25 TO 34 YEARS	55 045	42 678	40 427	2 148	103	7 727	100.0	84.7	80.2	4.3	0.2	15.3
35 TO 44 YEARS	40 463	32 095	29 350	2 503	241	2 643	100.0	92.4	84.5	7.2	0.7	7.6
45 TO 54 YEARS	31 905	27 098	25 052	1 617	429	1 248	100.0	95.6	88.4	5.7	1.5	4.4
55 YEARS AND OVER	20 525	16 680	14 749	913	1 018	1 405	100.0	92.2	81.6	5.0	5.6	7.8
HIGHEST DEGREE HELD												
NO DEGREE	14 372	12 096	10 983	809	303	782	100.0	93.9	85.3	6.3	2.4	6.1
ASSOCIATE	905	712	712	-	-	95	*100.0	*88.2	*88.2	-	-	*11.8
BACHELOR'S	23 242	18 315	17 319	645	351	2 336	100.0	88.7	83.9	3.1	1.7	11.3
BACHELOR'S PLUS[4]	16 892	12 939	12 112	677	151	2 032	100.0	86.4	80.9	4.5	1.0	13.6
MASTER'S	49 523	39 327	36 447	2 377	502	5 359	100.0	88.0	81.6	5.3	1.1	12.0
PH.D.	38 504	31 998	29 227	2 419	352	2 975	100.0	91.5	83.6	6.9	1.0	8.5
MALE												
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	281 140	222 883	213 257	8 636	990	25 983	100.0	89.6	85.7	3.5	0.4	10.4
AGE												
UNDER 25 YEARS	15 638	8 757	8 553	204	-	5 443	100.0	61.7	60.2	1.4	-	38.3
25 TO 34 YEARS	136 412	106 034	101 032	4 926	76	15 515	100.0	87.2	83.1	4.1	0.1	12.8
35 TO 44 YEARS	75 549	62 472	59 821	2 397	254	3 331	100.0	94.9	90.9	3.6	0.4	5.1
45 TO 54 YEARS	39 502	33 564	32 336	943	284	1 250	100.0	96.4	92.9	2.7	0.8	3.6
55 YEARS AND OVER	14 039	12 057	11 515	166	376	443	100.0	96.5	92.1	1.3	3.0	3.5
HIGHEST DEGREE HELD												
NO DEGREE	110 495	92 697	87 971	4 127	600	8 994	100.0	91.2	86.5	4.1	0.6	8.8
ASSOCIATE	12 665	10 412	9 995	416	-	817	100.0	92.7	89.0	3.7	-	7.3
BACHELOR'S	67 659	53 696	51 781	1 597	318	7 118	100.0	88.3	85.1	2.6	0.5	11.7
BACHELOR'S PLUS[4]	33 009	25 711	24 408	1 303	-	4 703	100.0	84.5	80.3	4.3	-	15.5
MASTER'S	29 204	23 140	22 488	579	73	3 158	100.0	88.0	85.5	2.2	0.3	12.0
PH.D.	3 087	2 740	2 714	26	-	216	100.0	92.7	91.8	0.9	-	7.3
ENGINEERS, TOTAL[3]	1 226 626	1 016 910	981 922	27 018	7 969	59 941	100.0	94.4	91.2	2.5	0.7	5.6
AGE												
UNDER 25 YEARS	25 553	15 439	14 997	442	-	8 428	100.0	64.7	62.8	1.9	-	35.3
25 TO 34 YEARS	329 280	262 606	255 140	7 236	229	32 447	100.0	89.0	86.5	2.5	0.1	11.0
35 TO 44 YEARS	361 706	307 660	297 814	8 775	1 070	10 465	100.0	96.7	93.6	2.8	0.3	3.3
45 TO 54 YEARS	318 086	268 809	259 056	7 548	2 205	6 111	100.0	97.8	94.2	2.7	0.8	2.2
55 YEARS AND OVER	192 002	162 397	154 916	3 015	4 465	2 489	100.0	98.5	94.0	1.8	2.7	1.5
HIGHEST DEGREE HELD												
NO DEGREE	328 568	285 598	273 044	9 347	3 208	9 436	100.0	96.8	92.5	3.2	1.1	3.2
ASSOCIATE	45 876	37 502	36 328	1 074	101	2 788	100.0	93.1	90.2	2.7	0.2	6.9
BACHELOR'S	369 035	308 612	298 752	7 287	2 573	19 866	100.0	94.0	91.0	2.2	0.8	6.0
BACHELOR'S PLUS[4]	195 905	160 658	155 467	4 389	802	15 579	100.0	91.2	88.2	2.5	0.5	8.8
MASTER'S	160 912	136 856	135 055	3 370	431	9 162	100.0	93.8	91.2	2.3	0.3	6.2
PH.D.	24 934	22 038	21 804	136	98	904	100.0	96.1	95.0	0.6	0.4	3.9
MATHEMATICAL SPECIALISTS, TOTAL[3]	44 782	35 732	34 494	904	333	5 193	100.0	87.3	84.3	2.2	0.8	12.7
AGE												
UNDER 25 YEARS	1 867	904	846	23	35	811	*100.0	*52.7	*49.4	*1.3	*2.0	*47.3
25 TO 34 YEARS	18 402	14 087	13 718	369	-	3 148	100.0	81.7	79.6	2.1	-	18.3
35 TO 44 YEARS	11 027	9 553	9 209	257	87	590	100.0	94.2	90.8	2.5	0.9	5.8
45 TO 54 YEARS	7 458	5 977	5 747	230	-	441	100.0	93.1	89.5	3.6	-	6.9
55 YEARS AND OVER	6 027	5 211	4 974	25	212	203	100.0	96.2	91.9	0.5	3.9	3.8
HIGHEST DEGREE HELD												
NO DEGREE	5 118	4 049	3 908	26	114	591	100.0	87.3	84.2	0.6	2.5	12.7
ASSOCIATE	547	369	369	-	-	57	*100.0	*86.6	*86.6	-	-	*13.4
BACHELOR'S	6 296	5 074	4 862	185	27	715	100.0	87.6	84.0	3.2	0.5	12.4
BACHELOR'S PLUS[4]	5 268	3 633	3 541	92	-	1 160	100.0	75.8	73.9	1.9	-	24.2
MASTER'S	14 737	12 205	11 853	276	76	1 465	100.0	89.3	86.7	2.0	0.6	10.7
PH.D.	11 275	9 338	8 932	325	81	1 126	100.0	89.2	85.4	3.1	0.8	10.8
LIFE SCIENTISTS, TOTAL[3]	68 097	58 742	56 924	1 481	337	3 992	100.0	93.6	90.7	2.4	0.5	6.4
AGE												
UNDER 25 YEARS	1 988	1 130	1 106	23	-	829	*100.0	*57.7	*56.5	*1.2	-	*42.3
25 TO 34 YEARS	21 459	16 358	17 793	517	48	1 765	100.0	91.2	88.4	2.6	0.2	8.8
35 TO 44 YEARS	19 596	17 315	16 859	433	23	739	100.0	95.9	93.4	2.4	0.1	4.1
45 TO 54 YEARS	14 948	13 177	12 796	332	49	340	100.0	97.5	94.7	2.5	0.4	2.5
55 YEARS AND OVER	10 107	8 763	8 370	175	218	319	100.0	96.5	92.2	1.9	2.4	3.5
HIGHEST DEGREE HELD												
NO DEGREE	6 547	5 410	5 310	77	23	559	100.0	90.6	89.0	1.3	0.4	9.4
ASSOCIATE	321	211	211	-	-	-	*100.0	*100.0	*100.0	-	-	-
BACHELOR'S	16 907	14 950	14 551	279	120	942	100.0	94.1	91.6	1.8	0.8	5.9
BACHELOR'S PLUS[4]	8 562	7 000	6 712	265	23	863	100.0	89.0	85.4	3.4	0.3	11.0
MASTER'S	13 701	11 866	11 453	362	51	816	100.0	93.6	90.3	2.9	0.4	6.4
PH.D.	19 215	17 007	16 445	443	119	730	100.0	95.9	92.7	2.5	0.7	4.1

SEE FOOTNOTES AT END OF TABLE.

Table 3. MARITAL STATUS IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY SEX, AGE, AND HIGHEST DEGREE HELD IN 1972—Continued

OCCUPATION IN 1970 AND SEX, AGE, AND HIGHEST DEGREE HELD IN 1972	NUMBER						PERCENT[2]				
	TOTAL[1]	EVER MARRIED				NEVER MARRIED	TOTAL	EVER MARRIED				NEVER MARRIED
		TOTAL	MARRIED	SEPARATED OR DIVORCED	WIDOWED			TOTAL	MARRIED	SEPARATED OR DIVORCED	WIDOWED	
MALE--CONTINUED												
PHYSICAL SCIENTISTS, TOTAL[3]	178 624	148 827	143 380	4 151	1 295	12 575	100.0	92.2	88.8	2.6	0.8	7.8
AGE												
UNDER 25 YEARS	5 760	3 041	2 981	61	-	2 355	100.0	56.4	55.2	1.1	-	43.6
25 TO 34 YEARS	54 828	44 338	42 916	1 369	54	6 408	100.0	87.4	84.6	2.7	0.1	12.6
35 TO 44 YEARS	53 512	45 610	44 121	1 212	277	1 965	100.0	95.9	92.7	2.5	0.6	4.1
45 TO 54 YEARS	39 821	33 924	32 715	966	243	940	100.0	97.3	93.8	2.8	0.7	2.7
55 YEARS AND OVER	24 703	21 913	20 647	545	721	907	100.0	96.0	90.5	2.4	3.2	4.0
HIGHEST DEGREE HELD												
NO DEGREE	24 201	20 001	19 117	676	208	1 999	100.0	90.9	86.9	3.1	0.9	9.1
ASSOCIATE	2 577	2 199	2 046	153	-	202	*100.0	*91.6	*85.2	*6.4	-	*8.4
BACHELOR'S	38 492	31 896	30 599	857	440	2 901	100.0	91.7	87.9	2.5	1.3	8.3
BACHELOR'S PLUS[4]	26 558	20 915	20 038	684	192	2 963	100.0	87.6	83.9	2.9	0.8	12.4
MASTER'S	33 607	28 431	27 513	746	172	2 039	100.0	93.3	90.3	2.4	0.6	6.7
PH.D.	46 019	40 982	39 839	962	181	2 114	100.0	95.1	92.4	2.2	0.4	4.9
SOCIAL SCIENTISTS, TOTAL[3]	121 459	100 642	96 191	3 891	560	7 908	100.0	92.7	88.6	3.6	0.5	7.3
AGE												
UNDER 25 YEARS	2 035	1 236	1 154	82	-	578	*100.0	*68.2	*63.6	*4.5	-	*31.8
25 TO 34 YEARS	43 986	35 790	34 353	1 393	44	4 872	100.0	88.0	84.5	3.4	0.1	12.0
35 TO 44 YEARS	33 884	27 562	26 267	1 203	92	1 312	100.0	95.5	91.0	4.2	0.3	4.5
45 TO 54 YEARS	25 725	22 471	21 395	911	164	756	100.0	96.7	92.1	3.9	0.7	3.3
55 YEARS AND OVER	15 828	13 583	13 022	302	259	390	100.0	97.2	93.2	2.2	1.9	2.8
HIGHEST DEGREE HELD												
NO DEGREE	11 454	9 809	9 273	458	77	488	100.0	95.3	90.1	4.5	0.8	4.7
ASSOCIATE	756	621	621	-	-	36	*100.0	*94.5	*94.5	-	-	*5.5
BACHELOR'S	19 245	15 879	15 261	431	186	1 276	100.0	92.6	89.0	2.5	1.1	7.4
BACHELOR'S PLUS[4]	14 166	11 250	10 870	346	34	1 341	100.0	89.3	86.3	2.7	0.3	10.7
MASTER'S	37 702	31 044	29 815	1 118	111	3 218	100.0	90.6	87.0	3.3	0.3	9.4
PH.D.	32 150	27 865	26 333	1 415	117	1 373	100.0	95.3	90.1	4.8	0.4	4.7
FEMALE												
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	56 794	36 410	30 476	4 902	1 032	14 590	100.0	71.4	59.8	9.6	2.0	28.6
AGE												
UNDER 25 YEARS	9 688	5 246	4 839	408	-	3 547	100.0	59.7	55.0	4.6	-	40.3
25 TO 34 YEARS	28 159	17 767	15 401	2 324	42	7 889	100.0	69.2	60.0	9.1	0.2	30.8
35 TO 44 YEARS	9 071	6 266	4 812	1 291	164	1 746	100.0	78.2	60.1	16.1	2.0	21.8
45 TO 54 YEARS	6 945	5 209	4 038	677	494	839	100.0	86.1	66.8	11.2	8.2	13.9
55 YEARS AND OVER	2 931	1 921	1 387	203	331	569	*100.0	*77.1	*55.7	*8.1	*13.3	*22.9
HIGHEST DEGREE HELD												
NO DEGREE	21 630	14 749	11 801	2 372	576	4 683	100.0	75.9	60.7	12.2	3.0	24.1
ASSOCIATE	1 983	1 294	956	293	44	573	*100.0	*69.3	*51.2	*15.7	*2.4	*30.7
BACHELOR'S	20 703	13 484	12 196	1 081	207	5 956	100.0	69.4	62.7	5.6	1.1	30.6
BACHELOR'S PLUS[4]	3 314	1 861	1 444	372	45	1 176	*100.0	*61.3	*47.5	*12.3	*1.5	*38.7
MASTER'S	4 238	2 387	2 010	377	-	1 559	100.0	60.5	50.9	9.5	-	39.5
PH.D.	228	107	107	-	-	121	*100.0	*47.0	*47.0	-	-	*53.0
ENGINEERS, TOTAL[3]	15 894	9 852	7 814	1 335	703	3 139	100.0	75.8	60.2	10.3	5.4	24.2
AGE												
UNDER 25 YEARS	627	523	372	151	-	104	*100.0	*83.4	*59.4	*24.0	-	*16.6
25 TO 34 YEARS	4 734	3 469	3 253	217	-	804	*100.0	*81.2	*76.1	*5.1	-	*18.8
35 TO 44 YEARS	2 861	1 616	1 177	361	78	434	*100.0	*78.9	*57.4	*17.6	*3.8	*21.1
45 TO 54 YEARS	5 290	3 167	2 367	511	290	1 226	*100.0	*72.1	*53.9	*11.6	*6.6	*27.9
55 YEARS AND OVER	2 382	1 076	646	95	335	571	*100.0	*65.3	*39.3	*5.8	*20.3	*34.7
HIGHEST DEGREE HELD												
NO DEGREE	6 184	3 581	2 725	605	252	1 582	*100.0	*69.4	*52.8	*11.7	*4.9	*30.6
ASSOCIATE	380	286	258	-	27	-	*100.0	*100.0	*90.5	-	*9.5	-
BACHELOR'S	3 793	2 484	2 087	258	139	764	*100.0	*76.5	*64.3	*7.9	*4.3	*23.5
BACHELOR'S PLUS[4]	1 866	1 208	991	217	-	481	*100.0	*71.5	*58.7	*12.8	-	*28.5
MASTER'S	1 841	1 244	1 016	228	-	189	*100.0	*86.8	*70.9	*15.9	-	*13.2
PH.D.	158	158	158	-	-	-	*100.0	*100.0	*100.0	-	-	-
MATHEMATICAL SPECIALISTS, TOTAL[3]	16 897	11 272	9 603	974	694	3 743	100.0	75.1	64.0	6.5	4.6	24.9
AGE												
UNDER 25 YEARS	2 046	1 072	1 072	-	-	835	*100.0	*56.2	*56.2	-	-	*43.8
25 TO 34 YEARS	5 589	3 953	3 703	215	35	1 196	100.0	76.8	71.9	4.2	0.7	23.2
35 TO 44 YEARS	2 361	1 574	1 392	182	-	511	*100.0	*75.5	*66.8	*8.8	-	*24.5
45 TO 54 YEARS	3 705	2 532	2 028	315	189	670	100.0	79.1	63.3	9.8	5.9	20.9
55 YEARS AND OVER	3 197	2 140	1 408	262	470	532	100.0	80.1	52.7	9.8	17.6	19.9
HIGHEST DEGREE HELD												
NO DEGREE	5 787	3 987	3 260	397	330	1 169	100.0	77.3	63.2	7.7	6.4	22.7
ASSOCIATE	244	244	149	95	-	-	*100.0	*100.0	*61.1	*38.9	-	-
BACHELOR'S	3 358	2 060	1 839	127	94	950	100.0	68.4	61.1	4.2	3.1	31.6
BACHELOR'S PLUS[4]	1 706	1 277	1 158	90	29	301	*100.0	*80.9	*73.4	*5.7	*1.8	*19.1
MASTER'S	3 575	2 446	2 247	113	87	942	100.0	72.2	66.3	3.3	2.6	27.8
PH.D.	790	603	486	58	60	158	*100.0	*79.2	*63.8	*7.6	*7.8	*20.8

SEE FOOTNOTES AT END OF TABLE.

Table 3. MARITAL STATUS IN 1972 FOR ENGINEERS AND SCIENTIST IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY SEX, AGE, AND HIGHEST DEGREE HELD IN 1972—Continued

OCCUPATION IN 1970 AND SEX, AGE, AND HIGHEST DEGREE HELD IN 1972	NUMBER						PERCENT[2]					
	TOTAL[1]	EVER MARRIED				NEVER MARRIED	TOTAL	EVER MARRIED				NEVER MARRIED
		TOTAL	MARRIED	SEPARATED OR DIVORCED	WIDOWED			TOTAL	MARRIED	SEPARATED OR DIVORCED	WIDOWED	
FEMALE--CONTINUED												
LIFE SCIENTISTS, TOTAL[3]	15 411	9 809	8 254	1 188	368	3 770	100.0	72.2	60.8	8.7	2.7	27.8
AGE												
UNDER 25 YEARS	1 524	990	939	51	-	458	*100.0	*68.4	*64.9	*3.5	-	*31.6
25 TO 34 YEARS	6 002	3 793	3 409	356	28	1 599	100.0	70.4	63.2	6.6	0.5	29.6
35 TO 44 YEARS	3 262	2 295	1 895	343	57	498	100.0	82.2	67.8	12.3	2.1	17.8
45 TO 54 YEARS	2 609	1 576	1 236	252	88	635	100.0	71.3	55.9	11.4	4.0	28.7
55 YEARS AND OVER	2 014	1 155	774	186	194	579	*100.0	*66.6	*44.7	*10.7	*11.2	*33.4
HIGHEST DEGREE HELD												
NO DEGREE	2 059	1 366	1 182	77	107	433	*100.0	*75.9	*65.7	*4.3	*5.9	*24.1
ASSOCIATE	365	157	129	28	-	127	*100.0	*55.2	*45.3	*9.9	-	*44.8
BACHELOR'S	3 585	2 324	2 094	142	88	961	100.0	70.8	63.8	4.3	2.7	29.2
BACHELOR'S PLUS[4]	2 188	1 307	1 072	178	58	604	*100.0	*68.4	*56.1	*9.3	*3.0	*31.6
MASTER'S	3 869	2 531	2 203	294	34	960	100.0	72.5	63.1	8.4	1.0	27.5
PH.D.	2 283	1 503	1 132	322	49	526	100.0	74.1	55.8	15.9	2.4	25.9
PHYSICAL SCIENTISTS, TOTAL[3]	17 729	11 356	10 077	996	283	4 848	100.0	70.1	62.2	6.1	1.7	29.9
AGE												
UNDER 25 YEARS	1 569	1 006	914	92	-	453	*100.0	*69.0	*62.6	*6.3	-	*31.0
25 TO 34 YEARS	6 728	3 754	3 645	109	-	2 467	100.0	60.3	58.6	1.8	-	39.7
35 TO 44 YEARS	3 745	2 660	2 420	240	-	834	100.0	76.1	69.3	6.9	-	23.9
45 TO 54 YEARS	3 782	2 791	2 120	466	205	776	100.0	78.3	59.4	13.1	5.7	21.7
55 YEARS AND OVER	1 905	1 145	979	89	78	319	*100.0	*78.2	*66.9	*6.1	*5.3	*21.8
HIGHEST DEGREE HELD												
NO DEGREE	2 939	1 938	1 616	181	141	699	*100.0	*73.5	*61.3	*6.9	*5.3	*26.5
ASSOCIATE	186	164	164	-	-	-	*100.0	*100.0	*100.0	-	-	-
BACHELOR'S	6 089	3 902	3 530	312	61	1 746	100.0	69.1	62.5	5.5	1.1	30.9
BACHELOR'S PLUS[4]	2 343	1 219	1 112	82	25	1 002	*100.0	*54.9	*50.1	*3.7	*1.1	*45.1
MASTER'S	3 071	1 946	1 678	268	-	821	*100.0	*70.3	*60.6	*9.7	-	*29.7
PH.D.	2 160	1 569	1 417	153	-	505	*100.0	*75.7	*68.3	*7.4	-	*24.3
SOCIAL SCIENTISTS, TOTAL[3]	29 841	19 845	15 241	3 374	1 231	6 213	100.0	76.2	58.5	12.9	4.7	23.8
AGE												
UNDER 25 YEARS	1 326	701	701	-	-	521	*100.0	*57.3	*57.3	-	-	*42.7
25 TO 34 YEARS	11 059	6 888	6 074	756	58	2 854	100.0	70.7	62.3	7.8	0.6	29.3
35 TO 44 YEARS	6 579	4 532	3 082	1 301	149	1 331	100.0	77.3	52.6	22.2	2.5	22.7
45 TO 54 YEARS	6 180	4 627	3 657	706	265	491	100.0	90.4	71.4	13.8	5.2	9.6
55 YEARS AND OVER	4 696	3 097	1 727	611	759	1 015	100.0	75.3	42.0	14.9	18.5	24.7
HIGHEST DEGREE HELD												
NO DEGREE	2 918	2 287	1 710	351	226	294	100.0	88.6	66.3	13.6	8.7	11.4
ASSOCIATE	149	90	90	-	-	59	*100.0	*60.6	*60.6	-	-	*39.4
BACHELOR'S	3 998	2 436	2 059	213	165	1 060	100.0	69.7	58.9	6.1	4.7	30.3
BACHELOR'S PLUS[4]	2 726	1 690	1 242	331	117	691	100.0	71.0	52.2	13.9	4.9	29.0
MASTER'S	11 820	8 283	6 632	1 260	392	2 141	100.0	79.5	63.6	12.1	3.8	20.5
PH.D.	6 354	4 133	2 894	1 005	234	1 602	100.0	72.1	50.5	17.5	4.1	27.9

- ENTRY REPRESENTS ZERO.
* BASED ON FEWER THAN 70 SAMPLE CASES.
Z LESS THAN 0.05 PERCENT.
[1]TOTAL INCLUDES PERSONS NOT REPORTING MARITAL STATUS.
[2]PERCENTS ARE BASED ON PERSONS REPORTING MARITAL STATUS.
[3]INCLUDES FIRST PROFESSIONAL, REGISTERED NURSE, AND OTHER DEGREES NOT SHOWN SEPARATELY, AND DEGREE NOT REPORTED.
[4]SOME GRADUATE WORK BUT NO GRADUATE DEGREE.

Table 4. DIVISION AND SELECTED STATES OF RESIDENCE IN 1972 FOR ENGINEERS AND

LINE NO.	DIVISION, STATE OF RESIDENCE, AND SEX	OPERATIONS AND COMPUTER SPECIALISTS			ENGINEERS					
		TOTAL	COMPUTER PROGRAMMERS	OTHER OPERATIONS AND COMPUTER SPECIALISTS	TOTAL	AERONAUTICAL AND ASTRONAUTICAL	CIVIL	ELECTRICAL AND ELECTRONIC	INDUSTRIAL	MECHANICAL
	BOTH SEXES									
1	NUMBER, TOTAL[1]	337 933	163 244	174 690	1 242 519	68 525	174 442	285 016	187 366	180 479
2	NEW ENGLAND, TOTAL[2]	23 808	11 610	12 198	100 839	5 629	12 276	26 297	16 804	16 144
3	CONNECTICUT	7 796	3 232	4 564	32 015	4 009	2 864	5 980	5 353	6 104
4	MASSACHUSETTS	12 577	6 549	6 028	52 152	1 534	6 868	15 968	8 266	7 511
5	MIDDLE ATLANTIC, TOTAL	75 187	36 566	38 621	237 115	8 035	29 181	61 451	37 470	33 632
6	NEW JERSEY	18 974	9 186	9 787	62 586	1 100	5 918	17 952	10 086	9 327
7	NEW YORK	38 099	19 575	18 524	103 464	5 096	14 721	27 364	15 348	13 691
8	PENNSYLVANIA	18 115	7 805	10 310	71 064	1 839	8 542	16 136	12 037	10 614
9	EAST NORTH CENTRAL, TOTAL	61 229	28 026	33 203	240 423	5 180	25 840	41 905	43 677	47 177
10	ILLINOIS	19 145	9 250	9 895	64 346	393	9 318	13 639	10 365	9 844
11	INDIANA	6 247	2 960	3 287	25 206	516	2 433	4 285	6 094	4 567
12	MICHIGAN	13 174	6 041	7 133	56 393	644	4 503	6 187	9 855	17 436
13	OHIO	17 725	7 550	10 176	72 246	3 627	6 774	13 264	12 851	11 572
14	WISCONSIN	4 938	2 226	2 712	22 232	-	2 812	4 530	4 512	3 759
15	WEST NORTH CENTRAL, TOTAL[3]	21 717	11 454	10 263	72 431	4 959	12 906	15 512	11 575	8 908
16	MINNESOTA	8 216	5 042	3 174	20 131	238	2 818	4 658	3 416	2 953
17	MISSOURI	6 654	3 067	3 586	24 595	2 921	3 696	5 881	3 947	2 510
18	SOUTH ATLANTIC, TOTAL[4]	54 450	24 634	29 816	161 582	7 178	25 028	40 658	26 060	20 699
19	DISTRICT OF COLUMBIA	1 997	648	1 350	2 332	59	291	625	695	80
20	FLORIDA	8 128	4 024	4 104	35 220	2 178	5 095	10 371	4 348	5 035
21	MARYLAND	16 902	7 767	9 135	36 624	1 282	5 050	12 342	5 995	4 667
22	EAST SOUTH CENTRAL, TOTAL[5]	11 015	6 188	4 827	50 753	1 631	9 928	10 353	8 052	6 663
23	ALABAMA	4 148	2 386	1 762	18 183	1 207	3 214	3 860	2 257	2 505
24	TENNESSEE	3 558	1 839	1 718	17 578	271	3 347	3 614	2 833	2 431
25	WEST SOUTH CENTRAL, TOTAL[6]	22 930	12 416	10 514	95 730	7 141	14 113	18 207	11 468	11 211
26	LOUISIANA	2 205	1 429	776	14 655	332	2 696	1 628	1 761	2 374
27	TEXAS	16 863	8 963	7 900	65 119	6 162	8 698	13 582	7 453	7 037
28	MOUNTAIN, TOTAL[7]	11 932	6 075	5 857	54 306	2 747	10 903	13 441	5 929	5 742
29	COLORADO	4 513	2 338	2 175	20 380	1 451	3 993	4 338	2 419	2 458
30	PACIFIC, TOTAL[8]	54 754	25 819	28 935	225 568	25 635	33 555	56 184	26 161	29 824
31	CALIFORNIA	45 487	21 653	23 834	180 840	19 640	24 555	46 329	22 133	23 389
32	WASHINGTON	5 565	2 240	3 326	29 999	6 045	4 551	6 068	3 089	4 697
33	PERCENT[1]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
34	NEW ENGLAND, TOTAL[2]	7.0	7.1	7.0	8.1	8.2	7.0	9.2	9.0	8.9
35	CONNECTICUT	2.3	2.0	2.6	2.6	5.9	1.6	2.1	2.9	3.4
36	MASSACHUSETTS	3.7	4.0	3.5	4.2	2.2	3.9	5.6	4.4	4.2
37	MIDDLE ATLANTIC, TOTAL	22.2	22.4	22.1	19.1	11.7	16.7	21.6	20.0	18.6
38	NEW JERSEY	5.6	5.6	5.6	5.0	1.6	3.4	6.3	5.4	5.2
39	NEW YORK	11.3	12.0	10.6	8.3	7.4	8.4	9.6	8.2	7.6
40	PENNSYLVANIA	5.4	4.8	5.9	5.7	2.7	4.9	5.7	6.4	5.9
41	EAST NORTH CENTRAL, TOTAL	18.1	17.2	19.0	19.3	7.6	14.8	14.7	23.3	26.1
42	ILLINOIS	5.7	5.7	5.7	5.2	0.6	5.3	4.8	5.5	5.5
43	INDIANA	1.8	1.8	1.9	2.0	0.8	1.4	1.5	3.3	2.5
44	MICHIGAN	3.9	3.7	4.1	4.5	0.9	2.6	2.2	5.3	9.7
45	OHIO	5.2	4.6	5.8	5.8	5.3	3.9	4.7	6.9	6.4
46	WISCONSIN	1.5	1.4	1.6	1.8	-	1.6	1.6	2.4	2.1
47	WEST NORTH CENTRAL, TOTAL[3]	6.4	7.0	5.9	5.8	7.2	7.4	5.4	6.2	4.9
48	MINNESOTA	2.4	3.1	1.8	1.6	0.3	1.6	1.6	1.8	1.6
49	MISSOURI	2.0	1.9	2.1	2.0	4.3	2.1	2.1	2.1	1.4
50	SOUTH ATLANTIC, TOTAL[4]	16.1	15.1	17.1	13.0	10.5	14.3	14.3	13.9	11.5
51	DISTRICT OF COLUMBIA	0.6	0.4	0.8	0.2	0.1	0.2	0.2	0.4	(Z)
52	FLORIDA	2.4	2.5	2.3	2.8	3.2	2.9	3.6	2.3	2.8
53	MARYLAND	5.0	4.8	5.2	2.9	1.9	2.9	4.3	3.2	2.6
54	EAST SOUTH CENTRAL, TOTAL[5]	3.3	3.8	2.8	4.1	2.4	5.7	3.6	4.3	3.7
55	ALABAMA	1.2	1.5	1.0	1.5	1.8	1.8	1.4	1.2	1.4
56	TENNESSEE	1.1	1.1	1.0	1.4	0.4	1.9	1.3	1.5	1.3
57	WEST SOUTH CENTRAL, TOTAL[6]	6.8	7.6	6.0	7.7	10.4	8.1	6.4	6.1	6.2
58	LOUISIANA	0.7	0.9	0.4	1.2	0.5	1.5	0.6	0.9	1.3
59	TEXAS	5.0	5.5	4.5	5.2	9.0	5.0	4.8	4.0	3.9
60	MOUNTAIN, TOTAL[7]	3.5	3.7	3.4	4.4	4.0	6.3	4.7	3.2	3.2
61	COLORADO	1.3	1.4	1.2	1.6	2.1	2.3	1.5	1.3	1.4
62	PACIFIC, TOTAL[8]	16.2	15.8	16.6	18.2	37.7	19.2	19.7	14.0	16.5
63	CALIFORNIA	13.5	13.3	13.6	14.6	28.7	14.1	16.3	11.8	13.0
64	WASHINGTON	1.6	1.4	1.9	2.4	8.8	2.6	2.1	1.6	2.6

SEE FOOTNOTES AT END OF TABLE.

SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE BY SEX

ENGINEERS--CON.			LIFE SCIENTISTS			PHYSICAL SCIENTISTS				SOCIAL SCIENTISTS			LINE NO.
SALES	OTHER	MATHEMATICAL SPECIALISTS	TOTAL	BIOLOGICAL	OTHER	TOTAL	CHEMISTS	PHYSICISTS	OTHER	TOTAL	ECONOMISTS	OTHER	
54 653	292 039	61 679	83 509	50 222	33 287	196 353	125 414	36 211	34 728	151 299	76 683	74 617	1
4 956	18 733	4 415	4 868	3 351	1 517	11 860	7 663	3 108	1 089	11 671	6 155	5 517	2
1 651	6 052	1 449	1 279	915	364	3 156	2 281	546	329	3 747	2 458	1 289	3
2 593	9 413	2 257	1 926	1 615	311	6 308	3 756	2 058	494	6 128	3 099	3 029	4
11 283	56 062	12 081	10 659	8 379	2 280	41 211	31 957	6 706	2 548	32 196	17 755	14 441	5
3 608	14 596	2 558	2 831	2 454	376	11 738	9 652	1 671	416	7 201	4 556	2 645	6
3 605	23 639	6 323	4 688	3 713	975	17 484	12 750	3 622	1 113	17 631	9 263	8 368	7
4 070	17 827	3 200	3 140	2 211	929	11 989	9 556	1 414	1 018	7 364	3 937	3 427	8
16 221	60 423	9 977	12 727	8 400	4 327	35 781	28 019	4 932	2 830	26 381	13 853	12 529	9
4 267	16 521	3 282	3 416	2 452	964	10 381	8 047	1 517	817	8 446	4 424	4 022	10
1 531	5 780	1 207	1 581	1 176	405	4 165	3 223	594	348	2 322	1 179	1 142	11
4 011	13 756	2 063	2 722	1 828	894	6 950	5 380	989	581	6 608	3 568	3 041	12
4 750	19 408	2 198	2 705	1 855	850	10 997	8 918	1 361	718	5 938	3 328	2 610	13
1 662	4 958	1 226	2 303	1 089	1 214	3 288	2 453	471	364	3 068	1 353	1 714	14
3 156	15 415	4 078	7 622	3 993	3 628	10 200	7 100	1 305	1 794	10 846	4 894	5 952	15
991	5 058	905	1 662	903	759	2 769	2 130	269	370	3 020	1 710	1 310	16
1 299	4 340	907	1 301	645	656	3 238	2 404	316	518	2 823	1 237	1 586	17
5 221	36 737	12 929	13 501	8 364	5 137	27 438	16 364	6 547	4 527	25 467	14 062	11 405	18
-	583	876	323	259	63	956	338	346	272	2 295	1 520	775	19
1 179	7 016	1 656	2 271	1 500	771	3 362	1 921	674	767	3 760	1 771	1 990	20
919	6 368	4 559	3 215	2 582	633	8 358	3 638	3 022	1 698	6 809	4 203	2 606	21
1 394	12 732	2 386	4 876	2 694	2 182	8 210	5 607	1 624	979	4 980	2 191	2 789	22
587	4 553	925	1 344	693	651	2 035	1 475	411	150	1 248	697	551	23
394	4 688	732	1 453	1 004	449	3 698	2 557	777	365	1 601	573	1 028	24
4 026	29 564	4 190	7 619	4 232	3 387	21 816	9 690	2 156	9 969	8 551	4 172	4 379	25
643	5 221	665	1 408	795	613	4 157	1 918	198	2 041	1 478	768	710	26
2 573	19 615	2 620	4 234	2 547	1 687	13 703	5 857	1 563	6 283	5 288	2 607	2 681	27
1 545	13 999	2 828	6 565	2 403	4 162	13 392	4 775	2 940	5 677	6 611	2 391	4 220	28
591	5 131	1 200	1 446	679	767	4 571	1 415	721	2 434	2 523	942	1 581	29
6 707	47 300	8 469	14 613	8 024	6 589	25 959	14 024	6 771	5 163	23 667	10 718	12 948	30
5 712	39 082	6 305	8 673	5 655	3 018	20 911	11 442	5 768	3 701	18 837	8 864	9 974	31
542	5 007	1 195	2 374	1 024	1 350	2 541	1 312	671	558	2 570	1 092	1 478	32
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	33
9.1	6.4	7.2	5.8	6.7	4.6	6.0	6.1	8.6	3.1	7.7	8.0	7.4	34
3.0	2.1	2.3	1.5	1.8	1.1	1.6	1.8	1.5	0.9	2.5	3.2	1.7	35
4.7	3.2	3.7	2.3	3.2	0.9	3.2	3.0	5.7	1.4	4.1	4.0	4.1	36
20.6	19.2	19.6	12.8	16.7	6.9	21.0	25.5	18.5	7.3	21.3	23.2	19.4	37
6.6	5.0	4.1	3.4	4.9	1.1	6.0	7.7	4.6	1.2	4.8	5.9	3.5	38
6.6	8.1	10.3	5.6	7.4	2.9	8.9	10.2	10.0	3.2	11.7	12.1	11.2	39
7.4	6.1	5.2	3.8	4.4	2.8	6.1	7.6	3.9	2.9	4.9	5.1	4.6	40
29.7	20.7	16.2	15.2	16.7	13.0	18.2	22.3	13.6	8.1	17.4	18.1	16.8	41
7.8	5.7	5.3	4.1	4.9	2.9	5.3	6.4	4.2	2.4	5.6	5.8	5.4	42
2.8	2.0	2.0	1.9	2.3	1.2	2.1	2.6	1.6	1.0	1.5	1.5	1.5	43
7.3	4.7	3.3	3.3	3.6	2.7	3.5	4.3	2.7	1.7	4.4	4.7	4.1	44
8.7	6.6	3.6	3.2	3.7	2.6	5.6	7.1	3.8	2.1	3.9	4.3	3.5	45
3.0	1.7	2.0	2.8	2.2	3.6	1.7	2.0	1.3	1.0	2.0	1.8	2.3	46
5.8	5.3	6.6	9.1	8.0	10.9	5.2	5.7	3.6	5.2	7.2	6.4	8.0	47
1.8	1.7	1.5	2.0	1.8	2.3	1.4	1.7	0.7	1.1	2.0	2.2	1.8	48
2.4	1.5	1.5	1.6	1.3	2.0	1.6	1.9	0.9	1.5	1.9	1.6	2.1	49
9.6	12.6	21.0	16.2	16.7	15.4	14.0	13.0	18.1	13.0	16.8	18.3	15.3	50
-	0.2	1.4	0.4	0.5	0.2	0.5	0.3	1.0	0.8	1.5	2.0	1.0	51
2.2	2.4	2.7	2.7	3.0	2.3	1.7	1.5	1.9	2.2	2.5	2.3	2.7	52
1.7	2.2	7.4	3.8	5.1	1.9	4.3	2.9	8.3	4.9	4.5	5.5	3.5	53
2.6	4.4	3.9	5.8	5.4	6.6	4.2	4.5	4.5	2.8	3.3	2.9	3.7	54
1.1	1.6	1.5	1.6	1.4	2.0	1.0	1.2	1.1	0.4	0.8	0.9	0.7	55
0.7	1.6	1.2	1.7	2.0	1.3	1.9	2.0	2.1	1.1	1.1	0.7	1.4	56
7.4	10.1	6.8	9.1	8.4	10.2	11.1	7.7	6.0	28.7	5.7	5.4	5.9	57
1.2	1.8	1.1	1.7	1.6	1.8	2.1	1.5	0.5	5.9	1.0	1.0	1.0	58
4.7	6.7	4.2	5.1	5.1	5.1	7.0	4.7	4.3	18.1	3.5	3.4	3.6	59
2.8	4.8	4.6	7.9	4.8	12.5	6.8	3.8	8.1	16.3	4.4	3.1	5.7	60
1.1	1.8	1.9	1.7	1.4	2.3	2.3	1.1	2.0	7.0	1.7	1.2	2.1	61
12.3	16.2	13.7	17.5	16.0	19.8	13.2	11.2	18.7	14.9	15.6	14.0	17.4	62
10.5	13.4	10.2	10.4	11.3	9.1	10.6	9.1	15.9	10.7	12.5	11.6	13.4	63
1.0	1.7	1.9	2.8	2.0	4.1	1.3	1.0	1.9	1.6	1.7	1.4	2.0	64

Table 4. DIVISION AND SELECTED STATES OF RESIDENCE IN 1972 FOR ENGINEERS AND

LINE NO.	DIVISION, STATE OF RESIDENCE, AND SEX	OPERATIONS AND COMPUTER SPECIALISTS			ENGINEERS					
		TOTAL	COMPUTER PROGRAMMERS	OTHER OPERATIONS AND COMPUTER SPECIALISTS	TOTAL	AERONAUTICAL AND ASTRONAUTICAL	CIVIL	ELECTRICAL AND ELECTRONIC	INDUSTRIAL	MECHANICAL
	MALE									
1	NUMBER, TOTAL[1]	281 140	127 838	153 301	1 226 626	67 568	172 739	281 936	182 101	179 572
2	NEW ENGLAND, TOTAL[2]	19 437	8 626	10 811	99 400	5 574	12 077	25 694	16 614	16 144
3	CONNECTICUT	6 100	2 173	3 927	31 535	3 954	2 798	5 980	5 353	6 104
4	MASSACHUSETTS	10 352	4 922	5 430	51 354	1 534	6 801	15 366	8 171	7 511
5	MIDDLE ATLANTIC, TOTAL	61 635	28 026	33 608	235 127	7 926	28 968	61 150	36 807	33 382
6	NEW JERSEY	15 515	6 736	8 779	62 277	1 073	5 845	17 801	10 086	9 327
7	NEW YORK	31 294	15 405	15 889	102 425	5 014	14 721	27 213	15 158	13 441
8	PENNSYLVANIA	14 826	5 886	8 940	70 425	1 839	8 403	16 136	11 563	10 614
9	EAST NORTH CENTRAL, TOTAL	52 061	22 573	29 489	238 609	5 125	25 575	41 754	43 307	47 011
10	ILLINOIS	15 810	6 947	8 864	63 897	366	9 185	13 639	10 279	9 678
11	INDIANA	5 515	2 511	3 004	25 127	516	2 433	4 285	6 094	4 567
12	MICHIGAN	11 484	5 105	6 379	56 213	644	4 437	6 187	9 855	17 436
13	OHIO	14 809	6 016	8 792	71 427	3 599	6 707	13 114	12 661	11 572
14	WISCONSIN	4 443	1 993	2 450	21 945	-	2 812	4 530	4 417	3 759
15	WEST NORTH CENTRAL, TOTAL[3]	18 703	9 630	9 073	71 324	4 904	12 829	15 402	11 006	8 908
16	MINNESOTA	7 371	4 383	2 989	19 805	238	2 740	4 548	3 416	2 953
17	MISSOURI	5 450	2 432	3 019	24 098	2 867	3 696	5 881	3 663	2 510
18	SOUTH ATLANTIC, TOTAL[4]	44 156	18 573	25 584	158 083	7 124	24 816	39 906	24 278	20 370
19	DISTRICT OF COLUMBIA	1 210	311	900	1 964	59	218	625	420	60
20	FLORIDA	6 989	3 317	3 673	34 758	2 178	5 028	10 070	4 253	5 035
21	MARYLAND	13 973	6 081	7 892	35 718	1 255	4 977	12 192	5 426	4 580
22	EAST SOUTH CENTRAL, TOTAL[5]	8 812	4 650	4 162	50 511	1 604	9 928	10 353	7 863	6 663
23	ALABAMA	3 511	2 009	1 503	18 156	1 180	3 214	3 860	2 257	2 505
24	TENNESSEE	2 522	996	1 526	17 552	271	3 347	3 614	2 833	2 431
25	WEST SOUTH CENTRAL, TOTAL[6]	20 409	10 577	9 832	94 426	7 032	13 974	17 906	11 102	11 211
26	LOUISIANA	1 703	1 027	676	14 589	332	2 630	1 628	1 761	2 374
27	TEXAS	14 954	7 599	7 355	63 881	6 052	8 625	13 281	7 087	7 037
28	MOUNTAIN, TOTAL[7]	9 899	4 638	5 261	53 980	2 747	10 903	13 441	5 834	5 742
29	COLORADO	3 432	1 507	1 925	20 355	1 451	3 993	4 338	2 419	2 458
30	PACIFIC, TOTAL[8]	45 299	20 165	25 134	221 393	25 342	32 958	55 322	25 119	29 663
31	CALIFORNIA	37 622	16 869	20 753	177 269	19 229	24 025	45 577	21 281	23 306
32	WASHINGTON	4 775	1 782	2 993	29 823	5 963	4 551	6 068	2 994	4 697
33	PERCENT[1]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
34	NEW ENGLAND, TOTAL[2]	6.9	6.7	7.1	8.1	8.2	7.0	9.1	9.1	9.0
35	CONNECTICUT	2.2	1.7	2.6	2.6	5.9	1.6	2.1	2.9	3.4
36	MASSACHUSETTS	3.7	3.9	3.5	4.2	2.3	3.9	5.5	4.5	4.2
37	MIDDLE ATLANTIC, TOTAL	21.9	21.9	21.9	19.2	11.7	16.8	21.7	20.2	18.6
38	NEW JERSEY	5.5	5.3	5.7	5.1	1.6	3.4	6.3	5.5	5.2
39	NEW YORK	11.1	12.1	10.4	8.4	7.4	8.5	9.7	8.3	7.5
40	PENNSYLVANIA	5.3	4.6	5.8	5.7	2.7	4.9	5.7	6.3	5.9
41	EAST NORTH CENTRAL, TOTAL	18.5	17.7	19.2	19.5	7.6	14.8	14.8	23.8	26.2
42	ILLINOIS	5.6	5.4	5.8	5.2	0.5	5.3	4.8	5.6	5.4
43	INDIANA	2.0	2.0	2.0	2.0	0.8	1.4	1.5	3.3	2.5
44	MICHIGAN	4.1	4.0	4.2	4.6	1.0	2.6	2.2	5.4	9.7
45	OHIO	5.3	4.7	5.7	5.8	5.3	3.9	4.7	7.0	6.4
46	WISCONSIN	1.6	1.6	1.6	1.8	-	1.6	1.6	2.4	2.1
47	WEST NORTH CENTRAL, TOTAL[3]	6.7	7.5	5.9	5.8	7.3	7.4	5.5	6.0	5.0
48	MINNESOTA	2.6	3.4	1.9	1.6	0.4	1.6	1.6	1.9	1.6
49	MISSOURI	1.9	1.9	2.0	2.0	4.2	2.1	2.1	2.0	1.4
50	SOUTH ATLANTIC, TOTAL[4]	15.7	14.5	16.7	12.9	10.5	14.4	14.2	13.3	11.3
51	DISTRICT OF COLUMBIA	0.4	0.2	0.6	0.2	0.1	0.1	0.2	0.2	(Z)
52	FLORIDA	2.5	2.6	2.4	2.8	3.2	2.9	3.6	2.3	2.8
53	MARYLAND	5.0	4.8	5.1	2.9	1.9	2.9	4.3	3.0	2.6
54	EAST SOUTH CENTRAL, TOTAL[5]	3.1	3.6	2.7	4.1	2.4	5.7	3.7	4.3	3.7
55	ALABAMA	1.2	1.6	1.0	1.5	1.7	1.9	1.4	1.2	1.4
56	TENNESSEE	0.9	0.8	1.0	1.4	0.4	1.9	1.3	1.6	1.4
57	WEST SOUTH CENTRAL, TOTAL[6]	7.3	8.3	6.4	7.7	10.4	8.1	6.4	6.1	6.2
58	LOUISIANA	0.6	0.8	0.4	1.2	0.5	1.5	0.6	1.0	1.3
59	TEXAS	5.3	5.9	4.8	5.2	9.0	5.0	4.7	3.9	3.9
60	MOUNTAIN, TOTAL[7]	3.5	3.6	3.4	4.4	4.1	6.3	4.8	3.2	3.2
61	COLORADO	1.2	1.2	1.3	1.7	2.1	2.3	1.5	1.3	1.4
62	PACIFIC, TOTAL[8]	16.1	15.8	16.4	18.0	37.5	19.1	19.6	13.8	16.5
63	CALIFORNIA	13.4	13.2	13.5	14.5	28.5	13.9	16.2	11.7	13.0
64	WASHINGTON	1.7	1.4	2.0	2.4	8.8	2.6	2.2	1.6	2.6

SEE FOOTNOTES AT END OF TABLE.

SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE BY SEX—Continued

ENGINEERS--CON.		MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS			PHYSICAL SCIENTISTS				SOCIAL SCIENTISTS			LINE NO.
SALES	OTHER		TOTAL	BIOLOGICAL	OTHER	TOTAL	CHEMISTS	PHYSICISTS	OTHER	TOTAL	ECONOMISTS	OTHER	
54 560	288 149	44 782	68 097	35 873	32 225	178 624	110 701	34 801	33 122	121 459	68 401	53 057	1
4 922	18 374	2 994	3 605	2 179	1 427	10 820	6 820	2 997	1 004	9 385	5 424	3 961	2
1 651	5 693	964	995	664	332	2 946	2 108	509	329	3 209	2 221	988	3
2 558	9 413	1 474	1 283	1 003	280	5 764	3 308	1 984	473	4 594	2 670	1 923	4
11 283	55 610	8 984	7 637	5 477	2 159	37 072	28 228	6 486	2 357	25 730	16 041	9 689	5
3 608	14 537	2 006	1 781	1 437	345	10 775	8 750	1 634	391	6 083	4 262	1 821	6
3 605	23 272	4 478	3 405	2 520	885	15 419	10 938	3 438	1 043	13 594	8 284	5 310	7
4 070	17 801	2 499	2 450	1 521	929	10 878	8 540	1 414	923	6 053	3 495	2 558	8
16 221	59 615	7 270	10 013	5 744	4 269	32 139	24 761	4 785	2 593	21 409	12 445	8 964	9
4 267	16 483	2 255	2 426	1 462	964	8 992	6 790	1 481	720	6 426	3 880	2 545	10
1 631	5 701	934	1 223	818	405	3 826	2 987	557	281	1 993	1 114	878	11
4 011	13 643	1 559	2 283	1 416	867	6 083	4 586	916	581	5 602	3 295	2 307	12
4 750	19 023	1 548	2 031	1 212	819	10 228	8 223	1 361	645	5 031	3 026	2 005	13
1 662	4 765	975	2 050	836	1 214	3 010	2 175	471	364	2 357	1 130	1 228	14
3 156	15 118	3 085	6 551	3 076	3 475	9 671	6 592	1 305	1 773	8 979	4 656	4 323	15
991	4 919	678	1 389	661	727	2 603	1 964	269	370	2 519	1 574	945	16
1 299	4 183	672	1 003	379	624	2 984	2 171	316	497	2 301	1 203	1 098	17
5 221	36 369	9 146	11 039	6 141	4 897	24 599	14 147	6 263	4 189	20 250	12 300	7 950	18
-	583	213	201	138	63	550	174	208	168	1 505	1 139	367	19
1 179	7 016	1 420	1 943	1 172	771	2 894	1 475	674	746	3 054	1 666	1 388	20
919	6 368	3 259	2 481	1 943	538	7 811	3 303	2 912	1 597	5 458	3 591	1 868	21
1 394	12 706	1 812	4 187	2 036	2 150	7 546	5 048	1 586	912	3 845	1 812	2 032	22
587	4 553	667	1 086	468	619	1 789	1 249	411	129	1 029	621	408	23
394	4 663	556	1 282	834	449	3 338	2 279	740	319	1 081	439	643	24
3 997	29 204	3 260	6 299	3 002	3 297	19 833	8 226	1 974	9 633	6 911	3 666	3 245	25
643	5 221	572	1 182	568	613	3 834	1 685	160	1 989	975	538	436	26
2 544	19 254	2 055	3 419	1 763	1 655	12 319	4 802	1 489	6 027	4 417	2 376	2 041	27
1 516	13 798	2 138	6 095	1 932	4 162	12 852	4 487	2 807	5 559	5 427	2 030	3 397	28
591	5 106	856	1 186	419	767	4 313	1 243	684	2 386	2 145	817	1 328	29
6 707	46 281	5 796	12 292	5 983	6 309	23 605	12 178	6 477	4 949	18 658	9 535	9 123	30
5 712	38 141	4 258	7 027	4 162	2 865	18 924	9 860	5 511	3 533	14 807	8 092	6 716	31
542	5 007	828	1 986	668	1 318	2 274	1 082	634	558	1 896	753	1 143	32
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	33
9.0	6.4	6.7	5.3	6.1	4.4	6.1	6.2	8.6	3.0	7.7	7.9	7.5	34
3.0	2.0	2.2	1.5	1.8	1.0	1.6	1.9	1.5	1.0	2.6	3.2	1.9	35
4.7	3.3	3.3	1.9	2.8	0.9	3.2	3.0	5.7	1.4	3.8	3.9	3.6	36
20.7	19.3	20.1	11.2	15.3	6.7	20.8	25.5	18.6	7.1	21.2	23.5	18.3	37
6.6	5.0	4.5	2.6	4.0	1.1	6.0	7.9	4.7	1.2	5.0	6.2	3.4	38
6.6	8.1	10.0	5.0	7.0	2.7	8.6	9.9	9.9	3.1	11.2	12.1	10.0	39
7.5	6.2	5.6	3.6	4.2	2.9	6.1	7.7	4.1	2.8	5.0	5.1	4.8	40
29.7	20.7	16.2	14.7	16.0	13.2	18.0	22.4	13.8	7.8	17.6	18.2	16.9	41
7.8	5.7	5.0	3.6	4.1	3.0	5.0	6.1	4.3	2.2	5.3	5.7	4.8	42
2.8	2.0	2.1	1.8	2.3	1.3	2.1	2.7	1.6	0.8	1.6	1.6	1.7	43
7.4	4.7	3.5	3.4	3.9	2.7	3.4	4.1	2.6	1.8	4.6	4.8	4.3	44
8.7	6.6	3.5	3.0	3.4	2.5	5.7	7.4	3.9	1.9	4.1	4.4	3.8	45
3.0	1.7	2.2	3.0	2.3	3.8	1.7	2.0	1.4	1.1	1.9	1.7	2.3	46
5.8	5.2	6.9	9.6	8.6	10.8	5.4	6.0	3.8	5.4	7.4	6.8	8.1	47
1.8	1.7	1.5	2.0	1.8	2.3	1.5	1.8	0.8	1.1	2.1	2.3	1.8	48
2.4	1.5	1.5	1.5	1.1	1.9	1.7	2.0	0.9	1.5	1.9	1.8	2.1	49
9.6	12.6	20.4	16.2	17.1	15.2	13.8	12.8	18.0	12.6	16.7	18.0	15.0	50
-	0.2	0.5	0.3	0.4	0.2	0.3	0.2	0.6	0.5	1.2	1.7	0.7	51
2.2	2.4	3.2	2.9	3.3	2.4	1.6	1.3	1.9	2.3	2.5	2.4	2.6	52
1.7	2.2	7.3	3.6	5.4	1.7	4.4	3.0	8.4	4.8	4.5	5.2	3.5	53
2.6	4.4	4.0	6.1	5.7	6.7	4.2	4.6	4.6	2.8	3.2	2.6	3.8	54
1.1	1.6	1.5	1.6	1.3	1.9	1.0	1.1	1.2	0.4	0.8	0.9	0.8	55
0.7	1.6	1.2	1.9	2.3	1.4	1.9	2.1	2.1	1.0	0.9	0.6	1.2	56
7.3	10.1	7.3	9.2	8.4	10.2	11.1	7.4	5.7	29.1	5.7	5.4	6.1	57
1.2	1.8	1.3	1.7	1.6	1.9	2.1	1.5	0.5	6.0	0.8	0.8	0.8	58
4.7	6.7	4.6	5.0	4.9	5.1	6.9	4.3	4.3	18.2	3.6	3.5	3.8	59
2.8	4.8	4.8	8.9	5.4	12.9	7.2	4.1	8.1	16.8	4.5	3.0	6.4	60
1.1	1.8	1.9	1.7	1.2	2.4	2.4	1.1	2.0	7.2	1.8	1.2	2.5	61
12.3	16.1	12.9	18.1	16.7	19.6	13.2	11.0	18.6	14.9	15.4	13.9	17.2	62
10.5	13.2	9.5	10.3	11.6	8.9	10.6	8.9	15.8	10.7	12.2	11.8	12.7	63
1.0	1.7	1.8	2.9	1.9	4.1	1.3	1.0	1.8	1.7	1.6	1.1	2.2	64

Table 4. DIVISION AND SELECTED STATES OF RESIDENCE IN 1972 FOR ENGINEERS AND

LINE NO.	DIVISION, STATE OF RESIDENCE, AND SEX	OPERATIONS AND COMPUTER SPECIALISTS			ENGINEERS					
		TOTAL	COMPUTER PROGRAMMERS	OTHER OPERATIONS AND COMPUTER SPECIALISTS	TOTAL	AERONAUTICAL AND ASTRONAUTICAL	CIVIL	ELECTRICAL AND ELECTRONIC	INDUSTRIAL	MECHANICAL
	FEMALE									
1	NUMBER, TOTAL[1]	56 794	35 405	21 388	15 894	957	1 702	3 080	5 265	907
2	NEW ENGLAND, TOTAL[2]	4 371	2 984	1 387	1 439	55	199	602	189	-
3	CONNECTICUT	1 696	1 060	637	480	55	66	-	-	-
4	MASSACHUSETTS	2 225	1 627	598	798	-	66	602	95	-
5	MIDDLE ATLANTIC, TOTAL	13 553	8 540	5 013	1 988	109	212	301	663	251
6	NEW JERSEY	3 459	2 450	1 008	309	27	73	151	-	-
7	NEW YORK	6 805	4 171	2 634	1 039	82	-	151	189	251
8	PENNSYLVANIA	3 289	1 919	1 370	639	-	139	-	474	-
9	EAST NORTH CENTRAL, TOTAL	9 168	5 454	3 714	1 814	55	265	151	370	166
10	ILLINOIS	3 334	2 303	1 031	449	27	133	-	86	166
11	INDIANA	732	449	283	79	-	-	-	-	-
12	MICHIGAN	1 690	936	754	180	-	66	-	-	-
13	OHIO	2 917	1 533	1 383	819	27	66	151	189	-
14	WISCONSIN	494	232	262	287	-	-	-	95	-
15	WEST NORTH CENTRAL, TOTAL[3]	3 014	1 824	1 190	1 107	55	78	110	568	-
16	MINNESOTA	844	659	185	327	-	78	110	-	-
17	MISSOURI	1 203	635	568	496	55	-	-	284	-
18	SOUTH ATLANTIC, TOTAL[4]	10 294	6 062	4 232	3 498	55	212	753	1 782	329
19	DISTRICT OF COLUMBIA	787	337	450	348	-	73	-	275	-
20	FLORIDA	1 139	707	432	462	-	66	301	95	-
21	MARYLAND	2 929	1 686	1 243	906	27	73	151	568	87
22	EAST SOUTH CENTRAL, TOTAL[5]	2 203	1 538	665	242	27	-	-	189	-
23	ALABAMA	637	378	260	27	27	-	-	-	-
24	TENNESSEE	1 035	843	192	26	-	-	-	-	-
25	WEST SOUTH CENTRAL, TOTAL[6]	2 521	1 840	682	1 304	109	139	301	366	-
26	LOUISIANA	502	402	100	66	-	66	-	-	-
27	TEXAS	1 910	1 364	546	1 238	109	73	301	366	-
28	MOUNTAIN, TOTAL[7]	2 032	1 437	596	326	-	-	-	95	-
29	COLORADO	1 080	831	249	25	-	-	-	-	-
30	PACIFIC, TOTAL[8]	9 455	5 654	3 801	4 175	493	597	863	1 042	161
31	CALIFORNIA	7 865	4 784	3 081	3 571	411	530	753	852	83
32	WASHINGTON	790	458	333	176	82	-	-	95	-
33	PERCENT[1]	100.0	100.0	100.0	100.0	*100.0	*100.0	*100.0	*100.0	*100.0
34	NEW ENGLAND, TOTAL[2]	7.7	8.4	6.5	9.1	*5.7	*11.7	*19.5	*3.6	-
35	CONNECTICUT	3.0	3.0	3.0	3.0	*5.7	*3.9	-	-	-
36	MASSACHUSETTS	3.9	4.6	2.8	5.0	-	*3.9	*19.5	*1.8	-
37	MIDDLE ATLANTIC, TOTAL	23.9	24.1	23.4	12.5	*11.4	*12.5	*9.8	*12.6	*27.7
38	NEW JERSEY	6.1	6.9	4.7	1.9	*2.8	*4.3	*4.9	-	-
39	NEW YORK	12.0	11.8	12.3	6.6	*8.5	-	*4.9	*3.6	*27.7
40	PENNSYLVANIA	5.8	5.4	6.4	4.0	-	*8.2	-	*9.0	-
41	EAST NORTH CENTRAL, TOTAL	16.1	15.4	17.4	11.4	*5.7	*15.6	*4.9	*7.0	*18.3
42	ILLINOIS	5.9	6.5	4.8	2.8	*2.8	*7.8	-	*1.6	*18.3
43	INDIANA	1.3	1.3	1.3	0.5	-	-	-	-	-
44	MICHIGAN	3.0	2.6	3.5	1.1	-	*3.9	-	-	-
45	OHIO	5.1	4.3	6.5	5.2	*2.8	*3.9	*4.9	*3.6	-
46	WISCONSIN	0.9	0.7	1.2	1.8	-	-	-	*1.8	-
47	WEST NORTH CENTRAL, TOTAL[3]	5.3	5.2	5.6	7.0	*5.7	*4.6	*3.6	*10.8	-
48	MINNESOTA	1.5	1.9	0.9	2.1	-	*4.6	*3.6	-	-
49	MISSOURI	2.1	1.8	2.7	3.1	*5.7	-	-	*5.4	-
50	SOUTH ATLANTIC, TOTAL[4]	18.1	17.1	19.8	22.0	*5.7	*12.5	*24.4	*33.8	*36.3
51	DISTRICT OF COLUMBIA	1.4	1.0	2.1	2.2	-	*4.3	-	*5.2	-
52	FLORIDA	2.0	2.0	2.0	2.9	-	*3.9	*9.8	*1.8	-
53	MARYLAND	5.2	4.8	5.8	5.7	*2.8	*4.3	*4.9	*10.8	*9.6
54	EAST SOUTH CENTRAL, TOTAL[5]	3.9	4.3	3.1	1.5	*2.8	-	-	*3.6	-
55	ALABAMA	1.1	1.1	1.2	0.2	*2.8	-	-	-	-
56	TENNESSEE	1.8	2.4	0.9	0.2	-	-	-	-	-
57	WEST SOUTH CENTRAL, TOTAL[6]	4.4	5.2	3.2	8.2	*11.4	*8.2	*9.8	*6.9	-
58	LOUISIANA	0.9	1.1	0.5	0.4	-	*3.9	-	-	-
59	TEXAS	3.4	3.9	2.6	7.8	*11.4	*4.3	*9.8	*6.9	-
60	MOUNTAIN, TOTAL[7]	3.6	4.1	2.8	2.0	-	-	-	*1.8	-
61	COLORADO	1.9	2.3	1.2	0.2	-	-	-	-	-
62	PACIFIC, TOTAL[8]	16.6	16.0	17.8	26.3	*51.6	*35.1	*28.0	*19.8	*17.8
63	CALIFORNIA	13.8	13.5	14.4	22.5	*43.0	*31.2	*24.4	*16.2	*9.1
64	WASHINGTON	1.4	1.3	1.6	1.1	*8.5	-	-	*1.8	-

- ENTRY REPRESENTS ZERO.
* BASED ON FEWER THAN 70 SAMPLE CASES.
Z LESS THAN 0.05 PERCENT.
[1]INCLUDES OTHER THAN THE UNITED STATES.
[2]INCLUDES MAINE, NEW HAMPSHIRE, RHODE ISLAND, AND VERMONT NOT SHOWN SEPARATELY.
[3]INCLUDES IOWA, KANSAS, NEBRASKA, NORTH DAKOTA, AND SOUTH DAKOTA NOT SHOWN SEPARATELY.
[4]INCLUDES DELAWARE, GEORGIA, NORTH CAROLINA, SOUTH CAROLINA, VIRGINIA, AND WEST VIRGINIA NOT SHOWN SEPARATELY.
[5]INCLUDES KENTUCKY AND MISSISSIPPI NOT SHOWN SEPARATELY.
[6]INCLUDES ARKANSAS AND OKLAHOMA NOT SHOWN SEPARATELY.
[7]INCLUDES ARIZONA, IDAHO, MONTANA, NEVADA, NEW MEXICO, UTAH, AND WYOMING NOT SHOWN SEPARATELY.
[8]INCLUDES ALASKA, HAWAII, AND OREGON NOT SHOWN SEPARATELY.

SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE BY SEX—Continued

ENGINEERS--CON.		MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS			PHYSICAL SCIENTISTS				SOCIAL SCIENTISTS			
SALES	OTHER		TOTAL	BIOLOGICAL	OTHER	TOTAL	CHEMISTS	PHYSICISTS	OTHER	TOTAL	ECONOMISTS	OTHER	
93	3 890	16 897	15 411	14 349	1 062	17 729	14 713	1 410	1 606	29 841	8 281	21 559	1
35	359	1 421	1 262	1 172	90	1 040	844	112	85	2 286	730	1 556	2
-	359	486	283	252	32	210	173	37	-	538	237	301	3
35	-	784	644	612	32	544	448	74	21	1 534	429	1 106	4
-	452	3 097	3 022	2 901	121	4 139	3 729	220	191	6 466	1 714	4 752	5
-	58	552	1 049	1 017	32	962	902	36	25	1 119	294	825	6
-	367	1 844	1 283	1 193	89	2 066	1 811	184	71	4 037	978	3 058	7
-	27	700	690	690	-	1 111	1 016	-	95	1 311	442	869	8
-	808	2 707	2 714	2 656	58	3 642	3 259	147	237	4 973	1 407	3 565	9
-	37	1 027	990	990	-	1 389	1 256	36	97	2 021	544	1 477	10
-	79	273	358	358	-	339	235	37	67	329	65	264	11
-	114	504	438	412	26	867	794	73	-	1 006	273	734	12
-	385	651	675	643	32	768	695	-	73	907	302	605	13
-	193	252	252	252	-	278	278	-	-	710	224	486	14
-	297	993	1 071	917	153	529	508	-	21	1 867	238	1 629	15
-	139	227	274	242	32	166	166	-	-	501	136	365	16
-	158	235	298	266	32	254	233	-	21	521	34	487	17
-	368	3 783	2 462	2 223	239	2 839	2 217	284	338	5 217	1 762	3 455	18
-	-	663	121	121	-	406	164	138	104	790	381	408	19
-	-	236	327	327	-	467	446	-	21	706	104	602	20
-	-	1 300	734	639	95	547	336	111	101	1 351	612	738	21
-	26	574	689	658	32	664	559	37	67	1 135	378	757	22
-	-	258	256	224	32	247	226	-	21	219	76	143	23
-	26	176	171	171	-	360	277	37	46	520	134	386	24
29	360	929	1 320	1 230	90	1 983	1 464	183	336	1 639	505	1 134	25
-	-	93	227	227	-	323	233	37	52	503	229	274	26
29	360	565	815	784	32	1 365	1 055	73	256	871	231	640	27
29	201	690	470	470	-	539	288	133	118	1 185	362	823	28
-	25	343	260	260	-	258	172	37	48	379	125	254	29
-	1 020	2 672	2 320	2 041	279	2 354	1 846	294	214	5 009	1 184	3 825	30
-	941	2 047	1 647	1 494	153	1 987	1 562	257	168	4 030	772	3 258	31
-	-	367	388	356	32	267	229	37	-	675	339	335	32
*100.0	*100.0	100.0	100.0	100.0	*100.0	100.0	100.0	*100.0	*100.0	100.0	100.0	100.0	33
*37.3	*9.2	8.4	8.2	8.2	*8.5	5.9	5.7	*7.9	*5.3	7.7	8.8	7.2	34
-	*9.2	2.9	1.8	1.8	*3.0	1.2	1.2	*2.6	-	1.8	2.9	1.4	35
*37.3	-	4.6	4.2	4.3	*3.0	3.1	3.0	*5.3	*1.3	5.1	5.2	5.1	36
-	*11.6	18.3	19.6	20.2	*11.4	23.3	25.3	*15.6	*11.9	21.7	20.7	22.0	37
-	*1.5	3.3	6.8	7.1	*3.0	5.4	6.1	*2.6	*1.5	3.7	3.6	3.8	38
-	*9.4	10.9	8.3	8.3	*8.4	11.7	12.3	*13.0	*4.4	13.5	11.8	14.2	39
-	*0.7	4.1	4.5	4.8	-	6.3	6.9	-	*5.9	4.4	5.3	4.0	40
-	*20.8	16.0	17.6	18.5	*5.5	20.5	22.1	*10.4	*14.8	16.7	17.0	16.5	41
-	*1.0	6.1	6.4	6.9	-	7.8	8.5	*2.6	*6.0	6.8	6.6	6.8	42
-	*2.0	1.6	2.3	2.5	-	1.9	1.6	*2.6	*4.2	1.1	0.8	1.2	43
-	*2.9	3.0	2.8	2.9	*2.5	4.9	5.4	*5.2	-	3.4	3.3	3.4	44
-	*9.9	3.9	4.4	4.5	*3.0	4.3	4.7	-	*4.6	3.0	3.6	2.8	45
-	*5.0	1.5	1.6	1.8	-	1.6	1.9	-	-	2.4	2.7	2.3	46
-	*7.6	5.9	6.9	6.4	*14.4	3.0	3.5	-	*1.3	6.3	2.9	7.6	47
-	*3.6	1.3	1.8	1.7	*3.0	0.9	1.1	-	-	1.7	1.6	1.7	48
-	*4.1	1.4	1.9	1.9	*3.0	1.4	1.6	-	*1.3	1.7	0.4	2.3	49
-	*9.5	22.4	16.0	15.5	*22.5	16.0	15.1	*20.2	*21.0	17.5	21.3	16.0	50
-	-	3.9	0.8	0.8	-	2.3	1.1	*9.8	*6.5	2.6	4.6	1.9	51
-	-	1.4	2.1	2.3	-	2.6	3.0	-	*1.3	2.4	1.3	2.8	52
-	-	7.7	4.8	4.5	*8.9	3.1	2.3	*7.8	*6.3	4.5	7.4	3.4	53
-	*0.7	3.4	4.5	4.6	*3.0	3.7	3.8	*2.6	*4.2	3.8	4.6	3.5	54
-	-	1.5	1.7	1.6	*3.0	1.4	1.5	-	*1.3	0.7	0.9	0.7	55
-	*0.7	1.0	1.1	1.2	-	2.0	1.9	*2.6	*2.9	1.7	1.6	1.8	56
*31.1	*9.3	5.5	8.6	8.6	*8.5	11.2	10.0	*13.0	*20.9	5.5	6.1	5.3	57
-	-	0.5	1.5	1.6	-	1.8	1.6	*2.6	*3.2	1.7	2.8	1.3	58
*31.1	*9.3	3.3	5.3	5.5	*3.0	7.8	7.2	*5.2	*16.0	2.9	2.8	3.0	59
*31.6	*5.2	4.1	3.1	3.3	-	3.0	2.0	*9.4	*7.4	4.0	4.4	3.6	60
-	*0.6	2.0	1.7	1.8	-	1.5	1.2	*2.6	*3.0	1.3	1.5	1.2	61
-	*26.2	15.8	15.1	14.2	*26.3	13.3	12.5	*20.9	*13.3	16.8	14.3	17.7	62
-	*24.2	12.1	10.7	10.4	*14.4	11.2	10.6	*18.2	*10.5	13.5	9.3	15.1	63
-	-	2.2	2.5	2.5	*3.0	1.5	1.6	*2.6	-	2.3	4.1	1.6	64

Table 5. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE HOLDING MEMBERSHIP IN NATIONAL PROFESSIONAL SOCIETIES IN 1972, BY HIGHEST DEGREE HELD AND AGE IN 1972

DETAILED OCCUPATION IN 1970 AND HIGHEST DEGREE HELD IN 1972	TOTAL	MEMBER OF A NATIONAL SOCIETY						NOT A MEMBER OF A NATIONAL SOCIETY						MEMBERSHIP IN NATIONAL SOCIETY NOT REPORTED
		TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[1]	337 933	57 310	2 896	26 673	16 901	8 152	2 688	276 887	21 914	136 627	66 755	37 884	13 708	3 736
NO DEGREE	132 125	11 584	643	4 523	3 234	2 214	970	118 960	9 928	49 435	30 418	21 277	7 903	1 581
ASSOCIATE	14 648	1 448	80	877	412	79	-	13 199	2 067	7 121	2 795	752	464	-
BACHELOR'S	88 362	14 583	1 185	6 560	4 409	1 951	479	73 123	5 335	43 183	16 016	6 566	2 024	656
BACHELOR'S PLUS[2]	36 323	10 325	722	5 159	2 899	1 201	344	25 485	1 826	14 907	6 085	2 354	312	513
MASTER'S	33 442	13 375	191	7 064	4 022	1 605	493	19 514	324	11 293	4 754	2 220	923	553
PH.D.	3 315	2 252	-	986	656	476	135	1 001	-	506	291	171	33	62
COMPUTER PROGRAMMERS[1]	163 244	21 057	1 961	11 601	5 557	1 578	360	140 655	17 004	82 300	28 921	9 720	2 710	1 532
NO DEGREE	63 850	4 713	561	2 298	1 240	467	147	58 514	7 648	31 155	13 266	5 394	1 053	623
ASSOCIATE	8 852	783	80	540	163	-	-	8 069	1 549	4 681	1 416	220	202	-
BACHELOR'S	45 127	5 171	778	2 681	1 212	354	147	39 733	4 501	26 482	6 732	1 549	467	223
BACHELOR'S PLUS[2]	17 156	3 872	320	2 227	972	353	-	13 055	1 262	8 387	2 433	972	-	229
MASTER'S	13 335	4 656	148	2 936	1 234	338	-	8 298	324	5 184	1 842	512	436	381
PH.D.	683	393	-	232	94	-	67	290	-	152	138	-	-	-
COMPUTER SYSTEMS ANALYSTS[1]	80 559	17 762	671	8 851	4 818	2 851	570	62 065	2 459	28 987	18 512	9 535	2 572	733
NO DEGREE	27 738	3 551	43	1 640	1 026	679	162	23 900	1 244	8 947	7 026	5 271	1 411	287
ASSOCIATE	2 652	276	-	231	-	45	-	2 376	288	1 215	567	188	118	-
BACHELOR'S	23 024	5 070	367	2 332	1 474	788	109	17 873	447	9 773	5 566	1 680	408	80
BACHELOR'S PLUS[2]	9 775	3 250	217	1 723	823	414	73	6 310	122	3 556	2 149	484	-	214
MASTER'S	10 067	4 084	43	2 235	1 140	438	227	5 947	-	3 369	1 659	648	271	36
PH.D.	818	561	-	223	106	232	-	257	-	151	36	71	-	-
COMPUTER SPECIALISTS[1] N.E.C.	13 263	3 780	69	1 474	1 460	615	161	9 374	546	3 944	2 882	1 534	468	109
NO DEGREE	4 605	526	-	190	171	111	54	4 028	250	1 493	1 278	748	258	52
ASSOCIATE	403	-	-	-	-	-	-	403	69	220	86	27	-	-
BACHELOR'S	3 314	1 212	-	463	557	138	54	2 102	66	1 059	488	384	105	-
BACHELOR'S PLUS[2]	1 462	573	69	129	260	114	-	889	-	432	346	84	27	-
MASTER'S	1 868	1 029	-	452	329	195	54	809	-	384	310	88	27	30
PH.D.	462	267	-	180	57	30	-	169	-	61	78	30	-	27
OPERATIONS AND SYSTEMS ANALYSTS[1]	80 867	14 711	194	4 747	5 066	3 108	1 597	64 793	1 906	21 395	16 439	17 095	7 958	1 362
NO DEGREE	35 932	2 794	39	395	796	957	607	32 518	786	7 840	6 848	9 864	5 180	620
ASSOCIATE	2 741	389	-	105	249	35	-	2 352	160	1 004	726	317	144	-
BACHELOR'S	16 898	3 129	39	1 084	1 166	671	170	13 415	321	5 868	3 229	2 952	1 045	354
BACHELOR'S PLUS[2]	7 930	2 630	115	1 080	843	320	271	5 231	442	2 532	1 156	815	286	70
MASTER'S	8 173	3 607	-	1 441	1 319	634	212	4 460	-	2 356	944	972	189	105
PH.D.	1 352	1 032	-	351	399	214	68	285	-	142	40	70	33	35
ENGINEERS, TOTAL[1]	1 242 519	458 544	8 562	118 987	137 254	123 316	70 424	762 086	17 175	211 065	222 533	194 668	116 646	21 889
NO DEGREE	334 752	62 212	1 184	8 263	15 997	20 488	16 281	266 469	6 186	53 680	69 868	80 330	56 405	6 071
ASSOCIATE	46 256	9 641	271	3 228	3 580	2 315	246	35 922	1 910	14 806	12 439	5 032	1 734	694
BACHELOR'S	372 828	150 084	3 100	33 906	45 934	45 505	21 640	217 593	5 080	63 546	66 626	56 017	26 325	5 151
BACHELOR'S PLUS[2]	197 771	94 023	2 844	30 614	26 737	21 701	12 126	101 181	2 027	38 593	31 784	19 663	9 115	2 567
MASTER'S	162 753	95 817	691	33 531	30 221	22 087	9 287	64 284	432	26 151	21 017	10 632	6 051	2 652
PH.D.	25 092	21 912	-	6 633	8 841	4 092	2 345	2 805	87	983	750	542	443	375
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS[1]	68 525	21 000	455	5 092	6 143	6 718	2 592	46 709	788	11 774	16 394	12 795	4 958	816
NO DEGREE	15 454	2 837	60	403	601	1 209	564	12 266	90	1 732	4 026	4 243	2 175	351
ASSOCIATE	2 600	586	30	202	86	268	-	1 982	98	262	989	511	122	32
BACHELOR'S	20 901	5 731	218	986	1 730	2 003	794	15 140	418	3 952	5 588	4 422	760	30
BACHELOR'S PLUS[2]	12 317	4 599	120	1 373	1 341	1 229	536	7 601	60	2 716	2 483	1 516	826	117
MASTER'S	11 407	5 392	27	1 687	1 808	1 584	286	5 889	60	2 312	2 296	908	313	126
PH.D.	1 183	955	-	297	317	149	191	228	-	124	-	38	66	-
CHEMICAL ENGINEERS[1]	52 445	28 881	700	9 295	7 424	7 850	3 613	22 834	727	7 283	5 930	6 246	2 648	731
NO DEGREE	4 846	1 235	81	205	301	438	210	3 533	107	835	812	977	803	78
ASSOCIATE	588	281	-	80	124	78	-	306	27	102	150	-	27	-
BACHELOR'S	19 448	9 663	349	2 752	2 358	3 031	1 172	9 529	486	3 100	2 148	2 972	823	256
BACHELOR'S PLUS[2]	11 082	6 651	216	2 409	1 524	1 552	950	4 383	81	1 520	1 534	930	319	48
MASTER'S	10 983	7 486	27	2 792	1 859	2 015	794	3 319	-	1 283	987	740	309	178
PH.D.	3 011	2 723	-	979	982	478	284	185	-	102	25	58	-	103
CIVIL ENGINEERS[1]	174 442	69 025	1 550	17 548	21 002	16 043	12 881	102 380	2 950	26 008	27 448	24 630	21 344	3 037
NO DEGREE	49 057	8 922	452	848	2 496	2 764	2 362	39 473	1 678	7 655	9 963	10 419	9 757	662
ASSOCIATE	6 167	1 190	-	234	501	456	-	4 977	277	2 806	1 149	526	219	-
BACHELOR'S	58 259	27 406	370	5 585	9 364	7 183	4 905	29 885	370	8 091	8 107	7 646	5 671	968
BACHELOR'S PLUS[2]	29 098	15 794	544	5 240	4 423	3 223	2 364	12 806	440	4 133	4 066	2 411	1 756	498
MASTER'S	16 592	11 750	-	5 184	3 294	1 736	1 536	4 558	-	1 535	1 509	521	994	285
PH.D.	861	578	-	224	142	-	212	213	-	71	72	-	71	71
ELECTRICAL AND ELECTRONIC ENGINEERS[1]	285 016	102 151	2 667	28 473	33 730	25 245	12 036	178 731	3 823	57 022	58 202	40 225	19 459	4 134
NO DEGREE	69 553	11 113	221	2 178	2 537	3 047	3 130	57 410	663	14 115	15 974	17 322	9 335	1 029
ASSOCIATE	13 162	2 291	111	565	1 112	503	-	10 756	663	4 495	3 968	1 418	212	115
BACHELOR'S	84 414	32 168	1 206	6 897	9 985	10 173	3 906	51 229	1 256	16 944	18 202	9 377	5 449	1 018
BACHELOR'S PLUS[2]	47 090	21 567	797	6 825	7 204	4 714	2 028	24 954	663	10 695	8 405	3 755	1 436	568
MASTER'S	44 871	26 203	332	9 795	9 967	5 247	862	18 206	111	7 574	6 589	2 580	1 353	463
PH.D.	4 794	4 001	-	1 758	1 709	311	222	793	-	459	224	110	-	-

SEE FOOTNOTES AT END OF TABLE.

Table 5. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE HOLDING MEMBERSHIP IN NATIONAL PROFESSIONAL SOCIETIES IN 1972, BY HIGHEST DEGREE HELD AND AGE IN 1972—Continued

DETAILED OCCUPATION IN 1970 AND HIGHEST DEGREE HELD IN 1972	TOTAL	MEMBER OF A NATIONAL SOCIETY						NOT A MEMBER OF A NATIONAL SOCIETY						MEMBERSHIP IN NATIONAL SOCIETY NOT REPORTED
		TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	
INDUSTRIAL ENGINEERS[1]	187 366	60 958	830	13 550	19 243	17 742	9 593	122 754	2 744	32 151	32 604	34 068	21 187	3 653
NO DEGREE	68 687	14 776	165	2 129	4 370	4 582	3 531	52 708	909	9 512	11 900	18 618	11 769	1 203
ASSOCIATE	7 125	1 593	-	764	415	330	84	5 451	251	2 193	1 737	768	501	82
BACHELOR'S	50 472	19 370	248	4 650	6 520	5 415	2 539	30 349	994	10 156	9 247	6 920	3 031	753
BACHELOR'S PLUS[2]	23 831	9 859	330	2 529	3 398	2 595	1 006	13 558	83	5 838	3 542	2 488	1 607	414
MASTER'S	17 749	9 438	-	2 885	2 805	2 826	922	8 048	-	2 072	2 643	1 906	1 427	263
PH.D.	1 162	915	-	-	333	414	168	247	-	-	82	82	84	-
MECHANICAL ENGINEERS[1]	180 479	58 262	1 481	15 517	14 430	17 107	9 727	118 396	2 494	29 250	33 078	34 259	19 316	3 820
NO DEGREE	50 109	8 851	174	732	1 893	3 463	2 589	40 026	1 379	5 822	9 962	12 351	10 513	1 232
ASSOCIATE	6 034	1 100	-	246	471	307	76	4 773	174	1 613	1 747	1 012	227	161
BACHELOR'S	57 728	21 670	348	5 446	5 439	7 172	3 264	34 884	593	8 530	10 465	11 333	3 964	1 174
BACHELOR'S PLUS[2]	30 123	12 443	610	4 647	2 831	2 837	1 518	17 362	87	7 134	5 220	4 089	632	317
MASTER'S	20 281	10 372	174	3 402	3 239	2 180	1 377	9 442	-	4 613	2 443	1 703	683	466
PH.D.	1 688	1 274	-	723	322	229	-	414	87	80	85	78	83	-
METALLURGICAL AND MATERIALS ENGINEERS[1]	15 436	8 820	108	2 101	2 724	2 395	1 492	6 199	135	1 590	1 724	1 578	1 172	417
NO DEGREE	3 069	820	-	81	226	335	178	2 198	108	351	507	672	560	51
ASSOCIATE	317	133	-	108	25	-	-	184	27	81	25	51	-	-
BACHELOR'S	4 831	2 925	81	702	758	1 006	379	1 803	-	673	409	442	280	102
BACHELOR'S PLUS[2]	2 897	1 939	27	513	581	412	405	827	-	243	382	76	126	132
MASTER'S	2 432	1 812	-	594	530	462	226	542	-	135	174	130	102	79
PH.D.	711	607	-	79	376	102	50	78	-	27	25	-	26	26
MINING AND PETROLEUM ENGINEERS[1]	15 643	9 755	182	2 462	3 055	2 634	1 423	5 536	218	974	1 529	1 404	1 410	352
NO DEGREE	2 356	458	30	31	239	131	27	1 811	99	184	531	377	620	87
ASSOCIATE	136	55	-	31	24	-	-	82	-	30	27	24	-	-
BACHELOR'S	5 586	3 699	152	761	1 065	1 268	454	1 786	61	365	434	482	444	101
BACHELOR'S PLUS[2]	4 232	3 156	-	848	1 053	785	470	1 049	57	182	325	323	162	27
MASTER'S	1 958	1 610	-	548	533	246	282	290	-	91	58	76	65	58
PH.D.	405	347	-	121	55	106	65	58	-	30	27	-	-	-
SALES ENGINEERS[1]	54 653	19 140	160	3 988	5 981	5 811	3 200	34 535	311	9 095	9 311	9 412	6 406	977
NO DEGREE	16 624	4 081	-	711	1 156	1 228	985	12 105	128	2 596	2 757	3 718	2 906	438
ASSOCIATE	1 744	728	-	232	325	82	86	1 020	-	491	330	135	64	-
BACHELOR'S	18 820	7 205	128	1 227	2 536	2 443	871	11 393	118	2 757	3 525	3 363	1 630	223
BACHELOR'S PLUS[2]	7 704	3 707	32	1 088	922	1 136	529	3 885	32	1 622	1 200	731	299	113
MASTER'S	2 990	1 591	-	522	463	433	172	1 399	-	760	354	162	123	-
PH.D.	144	144	-	29	61	54	-	-	-	-	-	-	-	-
ENGINEERS, N.E.C., AND ENGINEERING TEACHERS[1]	208 515	80 551	429	20 962	23 521	21 772	13 867	124 012	2 985	35 918	36 312	30 051	18 745	3 952
NO DEGREE	54 997	9 119	-	945	2 176	3 292	2 706	44 938	1 024	10 877	13 436	11 633	7 967	940
ASSOCIATE	8 382	1 687	131	767	498	291	-	6 391	392	2 734	2 317	586	362	304
BACHELOR'S	52 368	20 246	-	4 901	6 179	5 810	3 356	31 595	785	8 976	8 500	9 061	4 273	527
BACHELOR'S PLUS[2]	29 396	14 308	168	5 143	3 460	3 218	2 319	14 757	523	4 510	4 628	3 344	1 752	331
MASTER'S	33 490	20 164	131	6 123	5 723	5 357	2 830	12 591	262	5 777	3 964	1 907	682	735
PH.D.	11 133	10 368	-	2 423	4 543	2 250	1 153	589	-	89	210	176	114	175
MATHEMATICAL SPECIALISTS, TOTAL[1]	61 679	30 102	957	12 157	7 607	5 544	3 837	30 194	2 863	11 625	5 445	5 415	4 846	1 382
NO DEGREE	10 904	1 081	26	205	197	297	356	9 511	983	2 025	1 579	2 426	2 498	312
ASSOCIATE	791	174	38	88	-	48	-	617	200	172	156	53	37	-
BACHELOR'S	9 654	2 473	95	728	965	340	346	7 042	659	3 485	1 289	869	740	139
BACHELOR'S PLUS[2]	6 974	2 879	405	1 305	384	520	266	3 987	483	1 876	784	592	251	108
MASTER'S	18 312	12 136	393	5 488	2 350	2 319	1 586	5 869	325	3 161	976	770	637	307
PH.D.	12 065	10 704	-	4 226	3 473	1 807	1 198	1 043	-	463	268	132	180	318
ACTUARIES AND STATISTICIANS[1]	27 909	8 272	276	2 761	1 906	1 921	1 408	19 025	1 455	6 183	3 521	4 058	3 809	612
NO DEGREE	9 456	873	26	176	94	274	303	8 365	735	1 646	1 507	2 212	2 264	218
ASSOCIATE	548	138	38	52	-	48	-	410	146	110	129	24	-	-
BACHELOR'S	6 958	1 975	64	539	766	289	317	4 899	294	2 523	823	681	577	84
BACHELOR'S PLUS[2]	3 296	1 463	84	640	263	341	134	1 747	84	687	423	390	163	86
MASTER'S	4 612	2 784	64	1 119	409	729	463	1 737	76	877	280	260	243	91
PH.D.	877	709	-	210	266	128	105	143	-	26	-	59	58	25
MATHEMATICIANS[1]	33 770	21 831	681	9 396	5 701	3 623	2 429	11 169	1 407	5 442	1 924	1 357	1 038	770
NO DEGREE	1 449	208	-	29	103	23	53	1 147	248	379	72	214	233	94
ASSOCIATE	243	36	-	36	-	-	-	207	54	62	26	29	37	-
BACHELOR'S	2 696	498	31	190	199	50	29	2 143	365	962	466	188	163	55
BACHELOR'S PLUS[2]	3 678	1 417	321	665	121	179	132	2 240	399	1 189	362	202	89	22
MASTER'S	13 700	9 352	329	4 370	1 941	1 589	1 123	4 133	248	2 284	696	510	394	216
PH.D.	11 187	9 995	-	4 016	3 207	1 679	1 093	899	-	437	268	73	122	293
LIFE SCIENTISTS, TOTAL[1]	83 509	54 080	1 226	16 383	15 991	12 752	7 728	27 373	2 257	10 563	6 352	4 529	3 671	2 056
NO DEGREE	8 606	1 911	152	447	378	411	523	6 538	685	1 494	1 467	1 331	1 561	158
ASSOCIATE	686	266	76	108	29	27	26	366	25	217	100	24	-	53
BACHELOR'S	20 493	11 997	311	3 920	3 499	3 042	1 226	8 057	835	3 332	1 936	1 238	715	439
BACHELOR'S PLUS[2]	10 750	5 985	416	2 467	1 287	1 062	754	4 481	510	1 929	1 086	515	440	284
MASTER'S	17 570	12 197	107	4 294	3 198	2 768	1 831	4 997	120	2 587	1 063	743	484	376
PH.D.	21 497	19 600	37	4 667	7 044	5 009	2 844	1 332	-	600	491	199	43	564

SEE FOOTNOTES AT END OF TABLE.

Table 5. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE HOLDING MEMBERSHIP IN NATIONAL PROFESSIONAL SOCIETIES IN 1972, BY HIGHEST DEGREE HELD AND AGE IN 1972—Continued

DETAILED OCCUPATION IN 1970 AND HIGHEST DEGREE HELD IN 1972	TOTAL	MEMBER OF A NATIONAL SOCIETY						NOT A MEMBER OF A NATIONAL SOCIETY						MEMBERSHIP IN NATIONAL SOCIETY NOT REPORTED
		TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	
AGRICULTURAL SCIENTISTS[1]	17 330	9 338	29	2 176	2 502	2 754	1 877	7 493	465	2 007	1 864	1 440	1 717	498
NO DEGREE	3 935	362	-	87	85	49	142	3 441	263	787	708	718	965	132
ASSOCIATE	223	59	-	32	-	27	-	165	-	87	54	24	-	-
BACHELOR'S	2 558	1 067	29	232	331	324	152	1 437	87	373	465	220	292	53
BACHELOR'S PLUS[2]	1 713	754	-	322	141	170	121	883	87	262	331	100	103	76
MASTER'S	3 751	2 833	-	752	635	809	637	814	-	351	167	175	121	103
PH.D.	4 032	3 902	-	720	1 172	1 319	690	52	-	31	-	21	-	78
FORESTERS AND CONSERVATIONISTS[1]	15 957	11 170	116	3 009	3 624	2 888	1 533	4 349	70	1 726	1 164	747	643	438
NO DEGREE	261	46	-	-	23	23	-	215	-	70	46	23	75	-
ASSOCIATE	47	23	-	23	-	-	-	23	-	23	-	-	-	-
BACHELOR'S	9 938	7 149	93	1 816	2 414	1 910	916	2 574	70	957	723	538	287	215
BACHELOR'S PLUS[2]	2 882	1 767	23	678	510	303	252	1 017	-	419	278	116	203	99
MASTER'S	2 199	1 749	-	419	490	605	234	401	-	210	116	23	52	49
PH.D.	165	165	-	23	116	-	26	-	-	-	-	-	-	-
BIOLOGICAL SCIENTISTS[1]	50 222	33 571	1 081	11 199	9 865	7 110	4 317	15 531	1 722	6 831	3 325	2 342	1 311	1 120
NO DEGREE	4 410	1 502	152	361	270	339	381	2 882	422	637	713	590	521	26
ASSOCIATE	416	184	76	53	29	-	26	178	25	107	46	-	-	53
BACHELOR'S	7 997	3 781	189	1 872	754	808	159	4 045	678	2 002	748	480	136	171
BACHELOR'S PLUS[2]	6 154	3 464	393	1 466	636	589	380	2 581	423	1 248	476	299	135	109
MASTER'S	11 620	7 615	107	3 122	2 072	1 353	960	3 782	120	2 026	780	545	311	224
PH.D.	17 300	15 533	37	3 923	5 756	3 690	2 128	1 280	-	568	491	178	43	487
PHYSICAL SCIENTISTS, TOTAL[1]	196 353	116 783	1 910	33 875	37 856	27 781	15 360	75 586	5 235	26 749	18 456	14 883	10 264	3 984
NO DEGREE	27 141	5 323	173	1 017	1 435	1 464	1 234	21 205	1 900	5 360	4 883	5 162	3 900	612
ASSOCIATE	2 762	694	-	222	374	-	97	1 984	410	680	651	243	-	85
BACHELOR'S	44 581	22 257	730	4 766	6 791	7 017	2 953	21 717	1 192	8 215	5 088	4 276	2 946	607
BACHELOR'S PLUS[2]	28 901	16 966	712	5 985	4 659	3 557	2 053	11 458	1 301	5 067	2 117	1 655	1 318	478
MASTER'S	36 678	26 674	295	8 764	8 003	6 567	3 045	9 458	89	4 148	2 861	1 539	821	546
PH.D.	48 179	42 525	-	12 948	16 032	8 055	5 490	4 565	-	1 976	1 488	789	312	1 089
CHEMISTS[1]	125 414	68 474	1 192	20 762	21 274	16 009	9 237	54 647	3 738	19 595	12 297	10 618	8 398	2 294
NO DEGREE	20 903	3 945	55	804	1 155	956	975	16 594	1 612	4 439	3 399	3 985	3 158	365
ASSOCIATE	2 165	453	-	108	293	-	52	1 658	296	603	541	216	-	54
BACHELOR'S	32 940	15 238	584	3 814	4 313	4 527	2 001	17 294	876	6 824	3 756	3 241	2 597	408
BACHELOR'S PLUS[2]	17 443	9 680	376	3 878	2 585	1 696	1 145	7 579	662	3 616	1 334	856	1 111	184
MASTER'S	18 766	13 542	177	4 766	3 357	3 505	1 737	4 997	-	1 979	1 651	899	469	227
PH.D.	27 535	24 291	-	7 277	9 270	4 671	3 072	2 660	-	1 156	724	545	236	583
PHYSICISTS[1]	36 211	24 903	415	8 403	8 403	4 920	2 762	10 496	933	4 272	3 010	1 650	630	813
NO DEGREE	2 293	609	89	158	68	161	133	1 586	155	352	543	290	247	98
ASSOCIATE	348	186	-	84	81	-	22	162	59	56	21	26	-	-
BACHELOR'S	3 156	1 405	88	349	479	337	151	1 707	177	671	470	361	27	45
BACHELOR'S PLUS[2]	4 752	2 727	148	1 157	726	503	192	1 948	423	832	367	304	22	77
MASTER'S	9 636	6 551	89	2 300	2 272	1 299	591	2 905	89	1 593	720	335	168	180
PH.D.	14 725	12 812	-	4 354	4 592	2 345	1 521	1 547	-	610	664	197	76	365
OTHER PHYSICAL SCIENTISTS[1]	34 728	23 406	303	4 710	8 180	6 852	3 361	10 444	564	2 882	3 149	2 614	1 235	877
NO DEGREE	3 944	769	29	55	211	347	127	3 025	133	569	942	887	495	150
ASSOCIATE	249	54	-	31	-	-	23	164	55	21	88	-	-	31
BACHELOR'S	8 485	5 614	58	602	1 999	2 153	801	2 717	139	721	862	674	322	155
BACHELOR'S PLUS[2]	6 706	4 559	188	949	1 348	1 358	716	1 931	216	618	416	495	186	217
MASTER'S	8 276	6 580	29	1 698	2 374	1 763	716	1 556	-	577	490	305	183	140
PH.D.	5 920	5 422	-	1 317	2 169	1 039	896	357	-	210	100	47	-	141
SOCIAL SCIENTISTS, TOTAL[1]	151 299	83 435	749	27 746	24 739	18 744	11 457	64 207	2 529	26 283	15 052	12 177	8 166	3 657
NO DEGREE	14 372	2 517	29	477	733	661	617	11 577	625	2 121	2 669	3 736	2 426	279
ASSOCIATE	905	223	29	62	33	67	32	645	30	317	161	72	67	36
BACHELOR'S	23 242	6 941	184	2 159	2 036	1 554	1 007	15 920	963	6 807	4 199	2 690	1 261	382
BACHELOR'S PLUS[2]	16 892	7 325	247	3 082	1 991	1 343	661	9 265	325	4 763	1 901	1 321	954	302
MASTER'S	49 523	29 672	233	11 971	8 066	5 932	3 471	18 776	291	10 236	4 208	2 515	1 525	1 074
PH.D.	38 504	33 810	27	9 405	11 150	8 243	4 985	3 863	29	1 100	1 079	850	805	832
ECONOMISTS[1]	76 683	30 308	299	9 964	8 578	7 058	4 410	44 761	1 466	17 462	10 811	9 069	5 953	1 613
NO DEGREE	10 592	1 547	-	181	513	480	372	8 908	306	1 597	2 127	3 123	1 755	137
ASSOCIATE	687	169	-	36	33	67	32	482	-	235	135	45	67	36
BACHELOR'S	19 408	5 304	184	1 465	1 563	1 227	865	13 784	625	5 883	3 719	2 420	1 137	319
BACHELOR'S PLUS[2]	9 399	3 427	47	1 160	1 150	814	256	5 824	222	2 403	1 461	959	760	148
MASTER'S	21 872	10 287	68	4 602	2 453	2 057	1 106	11 174	127	6 443	2 393	1 387	824	410
PH.D.	9 487	7 890	-	2 175	2 500	1 785	1 431	1 454	-	329	255	384	486	142
PSYCHOLOGISTS[1]	40 822	28 595	226	9 157	8 849	6 704	3 659	10 814	563	5 463	2 298	1 570	920	1 414
NO DEGREE	1 402	299	29	87	55	51	77	1 045	170	234	256	293	92	57
ASSOCIATE	85	29	29	-	-	-	-	56	-	56	-	-	-	-
BACHELOR'S	1 089	266	-	89	57	57	63	824	227	341	113	80	63	-
BACHELOR'S PLUS[2]	3 313	1 480	29	786	403	142	120	1 805	25	1 420	132	140	89	28
MASTER'S	15 299	9 851	139	3 320	2 635	2 319	1 438	4 942	83	2 607	1 152	645	454	507
PH.D.	18 465	16 139	-	4 793	5 527	4 004	1 815	1 722	29	632	617	305	140	604

SEE FOOTNOTES AT END OF TABLE.

Table 5. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE HOLDING MEMBERSHIP IN NATIONAL PROFESSIONAL SOCIETIES IN 1972, BY HIGHEST DEGREE HELD AND AGE IN 1972—Continued

DETAILED OCCUPATION IN 1970 AND HIGHEST DEGREE HELD IN 1972	TOTAL	MEMBER OF A NATIONAL SOCIETY						NOT A MEMBER OF A NATIONAL SOCIETY						MEMBERSHIP IN NATIONAL SOCIETY NOT REPORTED
		TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	
OTHER SOCIAL SCIENTISTS[1]	33 794	24 532	224	8 625	7 313	4 982	3 388	8 632	500	3 359	1 943	1 538	1 293	630
NO DEGREE	2 378	670	-	209	164	131	167	1 624	149	291	286	319	578	84
ASSOCIATE	133	26	-	26	-	-	-	107	30	26	26	27	-	-
BACHELOR'S	2 745	1 370	-	604	416	271	80	1 312	110	583	367	191	60	62
BACHELOR'S PLUS[2]	4 179	2 418	171	1 136	438	387	286	1 635	78	940	309	223	85	126
MASTER'S	12 352	9 534	26	4 049	2 977	1 556	926	2 660	81	1 185	663	483	247	157
PH.D.	10 553	9 780	27	2 437	3 123	2 455	1 739	687	-	138	208	161	180	86

- ENTRY REPRESENTS ZERO.
[1]INCLUDES REGISTERED NURSE, FIRST PROFESSIONAL, AND OTHER DEGREES NOT SHOWN SEPARATELY, AND DEGREE NOT REPORTED.
[2]SOME GRADUATE WORK BUT NO GRADUATE DEGREE.

Table 6. ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE HOLDING VALID PROFESSIONAL LICENSES, CERTIFICATION, OR REGISTRATION, BY HIGHEST DEGREE HELD AND AGE IN 1972

OCCUPATION IN 1970 AND HIGHEST DEGREE HELD IN 1972	TOTAL	WITH LICENSES, CERTIFICATION, OR REGISTRATION						WITHOUT LICENSES, CERTIFICATION, OR REGISTRATION						NOT REPORTED
		TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	TOTAL	UNDER 25 YEARS	25 TO 34 YEARS	35 TO 44 YEARS	45 TO 54 YEARS	55 YEARS AND OVER	
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[1]	337 933	26 582	1 611	11 552	6 988	4 927	1 503	307 157	22 952	151 395	76 568	41 101	15 140	4 195
NO DEGREE	132 125	6 135	616	2 105	1 477	1 564	373	124 322	9 865	51 876	32 021	21 958	8 601	1 668
ASSOCIATE	14 648	864	349	211	189	98	36	13 728	1 798	7 787	2 982	733	428	35
BACHELOR'S OR HIGHER	161 442	17 579	573	8 577	4 606	2 942	882	141 861	9 008	80 585	34 686	13 628	3 974	1 982
ENGINEERS, TOTAL[1]	1 242 519	302 946	3 198	62 340	81 475	91 951	63 982	923 056	22 692	268 514	279 360	227 394	125 097	16 518
NO DEGREE	334 752	43 604	712	5 860	8 326	15 055	13 652	286 448	6 768	56 237	77 600	86 176	59 667	4 700
ASSOCIATE	46 256	6 575	382	1 802	2 569	1 423	400	38 922	1 707	16 267	13 368	5 917	1 663	758
BACHELOR'S OR HIGHER	758 443	233 067	1 729	51 034	66 432	70 333	43 539	518 319	12 666	183 331	166 311	111 005	45 007	7 058
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS[1]	68 525	11 256	147	2 005	3 597	3 506	2 000	56 433	1 096	14 658	18 911	16 157	5 610	836
NO DEGREE	15 454	1 721	-	262	373	635	451	13 511	150	1 845	4 253	4 847	2 417	221
ASSOCIATE	2 600	372	30	58	163	121	-	2 196	98	406	912	657	122	32
BACHELOR'S OR HIGHER	45 808	8 420	117	1 628	2 906	2 502	1 265	36 939	786	11 644	12 628	9 409	2 471	450
CHEMICAL ENGINEERS[1]	52 445	10 985	81	2 090	2 963	3 961	1 891	40 955	1 346	14 540	10 440	10 265	4 364	505
NO DEGREE	4 846	655	-	102	176	153	224	4 164	188	938	961	1 262	816	27
ASSOCIATE	588	155	-	105	50	-	-	433	27	77	225	78	27	-
BACHELOR'S OR HIGHER	44 525	9 574	81	1 882	2 461	3 573	1 577	34 597	1 078	13 108	8 980	8 358	3 073	353
CIVIL ENGINEERS[1]	174 442	83 079	533	17 577	27 025	19 501	18 444	88 761	3 875	26 060	21 499	21 173	16 173	2 582
NO DEGREE	49 057	10 407	92	990	3 211	2 692	3 421	37 986	2 038	7 655	9 106	10 419	8 768	664
ASSOCIATE	6 167	1 169	-	212	502	306	148	4 764	185	2 757	1 076	675	71	235
BACHELOR'S OR HIGHER	104 811	67 494	440	15 928	22 301	15 665	13 160	36 266	1 283	14 215	8 963	7 049	4 757	1 050
ELECTRICAL AND ELECTRONIC ENGINEERS[1]	285 016	55 258	885	13 001	13 912	16 582	10 878	226 535	5 937	73 105	78 350	48 265	20 879	3 222
NO DEGREE	69 553	8 763	332	1 937	1 216	2 978	2 299	59 795	663	14 356	17 410	17 089	10 277	995
ASSOCIATE	13 162	1 701	221	601	778	101	-	11 136	553	4 459	4 192	1 720	212	325
BACHELOR'S OR HIGHER	181 169	40 074	221	9 660	11 584	11 966	6 642	139 886	4 366	51 439	51 025	24 292	8 763	1 209
INDUSTRIAL ENGINEERS[1]	187 366	28 056	425	5 941	5 792	9 928	5 971	156 089	3 148	40 099	45 805	42 131	24 905	3 221
NO DEGREE	68 687	6 542	83	858	581	2 754	2 266	61 115	991	10 700	15 775	20 614	13 034	1 030
ASSOCIATE	7 125	1 339	-	424	415	249	252	5 620	251	2 532	1 653	850	334	167
BACHELOR'S OR HIGHER	93 214	17 147	165	3 813	3 891	6 508	2 769	74 977	1 489	24 739	24 349	16 302	8 099	1 090
MECHANICAL ENGINEERS[1]	180 479	47 053	610	8 343	12 047	16 955	9 099	130 929	3 278	36 504	35 862	34 874	20 411	2 497
NO DEGREE	50 109	8 005	174	401	1 656	3 147	2 627	41 259	1 379	6 153	10 121	12 898	10 708	846
ASSOCIATE	6 034	702	-	80	314	307	-	5 333	174	1 778	1 982	1 012	387	-
BACHELOR'S OR HIGHER	109 819	36 092	348	7 540	9 448	12 657	6 099	72 465	1 464	27 116	20 916	17 196	5 772	1 263
METALLURGICAL AND MATERIALS ENGINEERS[1]	15 436	2 767	-	322	837	800	808	12 489	243	3 451	3 690	3 225	1 880	180
NO DEGREE	3 069	256	-	27	75	79	75	2 762	108	405	658	928	663	51
ASSOCIATE	317	54	-	54	-	-	-	263	27	135	50	51	-	-
BACHELOR'S OR HIGHER	10 872	2 149	-	189	608	695	656	8 619	108	2 830	2 706	2 013	962	104
MINING AND PETROLEUM ENGINEERS[1]	15 643	6 284	88	970	1 638	2 043	1 544	9 041	311	2 435	3 022	1 989	1 283	318
NO DEGREE	2 356	361	31	31	130	104	65	1 931	99	184	640	426	582	65
ASSOCIATE	136	-	-	-	-	-	-	136	-	61	51	24	-	-
BACHELOR'S OR HIGHER	12 181	5 485	57	818	1 456	1 863	1 290	6 470	213	2 098	2 118	1 394	647	226
SALES ENGINEERS[1]	54 653	6 858	-	1 399	1 603	2 409	1 447	47 107	471	11 594	13 802	12 896	8 345	687
NO DEGREE	16 624	792	-	201	109	270	212	15 476	128	3 016	3 861	4 730	3 741	356
ASSOCIATE	1 744	166	-	56	56	54	-	1 579	-	667	599	163	150	-
BACHELOR'S OR HIGHER	29 659	5 244	-	1 027	1 329	1 922	966	24 222	311	6 977	7 762	6 455	2 717	194
ENGINEERS, N.E.C., AND ENGINEERING TEACHERS[1]	208 515	51 350	429	10 692	12 062	16 266	11 901	154 697	2 985	46 068	47 979	36 418	21 247	2 469
NO DEGREE	54 997	6 103	-	1 051	798	2 243	2 011	48 449	1 024	10 986	14 814	12 962	8 662	445
ASSOCIATE	8 382	919	131	212	292	284	-	7 463	392	3 395	2 628	686	362	-
BACHELOR'S OR HIGHER	126 386	41 388	298	8 548	10 447	12 982	9 114	83 879	1 569	29 164	26 863	18 537	7 745	1 119
MATHEMATICAL SPECIALISTS, TOTAL[1]	61 679	13 106	520	4 669	3 493	2 377	2 047	47 346	3 302	19 020	9 626	8 586	6 812	1 227
NO DEGREE	10 904	638	-	158	133	103	243	10 074	1 102	2 081	1 617	2 632	2 641	193
ASSOCIATE	791	173	38	62	26	48	-	595	177	198	130	53	37	23
BACHELOR'S OR HIGHER	47 005	11 820	423	4 362	3 202	2 089	1 744	34 363	1 867	16 303	7 373	5 214	3 606	822
LIFE SCIENTISTS, TOTAL[1]	83 509	20 229	899	6 138	5 408	4 203	3 581	61 209	2 612	20 828	17 012	12 854	7 904	2 071
NO DEGREE	8 606	1 191	101	263	278	197	352	7 180	735	1 678	1 566	1 496	1 703	236
ASSOCIATE	686	211	76	85	50	-	-	447	25	265	79	51	26	28
BACHELOR'S OR HIGHER	70 310	16 968	595	5 224	4 669	3 614	2 866	51 728	1 769	18 566	15 010	10 796	5 587	1 615
PHYSICAL SCIENTISTS, TOTAL[1]	196 353	26 318	498	6 187	8 124	6 321	5 188	166 114	6 657	54 619	48 078	36 313	20 448	3 922
NO DEGREE	27 141	1 988	85	566	572	378	387	24 873	1 967	5 898	5 789	6 417	4 802	279
ASSOCIATE	2 762	538	89	221	179	26	22	2 224	321	766	845	216	75	-
BACHELOR'S OR HIGHER	158 340	22 538	324	5 238	7 056	5 334	4 586	132 529	3 966	46 640	39 859	27 728	14 337	3 273
SOCIAL SCIENTISTS, TOTAL[1]	151 299	43 243	522	11 837	12 316	10 796	7 771	104 162	2 767	42 256	27 046	20 307	11 786	3 895
NO DEGREE	14 372	1 620	90	225	454	395	455	12 615	564	2 409	2 902	4 096	2 645	137
ASSOCIATE	905	130	-	65	-	-	55	775	59	350	194	139	34	-
BACHELOR'S OR HIGHER	128 161	38 822	403	10 953	11 180	9 808	6 478	86 251	1 879	38 623	23 066	14 679	8 005	3 088

- ENTRY REPRESENTS ZERO.
[1]INCLUDES FIRST PROFESSIONAL, REGISTERED NURSE, AND OTHER DEGREES NOT SHOWN SEPARATELY, AND DEGREE NOT REPORTED.

Table 7. SUPPLEMENTAL TRAINING RECEIVED BY ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY HIGHEST DEGREE HELD IN 1972 AND SEX

OCCUPATION IN 1970, TYPE OF SUPPLEMENTAL TRAINING, AND SEX	HIGHEST DEGREE HELD IN 1972								
	TOTAL[1]	NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.
		NO COLLEGE	1-3 YEARS OF COLLEGE	4 OR MORE YEARS OF COLLEGE					
BOTH SEXES									
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	337 933	60 150	64 012	7 963	14 648	88 362	36 323	33 442	3 315
APPRENTICESHIPS	13 307	4 200	3 035	202	590	2 255	1 227	927	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	125 784	19 390	27 299	3 180	5 287	38 230	12 581	11 022	684
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	45 367	9 503	10 530	1 362	2 189	9 046	4 881	3 461	510
EXTENSION OR CORRESPONDENCE COURSES	55 183	11 403	12 636	1 850	2 725	11 096	5 059	5 744	417
COURSES AT EMPLOYER'S TRAINING SCHOOL	131 278	20 680	28 884	3 436	5 696	38 531	14 096	12 244	645
COURSES AT ADULT EDUCATION CENTER	43 286	8 102	9 256	1 103	1 538	10 663	3 925	4 652	207
OTHER SUPPLEMENTAL TRAINING	48 300	7 960	10 263	1 346	1 715	13 401	5 592	4 317	780
NO SUPPLEMENTAL TRAINING RECEIVED	60 527	10 064	12 379	1 456	2 643	14 117	8 279	7 865	1 069
SUPPLEMENTAL TRAINING NOT REPORTED	51 403	13 128	3 824	596	2 404	10 667	3 597	3 531	387
COMPUTER PROGRAMMERS[3]	163 244	24 814	34 984	4 052	8 852	45 127	17 156	13 335	683
APPRENTICESHIPS	6 013	1 705	1 278	-	308	1 192	693	457	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	64 559	9 354	14 690	1 735	3 205	20 692	5 721	4 630	76
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	19 571	4 084	5 341	424	1 154	3 636	1 770	1 245	94
EXTENSION OR CORRESPONDENCE COURSES	21 977	4 326	5 867	645	1 430	4 171	1 942	1 795	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	63 749	9 213	15 580	1 930	3 425	19 143	6 173	4 785	-
COURSES AT ADULT EDUCATION CENTER	18 580	3 360	4 936	451	746	4 952	1 336	1 277	-
OTHER SUPPLEMENTAL TRAINING	22 917	3 899	4 743	678	1 367	6 855	2 473	1 023	319
NO SUPPLEMENTAL TRAINING RECEIVED	28 742	3 206	7 227	613	1 593	7 427	4 352	3 279	143
SUPPLEMENTAL TRAINING NOT REPORTED	23 474	4 941	2 125	313	1 461	5 411	1 262	1 342	145
OTHER OPERATIONS AND COMPUTER SPECIALISTS[3]	174 690	35 336	29 027	3 911	5 795	43 236	19 167	20 108	2 632
APPRENTICESHIPS	7 294	2 495	1 756	202	282	1 063	533	470	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	61 225	10 036	12 608	1 445	2 081	17 537	6 860	6 392	607
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	25 795	5 419	5 190	938	1 035	5 410	3 111	2 216	416
EXTENSION OR CORRESPONDENCE COURSES	33 206	7 077	6 769	1 205	1 296	6 925	3 117	3 949	417
COURSES AT EMPLOYER'S TRAINING SCHOOL	67 529	11 467	13 305	1 506	2 270	19 389	7 923	7 460	645
COURSES AT ADULT EDUCATION CENTER	24 706	4 741	4 320	651	793	5 711	2 569	3 374	207
OTHER SUPPLEMENTAL TRAINING	25 383	4 061	5 521	668	348	6 546	3 120	3 294	461
NO SUPPLEMENTAL TRAINING RECEIVED	31 785	6 858	5 152	843	1 050	6 690	3 927	4 586	926
SUPPLEMENTAL TRAINING NOT REPORTED	27 929	8 186	1 700	283	943	5 257	2 335	2 189	242
ENGINEERS, TOTAL[3]	1 242 519	159 074	145 151	30 528	46 256	372 828	197 771	162 753	25 092
APPRENTICESHIPS	91 497	20 146	17 223	4 061	3 520	17 458	9 634	6 574	611
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	276 094	35 817	41 087	8 067	12 013	80 957	45 207	33 835	2 601
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	192 519	26 552	32 075	5 177	8 841	53 478	29 125	23 000	2 653
EXTENSION OR CORRESPONDENCE COURSES	265 560	39 436	42 156	9 055	10 247	71 523	38 303	31 443	3 159
COURSES AT EMPLOYER'S TRAINING SCHOOL	368 223	40 336	53 313	10 094	15 267	115 238	62 136	48 258	3 559
COURSES AT ADULT EDUCATION CENTER	186 065	19 131	27 205	5 121	7 864	54 286	29 686	24 723	3 173
OTHER SUPPLEMENTAL TRAINING	132 512	14 147	16 411	4 011	4 559	37 265	23 980	20 352	3 871
NO SUPPLEMENTAL TRAINING RECEIVED	297 761	31 229	32 863	6 866	9 934	95 006	52 497	44 843	10 023
SUPPLEMENTAL TRAINING NOT REPORTED	225 837	42 359	11 061	3 232	7 682	61 639	28 337	23 308	3 181
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS[3]	68 525	5 388	7 920	2 145	2 600	20 901	12 317	11 407	1 183
APPRENTICESHIPS	4 856	472	824	425	190	1 135	900	392	94
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	14 718	952	2 355	612	669	4 603	2 279	2 318	153
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	12 147	1 388	2 177	457	704	3 366	1 565	1 599	156
EXTENSION OR CORRESPONDENCE COURSES	14 908	1 323	2 115	633	909	4 245	2 465	2 334	275
COURSES AT EMPLOYER'S TRAINING SCHOOL	25 638	1 651	3 412	1 011	1 231	8 295	4 704	4 087	148
COURSES AT ADULT EDUCATION CENTER	12 131	665	2 110	493	580	3 636	2 031	1 888	60
OTHER SUPPLEMENTAL TRAINING	6 676	371	983	238	309	2 063	1 252	935	159
NO SUPPLEMENTAL TRAINING RECEIVED	14 495	958	1 447	411	491	4 658	2 755	2 994	354
SUPPLEMENTAL TRAINING NOT REPORTED	11 227	1 421	637	220	191	2 871	1 849	1 531	123
CIVIL ENGINEERS[3]	174 442	28 039	16 648	4 369	6 167	58 259	29 098	16 592	861
APPRENTICESHIPS	8 207	1 763	1 172	469	442	1 733	1 031	438	71
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	31 747	4 522	3 031	1 041	1 181	10 357	6 376	3 307	141
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	20 991	2 749	2 531	763	1 144	6 858	3 773	2 055	141
EXTENSION OR CORRESPONDENCE COURSES	36 922	6 727	5 475	1 074	1 576	10 798	4 863	3 676	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	33 772	4 694	4 044	1 353	1 344	10 938	5 618	3 481	-
COURSES AT ADULT EDUCATION CENTER	22 633	2 588	3 037	597	1 280	7 006	4 371	2 566	-
OTHER SUPPLEMENTAL TRAINING	15 849	2 279	1 378	446	667	4 668	3 216	2 312	285
NO SUPPLEMENTAL TRAINING RECEIVED	50 183	6 754	4 351	1 295	1 354	18 950	10 064	5 024	224
SUPPLEMENTAL TRAINING NOT REPORTED	37 024	8 783	1 728	360	1 157	11 448	4 301	2 473	71
ELECTRICAL AND ELECTRONIC ENGINEERS[3]	285 016	30 156	33 232	6 165	13 162	84 414	47 090	44 871	4 794
APPRENTICESHIPS	17 494	4 391	3 098	221	874	2 981	1 958	2 012	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	66 029	8 673	8 369	2 231	3 361	20 356	9 718	9 677	473
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	55 585	8 121	9 919	880	2 190	16 053	8 341	6 619	606
EXTENSION OR CORRESPONDENCE COURSES	66 229	9 581	9 649	1 657	2 771	19 094	10 208	7 805	582
COURSES AT EMPLOYER'S TRAINING SCHOOL	100 226	9 948	14 501	2 003	4 788	32 712	17 494	13 420	1 027
COURSES AT ADULT EDUCATION CENTER	41 247	3 855	5 227	959	1 736	12 864	7 152	6 401	449
OTHER SUPPLEMENTAL TRAINING	27 731	2 649	2 648	881	1 099	8 475	5 360	4 863	675
NO SUPPLEMENTAL TRAINING RECEIVED	62 552	4 086	6 995	1 105	3 407	19 386	11 180	11 986	1 734
SUPPLEMENTAL TRAINING NOT REPORTED	46 948	6 789	2 372	752	2 648	10 761	6 674	6 497	666

SEE FOOTNOTES AT END OF TABLE.

Table 7. SUPPLEMENTAL TRAINING RECEIVED BY ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY HIGHEST DEGREE HELD IN 1972 AND SEX—Continued

OCCUPATION IN 1970, TYPE OF SUPPLEMENTAL TRAINING, AND SEX	HIGHEST DEGREE HELD IN 1972								
	TOTAL[1]	NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.
		NO COLLEGE	1-3 YEARS OF COLLEGE	4 OR MORE YEARS OF COLLEGE					
BOTH SEXES--CONTINUED									
INDUSTRIAL ENGINEERS[3]	187 366	34 047	30 557	4 083	7 125	50 472	23 831	17 749	1 162
APPRENTICESHIPS	16 177	4 170	4 177	659	335	2 419	1 251	838	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	56 314	9 822	12 168	1 754	2 099	13 798	7 943	4 451	84
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	31 434	6 175	6 197	660	1 423	7 913	4 330	2 413	165
EXTENSION OR CORRESPONDENCE COURSES	43 738	8 665	9 167	1 334	1 333	9 097	6 180	3 782	168
COURSES AT EMPLOYER'S TRAINING SCHOOL	69 999	10 503	13 674	1 415	2 337	20 721	9 671	6 604	250
COURSES AT ADULT EDUCATION CENTER	31 788	4 132	5 793	920	842	8 666	4 250	3 266	500
OTHER SUPPLEMENTAL TRAINING	26 887	3 926	4 961	588	670	7 702	3 660	3 004	250
NO SUPPLEMENTAL TRAINING RECEIVED	33 520	5 015	6 088	581	1 085	9 113	4 107	4 763	330
SUPPLEMENTAL TRAINING NOT REPORTED	33 957	8 906	2 101	415	1 594	8 864	2 766	2 263	167
MECHANICAL ENGINEERS[3]	180 479	25 670	19 131	5 308	6 034	57 728	30 123	20 281	1 688
APPRENTICESHIPS	19 430	4 634	3 650	1 262	471	4 129	1 947	773	85
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	35 293	4 432	5 229	1 420	1 502	10 455	6 413	3 868	161
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	23 690	3 013	2 974	1 017	1 186	7 129	3 994	2 185	324
EXTENSION OR CORRESPONDENCE COURSES	36 654	5 462	5 733	1 857	1 412	10 963	4 781	4 040	153
COURSES AT EMPLOYER'S TRAINING SCHOOL	47 889	4 316	6 363	2 241	1 408	14 926	8 565	7 665	317
COURSES AT ADULT EDUCATION CENTER	30 066	3 483	4 535	919	1 177	8 923	4 624	3 145	314
OTHER SUPPLEMENTAL TRAINING	17 976	2 314	2 353	690	1 035	4 967	3 385	2 139	76
NO SUPPLEMENTAL TRAINING RECEIVED	45 116	6 238	4 168	1 098	1 368	15 961	8 687	4 930	733
SUPPLEMENTAL TRAINING NOT REPORTED	32 384	6 806	1 496	558	634	9 916	4 054	2 392	159
SALES ENGINEERS[3]	54 653	6 623	8 062	1 939	1 744	18 820	7 704	2 990	144
APPRENTICESHIPS	4 034	869	717	253	197	593	447	166	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	11 400	1 035	1 628	279	345	4 538	1 787	671	35
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	7 773	862	1 302	487	397	2 643	900	467	-
EXTENSION OR CORRESPONDENCE COURSES	9 084	1 123	1 739	389	369	2 532	1 344	469	27
COURSES AT EMPLOYER'S TRAINING SCHOOL	14 509	1 462	2 065	630	474	5 613	2 315	922	27
COURSES AT ADULT EDUCATION CENTER	7 234	536	1 327	308	290	1 882	1 281	719	-
OTHER SUPPLEMENTAL TRAINING	5 605	661	911	113	170	1 845	959	309	-
NO SUPPLEMENTAL TRAINING RECEIVED	13 472	1 503	2 647	482	500	4 966	1 683	862	56
SUPPLEMENTAL TRAINING NOT REPORTED	11 633	1 786	744	301	254	3 414	1 519	369	27
OTHER ENGINEERS[3]	292 039	29 149	29 601	6 519	9 423	82 233	47 607	48 863	15 260
APPRENTICESHIPS	21 298	3 850	3 585	772	1 012	4 468	2 100	1 955	361
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	60 595	6 380	8 307	731	2 836	16 849	10 691	9 544	1 554
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	40 899	4 244	6 976	913	1 797	9 516	6 221	7 660	1 260
EXTENSION OR CORRESPONDENCE COURSES	58 026	6 555	8 280	2 111	1 877	14 796	8 464	9 337	1 954
COURSES AT EMPLOYER'S TRAINING SCHOOL	76 191	7 762	9 253	1 442	3 685	22 034	13 768	12 080	1 788
COURSES AT ADULT EDUCATION CENTER	40 966	3 871	5 177	925	1 960	11 309	5 977	6 738	1 851
OTHER SUPPLEMENTAL TRAINING	31 788	1 947	3 177	1 054	610	7 545	5 950	6 790	2 426
NO SUPPLEMENTAL TRAINING RECEIVED	78 423	6 674	7 167	1 895	1 729	21 973	14 020	14 284	6 594
SUPPLEMENTAL TRAINING NOT REPORTED	52 663	7 868	1 982	624	1 204	14 365	7 174	7 783	1 970
MATHEMATICAL SPECIALISTS, TOTAL[3]	61 679	5 781	4 143	981	791	9 654	6 974	18 312	12 065
APPRENTICESHIPS	1 338	138	106	23	26	221	202	376	159
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	9 746	1 014	1 032	196	189	2 614	1 628	2 346	458
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	4 774	372	284	105	24	875	745	1 485	722
EXTENSION OR CORRESPONDENCE COURSES	7 309	718	635	175	-	1 347	667	2 526	1 095
COURSES AT EMPLOYER'S TRAINING SCHOOL	8 691	975	822	110	73	2 014	1 556	2 527	412
COURSES AT ADULT EDUCATION CENTER	5 541	678	713	134	57	1 073	927	1 419	388
OTHER SUPPLEMENTAL TRAINING	6 534	525	425	134	24	1 608	698	1 993	955
NO SUPPLEMENTAL TRAINING RECEIVED	25 472	1 817	1 624	279	264	2 666	2 652	8 262	7 082
SUPPLEMENTAL TRAINING NOT REPORTED	10 973	1 405	141	239	256	1 586	953	2 811	2 163
LIFE SCIENTISTS, TOTAL[3]	83 509	5 042	2 292	1 272	686	20 493	10 750	17 570	21 497
APPRENTICESHIPS	2 599	263	127	59	75	634	337	473	471
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	17 208	893	590	358	212	6 893	2 686	3 430	1 354
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	7 963	424	361	237	78	2 102	1 142	1 465	1 951
EXTENSION OR CORRESPONDENCE COURSES	11 556	613	281	319	53	4 292	1 830	2 711	1 204
COURSES AT EMPLOYER'S TRAINING SCHOOL	13 497	633	257	222	76	6 374	2 234	2 328	874
COURSES AT ADULT EDUCATION CENTER	7 942	325	224	148	103	2 445	1 383	2 090	1 005
OTHER SUPPLEMENTAL TRAINING	10 387	377	261	249	78	2 588	1 436	2 129	2 713
NO SUPPLEMENTAL TRAINING RECEIVED	30 375	1 410	699	364	101	5 638	3 512	7 056	10 878
SUPPLEMENTAL TRAINING NOT REPORTED	14 408	1 661	311	176	162	2 374	1 509	2 427	4 233
PHYSICAL SCIENTISTS, TOTAL[3]	196 353	11 840	12 010	3 290	2 762	44 581	28 901	36 678	48 179
APPRENTICESHIPS	4 656	632	716	83	-	841	826	655	733
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	28 712	2 051	2 668	768	533	8 491	4 735	5 310	3 101
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	18 399	1 213	1 898	269	350	4 186	3 005	3 579	3 245
EXTENSION OR CORRESPONDENCE COURSES	27 144	1 994	2 649	803	595	6 870	4 345	5 473	3 471
COURSES AT EMPLOYER'S TRAINING SCHOOL	29 074	1 487	2 717	483	713	8 829	4 007	6 282	3 763
COURSES AT ADULT EDUCATION CENTER	22 970	899	871	680	361	7 223	3 578	5 246	3 306
OTHER SUPPLEMENTAL TRAINING	20 675	824	1 308	347	220	5 101	3 365	4 348	4 652
NO SUPPLEMENTAL TRAINING RECEIVED	75 931	3 153	4 586	897	778	14 461	11 299	13 841	25 350
SUPPLEMENTAL TRAINING NOT REPORTED	35 905	3 622	919	741	567	7 693	4 592	5 608	8 197

SEE FOOTNOTES AT END OF TABLE.

Table 7. SUPPLEMENTAL TRAINING RECEIVED BY ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY HIGHEST DEGREE HELD IN 1972 AND SEX—Continued

OCCUPATION IN 1970, TYPE OF SUPPLEMENTAL TRAINING, AND SEX	HIGHEST DEGREE HELD IN 1972								
	TOTAL[1]	NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.
		NO COLLEGE	1-3 YEARS OF COLLEGE	4 OR MORE YEARS OF COLLEGE					
BOTH SEXES--CONTINUED									
SOCIAL SCIENTISTS, TOTAL[3]	151 299	5 889	6 275	2 209	905	23 242	16 892	49 523	38 504
APPRENTICESHIPS	5 235	459	470	98	-	504	777	1 620	1 247
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	23 432	1 383	1 341	363	251	5 341	3 067	7 557	3 149
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	13 745	915	1 119	94	128	2 340	1 976	3 765	3 029
EXTENSION OR CORRESPONDENCE COURSES	17 572	1 046	1 646	367	214	3 103	1 993	5 801	2 616
COURSES AT EMPLOYER'S TRAINING SCHOOL	19 470	1 225	1 889	304	381	6 107	2 256	4 918	1 481
COURSES AT ADULT EDUCATION CENTER	14 037	563	1 019	196	179	2 265	2 105	5 035	2 020
OTHER SUPPLEMENTAL TRAINING	18 563	494	640	255	67	2 067	2 668	6 676	5 069
NO SUPPLEMENTAL TRAINING RECEIVED	56 827	1 479	1 562	876	117	7 016	5 887	20 758	17 843
SUPPLEMENTAL TRAINING NOT REPORTED	29 597	1 477	757	453	102	3 914	2 464	8 453	8 064
MALE									
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	281 140	48 025	55 384	7 087	12 665	67 659	33 009	29 204	3 087
APPRENTICESHIPS	12 677	4 030	2 844	202	590	2 135	1 227	851	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	101 274	15 004	23 361	2 997	4 609	27 533	11 273	9 096	607
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	44 679	9 427	10 372	1 362	2 144	8 896	4 881	3 385	510
EXTENSION OR CORRESPONDENCE COURSES	50 610	10 398	11 672	1 746	2 531	9 662	4 840	5 360	417
COURSES AT EMPLOYER'S TRAINING SCHOOL	111 204	17 665	26 212	3 178	5 131	28 937	12 707	10 643	606
COURSES AT ADULT EDUCATION CENTER	34 921	6 176	7 986	910	1 344	7 547	3 449	4 093	131
OTHER SUPPLEMENTAL TRAINING	40 565	6 179	8 884	1 268	1 400	10 519	5 061	3 891	743
NO SUPPLEMENTAL TRAINING RECEIVED	49 849	7 800	10 465	1 224	2 157	10 777	7 402	7 023	1 029
SUPPLEMENTAL TRAINING NOT REPORTED	43 035	10 136	3 183	596	2 009	9 001	3 405	3 187	311
COMPUTER PROGRAMMERS[3]	127 838	18 765	29 585	3 285	7 382	30 516	15 295	10 929	683
APPRENTICESHIPS	5 453	1 535	1 121	-	308	1 109	693	381	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	48 745	6 461	12 502	1 585	2 654	13 337	5 018	3 539	76
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	19 122	4 009	5 341	424	1 154	3 486	1 770	1 169	94
EXTENSION OR CORRESPONDENCE COURSES	19 223	3 699	5 446	572	1 280	3 018	1 866	1 635	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	51 549	7 872	14 103	1 702	2 980	12 649	5 462	3 950	-
COURSES AT ADULT EDUCATION CENTER	13 635	2 327	4 288	292	587	2 723	1 168	1 046	-
OTHER SUPPLEMENTAL TRAINING	18 082	2 872	4 121	678	1 052	4 522	2 245	947	319
NO SUPPLEMENTAL TRAINING RECEIVED	22 254	2 253	5 968	381	1 372	4 995	3 747	2 716	143
SUPPLEMENTAL TRAINING NOT REPORTED	18 470	3 515	1 642	313	1 152	4 278	1 188	1 116	145
OTHER OPERATIONS AND COMPUTER SPECIALISTS[3]	153 301	29 259	25 799	3 802	5 283	37 143	17 714	18 275	2 404
APPRENTICESHIPS	7 224	2 495	1 723	202	282	1 027	533	470	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	52 529	8 543	10 858	1 412	1 956	14 197	6 255	5 557	531
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	25 557	5 419	5 031	938	991	5 410	3 111	2 216	416
EXTENSION OR CORRESPONDENCE COURSES	31 387	6 699	6 226	1 174	1 251	6 644	2 974	3 725	417
COURSES AT EMPLOYER'S TRAINING SCHOOL	59 654	9 793	12 109	1 475	2 181	16 288	7 245	6 694	606
COURSES AT ADULT EDUCATION CENTER	21 286	3 848	3 698	618	757	4 825	2 280	3 047	131
OTHER SUPPLEMENTAL TRAINING	22 473	3 307	4 763	590	348	5 997	2 816	2 944	424
NO SUPPLEMENTAL TRAINING RECEIVED	27 595	5 547	4 498	843	785	5 781	3 655	4 307	886
SUPPLEMENTAL TRAINING NOT REPORTED	24 565	6 621	1 541	283	856	4 724	2 217	2 071	166
ENGINEERS, TOTAL[3]	1 226 626	154 960	143 242	30 366	45 876	369 035	195 905	160 912	24 934
APPRENTICESHIPS	90 977	20 146	17 101	4 061	3 520	17 364	9 442	6 464	611
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	272 666	35 095	40 279	8 041	11 986	80 150	45 034	33 391	2 601
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	192 304	26 457	31 980	5 177	8 841	53 452	29 125	23 000	2 653
EXTENSION OR CORRESPONDENCE COURSES	262 766	39 436	41 447	9 055	10 220	70 571	37 822	31 007	3 159
COURSES AT EMPLOYER'S TRAINING SCHOOL	364 371	39 225	52 578	10 041	15 189	114 380	61 591	47 861	3 559
COURSES AT ADULT EDUCATION CENTER	183 269	18 235	26 758	5 121	7 742	53 550	29 415	24 514	3 173
OTHER SUPPLEMENTAL TRAINING	130 544	13 788	16 136	4 011	4 559	36 601	23 735	20 077	3 871
NO SUPPLEMENTAL TRAINING RECEIVED	294 942	30 526	32 620	6 837	9 934	94 260	51 990	44 636	9 865
SUPPLEMENTAL TRAINING NOT REPORTED	220 819	40 844	10 966	3 153	7 502	60 540	28 010	22 530	3 181
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS[3]	67 568	5 225	7 674	2 088	2 573	20 765	12 153	11 325	1 183
APPRENTICESHIPS	4 829	472	797	425	190	1 135	900	392	94
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	14 391	897	2 192	612	642	4 576	2 252	2 291	153
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	12 147	1 388	2 177	457	704	3 366	1 565	1 599	156
EXTENSION OR CORRESPONDENCE COURSES	14 826	1 323	2 087	633	882	4 217	2 465	2 334	275
COURSES AT EMPLOYER'S TRAINING SCHOOL	25 338	1 569	3 303	984	1 231	8 267	4 677	4 059	148
COURSES AT ADULT EDUCATION CENTER	11 885	637	2 055	493	553	3 581	1 976	1 888	60
OTHER SUPPLEMENTAL TRAINING	6 621	344	983	238	309	2 063	1 252	935	159
NO SUPPLEMENTAL TRAINING RECEIVED	14 220	931	1 365	381	491	4 603	2 755	2 940	354
SUPPLEMENTAL TRAINING NOT REPORTED	11 091	1 366	637	220	191	2 871	1 767	1 531	123
CIVIL ENGINEERS[3]	172 739	27 900	16 515	4 369	6 167	57 644	28 760	16 320	861
APPRENTICESHIPS	8 207	1 763	1 172	469	442	1 733	1 031	438	71
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	31 203	4 522	2 964	1 041	1 181	10 151	6 310	3 174	141
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	20 991	2 749	2 531	763	1 144	6 858	3 773	2 055	141
EXTENSION OR CORRESPONDENCE COURSES	36 506	6 727	5 475	1 074	1 576	10 580	4 796	3 544	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	33 434	4 694	3 978	1 353	1 344	10 872	5 552	3 414	-
COURSES AT ADULT EDUCATION CENTER	22 291	2 588	3 037	597	1 280	6 729	4 305	2 566	-
OTHER SUPPLEMENTAL TRAINING	15 650	2 279	1 311	446	667	4 602	3 216	2 245	285
NO SUPPLEMENTAL TRAINING RECEIVED	49 771	6 754	4 351	1 295	1 354	18 817	9 856	4 951	224
SUPPLEMENTAL TRAINING NOT REPORTED	36 554	8 644	1 728	360	1 157	11 315	4 301	2 407	71

SEE FOOTNOTES AT END OF TABLE.

Table 7. SUPPLEMENTAL TRAINING RECEIVED BY ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY HIGHEST DEGREE HELD IN 1972 AND SEX—Continued

OCCUPATION IN 1970, TYPE OF SUPPLEMENTAL TRAINING, AND SEX	HIGHEST DEGREE HELD IN 1972								
	TOTAL[1]	NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.
		NO COLLEGE	1-3 YEARS OF COLLEGE	4 OR MORE YEARS OF COLLEGE					
MALE--CONTINUED									
ELECTRICAL AND ELECTRONIC ENGINEERS[3]	281 936	29 143	33 232	6 165	13 162	83 662	46 187	44 761	4 794
APPRENTICESHIPS	17 384	4 391	3 098	221	874	2 981	1 958	1 902	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	65 798	8 523	8 369	2 231	3 381	20 266	9 718	9 677	473
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	55 565	8 121	9 919	860	2 190	16 053	8 341	6 619	606
EXTENSION OR CORRESPONDENCE COURSES	65 777	9 581	9 649	1 657	2 771	18 943	9 907	7 805	582
COURSES AT EMPLOYER'S TRAINING SCHOOL	99 473	9 797	14 501	2 003	4 788	32 562	17 042	13 420	1 027
COURSES AT ADULT EDUCATION CENTER	40 796	3 554	5 227	959	1 736	12 864	7 002	6 401	449
OTHER SUPPLEMENTAL TRAINING	27 279	2 498	2 648	881	1 099	8 325	5 209	4 863	675
NO SUPPLEMENTAL TRAINING RECEIVED	61 800	3 935	6 995	1 105	3 407	19 085	10 879	11 986	1 734
SUPPLEMENTAL TRAINING NOT REPORTED	45 935	6 378	2 372	752	2 648	10 610	6 524	6 497	666
INDUSTRIAL ENGINEERS[3]	182 101	32 351	29 619	4 083	6 936	49 452	23 642	17 180	1 182
APPRENTICESHIPS	15 988	4 170	4 082	659	335	2 325	1 251	838	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	54 618	9 443	11 704	1 754	2 099	13 514	7 943	4 166	84
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	31 244	6 080	6 102	660	1 423	7 913	4 330	2 413	165
EXTENSION OR CORRESPONDENCE COURSES	42 507	8 665	8 598	1 334	1 333	8 813	6 180	3 592	168
COURSES AT EMPLOYER'S TRAINING SCHOOL	68 208	9 935	13 115	1 415	2 337	20 247	9 671	6 414	250
COURSES AT ADULT EDUCATION CENTER	31 039	3 762	5 698	920	747	8 571	4 250	3 171	500
OTHER SUPPLEMENTAL TRAINING	26 130	3 832	4 666	588	670	7 418	3 765	2 909	250
NO SUPPLEMENTAL TRAINING RECEIVED	32 985	4 825	5 994	581	1 085	8 937	4 107	4 763	330
SUPPLEMENTAL TRAINING NOT REPORTED	32 545	8 338	2 007	415	1 500	8 683	2 671	2 168	167
MECHANICAL ENGINEERS[3]	179 572	25 339	19 131	5 308	5 949	57 399	30 123	20 198	1 688
APPRENTICESHIPS	19 430	4 634	3 650	1 262	471	4 129	1 947	773	85
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	35 293	4 432	5 229	1 420	1 502	10 455	6 413	3 868	161
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	23 690	3 013	2 974	1 017	1 186	7 129	3 994	2 185	324
EXTENSION OR CORRESPONDENCE COURSES	36 408	5 462	5 733	1 857	1 412	10 717	4 781	4 040	193
COURSES AT EMPLOYER'S TRAINING SCHOOL	47 806	4 233	6 363	2 241	1 408	14 926	8 565	7 665	317
COURSES AT ADULT EDUCATION CENTER	29 900	3 400	4 535	919	1 177	8 840	4 624	3 145	314
OTHER SUPPLEMENTAL TRAINING	17 726	2 227	2 353	690	1 035	4 804	3 385	2 139	76
NO SUPPLEMENTAL TRAINING RECEIVED	44 959	6 160	4 168	1 098	1 368	15 961	8 687	4 930	733
SUPPLEMENTAL TRAINING NOT REPORTED	32 050	6 723	1 496	558	549	9 833	4 054	2 309	159
SALES ENGINEERS[3]	54 560	6 588	8 033	1 939	1 744	18 791	7 704	2 990	144
APPRENTICESHIPS	4 034	869	717	253	197	593	447	166	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	11 400	1 035	1 628	279	345	4 538	1 787	671	35
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	7 773	862	1 302	487	397	2 643	900	467	-
EXTENSION OR CORRESPONDENCE COURSES	9 084	1 123	1 739	389	369	2 532	1 344	469	27
COURSES AT EMPLOYER'S TRAINING SCHOOL	14 509	1 462	2 365	630	474	5 613	2 315	922	27
COURSES AT ADULT EDUCATION CENTER	7 234	536	1 327	308	290	1 862	1 281	719	-
OTHER SUPPLEMENTAL TRAINING	5 605	661	911	113	170	1 845	959	309	-
NO SUPPLEMENTAL TRAINING RECEIVED	13 379	1 468	2 618	462	800	4 937	1 683	862	56
SUPPLEMENTAL TRAINING NOT REPORTED	11 633	1 786	744	301	254	3 414	1 519	369	27
OTHER ENGINEERS[3]	288 149	28 414	29 638	6 414	9 344	81 322	47 336	48 137	15 102
APPRENTICESHIPS	21 105	3 850	3 585	772	1 012	4 468	1 907	1 955	361
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	60 035	6 242	8 193	705	2 836	16 710	10 612	9 544	1 554
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	40 873	4 244	6 976	913	1 797	9 489	6 221	7 660	1 260
EXTENSION OR CORRESPONDENCE COURSES	57 658	6 555	8 166	2 111	1 877	14 769	8 350	9 224	1 954
COURSES AT EMPLOYER'S TRAINING SCHOOL	75 604	7 534	9 253	1 415	3 606	21 893	13 768	11 966	1 788
COURSES AT ADULT EDUCATION CENTER	40 104	3 757	4 879	925	1 960	11 062	5 977	6 625	1 851
OTHER SUPPLEMENTAL TRAINING	31 534	1 947	3 063	1 054	610	7 545	5 950	5 676	2 426
NO SUPPLEMENTAL TRAINING RECEIVED	77 848	6 452	7 130	1 895	1 729	21 920	14 020	14 205	6 436
SUPPLEMENTAL TRAINING NOT REPORTED	51 012	7 609	1 982	546	1 204	13 814	7 174	7 249	1 970
MATHEMATICAL SPECIALISTS, TOTAL[3]	44 782	2 318	2 183	616	547	6 296	5 268	14 737	11 275
APPRENTICESHIPS	1 108	102	73	23	26	190	173	303	150
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	6 930	462	638	128	100	1 757	1 309	1 998	458
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	4 596	309	252	105	24	820	745	1 486	722
EXTENSION OR CORRESPONDENCE COURSES	5 987	330	375	152	-	1 076	447	2 088	1 037
COURSES AT EMPLOYER'S TRAINING SCHOOL	7 043	636	520	77	73	1 606	1 311	2 300	412
COURSES AT ADULT EDUCATION CENTER	3 461	258	232	103	26	622	716	1 108	309
OTHER SUPPLEMENTAL TRAINING	4 805	181	272	98	24	1 277	523	1 439	924
NO SUPPLEMENTAL TRAINING RECEIVED	18 820	685	619	140	169	1 661	1 888	6 427	6 567
SUPPLEMENTAL TRAINING NOT REPORTED	7 630	432	80	172	227	820	826	2 302	2 055
LIFE SCIENTISTS, TOTAL[3]	68 097	3 924	1 620	1 003	321	16 907	8 562	13 701	19 215
APPRENTICESHIPS	2 072	231	78	59	24	493	285	396	346
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	14 234	657	406	278	101	5 954	2 206	2 939	1 124
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	7 823	364	361	211	76	2 102	1 120	1 433	1 951
EXTENSION OR CORRESPONDENCE COURSES	10 398	613	255	293	53	3 911	1 630	2 371	1 018
COURSES AT EMPLOYER'S TRAINING SCHOOL	12 587	500	234	196	48	6 123	2 071	2 224	776
COURSES AT ADULT EDUCATION CENTER	6 369	241	152	148	51	1 927	1 182	1 652	822
OTHER SUPPLEMENTAL TRAINING	8 580	377	138	172	50	2 125	1 164	1 745	2 393
NO SUPPLEMENTAL TRAINING RECEIVED	24 482	1 138	491	273	29	4 273	2 594	5 214	9 836
SUPPLEMENTAL TRAINING NOT REPORTED	11 179	1 227	204	129	111	1 843	1 139	1 789	3 753

SEE FOOTNOTES AT END OF TABLE.

Table 7. SUPPLEMENTAL TRAINING RECEIVED BY ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY HIGHEST DEGREE HELD IN 1972 AND SEX—Continued

OCCUPATION IN 1970, TYPE OF SUPPLEMENTAL TRAINING, AND SEX	HIGHEST DEGREE HELD IN 1972								
	TOTAL[1]	NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.
		NO COLLEGE	1-3 YEARS OF COLLEGE	4 OR MORE YEARS OF COLLEGE					
MALE--CONTINUED									
PHYSICAL SCIENTISTS, TOTAL[3]	178 624	10 630	10 559	3 012	2 577	38 492	26 556	33 607	46 019
APPRENTICESHIPS	4 260	632	689	26	-	767	772	506	678
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	25 237	1 808	2 218	581	478	6 948	4 240	5 063	2 978
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	18 231	1 192	1 843	248	350	4 165	3 005	3 579	3 245
EXTENSION OR CORRESPONDENCE COURSES	25 581	1 973	2 498	725	595	6 360	4 118	4 927	3 410
COURSES AT EMPLOYER'S TRAINING SCHOOL	27 348	1 300	2 526	407	713	7 908	3 950	6 079	3 763
COURSES AT ADULT EDUCATION CENTER	20 642	758	650	623	361	6 301	3 314	4 605	3 215
OTHER SUPPLEMENTAL TRAINING	18 484	803	1 141	347	166	4 327	3 034	3 882	4 505
NO SUPPLEMENTAL TRAINING RECEIVED	68 960	2 789	3 749	897	778	12 245	10 435	12 673	24 015
SUPPLEMENTAL TRAINING NOT REPORTED	32 452	3 172	835	703	491	6 704	4 145	5 025	7 795
SOCIAL SCIENTISTS, TOTAL[3]	121 459	4 242	5 290	1 922	756	19 245	14 166	37 702	32 150
APPRENTICESHIPS	4 241	459	470	98	-	504	569	1 113	968
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	16 389	1 065	1 176	363	176	4 354	2 647	5 460	2 387
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	13 829	869	1 119	94	128	2 309	1 976	3 656	2 998
EXTENSION OR CORRESPONDENCE COURSES	14 592	972	1 495	367	214	2 871	1 720	4 217	1 968
COURSES AT EMPLOYER'S TRAINING SCHOOL	17 755	1 159	1 689	304	381	5 668	1 996	4 463	1 400
COURSES AT ADULT EDUCATION CENTER	9 961	332	796	196	134	1 667	1 672	3 362	1 235
OTHER SUPPLEMENTAL TRAINING	13 560	346	460	226	67	1 804	2 079	4 507	3 591
NO SUPPLEMENTAL TRAINING RECEIVED	45 778	856	1 261	691	87	5 499	4 913	16 142	15 330
SUPPLEMENTAL TRAINING NOT REPORTED	23 825	1 064	560	379	102	3 192	2 167	6 568	6 937
FEMALE									
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	56 794	12 126	8 628	877	1 983	20 703	3 314	4 238	228
APPRENTICESHIPS	631	170	191	-	-	120	-	76	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	24 510	4 386	3 936	183	677	10 696	1 308	1 926	76
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	688	76	158	-	45	150	-	76	-
EXTENSION OR CORRESPONDENCE COURSES	4 573	1 005	964	105	194	1 434	219	384	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	20 075	3 015	2 673	259	565	9 594	1 389	1 601	40
COURSES AT ADULT EDUCATION CENTER	8 365	1 926	1 270	193	194	3 116	476	559	76
OTHER SUPPLEMENTAL TRAINING	7 745	1 781	1 379	78	315	2 882	532	426	36
NO SUPPLEMENTAL TRAINING RECEIVED	10 678	2 264	1 914	232	486	3 340	877	841	40
SUPPLEMENTAL TRAINING NOT REPORTED	8 369	2 991	641	-	395	1 666	192	344	76
COMPUTER PROGRAMMERS[3]	35 405	6 048	5 399	767	1 470	14 611	1 861	2 405	-
APPRENTICESHIPS	561	170	157	-	-	84	-	76	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	15 814	2 893	2 188	150	552	7 356	703	1 091	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	469	76	-	-	-	150	-	76	-
EXTENSION OR CORRESPONDENCE COURSES	2 754	627	421	74	150	1 153	76	160	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	12 200	1 340	1 477	228	476	6 493	711	835	-
COURSES AT ADULT EDUCATION CENTER	4 945	1 033	648	160	158	2 229	168	231	-
OTHER SUPPLEMENTAL TRAINING	4 835	1 028	621	-	315	2 333	228	76	-
NO SUPPLEMENTAL TRAINING RECEIVED	6 488	953	1 259	232	221	2 431	605	563	-
SUPPLEMENTAL TRAINING NOT REPORTED	5 005	1 426	463	-	308	1 133	74	226	-
OTHER OPERATIONS AND COMPUTER SPECIALISTS[3]	21 388	6 077	3 229	109	513	6 093	1 453	1 833	228
APPRENTICESHIPS	70	-	34	-	-	36	-	-	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	8 696	1 493	1 750	34	126	3 341	605	835	76
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	236	-	158	-	45	-	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	1 820	378	543	31	45	282	143	224	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	7 674	1 675	1 196	31	89	3 101	678	766	40
COURSES AT ADULT EDUCATION CENTER	3 420	893	622	34	36	887	308	328	76
OTHER SUPPLEMENTAL TRAINING	2 910	753	758	76	-	549	304	350	36
NO SUPPLEMENTAL TRAINING RECEIVED	4 190	1 311	654	-	264	909	272	278	40
SUPPLEMENTAL TRAINING NOT REPORTED	3 364	1 565	158	-	87	533	118	118	76
ENGINEERS, TOTAL[3]	15 894	4 113	1 909	162	380	3 793	1 866	1 841	158
APPRENTICESHIPS	519	-	122	-	-	95	193	110	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	3 428	723	608	27	27	807	172	444	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	216	95	95	-	-	27	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	2 795	-	709	-	27	952	481	436	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	3 881	1 111	735	54	79	858	545	397	-
COURSES AT ADULT EDUCATION CENTER	2 797	895	447	-	122	736	271	208	-
OTHER SUPPLEMENTAL TRAINING	1 967	360	275	-	-	664	245	275	-
NO SUPPLEMENTAL TRAINING RECEIVED	2 819	703	243	30	-	747	507	206	158
SUPPLEMENTAL TRAINING NOT REPORTED	5 018	1 516	95	79	180	1 099	327	778	-
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS[3]	497	164	245	57	27	136	164	82	-
APPRENTICESHIPS	27	-	27	-	-	-	-	-	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	357	55	164	-	27	27	27	27	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	-	-	-	-	-	-	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	82	-	27	-	27	27	-	-	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	300	82	109	27	-	27	27	27	-
COURSES AT ADULT EDUCATION CENTER	245	27	55	-	27	55	55	-	-
OTHER SUPPLEMENTAL TRAINING	85	27	-	-	-	-	-	-	-
NO SUPPLEMENTAL TRAINING RECEIVED	275	27	82	30	-	55	-	55	-
SUPPLEMENTAL TRAINING NOT REPORTED	136	55	-	-	-	-	82	-	-

SEE FOOTNOTES AT END OF TABLE.

Table 7. SUPPLEMENTAL TRAINING RECEIVED BY ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY HIGHEST DEGREE HELD IN 1972 AND SEX—Continued

OCCUPATION IN 1970, TYPE OF SUPPLEMENTAL TRAINING, AND SEX	HIGHEST DEGREE HELD IN 1972								
	TOTAL[1]	NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.
		NO COLLEGE	1-3 YEARS OF COLLEGE	4 OR MORE YEARS OF COLLEGE					
FEMALE--CONTINUED									
CIVIL ENGINEERS[3]	1 702	139	133	-	-	615	338	272	-
APPRENTICESHIPS	-	-	-	-	-	-	-	-	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	544	-	66	-	-	206	66	133	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	-	-	-	-	-	-	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	416	-	-	-	-	217	66	133	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	338	-	66	-	-	66	66	66	-
COURSES AT ADULT EDUCATION CENTER	343	-	-	-	-	277	66	-	-
OTHER SUPPLEMENTAL TRAINING	199	-	66	-	-	66	-	66	-
NO SUPPLEMENTAL TRAINING RECEIVED	411	-	-	-	-	133	206	73	-
SUPPLEMENTAL TRAINING NOT REPORTED	471	139	-	-	-	133	-	66	-
ELECTRICAL AND ELECTRONIC ENGINEERS[3]	3 080	1 013	-	-	-	753	903	110	-
APPRENTICESHIPS	110	-	-	-	-	-	-	110	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	301	151	-	-	-	151	-	-	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	-	-	-	-	-	-	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	452	-	-	-	-	151	301	-	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	753	151	-	-	-	151	452	-	-
COURSES AT ADULT EDUCATION CENTER	452	301	-	-	-	-	151	-	-
OTHER SUPPLEMENTAL TRAINING	452	151	-	-	-	151	151	-	-
NO SUPPLEMENTAL TRAINING RECEIVED	753	151	-	-	-	301	301	-	-
SUPPLEMENTAL TRAINING NOT REPORTED	1 013	411	-	-	-	151	151	-	-
INDUSTRIAL ENGINEERS[3]	5 265	1 696	938	-	189	1 020	189	568	-
APPRENTICESHIPS	189	-	95	-	-	95	-	-	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	1 696	379	465	-	-	284	-	284	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	189	95	95	-	-	-	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	1 231	-	568	-	-	284	-	189	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	1 791	568	560	-	-	474	-	189	-
COURSES AT ADULT EDUCATION CENTER	749	370	95	-	95	95	-	95	-
OTHER SUPPLEMENTAL TRAINING	758	95	95	-	-	284	95	95	-
NO SUPPLEMENTAL TRAINING RECEIVED	555	189	95	-	-	176	-	-	-
SUPPLEMENTAL TRAINING NOT REPORTED	1 412	568	95	-	95	181	95	95	-
MECHANICAL ENGINEERS[3]	907	331	-	-	85	329	-	83	-
APPRENTICESHIPS	-	-	-	-	-	-	-	-	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	-	-	-	-	-	-	-	-	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	-	-	-	-	-	-	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	246	-	-	-	-	246	-	-	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	83	83	-	-	-	-	-	-	-
COURSES AT ADULT EDUCATION CENTER	166	83	-	-	-	83	-	-	-
OTHER SUPPLEMENTAL TRAINING	250	87	-	-	-	163	-	-	-
NO SUPPLEMENTAL TRAINING RECEIVED	157	78	-	-	-	-	-	-	-
SUPPLEMENTAL TRAINING NOT REPORTED	334	83	-	-	85	83	-	83	-
SALES ENGINEERS[3]	93	35	29	-	-	29	-	-	-
APPRENTICESHIPS	-	-	-	-	-	-	-	-	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	-	-	-	-	-	-	-	-	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	-	-	-	-	-	-	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	-	-	-	-	-	-	-	-	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	-	-	-	-	-	-	-	-	-
COURSES AT ADULT EDUCATION CENTER	-	-	-	-	-	-	-	-	-
OTHER SUPPLEMENTAL TRAINING	-	-	-	-	-	-	-	-	-
NO SUPPLEMENTAL TRAINING RECEIVED	93	35	29	-	-	29	-	-	-
SUPPLEMENTAL TRAINING NOT REPORTED	-	-	-	-	-	-	-	-	-
OTHER ENGINEERS[3]	3 890	735	563	105	79	911	271	726	158
APPRENTICESHIPS	193	-	-	-	-	-	193	-	-
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	560	139	114	27	-	139	79	-	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	27	-	-	-	-	27	-	-	-
EXTENSION OR CORRESPONDENCE COURSES	368	-	114	-	-	27	114	114	-
COURSES AT EMPLOYER'S TRAINING SCHOOL	587	228	-	27	79	140	-	114	-
COURSES AT ADULT EDUCATION CENTER	842	114	298	-	-	228	-	114	-
OTHER SUPPLEMENTAL TRAINING	254	-	114	-	-	-	-	114	-
NO SUPPLEMENTAL TRAINING RECEIVED	575	223	37	-	-	53	-	79	158
SUPPLEMENTAL TRAINING NOT REPORTED	1 662	259	-	79	-	552	-	534	-
MATHEMATICAL SPECIALISTS, TOTAL[3]	16 897	3 462	1 959	365	244	3 358	1 706	3 575	790
APPRENTICESHIPS	230	36	33	-	-	31	29	73	29
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	2 816	553	395	68	89	857	319	348	-
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	178	63	32	-	-	55	-	29	-
EXTENSION OR CORRESPONDENCE COURSES	1 721	389	256	24	-	270	221	438	58
COURSES AT EMPLOYER'S TRAINING SCHOOL	1 648	339	302	33	-	409	245	227	-
COURSES AT ADULT EDUCATION CENTER	2 140	420	481	31	31	452	210	311	79
OTHER SUPPLEMENTAL TRAINING	1 689	344	153	36	-	331	175	554	31
NO SUPPLEMENTAL TRAINING RECEIVED	6 682	1 133	804	139	95	985	764	1 834	513
SUPPLEMENTAL TRAINING NOT REPORTED	3 343	973	61	68	29	766	128	509	108

SEE FOOTNOTES AT END OF TABLE.

Table 7. SUPPLEMENTAL TRAINING RECEIVED BY ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY HIGHEST DEGREE HELD IN 1972 AND SEX—Continued

OCCUPATION IN 1970, TYPE OF SUPPLEMENTAL TRAINING, AND SEX	HIGHEST DEGREE HELD IN 1972								
	TOTAL[1]	NO DEGREE			ASSOCIATE	BACHELOR'S	BACHELOR'S PLUS[2]	MASTER'S	PH.D.
		NO COLLEGE	1-3 YEARS OF COLLEGE	4 OR MORE YEARS OF COLLEGE					
FEMALE--CONTINUED									
LIFE SCIENTISTS, TOTAL[3]	15 411	1 118	672	269	365	3 585	2 188	3 869	2 2[illegible]
APPRENTICESHIPS	527	32	49	-	51	141	52	77	1[illegible]
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	2 943	236	184	80	110	939	480	492	2[illegible]
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	140	60	-	26	-	-	22	32	
EXTENSION OR CORRESPONDENCE COURSES	1 159	-	26	26	-	381	200	340	1[illegible]
COURSES AT EMPLOYER'S TRAINING SCHOOL	899	132	23	26	28	251	163	104	[illegible]
COURSES AT ADULT EDUCATION CENTER	1 573	84	72	-	51	518	201	438	1[illegible]
OTHER SUPPLEMENTAL TRAINING	1 807	-	124	77	28	463	271	385	3[illegible]
NO SUPPLEMENTAL TRAINING RECEIVED	5 893	273	208	91	72	1 366	918	1 841	1 0[illegible]
SUPPLEMENTAL TRAINING NOT REPORTED	3 229	434	107	47	51	530	370	638	4[illegible]
PHYSICAL SCIENTISTS, TOTAL[3]	17 729	1 210	1 451	278	186	6 089	2 343	3 071	2 1[illegible]
APPRENTICESHIPS	396	-	27	57	-	54	54	149	[illegible]
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	3 475	243	451	187	55	1 543	494	247	1[illegible]
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	118	21	55	21	-	21	-	-	
EXTENSION OR CORRESPONDENCE COURSES	1 593	21	150	78	-	509	227	546	[illegible]
COURSES AT EMPLOYER'S TRAINING SCHOOL	1 725	187	191	76	-	921	57	203	
COURSES AT ADULT EDUCATION CENTER	2 328	111	21	57	-	922	263	641	[illegible]
OTHER SUPPLEMENTAL TRAINING	2 221	21	166	-	55	773	331	466	1[illegible]
NO SUPPLEMENTAL TRAINING RECEIVED	6 972	364	838	-	-	2 216	864	1 168	1 3[illegible]
SUPPLEMENTAL TRAINING NOT REPORTED	3 453	450	84	37	76	989	447	583	4[illegible]
SOCIAL SCIENTISTS, TOTAL[3]	29 841	1 646	985	267	149	3 998	2 726	11 820	6 3[illegible]
APPRENTICESHIPS	995	-	-	-	-	-	209	506	2[illegible]
OTHER FORMAL ON THE JOB TRAINING PROGRAMS	5 042	317	165	-	75	987	421	2 096	7[illegible]
MILITARY TRAINING APPLICABLE TO CIVILIAN OCCUPATIONS	216	45	-	-	-	31	-	108	[illegible]
EXTENSION OR CORRESPONDENCE COURSES	3 050	74	151	-	-	232	274	1 583	6[illegible]
COURSES AT EMPLOYER'S TRAINING SCHOOL	1 715	66	200	-	-	439	263	455	[illegible]
COURSES AT ADULT EDUCATION CENTER	4 136	231	223	-	45	597	433	1 674	7[illegible]
OTHER SUPPLEMENTAL TRAINING	5 003	148	179	29	-	263	589	2 169	1 4[illegible]
NO SUPPLEMENTAL TRAINING RECEIVED	11 049	623	301	185	29	1 517	974	4 616	2 5[illegible]
SUPPLEMENTAL TRAINING NOT REPORTED	5 772	413	197	73	-	762	297	1 885	1 1[illegible]

- ENTRY REPRESENTS ZERO.
[1]INCLUDES FIRST PROFESSIONAL, REGISTERED NURSE, AND OTHER DEGREES NOT SHOWN SEPARATELY, AND DEGREE NOT REPORTED.
[2]SOME GRADUATE WORK BUT NO GRADUATE DEGREE.
[3]DETAIL MAY NOT ADD TO TOTAL BECAUSE INDIVIDUALS MAY RECEIVE MORE THAN ONE KIND OF TRAINING.

Table 8. OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE IN 1972 AND SEX

(Totals include age group under 25 years not shown separately)

OCCUPATION IN 1970, AGE IN 1972, AND SEX	OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB													
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	TECHNICIANS AND TECHNOLOGISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	HEALTH OCCUPATIONS	ADMINISTRATORS, MANAGERS, OFFICIALS, AND PROPRIETORS[2]	OTHER OCCUPATIONS	NOT REPORTED
BOTH SEXES														
OPERATIONS AND COMPUTER SPECIALISTS	337 933	132 247	21 458	6 310	930	3 077	1 140	15 194	1 059	9 897	1 489	14 271	77 663	53 198
25 TO 34 YEARS	164 571	82 377	8 303	3 050	462	1 339	680	6 608	519	5 527	636	5 441	28 195	21 433
35 TO 44 YEARS	84 619	24 252	7 859	1 763	196	1 067	312	5 071	219	2 136	461	3 656	23 666	13 941
45 TO 54 YEARS	46 447	8 101	3 812	1 120	198	489	116	2 368	70	1 306	194	2 798	16 418	9 456
55 YEARS AND OVER	16 970	1 895	837	63	-	147	33	791	251	547	68	1 705	5 904	4 728
COMPUTER PROGRAMMERS	163 244	85 910	6 832	3 312	451	1 491	396	6 554	379	5 458	688	1 499	27 998	22 275
25 TO 34 YEARS	94 671	55 703	2 995	1 691	244	774	302	3 506	236	3 664	386	1 009	12 762	11 401
35 TO 44 YEARS	34 761	12 682	2 497	971	-	515	94	2 175	76	840	229	214	9 106	5 361
45 TO 54 YEARS	11 383	3 273	966	423	133	202	-	554	-	569	-	136	2 844	2 284
55 YEARS AND OVER	3 070	960	133	-	-	-	-	85	67	84	-	67	1 039	636
OTHER OPERATIONS AND COMPUTER SPECIALISTS	174 690	46 336	14 626	2 998	479	1 586	745	8 640	680	4 439	801	12 772	49 665	30 923
25 TO 34 YEARS	69 900	26 675	5 308	1 360	218	565	378	3 101	283	1 864	250	4 433	15 433	10 032
35 TO 44 YEARS	49 858	11 570	5 362	791	196	552	218	2 896	142	1 296	253	3 442	14 560	8 580
45 TO 54 YEARS	35 064	4 828	2 846	698	65	286	116	1 814	70	737	194	2 662	13 575	7 171
55 YEARS AND OVER	13 900	935	703	63	-	147	33	706	184	463	68	1 638	4 866	4 092
ENGINEERS	1 242 519	10 799	630 115	2 922	1 911	17 025	1 491	163 011	3 027	11 120	2 695	43 162	146 233	209 009
25 TO 34 YEARS	334 014	6 246	193 962	1 271	257	2 742	689	42 077	452	2 604	952	9 174	33 024	40 564
35 TO 44 YEARS	364 567	3 411	188 730	910	649	5 817	328	51 141	830	3 424	803	11 244	41 078	56 202
45 TO 54 YEARS	323 376	629	154 646	499	433	5 148	259	41 830	1 236	2 290	509	13 045	42 986	59 865
55 YEARS AND OVER	194 384	59	77 912	241	571	3 291	84	24 627	509	2 801	301	9 270	26 492	48 225
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS	68 525	689	39 158	244	-	868	32	8 973	94	808	30	1 938	5 863	9 827
25 TO 34 YEARS	16 924	445	11 284	112	-	182	-	1 804	29	86	-	231	941	1 809
35 TO 44 YEARS	22 698	185	12 992	64	-	350	32	3 317	-	249	-	581	1 842	3 086
45 TO 54 YEARS	19 823	-	10 414	38	-	245	-	2 692	32	219	-	671	2 343	3 170
55 YEARS AND OVER	7 837	30	3 626	30	-	90	-	1 032	33	254	30	424	707	1 582
CIVIL ENGINEERS	174 442	317	97 052	355	866	975	-	23 892	71	535	213	3 444	15 209	31 512
25 TO 34 YEARS	44 094	153	28 402	141	71	-	-	6 227	-	141	71	278	3 244	5 366
35 TO 44 YEARS	49 169	72	27 902	72	428	357	-	6 431	-	73	72	1 213	4 036	8 514
45 TO 54 YEARS	41 200	-	21 681	72	156	389	-	5 694	-	156	-	922	3 713	8 418
55 YEARS AND OVER	35 479	-	17 415	71	212	229	-	4 718	71	165	71	1 030	3 689	7 808
ELECTRICAL AND ELECTRONIC ENGINEERS	285 016	3 626	157 205	446	110	2 816	111	41 202	478	2 401	860	5 668	26 854	43 240
25 TO 34 YEARS	86 565	2 202	53 009	225	-	569	111	10 893	344	340	229	1 412	6 760	10 470
35 TO 44 YEARS	93 034	882	51 739	110	110	1 211	-	14 516	134	997	329	1 436	7 841	13 730
45 TO 54 YEARS	65 982	211	33 904	-	-	824	-	9 519	-	430	201	1 528	7 405	11 961
55 YEARS AND OVER	32 503	-	14 177	111	-	212	-	5 168	-	633	101	1 081	4 516	6 503
INDUSTRIAL ENGINEERS	187 366	1 934	68 892	1 252	168	1 835	685	18 970	500	3 382	417	15 605	38 047	35 680
25 TO 34 YEARS	46 217	854	18 661	677	-	255	433	5 175	-	1 275	170	4 100	8 432	6 186
35 TO 44 YEARS	52 521	832	19 721	327	-	412	85	6 433	167	676	163	3 944	10 436	9 326
45 TO 54 YEARS	52 970	249	19 285	249	-	666	83	5 604	165	676	83	4 593	11 447	9 870
55 YEARS AND OVER	32 084	-	9 068	-	168	503	84	1 592	168	755	-	2 885	7 153	9 707
MECHANICAL ENGINEERS	180 479	737	100 111	87	-	692	78	26 644	316	621	155	4 321	16 005	30 711
25 TO 34 YEARS	45 409	583	30 323	87	-	80	-	5 577	-	80	80	401	2 505	5 692
35 TO 44 YEARS	48 533	78	27 891	-	-	78	78	7 587	163	237	-	1 180	4 187	7 051
45 TO 54 YEARS	52 363	76	27 060	-	-	384	-	7 842	153	229	-	1 385	5 927	9 307
55 YEARS AND OVER	30 199	-	12 491	-	-	149	-	5 550	-	75	75	1 278	2 870	7 711
SALES ENGINEERS	54 653	114	17 159	86	64	423	81	5 072	81	592	145	3 073	16 241	11 522
25 TO 34 YEARS	13 115	58	4 200	29	29	58	-	1 517	-	203	87	670	4 362	1 902
35 TO 44 YEARS	15 485	27	4 791	-	35	144	27	1 568	27	163	58	784	4 612	3 251
45 TO 54 YEARS	15 576	-	5 487	27	-	135	54	1 165	54	163	-	1 137	4 129	3 224
55 YEARS AND OVER	10 006	29	2 521	29	-	86	-	822	-	64	-	455	2 951	3 048
OTHER ENGINEERS	292 039	3 381	150 537	452	703	9 416	504	38 258	1 488	2 780	876	9 113	28 014	46 518
25 TO 34 YEARS	81 690	1 952	48 082	-	157	1 598	146	10 884	79	478	315	2 082	6 780	9 138
35 TO 44 YEARS	83 127	1 336	43 694	338	76	3 264	106	11 288	340	1 029	181	2 106	8 125	11 244
45 TO 54 YEARS	75 462	93	36 816	114	278	2 805	121	9 314	832	419	224	2 809	8 022	13 914
55 YEARS AND OVER	46 276	-	18 613	-	191	2 023	-	5 744	238	854	25	2 116	4 606	11 866
MATHEMATICAL SPECIALISTS	61 679	3 920	1 929	18 547	420	1 113	1 087	1 524	2 994	8 555	295	1 440	9 650	10 204
25 TO 34 YEARS	23 991	2 448	649	8 406	86	312	473	656	1 288	3 114	88	427	3 006	3 036
35 TO 44 YEARS	13 388	715	652	4 204	162	312	269	313	718	2 290	63	273	1 995	1 422
45 TO 54 YEARS	11 163	342	412	2 863	120	310	50	267	433	1 419	143	401	2 080	2 322
55 YEARS AND OVER	9 224	143	194	2 114	53	180	295	212	555	1 492	-	239	1 636	2 113
LIFE SCIENTISTS	83 509	183	955	211	35 332	3 955	706	4 864	3 451	6 136	7 314	1 877	6 615	11 910
25 TO 34 YEARS	27 462	111	183	92	11 914	1 230	335	1 868	989	1 865	2 746	451	1 998	3 680
35 TO 44 YEARS	22 858	23	307	119	11 043	1 262	172	1 327	885	1 636	1 696	411	1 264	2 713
45 TO 54 YEARS	17 556	49	239	-	7 834	899	174	792	570	969	1 607	486	1 661	2 275
55 YEARS AND OVER	12 121	-	189	-	4 042	396	-	493	901	1 310	649	505	1 236	2 399
BIOLOGICAL SCIENTISTS	50 222	102	355	61	18 680	2 757	511	3 194	2 827	4 486	7 159	576	2 352	7 161
25 TO 34 YEARS	18 370	53	77	-	7 031	868	216	1 441	847	1 594	2 668	191	819	2 564
35 TO 44 YEARS	13 551	-	73	61	5 901	975	118	783	718	1 226	1 670	127	324	1 576
45 TO 54 YEARS	9 556	49	125	-	3 641	535	151	356	455	673	1 584	150	555	1 282
55 YEARS AND OVER	5 913	-	43	-	1 777	242	-	343	701	636	649	108	459	954

SEE FOOTNOTES AT END OF TABLE.

Table 8. OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE IN 1972 AND SEX—Continued

(Totals include age group under 25 years not shown separately)

OCCUPATION IN 1970, AGE IN 1972, AND SEX	OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB													
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	TECHNICIANS AND TECHNOLOGISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	HEALTH OCCUPATIONS	ADMINISTRATORS, MANAGERS, OFFICIALS, AND PROPRIETORS[2]	OTHER OCCUPATIONS	NOT REPORTED
BOTH SEXES—CONTINUED														
OTHER LIFE SCIENTISTS	33 287	81	601	150	16 652	1 198	195	1 670	624	1 650	155	1 301	4 263	4 749
25 TO 34 YEARS	9 092	58	107	92	4 883	363	118	427	141	271	78	261	1 178	1 115
35 TO 44 YEARS	9 307	23	233	58	5 142	288	53	544	168	410	27	284	940	1 138
45 TO 54 YEARS	8 001	-	114	-	4 193	365	23	436	115	296	23	336	1 106	993
55 YEARS AND OVER	6 208	-	147	-	2 265	154	-	150	200	674	-	397	777	1 445
PHYSICAL SCIENTISTS	196 353	1 102	16 010	319	8 943	93 223	351	16 549	3 339	6 880	3 953	3 450	12 582	29 651
25 TO 34 YEARS	61 556	588	4 594	25	3 320	30 160	81	6 167	1 292	2 051	1 290	834	3 521	7 633
35 TO 44 YEARS	57 257	344	5 076	143	2 666	29 660	130	4 032	714	1 624	969	1 379	3 170	7 349
45 TO 54 YEARS	43 603	113	3 617	105	1 850	20 958	24	3 222	708	1 425	948	569	2 849	7 216
55 YEARS AND OVER	26 608	-	2 397	47	886	10 606	87	1 946	625	1 632	630	586	2 221	4 943
CHEMISTS	125 414	314	8 308	-	8 281	55 463	225	12 736	1 861	4 381	3 303	2 455	8 588	19 500
25 TO 34 YEARS	40 928	166	2 306	-	3 034	18 368	55	5 112	856	1 465	1 181	625	2 545	5 215
35 TO 44 YEARS	33 935	148	2 406	-	2 471	15 950	109	2 775	268	1 106	758	1 152	2 071	4 721
45 TO 54 YEARS	27 168	-	1 765	-	1 784	12 638	-	2 336	353	818	723	357	1 851	4 542
55 YEARS AND OVER	18 269	-	1 649	-	771	7 185	61	1 505	384	874	525	260	1 529	3 525
PHYSICISTS	36 211	565	5 293	211	323	17 773	77	1 548	953	1 693	537	468	1 657	5 114
25 TO 34 YEARS	12 837	304	1 873	-	156	7 026	-	567	360	392	109	53	401	1 597
35 TO 44 YEARS	11 698	142	1 859	84	98	6 224	21	439	257	426	166	123	615	1 244
45 TO 54 YEARS	6 714	89	1 198	105	24	2 847	-	327	169	317	181	72	288	1 097
55 YEARS AND OVER	3 614	-	275	22	44	1 461	26	98	167	529	81	197	197	517
OTHER PHYSICAL SCIENTISTS	34 728	224	2 409	108	339	19 988	50	2 265	525	806	114	528	2 337	5 037
25 TO 34 YEARS	7 791	117	415	25	129	4 766	26	488	77	194	-	156	575	822
35 TO 44 YEARS	11 624	55	811	58	98	7 486	-	818	189	92	45	104	484	1 384
45 TO 54 YEARS	9 722	24	654	-	41	5 474	24	558	186	291	44	140	709	1 577
55 YEARS AND OVER	4 725	-	473	25	70	1 960	-	344	74	229	25	128	496	901
SOCIAL SCIENTISTS	151 299	2 969	6 483	1 907	1 402	1 581	35 809	3 626	9 915	12 327	3 209	10 528	36 296	25 248
25 TO 34 YEARS	55 045	1 930	1 624	456	467	232	14 483	1 200	4 265	3 160	920	4 093	13 946	8 269
35 TO 44 YEARS	40 463	429	2 474	471	343	582	10 246	1 106	2 016	3 484	970	2 321	9 170	6 852
45 TO 54 YEARS	31 905	306	1 756	546	297	527	7 312	746	2 189	2 501	773	2 220	7 943	4 790
55 YEARS AND OVER	20 525	193	594	343	249	240	3 140	548	1 411	3 124	386	1 653	4 300	4 344
ECONOMISTS	76 683	2 831	5 406	1 624	711	988	10 430	1 742	3 216	2 315	413	7 744	26 485	12 777
25 TO 34 YEARS	27 879	1 848	1 279	345	153	109	3 755	465	1 485	802	118	3 218	10 545	3 758
35 TO 44 YEARS	19 727	402	2 124	416	204	333	2 898	504	702	364	80	1 528	6 661	3 512
45 TO 54 YEARS	16 501	306	1 481	489	236	333	2 260	444	666	376	101	1 549	5 702	2 556
55 YEARS AND OVER	10 811	193	488	282	71	213	1 216	330	328	773	67	1 311	2 896	2 643
OTHER SOCIAL SCIENTISTS	74 617	138	1 077	283	691	593	25 379	1 884	6 699	10 012	2 796	2 784	9 811	12 471
25 TO 34 YEARS	27 166	83	346	111	313	123	10 728	736	2 780	2 358	802	874	3 401	4 511
35 TO 44 YEARS	20 736	27	349	55	139	249	7 348	602	1 314	3 120	890	794	2 510	3 340
45 TO 54 YEARS	15 404	-	276	57	60	194	5 052	302	1 522	2 124	671	671	2 241	2 234
55 YEARS AND OVER	9 714	-	106	60	178	27	1 924	218	1 083	2 352	319	342	1 404	1 701
MALE														
OPERATIONS AND COMPUTER SPECIALISTS	281 140	10 180	21 229	4 726	730	2 608	785	13 943	860	5 833	836	13 287	64 449	44 673
25 TO 34 YEARS	136 412	67 607	8 267	2 317	336	1 154	404	6 039	365	2 912	327	4 924	23 388	18 372
35 TO 44 YEARS	75 549	22 249	7 823	1 394	196	863	312	4 801	219	1 599	260	3 513	19 794	12 526
45 TO 54 YEARS	39 502	6 531	3 656	829	198	489	36	2 194	70	892	71	2 758	14 153	7 623
55 YEARS AND OVER	14 039	1 527	837	63	-	103	33	662	206	306	68	1 571	4 972	3 690
COMPUTER PROGRAMMERS	127 838	66 938	6 738	2 289	294	1 247	322	5 687	303	2 809	379	1 341	21 171	18 320
25 TO 34 YEARS	75 364	44 307	2 995	1 229	160	624	228	3 053	160	1 846	152	925	10 095	9 590
35 TO 44 YEARS	29 698	11 534	2 497	642	-	421	94	2 005	76	483	153	214	6 854	4 725
45 TO 54 YEARS	9 243	2 682	872	338	133	202	-	469	-	400	-	136	2 318	1 693
55 YEARS AND OVER	2 076	726	133	-	-	-	-	-	67	-	-	67	616	467
OTHER OPERATIONS AND COMPUTER SPECIALISTS	153 301	40 242	14 492	2 437	437	1 361	463	8 256	557	3 025	457	11 945	43 278	26 353
25 TO 34 YEARS	61 048	23 300	5 272	1 088	176	530	176	2 986	205	1 066	175	3 999	13 294	8 782
35 TO 44 YEARS	45 851	10 715	5 325	752	196	442	218	2 795	142	1 117	107	3 299	12 940	7 801
45 TO 54 YEARS	30 259	3 849	2 784	491	65	286	36	1 725	70	492	71	2 623	11 835	5 930
55 YEARS AND OVER	11 963	801	703	63	-	103	33	662	140	306	68	1 504	4 356	3 223
ENGINEERS	1 226 626	10 299	627 264	2 761	1 911	16 857	1 396	161 641	2 869	10 276	2 645	42 226	141 909	204 551
25 TO 34 YEARS	329 280	5 773	192 362	1 244	257	2 628	595	41 891	373	2 376	926	8 795	32 002	40 056
35 TO 44 YEARS	361 706	3 384	188 256	910	649	5 817	328	50 796	830	3 302	778	11 244	40 278	55 134
45 TO 54 YEARS	318 086	629	154 303	386	433	5 148	259	41 084	1 157	2 091	509	12 855	40 887	58 345
55 YEARS AND OVER	192 002	59	77 853	241	571	3 264	84	24 533	509	2 507	301	8 902	26 155	47 021
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS	67 568	662	38 829	217	-	840	32	8 837	94	727	30	1 938	5 781	9 582
25 TO 34 YEARS	16 706	445	11 148	85	-	182	-	1 777	29	86	-	231	941	1 782
35 TO 44 YEARS	22 452	157	12 937	64	-	350	32	3 263	-	222	-	581	1 842	3 004
45 TO 54 YEARS	19 578	-	10 359	38	-	245	-	2 665	32	192	-	671	2 288	3 088
55 YEARS AND OVER	7 644	30	3 596	30	-	63	-	1 005	33	227	30	424	680	1 527
CIVIL ENGINEERS	172 739	317	96 310	355	866	975	-	23 627	71	458	213	3 444	15 143	30 962
25 TO 34 YEARS	43 550	153	27 997	141	71	-	-	6 227	-	141	71	278	3 244	5 227
35 TO 44 YEARS	48 764	72	27 769	72	428	357	-	6 298	-	73	72	1 213	4 036	8 375
45 TO 54 YEARS	40 645	-	21 475	72	156	389	-	5 627	-	78	-	922	3 713	8 213
55 YEARS AND OVER	35 346	-	17 415	71	212	229	-	4 652	71	166	71	1 030	3 689	7 742

SEE FOOTNOTES AT END OF TABLE.

Table 8. OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE IN 1972 AND SEX —Continued

(Totals include age group under 25 years not shown separately)

OCCUPATION IN 1970, AGE IN 1972, AND SEX	OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB													
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	TECHNICIANS AND TECHNOLOGISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	HEALTH OCCUPATIONS	ADMINISTRATORS, MANAGERS, OFFICIALS, AND PROPRIETORS[2]	OTHER OCCUPATIONS	NOT REPORTED
MALE--CONTINUED														
ELECTRICAL AND ELECTRONIC ENGINEERS	281 936	3 476	156 041	446	110	2 816	111	41 052	478	2 250	860	5 668	26 141	42 487
25 TO 34 YEARS	85 401	2 051	52 256	225	-	569	111	10 893	344	340	229	1 412	6 500	10 470
35 TO 44 YEARS	92 473	882	51 479	110	110	1 211	-	14 516	134	997	329	1 436	7 841	13 429
45 TO 54 YEARS	64 928	211	33 904	-	-	824	-	9 368	-	430	201	1 528	6 953	11 509
55 YEARS AND OVER	32 352	-	14 177	111	-	212	-	5 168	-	483	101	1 081	4 516	6 503
INDUSTRIAL ENGINEERS	182 101	1 839	68 806	1 252	168	1 835	591	18 686	500	3 098	417	14 752	35 614	34 543
25 TO 34 YEARS	44 900	759	18 576	677	-	255	338	5 175	-	1 180	170	3 721	7 864	6 186
35 TO 44 YEARS	51 785	832	19 721	327	-	412	85	6 433	167	581	163	3 944	9 889	9 231
45 TO 54 YEARS	50 887	249	19 285	249	-	666	83	5 320	165	581	83	4 404	10 405	9 396
55 YEARS AND OVER	31 051	-	9 068	-	168	503	84	1 592	168	755	-	2 601	6 878	9 234
MECHANICAL ENGINEERS	179 572	737	99 858	87	-	692	78	26 485	316	621	155	4 238	15 839	30 464
25 TO 34 YEARS	45 329	583	30 323	87	-	80	-	5 496	-	80	80	401	2 505	5 692
35 TO 44 YEARS	48 376	78	27 891	-	-	78	78	7 509	163	237	-	1 180	4 187	6 973
45 TO 54 YEARS	52 029	76	26 977	-	-	384	-	7 842	153	229	-	1 385	5 761	9 223
55 YEARS AND OVER	30 033	-	12 491	-	-	149	-	5 550	-	75	75	1 195	2 870	7 628
SALES ENGINEERS	54 560	114	17 130	86	64	423	81	5 072	81	563	145	3 073	16 206	11 522
25 TO 34 YEARS	13 086	58	4 200	29	29	58	-	1 517	-	174	87	670	4 362	1 902
35 TO 44 YEARS	15 485	27	4 791	-	35	144	27	1 568	27	163	58	784	4 612	3 251
45 TO 54 YEARS	15 576	-	5 487	27	-	135	54	1 165	54	163	-	1 137	4 129	3 224
55 YEARS AND OVER	9 942	29	2 491	29	-	86	-	822	-	64	-	455	2 916	3 048
OTHER ENGINEERS	288 149	3 154	150 290	338	703	9 276	504	37 883	1 330	2 560	826	9 113	27 183	44 990
25 TO 34 YEARS	80 308	1 724	47 862	-	157	1 484	146	10 805	-	374	289	2 082	6 587	8 797
35 TO 44 YEARS	82 370	1 336	43 668	338	76	3 264	106	11 209	340	1 029	156	2 106	7 872	10 870
45 TO 54 YEARS	74 444	93	36 816	-	278	2 505	121	9 096	753	419	224	2 809	7 637	13 691
55 YEARS AND OVER	45 634	-	18 613	-	191	2 023	-	5 744	238	738	25	2 116	4 606	11 340
MATHEMATICAL SPECIALISTS	44 782	2 859	1 895	14 956	292	1 032	754	1 335	2 685	5 891	133	1 244	5 462	6 244
25 TO 34 YEARS	18 402	1 706	614	6 977	57	288	264	601	1 124	2 120	31	397	1 929	2 294
35 TO 44 YEARS	11 027	635	652	3 618	129	312	176	247	660	2 030	26	273	1 267	1 002
45 TO 54 YEARS	7 458	243	412	2 192	83	252	50	200	404	833	76	329	1 101	1 282
55 YEARS AND OVER	6 027	82	194	1 574	24	180	264	212	497	811	-	177	943	1 069
LIFE SCIENTISTS	68 097	183	930	211	32 073	3 470	475	3 428	3 028	4 471	3 016	1 877	5 535	9 401
25 TO 34 YEARS	21 459	111	158	92	10 411	1 091	247	1 117	895	1 271	1 102	451	1 689	2 825
35 TO 44 YEARS	19 596	23	307	119	10 269	1 143	80	1 053	759	1 385	747	411	1 108	2 193
45 TO 54 YEARS	14 948	49	239	-	7 166	775	148	691	488	743	761	486	1 513	1 887
55 YEARS AND OVER	10 107	-	189	-	3 804	396	-	387	813	895	283	505	851	1 984
BIOLOGICAL SCIENTISTS	35 873	102	329	61	15 539	2 298	312	1 785	2 404	2 910	2 919	576	1 615	5 021
25 TO 34 YEARS	12 544	53	51	-	5 583	754	160	690	754	1 000	1 055	191	542	1 710
35 TO 44 YEARS	10 536	-	73	61	5 159	855	27	509	591	1 007	721	127	257	1 150
45 TO 54 YEARS	7 195	49	125	-	3 005	410	125	255	373	448	738	150	501	1 016
55 YEARS AND OVER	4 205	-	43	-	1 539	242	-	237	612	280	283	108	169	692
OTHER LIFE SCIENTISTS	32 225	81	601	150	16 533	1 172	163	1 643	624	1 560	97	1 301	3 920	4 380
25 TO 34 YEARS	8 916	58	107	92	4 828	337	87	427	141	271	47	261	1 147	1 115
35 TO 44 YEARS	9 060	23	233	58	5 110	288	53	544	168	379	27	284	850	1 043
45 TO 54 YEARS	7 752	-	114	-	4 161	365	23	436	115	296	23	336	1 011	871
55 YEARS AND OVER	5 902	-	147	-	2 265	154	-	150	200	615	-	397	682	1 292
PHYSICAL SCIENTISTS	178 624	983	15 739	246	7 020	87 301	181	14 572	2 960	6 081	2 706	3 238	11 078	26 519
25 TO 34 YEARS	54 828	496	4 558	25	2 555	27 524	26	5 303	1 060	1 780	851	758	2 938	6 953
35 TO 44 YEARS	53 512	344	5 011	106	2 236	28 160	75	3 680	714	1 535	676	1 243	2 939	6 792
45 TO 54 YEARS	39 821	113	3 447	69	1 513	19 690	24	2 787	684	1 295	650	569	2 508	6 474
55 YEARS AND OVER	24 703	-	2 397	47	717	10 456	26	1 812	503	1 441	468	586	2 095	4 155
CHEMISTS	110 701	259	8 183	-	6 358	50 496	54	10 991	1 568	3 788	2 098	2 264	7 537	17 106
25 TO 34 YEARS	35 026	111	2 306	-	2 269	15 995	-	4 312	685	1 232	742	570	2 107	4 696
35 TO 44 YEARS	30 868	148	2 342	-	2 040	14 797	54	2 448	268	1 038	487	1 016	1 956	4 275
45 TO 54 YEARS	24 217	-	1 704	-	1 448	11 592	-	1 997	353	761	446	357	1 574	3 985
55 YEARS AND OVER	16 758	-	1 649	-	602	7 072	-	1 392	261	757	362	260	1 472	2 930
PHYSICISTS	34 801	527	5 148	138	323	17 194	77	1 490	916	1 582	537	468	1 546	4 856
25 TO 34 YEARS	12 480	267	1 837	-	156	6 889	-	531	323	355	109	53	401	1 559
35 TO 44 YEARS	11 331	142	1 859	47	98	6 006	21	439	257	426	166	123	541	1 206
45 TO 54 YEARS	6 324	89	1 088	69	24	2 698	-	305	169	317	181	72	288	1 024
55 YEARS AND OVER	3 429	-	275	22	44	1 424	26	98	167	455	81	197	197	443
OTHER PHYSICAL SCIENTISTS	33 122	196	2 409	108	339	19 611	50	2 091	476	712	72	507	1 996	4 556
25 TO 34 YEARS	7 322	117	415	25	129	4 640	26	461	52	194	-	135	430	697
35 TO 44 YEARS	11 313	55	811	58	98	7 358	-	793	189	71	24	104	441	1 311
45 TO 54 YEARS	9 281	24	654	-	41	5 400	24	485	161	217	23	140	646	1 465
55 YEARS AND OVER	4 516	-	473	25	70	1 960	-	323	74	229	25	128	426	783
SOCIAL SCIENTISTS	121 459	2 649	6 427	1 433	1 295	1 495	27 401	3 170	8 354	7 521	1 551	9 879	30 660	19 624
25 TO 34 YEARS	43 986	1 720	1 624	353	422	232	10 982	900	3 702	1 910	602	3 812	11 280	6 445
35 TO 44 YEARS	33 884	429	2 444	426	343	551	8 335	1 075	1 636	2 128	393	2 176	8 323	5 627
45 TO 54 YEARS	25 725	272	1 731	417	297	473	5 351	651	1 963	1 704	429	2 194	6 715	3 530
55 YEARS AND OVER	15 828	162	594	190	186	240	2 361	519	1 053	1 752	25	1 526	3 806	3 414

SEE FOOTNOTES AT END OF TABLE.

Table 8. OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE IN 1972 AND SEX—Continued

(Totals include age group under 25 years not shown separately)

OCCUPATION IN 1970, AGE IN 1972, AND SEX	OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB													
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	TECHNICIANS AND TECHNOLOGISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	HEALTH OCCUPATIONS	ADMINISTRATORS, MANAGERS, OFFICIALS, AND PROPRIETORS[2]	OTHER OCCUPATIONS	NOT REPORTED
MALE--CONTINUED														
ECONOMISTS	68 401	2 542	5 406	1 326	667	988	8 825	1 663	2 962	1 729	232	7 438	23 302	11 321
25 TO 34 YEARS	24 642	1 669	1 279	301	109	109	3 320	420	1 372	576	118	3 084	8 975	3 311
35 TO 44 YEARS	18 408	402	2 124	371	204	333	2 567	504	631	329	-	1 493	6 131	3 318
45 TO 54 YEARS	14 640	272	1 481	417	236	333	1 722	410	666	236	67	1 549	5 095	2 156
55 YEARS AND OVER	9 603	162	486	190	71	213	1 086	330	292	589	-	1 219	2 646	2 318
OTHER SOCIAL SCIENTISTS	53 057	107	1 022	107	628	508	18 576	1 507	5 392	5 791	1 319	2 441	7 357	8 303
25 TO 34 YEARS	19 344	51	346	52	313	123	7 662	480	2 330	1 334	484	728	2 306	3 134
35 TO 44 YEARS	15 477	27	319	55	139	218	5 768	571	1 004	1 799	393	683	2 192	2 309
45 TO 54 YEARS	11 085	-	250	-	60	140	3 629	242	1 296	1 468	362	646	1 619	1 373
55 YEARS AND OVER	6 225	-	106	-	115	27	1 275	189	761	1 164	25	307	1 160	1 096
FEMALE														
OPERATIONS AND COMPUTER SPECIALISTS	56 794	25 067	228	1 584	200	469	355	1 250	199	4 064	653	984	13 214	8 526
25 TO 34 YEARS	28 159	14 771	36	734	126	185	276	569	155	2 616	309	517	4 807	3 061
35 TO 44 YEARS	9 071	2 003	36	369	-	204	-	270	-	537	222	143	3 872	1 415
45 TO 54 YEARS	6 945	1 570	156	292	-	-	80	174	-	414	123	39	2 266	1 833
55 YEARS AND OVER	2 931	368	-	-	-	45	-	129	44	241	-	133	932	1 038
COMPUTER PROGRAMMERS	35 405	18 973	94	1 023	157	244	74	866	76	2 650	309	157	6 827	3 955
25 TO 34 YEARS	19 307	11 396	-	461	84	150	74	454	76	1 818	233	84	2 667	1 810
35 TO 44 YEARS	5 063	1 148	-	329	-	94	-	170	-	357	76	-	2 252	636
45 TO 54 YEARS	2 140	591	94	85	-	-	-	85	-	169	-	-	526	592
55 YEARS AND OVER	994	234	-	-	-	-	-	85	-	84	-	-	423	169
OTHER OPERATIONS AND COMPUTER SPECIALISTS	21 388	6 094	135	561	42	225	282	384	123	1 414	344	826	6 388	4 570
25 TO 34 YEARS	8 852	3 375	36	272	42	35	202	115	79	797	75	433	2 140	1 250
35 TO 44 YEARS	4 007	854	36	39	-	110	-	100	-	179	146	143	1 620	779
45 TO 54 YEARS	4 806	979	62	207	-	-	80	89	-	245	123	39	1 740	1 241
55 YEARS AND OVER	1 937	134	-	-	-	45	-	44	44	158	-	133	510	869
ENGINEERS	15 894	500	2 851	141	-	168	95	1 370	158	844	50	935	4 324	4 459
25 TO 34 YEARS	4 734	473	1 599	27	-	114	95	186	79	228	25	379	1 021	508
35 TO 44 YEARS	2 861	27	474	-	-	-	-	344	-	122	25	-	600	1 069
45 TO 54 YEARS	5 290	-	343	114	-	-	-	746	79	200	-	189	2 099	1 520
55 YEARS AND OVER	2 382	-	59	-	-	27	-	94	-	294	-	367	337	1 204
AERONAUTICAL AND ASTRONAUTICAL ENGINEERS	957	27	330	27	-	27	-	136	-	82	-	-	82	245
25 TO 34 YEARS	218	-	136	27	-	-	-	27	-	-	-	-	-	27
35 TO 44 YEARS	245	27	55	-	-	-	-	55	-	27	-	-	-	82
45 TO 54 YEARS	245	-	55	-	-	-	-	27	-	27	-	-	55	82
55 YEARS AND OVER	193	-	30	-	-	27	-	27	-	27	-	-	27	55
CIVIL ENGINEERS	1 702	-	743	-	-	-	-	265	-	78	-	-	66	550
25 TO 34 YEARS	544	-	404	-	-	-	-	-	-	-	-	-	-	139
35 TO 44 YEARS	404	-	133	-	-	-	-	133	-	-	-	-	-	139
45 TO 54 YEARS	555	-	206	-	-	-	-	66	-	78	-	-	-	206
55 YEARS AND OVER	133	-	-	-	-	-	-	66	-	-	-	-	-	66
ELECTRICAL AND ELECTRONIC ENGINEERS	3 080	151	1 164	-	-	-	-	151	-	151	-	-	712	753
25 TO 34 YEARS	1 164	151	753	-	-	-	-	-	-	-	-	-	260	-
35 TO 44 YEARS	562	-	260	-	-	-	-	-	-	-	-	-	-	301
45 TO 54 YEARS	1 054	-	-	-	-	-	-	151	-	-	-	-	452	452
55 YEARS AND OVER	151	-	-	-	-	-	-	-	-	151	-	-	-	-
INDUSTRIAL ENGINEERS	5 265	95	86	-	-	-	95	284	-	284	-	852	2 432	1 137
25 TO 34 YEARS	1 317	95	86	-	-	-	95	-	-	95	-	379	568	-
35 TO 44 YEARS	736	-	-	-	-	-	-	-	-	95	-	-	547	95
45 TO 54 YEARS	2 084	-	-	-	-	-	-	284	-	95	-	189	1 042	474
55 YEARS AND OVER	1 033	-	-	-	-	-	-	-	-	-	-	284	275	474
MECHANICAL ENGINEERS	907	-	253	-	-	-	-	159	-	-	-	83	166	246
25 TO 34 YEARS	80	-	-	-	-	-	-	80	-	-	-	-	-	-
35 TO 44 YEARS	157	-	-	-	-	-	-	78	-	-	-	-	-	78
45 TO 54 YEARS	334	-	83	-	-	-	-	-	-	-	-	-	166	85
55 YEARS AND OVER	166	-	-	-	-	-	-	-	-	-	-	83	-	83
SALES ENGINEERS	93	-	29	-	-	-	-	-	-	29	-	-	35	-
25 TO 34 YEARS	29	-	-	-	-	-	-	-	-	29	-	-	-	-
35 TO 44 YEARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45 TO 54 YEARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55 YEARS AND OVER	64	-	29	-	-	-	-	-	-	-	-	-	35	-
OTHER ENGINEERS	3 890	228	246	114	-	140	-	375	158	221	50	-	831	1 527
25 TO 34 YEARS	1 382	228	220	-	-	114	-	79	79	104	25	-	193	341
35 TO 44 YEARS	757	-	27	-	-	-	-	79	-	-	25	-	253	373
45 TO 54 YEARS	1 018	-	-	114	-	-	-	218	79	-	-	-	385	223
55 YEARS AND OVER	643	-	-	-	-	-	-	-	-	116	-	-	-	526

SEE FOOTNOTES AT END OF TABLE.

Table 8. OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY AGE IN 1972 AND SEX—Continued

(Totals include age group under 25 years not shown separately)

OCCUPATION IN 1970, AGE IN 1972, AND SEX	OCCUPATION OF FIRST FULL-TIME PROFESSIONAL JOB													
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	TECHNICIANS AND TECHNOLOGISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	HEALTH OCCUPATIONS	ADMINISTRATORS, MANAGERS, OFFICIALS, AND PROPRIETORS[2]	OTHER OCCUPATIONS	NOT REPORTED
FEMALE--CONTINUED														
MATHEMATICAL SPECIALISTS	16 897	1 061	35	3 592	128	82	333	189	308	2 663	162	196	4 188	3 960
25 TO 34 YEARS	5 589	742	35	1 430	29	24	209	55	164	994	57	31	1 078	741
35 TO 44 YEARS	2 361	80	-	586	33	-	93	67	58	260	37	-	728	419
45 TO 54 YEARS	3 705	99	-	671	37	58	-	67	29	586	67	73	978	1 040
55 YEARS AND OVER	3 197	61	-	539	29	-	31	-	58	681	-	61	693	1 043
LIFE SCIENTISTS	15 411	-	25	-	3 259	485	231	1 435	423	1 666	4 298	-	1 080	2 510
25 TO 34 YEARS	6 002	-	25	-	1 503	140	88	751	94	594	1 645	-	309	855
35 TO 44 YEARS	3 262	-	-	-	774	120	92	274	126	251	949	-	156	521
45 TO 54 YEARS	2 609	-	-	-	668	124	26	101	82	226	845	-	148	388
55 YEARS AND OVER	2 014	-	-	-	238	-	-	106	88	415	367	-	385	415
BIOLOGICAL SCIENTISTS	14 349	-	25	-	3 141	459	199	1 409	423	1 576	4 240	-	737	2 141
25 TO 34 YEARS	5 826	-	25	-	1 448	114	56	751	94	594	1 613	-	277	855
35 TO 44 YEARS	3 015	-	-	-	742	120	92	274	126	219	949	-	67	426
45 TO 54 YEARS	2 360	-	-	-	637	124	26	101	82	226	845	-	53	266
55 YEARS AND OVER	1 708	-	-	-	238	-	-	106	88	357	367	-	290	262
OTHER LIFE SCIENTISTS	1 062	-	-	-	118	26	32	26	-	90	58	-	343	369
25 TO 34 YEARS	176	-	-	-	55	26	32	-	-	-	32	-	32	-
35 TO 44 YEARS	246	-	-	-	32	-	-	-	-	32	-	-	89	95
45 TO 54 YEARS	248	-	-	-	32	-	-	-	-	-	-	-	95	121
55 YEARS AND OVER	306	-	-	-	-	-	-	-	-	58	-	-	95	153
PHYSICAL SCIENTISTS	17 729	119	270	73	1 923	5 923	170	1 977	379	799	1 247	212	1 504	3 132
25 TO 34 YEARS	6 728	92	36	-	766	2 636	55	863	232	270	439	76	583	680
35 TO 44 YEARS	3 745	-	64	37	431	1 500	55	352	-	89	293	136	231	557
45 TO 54 YEARS	3 782	-	170	36	337	1 269	-	435	25	130	298	-	341	742
55 YEARS AND OVER	1 905	-	-	-	170	150	61	134	122	191	162	-	126	788
CHEMISTS	14 713	55	125	-	1 923	4 967	170	1 745	293	594	1 205	191	1 052	2 394
25 TO 34 YEARS	5 902	55	-	-	766	2 374	55	800	170	233	439	55	438	519
35 TO 44 YEARS	3 068	-	64	-	431	1 153	55	327	-	68	272	136	115	447
45 TO 54 YEARS	2 951	-	61	-	337	1 046	-	339	-	57	277	-	277	557
55 YEARS AND OVER	1 512	-	-	-	170	113	61	113	122	118	162	-	57	596
PHYSICISTS	1 410	37	146	73	-	579	-	59	37	111	-	-	111	258
25 TO 34 YEARS	358	37	36	-	-	137	-	36	37	37	-	-	-	37
35 TO 44 YEARS	367	-	-	37	-	219	-	-	-	-	-	-	73	37
45 TO 54 YEARS	390	-	109	36	-	149	-	23	-	-	-	-	-	73
55 YEARS AND OVER	185	-	-	-	-	37	-	-	-	73	-	-	-	74
OTHER PHYSICAL SCIENTISTS	1 606	27	-	-	-	377	-	174	49	94	42	21	341	480
25 TO 34 YEARS	468	-	-	-	-	126	-	27	25	-	-	21	145	125
35 TO 44 YEARS	311	-	-	-	-	128	-	25	-	21	21	-	42	73
45 TO 54 YEARS	441	-	-	-	-	74	-	73	25	73	21	-	63	112
55 YEARS AND OVER	209	-	-	-	-	-	-	21	-	-	-	-	69	118
SOCIAL SCIENTISTS	29 841	320	55	474	107	86	8 409	456	1 561	4 806	1 658	649	5 636	5 624
25 TO 34 YEARS	11 059	210	-	103	44	-	3 501	300	562	1 250	318	281	2 665	1 824
35 TO 44 YEARS	6 579	-	30	44	-	31	1 911	31	381	1 356	577	146	847	1 225
45 TO 54 YEARS	6 180	34	26	129	-	54	1 961	95	226	797	344	26	1 228	1 260
55 YEARS AND OVER	4 696	31	-	153	63	-	778	30	358	1 372	361	127	494	931
ECONOMISTS	8 281	289	-	299	44	-	1 605	79	254	586	181	306	3 182	1 456
25 TO 34 YEARS	3 237	179	-	44	44	-	435	45	113	226	-	134	1 570	447
35 TO 44 YEARS	1 320	-	-	44	-	-	332	-	71	35	80	35	529	194
45 TO 54 YEARS	1 861	34	-	72	-	-	538	35	-	141	34	-	607	400
55 YEARS AND OVER	1 207	31	-	92	-	-	130	-	36	184	67	92	250	325
OTHER SOCIAL SCIENTISTS	21 559	31	55	175	63	86	6 804	377	1 307	4 220	1 477	343	2 454	4 168
25 TO 34 YEARS	7 822	31	-	58	-	-	3 066	256	449	1 024	318	147	1 095	1 377
35 TO 44 YEARS	5 260	-	30	-	-	31	1 580	31	309	1 321	498	111	316	1 031
45 TO 54 YEARS	4 319	-	26	57	-	54	1 422	60	226	656	310	26	622	861
55 YEARS AND OVER	3 489	-	-	60	63	-	648	30	322	1 188	294	35	244	605

- ENTRY REPRESENTS ZERO.
[1]EXCLUDES ENGINEERING AND SCIENCE COLLEGE AND UNIVERSITY TEACHERS.
[2]EXCLUDES FARM [illegible]

Table 9. PROFESSIONAL IDENTIFICATION IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY SEX

OCCUPATION IN 1970 AND SEX	PROFESSIONAL IDENTIFICATION IN 1972													
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS		ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	ADMINISTRATORS, MANAGERS, OFFICIALS, AND PROPRIETORS[2]	TECHNICIANS AND TECHNOLOGISTS	OTHER OCCUPATIONS	NOT REPORTED
		COMPUTER PROGRAMMERS	OTHER											
BOTH SEXES														
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL	337 933	71 916	133 969	16 645	3 051	589	2 244	1 961	577	1 158	39 128	7 383	33 232	26 080
COMPUTER PROGRAMMERS	163 244	65 699	62 731	4 264	1 542	374	1 524	459	150	657	7 712	1 367	6 541	10 222
COMPUTER SYSTEMS ANALYSTS	80 559	4 357	48 667	3 345	539	45	401	393	142	186	9 393	1 409	5 968	5 714
COMPUTER SPECIALISTS N.E.C.	13 263	714	5 981	1 790	111	30	30	53	52	26	1 597	536	1 488	856
OPERATIONS AND SYSTEMS ANALYSTS	80 867	1 146	16 589	7 245	860	140	289	1 056	233	289	20 427	4 071	19 235	9 288
ENGINEERS, TOTAL	1 242 519	2 063	16 240	798 998	3 494	1 141	10 317	1 944	2 582	2 318	131 531	98 896	77 594	95 401
AERONAUTICAL AND ASTRONAUTICAL	68 525	117	876	47 943	350	30	672	154	32	118	6 370	5 240	2 626	3 998
CHEMICAL	52 445	26	332	37 450	57	48	2 034	27	26	79	6 847	1 339	1 140	3 041
CIVIL	174 442	238	527	120 251	78	220	883	141	-	370	9 599	18 441	7 444	16 250
ELECTRICAL AND ELECTRONIC	285 016	884	6 741	197 533	322	110	1 560	332	219	-	24 177	24 280	11 725	17 131
INDUSTRIAL	187 366	-	2 520	94 025	1 600	420	1 084	619	-	688	40 465	9 121	20 148	16 676
MECHANICAL	180 479	75	946	128 087	165	-	322	-	159	78	14 377	14 494	7 086	14 689
METALLURGICAL AND MATERIALS	15 436	27	53	11 605	-	25	155	27	27	-	1 270	1 060	491	697
MINING AND PETROLEUM	15 643	30	27	10 802	30	31	592	24	27	31	1 401	537	1 191	919
SALES	54 653	-	318	24 108	86	59	195	54	85	141	8 171	1 690	14 372	5 376
ENGINEERS, N.E.C., AND ENGINEERING TEACHERS	208 515	667	3 900	127 193	807	198	2 820	565	2 007	813	18 855	22 695	11 371	16 624
MATHEMATICAL SPECIALISTS, TOTAL	61 679	712	4 307	1 409	28 227	277	915	1 926	5 724	2 038	3 319	769	6 954	5 104
ACTUARIES AND STATISTICIANS	27 909	114	1 309	597	11 416	223	274	1 349	85	267	2 698	571	5 255	3 750
MATHEMATICIANS	33 770	598	2 998	812	16 811	54	641	576	5 639	1 771	621	197	1 698	1 354
LIFE SCIENTISTS, TOTAL	83 509	51	164	829	141	44 895	6 879	1 323	3 930	2 108	3 527	3 752	10 511	5 398
AGRICULTURAL	17 330	-	58	500	89	7 319	1 184	303	762	224	1 416	1 217	2 127	2 131
FORESTERS AND CONSERVATIONISTS	15 957	-	-	142	-	12 295	546	70	-	70	1 202	270	756	607
BIOLOGICAL	50 222	51	107	187	51	25 281	5 149	950	3 168	1 815	908	2 265	7 628	2 661
PHYSICAL SCIENTISTS, TOTAL	196 353	335	1 244	15 595	555	4 118	123 753	461	4 200	1 206	9 230	11 224	11 029	13 401
CHEMISTS	125 414	169	481	9 201	274	3 377	76 382	261	1 949	740	6 189	8 415	7 802	10 175
PHYSICISTS	36 211	-	486	4 710	146	510	22 718	23	1 725	244	1 577	945	1 732	1 396
OTHER PHYSICAL SCIENTISTS	34 728	167	277	1 684	136	231	24 654	178	527	223	1 464	1 864	1 494	1 831
SOCIAL SCIENTISTS, TOTAL	151 299	29	2 911	3 358	1 499	934	1 374	58 437	11 908	1 900	24 906	1 572	31 440	11 033
ECONOMISTS	76 683	-	2 740	2 519	1 312	303	449	17 107	2 450	532	20 755	556	21 667	6 293
PSYCHOLOGISTS	40 822	29	53	167	78	436	240	28 345	3 386	610	919	253	3 717	2 591
OTHER SOCIAL SCIENTISTS	33 794	-	118	672	109	195	685	12 985	6 071	758	3 232	763	6 087	2 149
MALE														
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL	281 140	51 678	115 117	16 385	2 061	367	2 039	1 572	264	489	37 153	6 928	36 805	26 258
COMPUTER PROGRAMMERS	127 838	46 870	52 527	4 114	973	217	1 430	386	-	136	7 475	1 189	[illegible]	7 782
COMPUTER SYSTEMS ANALYSTS	68 527	3 407	42 580	3 309	355	-	330	286	142	115	9 547	1 248	[illegible]	[illegible]
COMPUTER SPECIALISTS N.E.C.	11 428	534	5 277	1 759	86	30	30	53	32	26	1 597	505	[illegible]	[illegible]
OPERATIONS AND SYSTEMS ANALYSTS	73 346	867	14 734	7 203	647	140	249	847	70	212	19 534	3 989	[illegible]	[illegible]
ENGINEERS, TOTAL	1 226 626	1 983	15 867	794 634	3 345	1 141	9 961	1 553	2 346	1 750	129 993	97 068	[illegible]	[illegible]
AERONAUTICAL AND ASTRONAUTICAL	67 568	62	767	47 588	295	30	644	127	32	91	6 342	5 131	[illegible]	[illegible]
CHEMICAL	52 177	-	332	37 344	57	48	2 008	27	26	79	6 547	1 307	[illegible]	[illegible]
CIVIL	172 739	238	327	119 303	78	220	883	141	-	319	9 532	18 176	[illegible]	[illegible]
ELECTRICAL AND ELECTRONIC	281 936	884	6 591	196 329	322	110	1 450	332	219	-	24 177	23 678	[illegible]	[illegible]
INDUSTRIAL	182 101	-	2 520	93 569	1 505	420	1 084	335	-	494	39 328	8 750	[illegible]	[illegible]
MECHANICAL	179 572	75	946	127 505	165	-	322	-	159	78	14 297	14 411	[illegible]	[illegible]
METALLURGICAL AND MATERIALS	15 361	27	53	11 605	-	25	155	27	27	-	1 270	[illegible]	[illegible]	[illegible]
MINING AND PETROLEUM	15 568	30	27	10 802	30	31	592	24	27	31	1 401	537	[illegible]	[illegible]
SALES	54 560	-	318	24 079	86	59	195	54	85	112	8 171	1 690	[illegible]	[illegible]
ENGINEERS, N.E.C., AND ENGINEERING TEACHERS	205 044	667	3 786	126 511	807	198	2 628	486	1 771	547	18 628	22 384	[illegible]	[illegible]

SEE FOOTNOTES AT END OF TABLE.

Table 9. PROFESSIONAL IDENTIFICATION IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE, BY SEX—Continued

OCCUPATION IN 1970 AND SEX	PROFESSIONAL IDENTIFICATION IN 1972													
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS		ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	ADMINISTRATORS, MANAGERS, OFFICIALS, AND PROPRIETORS[2]	TECHNICIANS AND TECHNOLOGISTS	OTHER OCCUPATIONS	NOT REPORTED
		COMPUTER PROGRAMMERS	OTHER											
MALE--CONTINUED														
MATHEMATICAL SPECIALISTS, TOTAL	44 782	373	3 316	1 385	22 515	208	809	1 149	4 532	948	2 707	638	3 617	2 586
ACTUARIES AND STATISTICIANS	17 393	52	792	597	8 018	154	213	712	50	112	2 086	478	2 582	1 546
MATHEMATICIANS	27 390	321	2 524	788	14 497	54	595	438	4 482	836	621	160	1 035	1 040
LIFE SCIENTISTS, TOTAL	68 097	51	136	829	141	38 982	5 868	1 009	3 388	1 232	3 461	2 594	6 193	4-213
AGRICULTURAL	16 369	-	58	500	89	7 192	1 126	271	762	197	1 385	1 127	1 874	1 787
FORESTERS AND CONSERVATIONISTS	15 856	-	-	142	-	12 245	520	70	-	70	1 202	270	730	607
BIOLOGICAL	35 873	51	79	187	51	19 545	4 222	668	2 626	965	874	1 197	3 589	1 819
PHYSICAL SCIENTISTS, TOTAL	178 624	280	1 071	15 211	395	3 261	114 264	351	3 815	938	8 898	9 908	8 836	11 396
CHEMISTS	110 701	169	373	8 965	150	2 545	68 326	151	1 588	559	5 900	7 284	6 305	8 387
PHYSICISTS	34 801	-	449	4 562	109	510	21 873	23	1 725	244	1 555	945	1 448	1 360
OTHER PHYSICAL SCIENTISTS	33 122	112	250	1 684	136	206	24 066	178	502	135	1 443	1 679	1 083	1 649
SOCIAL SCIENTISTS, TOTAL	121 459	29	2 638	3 267	1 267	844	1 266	43 812	9 313	793	23 833	1 121	24 891	8 385
ECONOMISTS	68 401	-	2 527	2 483	1 161	303	404	15 031	2 142	251	20 007	456	18 622	5 014
PSYCHOLOGISTS	26 473	29	24	141	53	378	176	18 883	2 201	301	779	25	1 760	1 723
OTHER SOCIAL SCIENTISTS	26 584	-	87	643	53	164	685	9 897	4 969	241	3 047	639	4 509	1 649
FEMALE														
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL	56 794	20 238	18 851	259	990	202	205	390	312	668	1 975	455	6 424	5 822
COMPUTER PROGRAMMERS	35 405	18 829	10 204	150	569	157	94	74	150	521	236	178	1 740	2 502
COMPUTER SYSTEMS ANALYSTS	12 033	951	6 088	36	184	45	71	107	-	71	846	164	1 693	1 776
COMPUTER SPECIALISTS N.E.C.	1 835	179	704	31	24	-	-	-	-	-	-	31	483	383
OPERATIONS AND SYSTEMS ANALYSTS	7 520	279	1 855	42	213	-	40	209	163	76	893	82	2 509	1 160
ENGINEERS, TOTAL	15 894	80	373	4 363	149	-	356	390	236	568	1 538	1 828	3 364	2 647
AERONAUTICAL AND ASTRONAUTICAL	957	55	109	354	55	-	27	27	-	27	27	109	82	84
CHEMICAL	269	26	-	106	-	-	27	-	-	-	-	32	26	53
CIVIL	1 702	-	-	948	-	-	-	-	-	151	66	265	73	199
ELECTRICAL AND ELECTRONIC	3 080	-	151	1 204	-	-	110	-	-	-	-	602	411	602
INDUSTRIAL	5 265	-	-	456	95	-	-	284	-	95	1 137	370	1 610	1 218
MECHANICAL	907	-	-	582	-	-	-	-	-	-	80	83	83	78
METALLURGICAL AND MATERIALS	75	-	-	-	-	-	-	-	-	-	-	25	50	-
MINING AND PETROLEUM	75	-	-	-	-	-	-	-	-	-	-	-	75	-
SALES	93	-	-	29	-	-	-	-	-	29	-	-	-	35
ENGINEERS, N.E.C., AND ENGINEERING TEACHERS	3 471	-	114	683	-	-	193	79	236	267	228	341	954	378
MATHEMATICAL SPECIALISTS, TOTAL	16 897	339	992	24	5 712	68	106	776	1 192	1 089	612	131	3 337	2 518
ACTUARIES AND STATISTICIANS	10 516	62	517	-	3 398	68	61	638	35	155	612	94	2 673	2 204
MATHEMATICIANS	6 380	277	474	24	2 314	-	45	139	1 158	935	-	37	664	314
LIFE SCIENTISTS, TOTAL	15 411	-	28	-	-	5 912	1 011	314	542	876	66	1 158	4 319	1 185
AGRICULTURAL	961	-	-	-	-	127	58	32	-	26	32	90	253	343
FORESTERS AND CONSERVATIONISTS	101	-	-	-	-	49	26	-	-	-	-	-	26	-
BIOLOGICAL	14 349	-	28	-	-	5 736	927	283	542	850	34	1 068	4 039	842
PHYSICAL SCIENTISTS, TOTAL	17 729	55	173	384	161	857	9 489	110	385	269	332	1 316	2 193	2 005
CHEMISTS	14 713	-	108	237	123	832	8 056	110	361	181	289	1 131	1 497	1 788
PHYSICISTS	1 410	-	37	148	37	-	845	-	-	-	23	-	284	36
OTHER PHYSICAL SCIENTISTS	1 606	55	27	-	-	25	588	-	25	88	21	185	411	182
SOCIAL SCIENTISTS, TOTAL	29 841	-	273	91	232	89	108	14 625	2 595	1 108	1 073	451	6 548	2 647
ECONOMISTS	8 281	-	213	36	151	-	44	2 076	308	281	748	100	3 045	1 279
PSYCHOLOGISTS	14 349	-	29	26	25	58	64	9 462	1 185	310	139	228	1 957	868
OTHER SOCIAL SCIENTISTS	7 210	-	31	30	56	31	-	3 088	1 102	517	185	123	1 547	500

- ENTRY REPRESENTS ZERO.

[1]EXCLUDES ENGINEERING AND SCIENCE COLLEGE AND UNIVERSITY TEACHERS.

[2]EXCLUDES FARM MANAGERS.

Table 10. PROFESSIONAL IDENTIFICATION AND FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE BY SEX

OCCUPATION IN 1970, FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972, AND SEX	PROFESSIONAL IDENTIFICATION IN 1972												
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	ADMINISTRATORS, MANAGERS OFFICIALS, AND PROPRIETORS[2]	TECHNICIANS AND TECHNOLOGISTS	OTHER OCCUPATIONS	NOT REPORTED
BOTH SEXES													
MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972													
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	337 933	205 885	16 645	3 051	589	2 244	1 961	577	1 158	39 128	7 383	33 232	26 080
ENGINEERING	34 717	16 119	9 828	108	-	194	69	62	35	3 733	1 545	1 485	1 538
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	29 052	25 563	280	35	-	-	-	-	-	1 327	-	653	1 194
MATHEMATICAL SCIENCES	40 983	32 968	433	1 995	-	120	-	76	333	2 535	410	636	1 479
PHYSICAL SCIENCES	9 562	6 232	475	115	-	1 417	-	-	-	452	72	334	464
BIOLOGICAL AND AGRICULTURAL SCIENCES	5 205	3 044	139	-	478	184	36	42	-	290	297	410	284
SOCIAL SCIENCES	24 504	15 210	351	40	-	71	1 350	44	152	3 463	376	2 236	1 210
BUSINESS AND COMMERCE	53 993	32 003	997	106	-	-	73	96	35	11 082	407	6 553	2 639
OTHER FIELD OF STUDY	42 888	25 267	1 082	265	111	112	293	221	577	5 804	720	5 688	2 749
FIELD NOT REPORTED[4]	36 879	19 638	1 447	166	-	109	74	-	26	4 240	1 102	4 536	5 542
NO COLLEGE	60 150	29 841	1 612	222	-	37	67	35	-	6 202	2 453	10 701	8 980
ENGINEERS, TOTAL[3]	1 242 519	18 303	798 998	3 494	1 141	10 317	1 944	2 582	2 318	131 531	98 896	77 594	95 401
ENGINEERING	724 458	8 242	568 219	645	110	1 573	59	933	310	66 064	34 372	14 009	29 924
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	4 503	1 073	1 907	-	-	23	-	-	-	276	512	342	371
MATHEMATICAL SCIENCES	17 481	1 998	9 525	1 817	-	115	-	-	29	1 652	1 043	585	716
PHYSICAL SCIENCES	40 372	1 118	23 867	133	-	7 080	311	26	56	3 923	1 609	945	1 604
BIOLOGICAL AND AGRICULTURAL SCIENCES	12 583	38	5 715	-	921	472	-	86	121	910	1 786	1 294	1 240
SOCIAL SCIENCES	22 572	525	7 430	82	-	-	1 169	224	244	6 330	1 055	4 531	982
BUSINESS AND COMMERCE	60 570	1 575	26 807	59	-	159	95	29	29	16 528	2 234	8 790	4 266
OTHER FIELD OF STUDY	72 883	904	33 451	276	32	310	213	1 179	1 095	11 123	7 545	12 289	4 466
FIELD NOT REPORTED[4]	128 024	1 094	66 135	109	-	534	98	79	112	10 728	18 778	10 707	19 651
NO COLLEGE	159 074	1 737	56 241	374	78	52	-	27	323	13 996	29 962	24 102	32 183
MATHEMATICAL SPECIALISTS, TOTAL[3]	61 679	5 020	1 409	28 227	277	915	1 926	5 724	2 038	3 319	769	6 954	5 104
ENGINEERING	2 279	249	679	556	-	60	26	57	55	135	178	75	209
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	673	437	-	176	-	-	-	-	-	-	-	24	36
MATHEMATICAL SCIENCES	27 509	2 361	281	18 386	-	106	191	3 157	791	539	26	720	952
PHYSICAL SCIENCES	1 650	324	71	480	-	522	32	70	-	49	-	102	-
BIOLOGICAL AND AGRICULTURAL SCIENCES	1 294	26	31	320	241	152	26	110	-	58	60	157	113
SOCIAL SCIENCES	4 595	348	-	1 514	-	-	1 167	208	87	369	26	541	335
BUSINESS AND COMMERCE	4 429	257	90	1 332	-	-	52	104	33	838	80	1 125	519
OTHER FIELD OF STUDY	9 534	514	101	2 639	36	49	248	1 787	971	614	100	1 748	727
FIELD NOT REPORTED[4]	3 935	247	50	1 336	-	26	184	207	101	219	87	703	775
NO COLLEGE	5 781	257	105	1 487	-	-	-	24	-	498	213	1 760	1 437
LIFE SCIENTISTS, TOTAL[3]	83 509	216	829	141	44 895	6 679	1 323	3 930	2 108	3 527	3 752	10 511	5 398
ENGINEERING	1 392	27	397	-	326	50	-	64	-	249	256	23	-
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	51	-	-	-	-	-	-	-	-	-	51	-	-
MATHEMATICAL SCIENCES	294	27	24	51	79	-	-	-	84	-	28	-	-
PHYSICAL SCIENCES	1 755	28	-	-	342	812	-	87	29	51	111	213	82
BIOLOGICAL AND AGRICULTURAL SCIENCES	57 214	58	176	61	38 718	4 929	154	2 437	607	2 248	1 517	4 166	2 144
SOCIAL SCIENCES	2 571	27	-	29	454	97	917	247	105	202	106	289	100
BUSINESS AND COMMERCE	317	25	-	-	50	-	-	-	-	110	82	49	-
OTHER FIELD OF STUDY	10 495	-	46	-	3 356	701	179	918	1 159	221	318	2 893	703
FIELD NOT REPORTED[4]	4 377	24	132	-	1 090	210	73	104	98	177	362	1 191	916
NO COLLEGE	5 042	-	53	-	480	80	-	73	27	268	922	1 686	1 453
PHYSICAL SCIENTISTS, TOTAL[3]	196 353	1 680	15 595	555	4 118	123 753	461	4 200	1 206	9 230	11 224	11 029	13 401
ENGINEERING	18 347	128	8 311	-	55	5 570	25	259	-	1 376	1 368	488	768
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	339	172	-	26	-	63	-	-	-	54	24	-	-
MATHEMATICAL SCIENCES	2 940	222	226	234	65	1 664	-	22	-	174	88	142	105
PHYSICAL SCIENCES	114 846	479	4 002	63	730	94 778	-	2 201	353	4 481	1 429	1 585	4 745
BIOLOGICAL AND AGRICULTURAL SCIENCES	16 622	223	341	108	2 447	9 239	-	161	152	719	1 341	1 000	891
SOCIAL SCIENCES	3 113	23	72	-	26	801	360	257	119	451	157	603	245
BUSINESS AND COMMERCE	3 230	140	312	-	-	837	-	71	-	524	445	604	296
OTHER FIELD OF STUDY	13 852	27	951	123	772	4 758	26	1 085	393	642	1 678	2 454	941
FIELD NOT REPORTED[4]	11 222	88	1 046	-	24	4 674	50	145	104	419	1 671	1 365	1 637
NO COLLEGE	11 840	78	333	-	-	1 370	-	-	85	391	3 022	2 787	3 774

SEE FOOTNOTES AT END OF TABLE.

Table 10. PROFESSIONAL IDENTIFICATION AND FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE BY SEX—Continued

OCCUPATION IN 1970, FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972, AND SEX	PROFESSIONAL IDENTIFICATION IN 1972												
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	ADMINISTRATORS, MANAGERS OFFICIALS, AND PROPRIETORS[2]	TECHNICIANS AND TECHNOLOGISTS	OTHER OCCUPATIONS	NOT REPORTED
BOTH SEXES--CONTINUED													
SOCIAL SCIENTISTS, TOTAL[3]	151 299	2 939	3 358	1 499	934	1 374	58 437	11 908	1 900	24 906	1 572	31 440	11 033
ENGINEERING	7 098	185	1 925	-	27	-	160	-	-	2 423	298	1 577	505
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	463	139	-	-	-	-	105	35	-	128	-	-	35
MATHEMATICAL SCIENCES	1 592	278	33	389	-	-	221	26	-	190	-	387	69
PHYSICAL SCIENCES	1 775	33	103	-	27	514	160	-	-	465	100	310	62
BIOLOGICAL AND AGRICULTURAL SCIENCES	2 464	33	34	34	470	120	357	76	84	484	58	406	309
SOCIAL SCIENCES	75 075	635	328	234	261	536	50 160	7 491	403	4 703	376	6 109	3 839
BUSINESS AND COMMERCE	25 050	933	240	519	-	29	1 524	944	-	9 049	65	9 786	1 960
OTHER FIELD OF STUDY	23 029	334	148	178	89	79	4 107	2 967	1 357	4 384	257	7 654	1 475
FIELD NOT REPORTED[4]	8 865	141	292	100	60	34	1 843	370	57	1 754	133	2 870	1 511
NO COLLEGE	5 889	207	256	45	-	62	100	-	-	1 326	285	2 340	1 269
MALE													
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	281 140	166 795	16 385	2 061	387	2 039	1 572	264	489	37 153	6 928	26 808	20 258
ENGINEERING	34 408	16 064	9 679	108	-	194	69	62	35	3 733	1 545	1 441	1 479
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	23 731	20 587	280	35	-	-	-	-	-	1 248	-	503	1 077
MATHEMATICAL SCIENCES	29 903	23 616	397	1 235	-	120	-	-	-	2 347	410	605	1 173
PHYSICAL SCIENCES	8 484	5 400	475	115	-	1 247	-	-	-	376	72	334	464
BIOLOGICAL AND AGRICULTURAL SCIENCES	3 870	2 204	139	-	276	184	36	-	-	246	212	366	208
SOCIAL SCIENCES	18 782	11 047	351	-	-	36	1 117	-	79	3 160	300	1 867	825
BUSINESS AND COMMERCE	50 331	29 474	997	71	-	-	73	96	35	11 006	328	5 890	2 360
OTHER FIELD OF STUDY	32 825	18 294	1 082	134	111	112	210	71	315	5 472	720	4 261	2 043
FIELD NOT REPORTED[4]	30 781	16 121	1 447	141	-	109	-	-	26	3 962	1 067	3 543	4 366
NO COLLEGE	48 025	23 989	1 539	222	-	37	67	35	-	5 602	2 272	7 998	6 264
ENGINEERS, TOTAL[3]	1 226 626	17 850	794 634	3 345	1 141	9 961	1 553	2 346	1 750	129 993	97 068	74 230	92 754
ENGINEERING	721 362	8 242	565 806	645	110	1 463	59	933	310	65 803	34 239	13 896	29 857
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	4 304	1 073	1 824	-	-	23	-	-	-	276	426	342	341
MATHEMATICAL SCIENCES	16 877	1 803	9 198	1 763	-	115	-	-	29	1 652	1 043	585	689
PHYSICAL SCIENCES	39 909	1 091	23 350	133	-	6 861	311	26	56	3 923	1 609	945	1 604
BIOLOGICAL AND AGRICULTURAL SCIENCES	12 313	38	5 622	-	921	472	-	86	121	910	1 786	1 266	1 089
SOCIAL SCIENCES	21 595	525	7 330	82	-	-	952	224	167	6 046	1 028	4 342	900
BUSINESS AND COMMERCE	59 665	1 575	26 685	59	-	159	-	29	-	16 406	2 234	8 253	4 266
OTHER FIELD OF STUDY	69 451	700	33 200	276	32	310	134	942	743	10 650	7 095	11 127	4 242
FIELD NOT REPORTED[4]	126 189	1 066	65 870	109	-	507	98	79	112	10 633	18 150	10 492	19 073
NO COLLEGE	154 960	1 737	55 749	279	78	52	-	27	214	13 693	29 458	22 982	30 692
MATHEMATICAL SPECIALISTS, TOTAL[3]	44 782	3 689	1 385	22 515	208	809	1 149	4 532	948	2 707	638	3 617	2 586
ENGINEERING	2 256	249	656	556	-	60	26	57	55	135	178	75	209
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	439	351	-	88	-	-	-	-	-	-	-	-	-
MATHEMATICAL SCIENCES	22 570	1 713	281	15 893	-	106	100	2 372	320	505	26	504	751
PHYSICAL SCIENCES	1 444	263	71	412	-	477	-	70	-	49	-	102	-
BIOLOGICAL AND AGRICULTURAL SCIENCES	950	26	31	257	208	91	26	76	-	26	60	97	52
SOCIAL SCIENCES	3 079	223	-	1 155	-	-	680	179	58	304	26	305	148
BUSINESS AND COMMERCE	3 533	226	90	1 132	-	-	52	48	33	745	49	840	319
OTHER FIELD OF STUDY	6 175	420	101	1 874	-	49	180	1 550	417	458	100	775	251
FIELD NOT REPORTED[4]	2 019	112	50	706	-	26	85	157	66	157	24	249	388
NO COLLEGE	2 318	106	105	441	-	-	-	24	-	330	176	668	468
LIFE SCIENTISTS, TOTAL[3]	68 097	188	829	141	38 982	5 868	1 009	3 388	1 232	3 461	2 594	6 193	4 213
ENGINEERING	1 366	27	397	-	326	24	-	64	-	249	256	23	-
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	51	-	-	-	-	-	-	-	-	-	51	-	-
MATHEMATICAL SCIENCES	266	27	24	51	79	-	-	-	84	-	-	-	-
PHYSICAL SCIENCES	1 417	-	-	-	290	683	-	87	29	51	111	136	29
BIOLOGICAL AND AGRICULTURAL SCIENCES	48 498	58	176	61	33 821	4 336	122	1 999	424	2 248	884	2 544	1 825
SOCIAL SCIENCES	2 233	27	-	29	400	97	737	247	77	202	106	212	100
BUSINESS AND COMMERCE	259	25	-	-	50	-	-	-	-	79	82	23	-
OTHER FIELD OF STUDY	7 039	-	46	-	2 721	488	125	814	659	221	189	1 338	536
FIELD NOT REPORTED[4]	3 043	24	132	-	920	159	24	104	31	177	282	563	627
NO COLLEGE	3 924	-	53	-	374	80	-	73	27	234	633	1 354	1 096

SEE FOOTNOTES AT END OF TABLE.

Table 10. PROFESSIONAL IDENTIFICATION AND FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE BY SEX—Continued

OCCUPATION IN 1970, FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972, AND SEX	PROFESSIONAL IDENTIFICATION IN 1972												
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	COLLEGE AND UNIVERSITY TEACHERS[2]	ELEMENTARY AND SECONDARY TEACHERS	ADMINISTRATORS, MANAGERS OFFICIALS, AND PROPRIETORS[2]	TECHNICIANS AND TECHNOLOGISTS	OTHER OCCUPATIONS	NOT REPORTED
MALE--CONTINUED													
PHYSICAL SCIENTISTS, TOTAL[3]	178 624	1 351	15 211	395	3 261	114 264	351	3 815	938	8 898	9 908	8 836	11 396
ENGINEERING	17 739	128	8 058	-	-	5 325	25	259	-	1 376	1 313	488	768
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	339	172	-	26	-	63	-	-	-	54	24	-	-
MATHEMATICAL SCIENCES	2 751	194	226	234	65	1 567	-	22	-	174	61	105	105
PHYSICAL SCIENCES	106 413	397	3 871	26	620	88 060	-	2 017	268	4 280	1 353	1 402	4 118
BIOLOGICAL AND AGRICULTURAL SCIENCES	13 984	223	341	108	1 987	7 821	-	100	152	719	1 109	716	706
SOCIAL SCIENCES	2 672	23	72	-	26	746	251	257	119	451	133	468	127
BUSINESS AND COMMERCE	2 925	103	312	-	-	837	-	71	-	503	367	516	215
OTHER FIELD OF STUDY	11 164	-	951	-	540	4 133	26	945	309	531	1 154	1 689	886
FIELD NOT REPORTED[4]	10 007	88	1 046	-	24	4 342	50	145	47	419	1 507	892	1 448
NO COLLEGE	10 630	24	333	-	-	1 370	-	-	43	391	2 888	2 558	3 022
SOCIAL SCIENTISTS, TOTAL[3]	121 459	2 667	3 267	1 267	844	1 266	43 812	9 313	793	23 833	1 121	24 891	8 385
ENGINEERING	6 904	185	1 895	-	27	-	131	-	-	2 423	237	1 548	455
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	349	115	-	-	-	-	105	-	-	128	-	-	-
MATHEMATICAL SCIENCES	1 508	278	33	305	-	-	221	26	-	190	-	387	69
PHYSICAL SCIENCES	1 775	33	103	-	27	514	160	-	-	465	100	310	62
BIOLOGICAL AND AGRICULTURAL SCIENCES	2 339	33	34	34	470	120	357	52	59	484	58	381	257
SOCIAL SCIENCES	57 368	466	302	234	203	472	37 698	6 168	240	4 338	202	4 185	2 835
BUSINESS AND COMMERCE	23 893	889	240	492	-	29	1 416	944	-	8 960	65	9 114	1 744
OTHER FIELD OF STUDY	16 184	334	112	103	89	35	2 481	1 825	494	4 053	232	5 226	1 203
FIELD NOT REPORTED[4]	6 898	107	292	100	29	34	1 144	298	-	1 635	33	2 133	1 094
NO COLLEGE	4 242	207	256	-	-	62	100	-	-	1 158	193	1 607	662
FEMALE													
OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[3]	56 794	39 089	259	990	202	205	390	312	668	1 975	455	6 424	5 82
ENGINEERING	309	55	149	-	-	-	-	-	-	-	-	45	6
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	5 321	4 975	-	-	-	-	-	-	-	79	-	150	11
MATHEMATICAL SCIENCES	11 080	9 351	36	760	-	-	-	76	333	187	-	31	30
PHYSICAL SCIENCES	1 078	832	-	-	-	170	-	-	-	76	-	-	-
BIOLOGICAL AND AGRICULTURAL SCIENCES	1 335	840	-	-	202	-	-	42	-	44	85	45	7
SOCIAL SCIENCES	5 722	4 163	-	40	-	35	234	44	74	303	76	368	38
BUSINESS AND COMMERCE	3 663	2 530	-	35	-	-	-	-	-	76	79	663	27
OTHER FIELD OF STUDY	10 063	6 973	-	131	-	-	82	150	262	332	-	1 427	70
FIELD NOT REPORTED[4]	6 098	3 518	-	24	-	-	74	-	-	278	35	993	1 17
NO COLLEGE	12 126	5 851	74	-	-	-	-	-	-	600	181	2 703	2 71
ENGINEERS, TOTAL[3]	15 894	453	4 363	149	-	356	390	236	568	1 538	1 828	3 364	2 64
ENGINEERING	3 096	-	2 413	-	-	110	-	-	-	260	133	114	6
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	199	-	83	-	-	-	-	-	-	-	86	-	3
MATHEMATICAL SCIENCES	604	196	327	55	-	-	-	-	-	-	-	-	2
PHYSICAL SCIENCES	463	27	217	-	-	219	-	-	-	-	-	-	
BIOLOGICAL AND AGRICULTURAL SCIENCES	271	-	93	-	-	-	-	-	-	-	-	27	15
SOCIAL SCIENCES	977	-	100	-	-	-	217	-	78	284	27	189	8
BUSINESS AND COMMERCE	905	-	122	-	-	-	95	-	29	122	-	537	
OTHER FIELD OF STUDY	3 432	203	251	-	-	-	79	236	353	474	450	1 161	22
FIELD NOT REPORTED[4]	1 835	27	265	-	-	27	-	-	-	95	628	215	57
NO COLLEGE	4 113	-	492	95	-	-	-	-	109	303	503	1 120	1 49
MATHEMATICAL SPECIALISTS, TOTAL[3]	16 897	1 330	24	5 712	68	106	776	1 192	1 089	612	131	3 337	2 51
ENGINEERING	24	-	24	-	-	-	-	-	-	-	-	-	
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	234	86	-	89	-	-	-	-	-	-	-	24	3
MATHEMATICAL SCIENCES	4 939	648	-	2 492	-	-	91	785	471	35	-	215	20
PHYSICAL SCIENCES	206	61	-	68	-	45	32	-	-	-	-	-	
BIOLOGICAL AND AGRICULTURAL SCIENCES	344	-	-	64	33	61	-	35	-	32	-	59	6
SOCIAL SCIENCES	1 516	125	-	359	-	-	487	29	29	65	-	235	16
BUSINESS AND COMMERCE	896	31	-	200	-	-	-	56	-	93	31	285	20
OTHER FIELD OF STUDY	3 359	94	-	765	36	-	68	237	554	157	-	972	47
FIELD NOT REPORTED[4]	1 916	135	-	630	-	-	99	50	36	63	63	454	38
NO COLLEGE	3 462	150	-	1 045	-	-	-	-	-	169	37	1 091	97

SEE FOOTNOTES AT END OF TABLE.

Table 10. PROFESSIONAL IDENTIFICATION AND FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972 FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE BY SEX—Continued

OCCUPATION IN 1970, FIELD OF STUDY FOR HIGHEST DEGREE HELD IN 1972, AND SEX	PROFESSIONAL IDENTIFICATION IN 1972												
	TOTAL	OPERATIONS AND COMPUTER SPECIALISTS	ENGINEERS	MATHEMATICAL SPECIALISTS	LIFE SCIENTISTS	PHYSICAL SCIENTISTS	SOCIAL SCIENTISTS	COLLEGE AND UNIVERSITY TEACHERS[1]	ELEMENTARY AND SECONDARY TEACHERS	ADMINISTRATORS, MANAGERS OFFICIALS, AND PROPRIETORS[2]	TECHNICIANS AND TECHNOLOGISTS	OTHER OCCUPATIONS	NOT REPORTED
FEMALE--CONTINUED													
LIFE SCIENTISTS, TOTAL[3]	15 411	28	-	-	5 912	1 011	314	542	876	66	1 158	4 319	1 185
ENGINEERING	26	-	-	-	-	26	-	-	-	-	-	-	-
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICAL SCIENCES	28	-	-	-	-	-	-	-	-	-	28	-	-
PHYSICAL SCIENCES	339	28	-	-	51	129	-	-	-	-	-	77	53
BIOLOGICAL AND AGRICULTURAL SCIENCES	8 716	-	-	-	4 897	592	32	438	182	-	633	1 622	319
SOCIAL SCIENCES	338	-	-	-	53	-	179	-	28	-	-	77	-
BUSINESS AND COMMERCE	58	-	-	-	-	-	-	-	-	32	-	26	-
OTHER FIELD OF STUDY	3 456	-	-	-	635	212	54	104	600	-	128	1 556	167
FIELD NOT REPORTED[4]	1 334	-	-	-	170	51	48	-	67	-	80	628	289
NO COLLEGE	1 118	-	-	-	106	-	-	-	-	34	289	332	357
PHYSICAL SCIENTISTS, TOTAL[3]	17 729	228	384	161	857	9 489	110	385	269	332	1 316	2 193	2 005
ENGINEERING	609	-	253	-	55	245	-	-	-	-	55	-	-
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	-	-	-	-	-	-	-	-	-	-	-	-	-
MATHEMATICAL SCIENCES	189	27	-	-	-	97	-	-	-	-	27	37	-
PHYSICAL SCIENCES	8 433	82	131	37	110	6 718	-	183	86	200	76	184	626
BIOLOGICAL AND AGRICULTURAL SCIENCES	2 638	-	-	-	460	1 417	-	61	-	-	233	282	184
SOCIAL SCIENCES	441	-	-	-	-	55	110	-	-	-	25	135	118
BUSINESS AND COMMERCE	305	37	-	-	-	-	-	-	-	21	78	88	81
OTHER FIELD OF STUDY	2 688	27	-	123	231	625	-	141	84	111	525	766	55
FIELD NOT REPORTED[4]	1 215	-	-	-	-	332	-	-	57	-	164	473	189
NO COLLEGE	1 210	54	-	-	-	-	-	-	42	-	134	228	751
SOCIAL SCIENTISTS, TOTAL[3]	29 841	273	91	232	89	108	14 625	2 595	1 108	1 073	451	6 548	2 647
ENGINEERING	194	-	30	-	-	-	30	-	-	-	61	29	45
COMPUTER SCIENCE AND SYSTEMS ANALYSIS	114	44	-	-	-	-	-	35	-	-	-	-	35
MATHEMATICAL SCIENCES	84	-	-	84	-	-	-	-	-	-	-	-	-
PHYSICAL SCIENCES	-	-	-	-	-	-	-	-	-	-	-	-	-
BIOLOGICAL AND AGRICULTURAL SCIENCES	125	-	-	-	-	-	-	24	25	-	-	25	52
SOCIAL SCIENCES	17 707	149	26	-	58	64	12 462	1 323	163	364	174	1 924	1 000
BUSINESS AND COMMERCE	1 157	44	-	27	-	-	108	-	-	90	-	672	215
OTHER FIELD OF STUDY	6 846	-	36	75	-	44	1 626	1 142	863	331	25	2 428	275
FIELD NOT REPORTED[4]	1 968	35	-	-	31	-	399	71	57	120	100	738	417
NO COLLEGE	1 646	-	-	45	-	-	-	-	-	168	92	733	608

- ENTRY REPRESENTS ZERO.
[1]EXCLUDES ENGINEERING AND SCIENCE COLLEGE AND UNIVERSITY TEACHERS.
[2]EXCLUDES FARM MANAGERS.
[3]INCLUDES FIELD OF STUDY FOR PERSONS WITH SOME COLLEGE WORK BUT NO DEGREE.
[4]INCLUDES ALL PERSONS WITH DEGREE NOT REPORTED.

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	BOTH SEXES										
	HIGHEST DEGREE HELD										
1	OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[1]	337 933	14 674	14 378	29 571	5 145	40 983	917	2 700	186	2 442
2	1-3 YEARS COLLEGE, NO DEGREE	64 012	7 463	9 065	5 777	2 298	4 562	318	186	-	407
3	4 OR MORE YEARS COLLEGE, NO DEGREE	7 963	617	945	857	63	861	-	-	35	-
4	ASSOCIATE	14 648	255	4 141	693	2 459	-	-	-	-	-
5	BACHELOR'S	88 362	1 818	76	9 489	72	21 054	392	1 233	-	1 343
6	BACHELOR'S PLUS[2]	36 323	663	-	6 168	146	8 728	35	877	-	252
7	MASTER'S	33 442	3 711	71	5 795	71	5 449	171	186	35	216
8	PH.D.	3 315	148	-	766	-	329	-	219	116	224
9	COMPUTER PROGRAMMERS[1]	163 244	10 234	11 194	11 533	2 084	27 859	563	1 520	80	1 595
10	1-3 YEARS COLLEGE, NO DEGREE	34 984	5 561	6 811	2 704	892	3 486	212	-	-	301
11	4 OR MORE YEARS COLLEGE, NO DEGREE	4 052	367	736	316	-	587	-	-	-	-
12	ASSOCIATE	8 852	219	3 491	373	1 116	-	-	-	-	-
13	BACHELOR'S	45 127	1 473	76	3 463	-	14 626	216	828	-	921
14	BACHELOR'S PLUS[2]	17 156	392	-	2 262	76	6 254	-	540	-	76
15	MASTER'S	13 335	2 221	-	2 271	-	2 905	136	84	-	145
16	PH.D.	683	-	-	143	-	-	-	69	80	152
17	OTHER OPERATIONS AND COMPUTER SPECIALISTS[1]	174 690	4 441	3 184	18 039	3 062	13 124	354	1 180	106	847
18	1-3 YEARS COLLEGE, NO DEGREE	29 027	1 902	2 254	3 073	1 406	1 076	107	186	-	106
19	4 OR MORE YEARS COLLEGE, NO DEGREE	3 911	250	209	541	63	274	-	-	35	-
20	ASSOCIATE	5 795	36	650	320	1 344	-	-	-	-	-
21	BACHELOR'S	43 236	345	-	6 027	72	6 428	176	405	-	423
22	BACHELOR'S PLUS[2]	19 167	271	-	3 905	70	2 474	35	338	-	176
23	MASTER'S	20 108	1 490	71	3 524	71	2 544	35	102	35	71
24	PH.D.	2 632	148	-	623	-	329	-	150	36	72
25	ENGINEERS, TOTAL[1]	1 242 519	3 456	1 047	668 647	55 811	17 481	5 082	3 261	679	15 212
26	1-3 YEARS COLLEGE, NO DEGREE	145 151	984	786	64 358	17 956	3 746	686	763	30	1 348
27	4 OR MORE YEARS COLLEGE, NO DEGREE	30 528	532	30	15 418	3 123	624	127	167	121	504
28	ASSOCIATE	46 256	-	86	4 541	29 073	-	-	-	-	-
29	BACHELOR'S	372 828	193	26	296 714	2 756	5 634	2 779	983	328	6 581
30	BACHELOR'S PLUS[2]	197 771	-	-	158 129	879	3 013	848	723	118	3 223
31	MASTER'S	162 753	1 632	27	109 949	500	4 219	534	455	83	2 059
32	PH.D.	25 092	115	-	19 301	-	245	109	171	-	1 496
33	AERONAUTICAL AND ASTRONAUTICAL ENGINEERS[1]	68 525	180	89	41 612	3 190	1 857	129	275	30	458
34	1-3 YEARS COLLEGE, NO DEGREE	7 920	30	60	3 703	1 025	469	32	58	30	61
35	4 OR MORE YEARS COLLEGE, NO DEGREE	2 145	63	30	1 267	94	90	-	59	-	-
36	ASSOCIATE	2 600	-	-	248	1 741	-	-	-	-	-
37	BACHELOR'S	20 901	-	-	17 036	181	483	-	61	-	187
38	BACHELOR'S PLUS[2]	12 317	-	-	9 840	30	396	30	64	-	149
39	MASTER'S	11 407	88	-	8 742	29	389	67	-	-	32
40	PH.D.	1 183	-	-	776	-	30	-	33	-	29
41	CIVIL ENGINEERS[1]	174 442	242	92	104 566	7 347	1 170	1 382	363	235	516
42	1-3 YEARS COLLEGE, NO DEGREE	16 648	164	-	7 797	2 293	455	71	72	-	226
43	4 OR MORE YEARS COLLEGE, NO DEGREE	4 369	78	-	2 941	71	78	72	-	-	78
44	ASSOCIATE	6 167	-	-	516	4 160	-	-	-	-	-
45	BACHELOR'S	58 259	-	-	52 197	529	353	948	214	142	141
46	BACHELOR'S PLUS[2]	29 098	-	-	26 345	82	143	149	78	92	-
47	MASTER'S	16 592	-	-	13 980	-	141	142	-	-	-
48	PH.D.	861	-	-	720	-	-	-	-	-	71
49	ELECTRICAL AND ELECTRONIC ENGINEERS[1]	285 016	1 453	110	169 375	15 750	5 123	470	225	-	1 407
50	1-3 YEARS COLLEGE, NO DEGREE	33 232	210	110	16 796	4 343	981	110	225	-	101
51	4 OR MORE YEARS COLLEGE, NO DEGREE	6 165	110	-	2 714	910	210	-	-	-	229
52	ASSOCIATE	13 162	-	-	1 524	8 536	-	-	-	-	-
53	BACHELOR'S	84 414	110	-	70 952	678	1 912	210	-	-	752
54	BACHELOR'S PLUS[2]	47 090	-	-	38 784	426	782	151	-	-	101
55	MASTER'S	44 871	908	-	34 457	335	1 237	-	-	-	115
56	PH.D.	4 794	115	-	4 034	-	-	-	-	-	110

SEE FOOTNOTES AT END OF TABLE.

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED											LINE NO.
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED	
5 107	2 013	1 402	7 840	5 246	11 418	1 987	53 993	9 542	31 359	97 030	1
339	123	304	775	770	1 256	722	13 639	1 683	10 024	4 301	2
149	105	36	160	184	583	35	1 939	152	1 100	143	3
-	-	849	-	-	97	-	493	76	4 941	644	4
2 004	939	177	4 281	2 854	5 490	512	22 968	3 561	8 129	1 968	5
1 345	595	36	1 256	849	2 650	400	6 760	1 673	3 317	573	6
923	180	-	1 166	513	1 171	70	8 068	2 251	2 826	569	7
346	71	-	202	76	170	105	26	145	262	109	8
2 750	829	760	2 745	3 031	4 411	986	20 369	5 137	13 279	42 287	9
225	-	152	250	368	453	393	6 290	826	4 016	2 045	10
149	69	-	160	80	228	-	755	152	376	76	11
-	-	532	-	-	-	-	295	76	2 355	396	12
1 271	392	76	1 781	1 826	2 884	223	8 422	1 955	4 066	628	13
595	223	-	232	525	619	295	2 594	812	1 347	312	14
440	145	-	228	232	228	-	1 936	1 315	821	228	15
69	-	-	94	-	-	-	-	-	-	76	16
2 357	1 184	642	5 096	2 215	7 006	1 001	33 624	4 405	18 081	54 742	17
114	123	152	525	402	803	330	7 349	857	6 009	2 257	18
-	36	36	-	104	355	36	1 183	-	724	67	19
-	-	317	-	-	97	-	198	-	2 586	248	20
733	547	101	2 501	1 028	2 607	289	14 546	1 606	4 062	1 340	21
749	372	36	1 024	324	2 031	105	4 165	861	1 970	261	22
483	35	-	938	281	944	70	6 132	936	2 006	340	23
278	71	-	108	76	170	105	26	145	262	33	24
18 793	6 367	3 561	5 493	4 674	12 405	2 645	60 570	16 316	53 922	287 097	25
1 389	848	809	842	1 216	1 603	884	11 619	3 589	18 774	12 920	26
273	196	61	485	137	835	98	1 698	493	3 925	1 682	27
-	143	1 017	-	-	187	32	679	191	8 191	2 116	28
6 688	1 689	954	2 440	1 185	4 759	453	17 109	5 998	7 290	8 272	29
5 691	1 671	522	1 236	762	1 740	242	7 476	2 908	4 991	3 599	30
3 670	1 470	104	457	1 081	3 281	312	21 639	2 981	5 902	2 396	31
1 083	351	93	33	293	-	200	349	158	695	402	32
1 857	427	127	127	180	388	65	2 504	988	2 861	11 181	33
90	30	33	-	59	27	33	388	157	1 086	549	34
61	-	-	-	-	-	-	60	-	331	92	35
-	-	62	-	-	-	32	94	27	364	32	36
703	187	32	64	61	210	-	672	403	281	340	37
480	61	-	30	59	92	-	304	243	391	149	38
361	58	-	-	-	60	-	987	158	285	152	39
162	91	-	33	-	-	-	-	-	29	-	40
221	1 093	612	384	212	1 063	362	2 620	1 458	4 112	46 389	41
-	-	234	163	141	255	72	885	590	1 106	2 124	42
-	-	-	-	-	156	72	142	-	525	158	43
-	143	219	-	-	76	-	-	-	981	71	44
73	292	159	78	-	141	-	517	510	530	1 434	45
148	426	-	144	-	72	-	293	215	292	619	46
-	232	-	-	71	361	148	782	142	448	144	47
-	-	-	-	-	-	71	-	-	-	-	48
8 012	762	1 060	321	422	1 195	445	9 186	1 982	10 811	56 909	49
544	211	215	101	110	215	336	2 095	679	3 790	2 061	50
-	-	-	-	-	115	-	325	-	1 124	427	51
-	-	224	-	-	110	-	101	-	2 080	586	52
3 175	111	151	111	101	325	-	1 969	668	1 229	1 961	53
2 578	-	469	110	111	110	-	1 277	375	930	888	54
1 499	330	-	-	101	320	-	3 318	260	1 204	786	55
215	110	-	-	-	-	-	101	-	-	110	56

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	BOTH SEXES--CONTINUED										
1	INDUSTRIAL ENGINEERS[1]	187 366	504	254	60 085	7 496	3 253	1 347	924	165	2 668
2	1-3 YEARS COLLEGE, NO DEGREE	30 557	171	168	10 007	3 238	668	167	252	-	336
3	4 OR MORE YEARS COLLEGE, NO DEGREE	4 083	168	-	1 830	249	-	-	-	-	-
4	ASSOCIATE	7 125	-	86	751	3 428	-	-	-	-	-
5	BACHELOR'S	50 472	83	-	27 025	163	1 176	843	337	82	1 498
6	BACHELOR'S PLUS[2]	23 631	-	-	14 474	84	663	169	334	-	335
7	MASTER'S	17 749	82	-	5 586	83	747	84	-	83	331
8	PH.D.	1 162	-	-	413	-	-	83	-	-	168
9	MECHANICAL ENGINEERS[1]	180 479	408	153	110 084	8 904	865	231	396	-	712
10	1-3 YEARS COLLEGE, NO DEGREE	19 131	170	153	9 653	2 979	233	-	76	-	239
11	4 OR MORE YEARS COLLEGE, NO DEGREE	5 308	78	-	2 884	942	-	-	80	-	-
12	ASSOCIATE	6 034	-	-	475	4 202	-	-	-	-	-
13	BACHELOR'S	57 728	-	-	52 972	550	238	155	80	-	155
14	BACHELOR'S PLUS[2]	30 123	-	-	27 357	76	76	76	80	-	244
15	MASTER'S	20 281	159	-	15 467	-	317	-	78	-	75
16	PH.D.	1 688	-	-	1 276	-	-	-	-	-	-
17	SALES ENGINEERS[1]	54 653	91	86	21 914	2 178	454	416	257	27	753
18	1-3 YEARS COLLEGE, NO DEGREE	8 062	27	59	3 220	542	83	84	32	-	56
19	4 OR MORE YEARS COLLEGE, NO DEGREE	1 939	35	-	760	202	27	29	-	-	-
20	ASSOCIATE	1 744	-	-	83	1 183	-	-	-	-	-
21	BACHELOR'S	18 820	-	-	11 561	169	178	221	109	27	391
22	BACHELOR'S PLUS[2]	7 704	-	-	5 140	-	139	56	116	-	140
23	MASTER'S	2 990	29	27	1 075	27	27	27	-	-	112
24	PH.D.	144	-	-	29	-	-	-	-	-	53
25	OTHER ENGINEERS[1]	292 039	578	263	161 010	10 946	4 760	1 107	821	222	8 697
26	1-3 YEARS COLLEGE, NO DEGREE	29 601	212	237	13 183	3 537	858	222	47	-	330
27	4 OR MORE YEARS COLLEGE, NO DEGREE	6 519	-	-	3 003	656	219	26	27	121	197
28	ASSOCIATE	9 423	-	-	944	5 824	-	-	-	-	-
29	BACHELOR'S	82 233	-	26	64 972	485	1 294	402	181	76	3 457
30	BACHELOR'S PLUS[2]	47 607	-	-	36 189	181	815	217	51	25	2 254
31	MASTER'S	48 863	366	-	30 642	26	1 360	214	376	-	1 394
32	PH.D.	15 260	-	-	12 053	-	215	25	138	-	1 065
33	MATHEMATICAL SPECIALISTS, TOTAL[1]	61 679	579	94	2 045	234	27 509	400	614	26	438
34	1-3 YEARS COLLEGE, NO DEGREE	4 143	88	36	359	110	251	38	50	-	26
35	4 OR MORE YEARS COLLEGE, NO DEGREE	981	89	-	87	-	373	-	-	-	-
36	ASSOCIATE	791	-	36	26	76	-	-	-	-	-
37	BACHELOR'S	9 654	-	-	491	25	3 486	52	124	26	106
38	BACHELOR'S PLUS[2]	6 974	-	-	366	-	3 231	153	204	-	90
39	MASTER'S	18 312	278	-	438	-	11 689	104	126	-	80
40	PH.D.	12 065	123	23	279	23	8 455	52	110	-	136
41	LIFE SCIENTISTS, TOTAL[1]	83 509	24	27	1 239	153	294	23 936	30 424	2 058	1 097
42	1-3 YEARS COLLEGE, NO DEGREE	2 292	24	27	180	24	-	260	451	53	27
43	4 OR MORE YEARS COLLEGE, NO DEGREE	1 272	-	-	-	25	-	210	269	52	-
44	ASSOCIATE	686	-	-	-	53	-	23	29	-	-
45	BACHELOR'S	20 493	-	-	537	23	80	11 195	4 521	561	286
46	BACHELOR'S PLUS[2]	10 750	-	-	218	27	161	3 934	3 565	246	332
47	MASTER'S	17 570	-	-	160	-	29	5 153	7 695	324	146
48	PH.D.	21 497	-	-	143	-	24	3 161	13 893	821	306
49	BIOLOGICAL SCIENTISTS[1]	50 222	24	-	344	76	239	3 535	28 074	1 439	1 027
50	1-3 YEARS COLLEGE, NO DEGREE	1 646	24	-	76	24	-	56	451	53	27
51	4 OR MORE YEARS COLLEGE, NO DEGREE	854	-	-	-	25	-	29	246	29	-
52	ASSOCIATE	416	-	-	-	-	-	-	29	-	-
53	BACHELOR'S	7 997	-	-	123	-	53	1 135	4 215	153	262
54	BACHELOR'S PLUS[2]	6 154	-	-	25	27	161	603	3 177	177	332
55	MASTER'S	11 620	-	-	50	-	-	1 091	7 099	253	123
56	PH.D.	17 300	-	-	71	-	24	622	12 857	775	283
57	OTHER LIFE SCIENTISTS[1]	33 287	-	27	895	77	55	20 401	2 350	618	70
58	1-3 YEARS COLLEGE, NO DEGREE	646	-	27	104	-	-	204	-	-	-
59	4 OR MORE YEARS COLLEGE, NO DEGREE	419	-	-	-	-	-	182	23	23	-
60	ASSOCIATE	270	-	-	-	53	-	23	-	-	-
61	BACHELOR'S	12 496	-	-	414	23	26	10 060	306	408	23
62	BACHELOR'S PLUS[2]	4 596	-	-	194	-	-	3 331	387	70	-
63	MASTER'S	5 950	-	-	110	-	29	4 063	597	71	23
64	PH.D.	4 197	-	-	72	-	-	2 539	1 036	47	23

SEE FOOTNOTES AT END OF TABLE.

FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE—Continued

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED											LINE NO.
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED	
1 165	667	332	2 445	1 851	5 630	670	22 849	4 275	14 804	55 979	1
82	85	165	344	334	503	251	4 048	667	6 129	2 943	2
-	-	-	251	82	83	-	333	168	752	167	3
-	-	-	-	-	-	-	167	-	2 197	498	4
414	169	167	1 168	665	2 531	169	8 692	2 180	2 194	916	5
419	167	-	504	261	1 078	84	2 749	585	1 588	336	6
251	165	-	178	426	1 434	83	6 613	675	678	249	7
-	82	-	-	83	-	-	248	-	84	-	8
1 255	386	311	382	393	466	312	4 886	1 415	4 256	44 645	9
78	233	-	153	153	-	78	1 013	308	1 740	1 872	10
-	76	-	-	-	316	-	159	-	229	543	11
-	-	78	-	-	-	-	78	163	713	324	12
464	76	233	151	162	85	78	545	469	391	925	13
396	-	-	78	78	85	-	317	165	311	784	14
155	-	-	-	-	-	80	2 774	310	545	320	15
161	-	-	-	-	-	-	-	-	87	163	16
309	337	308	812	393	815	141	6 097	1 039	3 626	14 600	17
-	-	56	59	85	85	115	1 343	139	1 482	595	18
-	-	29	27	56	59	27	222	29	279	140	19
-	-	89	-	-	-	-	29	-	223	139	20
110	278	108	555	197	587	-	2 255	677	913	485	21
114	29	27	172	-	54	-	1 068	168	342	141	22
85	29	-	-	29	29	-	1 180	27	230	56	23
-	-	-	-	27	-	-	-	-	35	-	24
5 974	2 696	811	1 021	1 223	2 829	649	12 427	5 158	13 452	57 395	25
595	288	106	23	334	517	-	1 846	1 049	3 442	2 775	26
212	119	32	207	-	106	-	458	296	685	154	27
-	-	345	-	-	-	-	210	-	1 634	466	28
1 748	576	104	313	-	879	206	2 460	1 091	1 752	2 211	29
1 556	988	26	199	252	250	158	1 468	1 157	1 138	684	30
1 319	656	104	279	454	1 077	-	5 986	1 409	2 512	689	31
544	68	93	-	182	-	129	-	158	460	129	32
904	309	254	2 011	873	1 711	444	4 429	5 177	3 913	9 716	33
31	-	29	63	82	255	33	844	427	1 025	396	34
-	-	-	-	50	-	-	136	96	116	33	35
-	-	117	26	-	-	-	26	-	375	110	36
161	26	35	793	214	489	146	1 758	592	942	189	37
218	98	-	383	275	395	23	400	542	486	110	38
169	96	73	403	154	358	150	1 091	2 200	564	341	39
326	89	-	344	98	214	26	147	1 320	108	190	40
177	481	796	568	830	1 173	4 064	317	3 659	2 772	9 419	41
52	-	146	-	25	58	94	54	102	403	313	42
-	54	-	-	49	50	141	-	69	205	148	43
-	-	235	-	28	-	53	-	-	236	28	44
-	111	219	102	82	355	830	99	836	465	191	45
24	74	81	73	81	240	778	52	469	251	143	46
-	107	94	237	237	368	524	112	1 554	571	258	47
101	135	21	155	329	103	884	-	630	453	338	48
177	346	397	51	830	569	3 940	184	2 637	1 934	4 396	49
52	-	93	-	25	29	63	54	102	260	258	50
-	54	-	-	49	27	117	-	-	130	148	51
-	-	100	-	28	-	53	-	-	177	28	52
-	56	52	27	82	170	830	50	464	301	24	53
24	27	58	-	81	74	778	-	364	177	70	54
-	107	94	25	237	198	478	80	1 209	399	178	55
101	103	-	-	329	71	884	-	498	399	283	56
-	135	399	516	-	604	125	133	1 022	837	5 023	57
-	-	53	-	-	29	31	-	-	142	55	58
-	-	-	-	-	23	23	-	69	75	-	59
-	-	135	-	-	-	-	-	-	59	-	60
-	56	167	75	-	185	-	49	372	165	166	61
-	48	23	73	-	166	-	52	105	74	73	62
-	-	-	213	-	170	47	32	345	173	79	63
-	32	21	155	-	31	-	-	132	53	55	64

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	BOTH SEXES--CONTINUED										
1	PHYSICAL SCIENTISTS, TOTAL[1]	196 353	237	103	16 553	1 794	2 940	2 738	12 037	695	66 247
2	1-3 YEARS COLLEGE, NO DEGREE	12 010	21	61	1 926	612	332	80	648	57	2 858
3	4 OR MORE YEARS COLLEGE, NO DEGREE	3 290	78	-	314	130	119	24	146	-	813
4	ASSOCIATE	2 762	-	-	248	871	-	-	55	-	103
5	BACHELOR'S	44 581	54	-	4 602	104	1 132	1 545	2 213	54	20 813
6	BACHELOR'S PLUS[2]	28 901	-	-	3 499	-	720	236	2 020	50	10 777
7	MASTER'S	36 678	84	-	3 822	-	448	371	1 672	127	11 188
8	PH.D.	48 179	-	42	2 139	26	190	482	5 284	408	19 693
9	CHEMISTS[1]	125 414	165	103	9 433	1 458	917	2 541	11 315	482	64 771
10	1-3 YEARS COLLEGE, NO DEGREE	8 988	-	61	1 325	465	153	54	648	-	2 835
11	4 OR MORE YEARS COLLEGE, NO DEGREE	2 425	54	-	220	104	50	-	146	-	769
12	ASSOCIATE	2 165	-	-	200	732	-	-	55	-	103
13	BACHELOR'S	32 940	54	-	2 999	104	477	1 499	2 066	54	20 482
14	BACHELOR'S PLUS[2]	17 443	-	-	1 979	-	50	211	1 879	50	10 464
15	MASTER'S	18 766	57	-	1 660	-	96	371	1 573	106	10 953
16	PH.D.	27 535	-	42	1 051	-	92	405	4 948	273	19 144
17	PHYSICISTS[1]	36 211	26	-	3 895	277	829	24	425	81	802
18	1-3 YEARS COLLEGE, NO DEGREE	1 162	-	-	276	86	79	-	-	36	-
19	4 OR MORE YEARS COLLEGE, NO DEGREE	444	-	-	94	26	49	-	-	-	-
20	ASSOCIATE	348	-	-	48	138	-	-	-	-	-
21	BACHELOR'S	3 156	-	-	353	-	222	-	67	-	56
22	BACHELOR'S PLUS[2]	4 752	-	-	779	-	281	-	142	-	154
23	MASTER'S	9 636	26	-	1 554	-	172	-	27	-	210
24	PH.D.	14 725	-	-	790	26	26	24	189	44	382
25	OTHER PHYSICAL SCIENTISTS[1]	34 728	45	-	3 226	60	1 194	174	297	132	674
26	1-3 YEARS COLLEGE, NO DEGREE	1 661	21	-	327	60	100	26	-	21	23
27	4 OR MORE YEARS COLLEGE, NO DEGREE	421	24	-	-	-	21	24	-	-	24
28	ASSOCIATE	249	-	-	-	-	-	-	-	-	-
29	BACHELOR'S	8 485	-	-	1 250	-	433	46	80	-	275
30	BACHELOR'S PLUS[2]	6 706	-	-	742	-	389	24	-	-	159
31	MASTER'S	8 276	-	-	608	-	180	-	72	21	25
32	PH.D.	5 920	-	-	298	-	72	53	146	90	167
33	SOCIAL SCIENTISTS, TOTAL[1]	151 299	241	221	6 711	388	1 592	1 314	827	175	1 007
34	1-3 YEARS COLLEGE, NO DEGREE	6 275	34	187	702	154	99	34	-	-	-
35	4 OR MORE YEARS COLLEGE, NO DEGREE	2 209	29	-	199	27	69	-	-	-	45
36	ASSOCIATE	905	-	-	34	84	-	32	-	-	-
37	BACHELOR'S	23 242	-	-	2 257	26	498	633	184	56	232
38	BACHELOR'S PLUS[2]	16 892	-	-	2 027	-	472	265	211	-	284
39	MASTER'S	49 523	178	-	1 400	36	359	245	83	57	124
40	PH.D.	38 504	-	35	59	-	95	105	348	63	323
41	ECONOMISTS[1]	76 683	212	160	5 043	226	1 298	1 093	159	34	802
42	1-3 YEARS COLLEGE, NO DEGREE	5 024	34	160	518	123	99	34	-	-	-
43	4 OR MORE YEARS COLLEGE, NO DEGREE	1 078	-	-	143	-	69	-	-	-	45
44	ASSOCIATE	687	-	-	34	33	-	32	-	-	-
45	BACHELOR'S	19 408	-	-	2 017	-	498	471	66	-	232
46	BACHELOR'S PLUS[2]	9 399	-	-	1 320	-	310	206	-	-	165
47	MASTER'S	21 872	178	-	946	36	276	245	-	-	69
48	PH.D.	9 487	-	-	33	-	45	105	93	34	291
49	OTHER SOCIAL SCIENTISTS[1]	74 617	29	61	1 667	162	294	221	668	141	206
50	1-3 YEARS COLLEGE, NO DEGREE	1 250	-	27	184	31	-	-	-	-	-
51	4 OR MORE YEARS COLLEGE, NO DEGREE	1 131	29	-	56	27	-	-	-	-	-
52	ASSOCIATE	218	-	-	-	51	-	-	-	-	-
53	BACHELOR'S	3 834	-	-	240	26	-	162	118	56	-
54	BACHELOR'S PLUS[2]	7 492	-	-	708	-	162	58	211	-	119
55	MASTER'S	27 651	-	-	454	-	83	-	83	57	55
56	PH.D.	29 018	-	35	26	-	49	-	255	29	31
	MALE										
57	OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[1]	281 140	12 257	11 475	29 307	5 101	29 903	843	1 716	186	1 833
58	1-3 YEARS COLLEGE, NO DEGREE	55 384	6 553	7 175	5 777	2 253	3 917	244	186	-	331
59	4 OR MORE YEARS COLLEGE, NO DEGREE	7 087	617	785	857	63	566	-	-	35	-
60	ASSOCIATE	12 665	181	3 323	693	2 459	-	-	-	-	-
61	BACHELOR'S	67 659	1 147	76	9 347	72	13 227	392	568	-	846
62	BACHELOR'S PLUS[2]	33 009	587	-	6 168	146	7 435	35	723	-	252
63	MASTER'S	29 204	3 024	35	5 673	71	4 429	171	66	35	216
64	PH.D.	3 087	148	-	766	-	329	-	174	116	187
65	COMPUTER PROGRAMMERS[1]	127 838	8 254	8 775	11 457	2 084	19 347	489	830	80	1 022
66	1-3 YEARS COLLEGE, NO DEGREE	29 585	4 947	5 292	2 704	892	2 877	138	-	-	225
67	4 OR MORE YEARS COLLEGE, NO DEGREE	3 285	367	576	316	-	292	-	-	-	-
68	ASSOCIATE	7 382	145	2 750	373	1 116	-	-	-	-	-
69	BACHELOR'S	30 516	873	76	3 387	-	8 587	216	295	-	423
70	BACHELOR'S PLUS[2]	15 295	316	-	2 262	76	5 327	-	466	-	76
71	MASTER'S	10 929	1 606	-	2 271	-	2 263	136	-	-	145
72	PH.D.	683	-	-	143	-	-	-	69	80	152

SEE FOOTNOTES AT END OF TABLE.

FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE—Continued

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED											
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED	LINE NO.
24 020	24 580	1 152	441	791	1 881	3 827	3 230	5 117	4 908	23 063	1
146	463	49	61	134	132	498	896	485	1 629	921	2
226	283	-	-	55	45	202	80	171	322	282	3
-	56	615	-	-	50	-	21	-	714	29	4
2 488	5 917	211	185	149	698	976	680	1 067	554	1 140	5
3 136	5 077	114	51	189	249	869	140	973	446	356	6
5 891	7 519	24	124	80	365	427	1 413	1 911	715	498	7
12 133	5 265	89	21	184	342	510	-	510	288	574	8
743	1 751	877	320	474	886	3 312	2 145	3 023	3 193	17 504	9
50	104	49	61	103	109	425	642	161	1 038	706	10
103	52	-	-	55	-	164	54	122	255	257	11
-	-	506	-	-	50	-	-	-	519	-	12
209	437	211	160	103	471	976	475	822	428	913	13
103	386	61	-	115	61	815	-	757	240	273	14
115	575	-	99	54	44	403	974	886	452	347	15
163	198	-	-	44	151	370	-	274	144	236	16
22 269	1 687	171	27	235	310	410	444	1 559	589	2 151	17
73	-	-	-	-	24	23	109	247	160	50	18
123	-	-	-	-	45	37	-	49	21	-	19
-	27	53	-	-	-	-	-	-	62	-	20
2 055	93	-	-	21	72	-	88	79	26	24	21
2 799	126	29	27	49	30	53	67	137	50	30	22
5 587	576	24	-	26	139	24	180	857	158	75	23
11 632	864	64	-	140	-	115	-	190	46	191	24
1 007	21 141	104	94	82	685	104	641	535	1 126	3 407	25
23	358	-	-	31	-	50	145	77	431	166	26
-	231	-	-	-	-	-	26	-	46	24	27
-	29	55	-	-	-	-	21	-	114	29	28
224	5 387	-	24	24	154	-	117	165	100	204	29
234	4 565	24	24	26	158	-	73	78	156	53	30
190	6 368	-	25	-	181	-	258	168	105	76	31
337	4 203	24	21	-	191	25	-	47	99	147	32
369	398	148	17 093	30 341	27 640	1 774	25 050	6 650	14 605	14 754	33
-	55	33	139	138	168	118	1 997	93	1 836	488	34
36	-	-	133	230	318	81	217	158	569	97	35
-	-	52	-	-	-	-	196	29	444	33	36
67	119	-	2 657	757	2 662	210	8 299	691	3 198	696	37
119	25	-	1 509	2 380	3 021	158	3 019	436	2 507	459	38
119	92	63	5 753	10 737	11 431	343	10 334	3 730	3 770	668	39
28	107	-	6 901	16 099	9 995	339	988	1 513	860	648	40
200	149	69	16 727	722	4 373	532	24 482	1 721	8 285	10 394	41
-	-	33	139	81	33	33	1 889	65	1 435	348	42
36	-	-	108	-	69	-	192	-	371	45	43
-	-	-	-	-	-	-	196	-	359	33	44
67	36	-	2 573	159	1 370	150	8 191	467	2 330	581	45
33	-	-	1 375	189	1 006	100	2 940	182	1 249	324	46
64	66	36	5 631	259	1 307	69	10 087	845	1 447	312	47
-	47	-	6 901	34	388	33	988	162	194	137	48
169	249	79	366	29 619	23 267	1 242	568	4 929	6 320	4 360	49
-	55	-	-	57	136	85	108	27	401	141	50
-	-	-	26	230	249	81	26	158	198	53	51
-	-	52	-	-	-	-	-	29	85	-	52
-	83	-	84	598	1 092	61	109	224	868	114	53
86	25	-	134	2 191	2 014	58	79	254	1 257	134	54
55	26	26	122	10 479	10 124	274	247	2 886	2 324	356	55
28	60	-	-	16 065	9 607	306	-	1 351	666	511	56
4 847	1 804	1 125	6 757	4 275	7 751	1 490	50 331	6 588	24 747	78 806	57
339	123	304	647	653	919	487	12 188	1 100	8 902	3 284	58
149	105	36	160	184	507	35	1 832	152	895	109	59
-	-	690	-	-	97	-	448	76	4 164	533	60
1 784	765	59	3 447	2 304	3 118	400	21 500	2 056	4 736	1 813	61
1 345	595	36	1 174	733	2 318	250	6 403	1 456	2 821	533	62
923	145	-	1 126	401	622	70	7 832	1 603	2 278	484	63
307	71	-	202	-	170	105	26	145	231	109	64
2 674	735	525	2 052	2 434	2 270	677	18 562	3 146	9 941	32 487	65
225	-	152	156	294	305	309	5 747	433	3 601	1 288	66
149	69	-	160	80	152	-	679	152	216	76	67
-	-	373	-	-	-	-	295	76	1 933	320	68
1 195	298	-	1 181	1 453	1 287	147	7 554	954	2 037	552	69
595	223	-	232	451	525	145	2 351	665	1 271	312	70
440	145	-	228	156	-	-	1 860	866	585	228	71
69	-	-	94	-	-	-	-	-	-	76	72

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	MALE--CONTINUED										
1	OTHER OPERATIONS AND COMPUTER SPECIALISTS[1]	153 301	4 003	2 700	17 851	3 017	10 556	354	887	106	811
2	1-3 YEARS COLLEGE, NO DEGREE	25 799	1 606	1 883	3 073	1 361	1 040	107	186	-	106
3	4 OR MORE YEARS COLLEGE, NO DEGREE	3 802	250	209	541	63	274	-	-	35	-
4	ASSOCIATE	5 283	36	573	320	1 344	-	-	-	-	-
5	BACHELOR'S	37 143	274	-	5 960	72	4 639	176	274	-	423
6	BACHELOR'S PLUS[2]	17 714	271	-	3 905	70	2 108	35	257	-	176
7	MASTER'S	18 275	1 417	35	3 402	71	2 166	35	66	35	71
8	PH.D.	2 404	148	-	623	-	329	-	105	36	35
9	ENGINEERS, TOTAL[1]	1 226 626	3 287	1 018	665 636	55 726	16 877	4 865	3 208	679	15 071
10	1-3 YEARS COLLEGE, NO DEGREE	143 242	898	786	64 262	17 956	3 693	686	763	30	1 348
11	4 OR MORE YEARS COLLEGE, NO DEGREE	30 366	532	-	15 392	3 123	624	127	140	121	504
12	ASSOCIATE	45 876	-	86	4 541	28 968	-	-	-	-	-
13	BACHELOR'S	369 035	193	26	295 403	2 756	5 166	2 712	956	328	6 555
14	BACHELOR'S PLUS[2]	195 905	-	-	157 149	879	2 959	698	723	118	3 223
15	MASTER'S	160 912	1 549	27	109 351	500	4 192	534	455	83	1 945
16	PH.D.	24 934	115	-	19 301	-	245	109	171	-	1 496
17	AERONAUTICAL AND ASTRONAUTICAL ENGINEERS[1]	67 568	180	60	41 448	3 190	1 693	129	248	30	458
18	1-3 YEARS COLLEGE, NO DEGREE	7 674	30	60	3 703	1 025	442	32	58	30	61
19	4 OR MORE YEARS COLLEGE, NO DEGREE	2 088	63	-	1 267	94	90	-	32	-	-
20	ASSOCIATE	2 573	-	-	248	1 741	-	-	-	-	-
21	BACHELOR'S	20 765	-	-	16 982	181	429	-	61	-	187
22	BACHELOR'S PLUS[2]	12 153	-	-	9 785	30	341	30	64	-	149
23	MASTER'S	11 325	88	-	8 687	29	362	67	-	-	32
24	PH.D.	1 183	-	-	776	-	30	-	33	-	29
25	CIVIL ENGINEERS[1]	172 739	242	92	103 698	7 347	1 104	1 316	363	235	516
26	1-3 YEARS COLLEGE, NO DEGREE	16 515	164	-	7 731	2 293	455	71	72	-	226
27	4 OR MORE YEARS COLLEGE, NO DEGREE	4 369	78	-	2 941	71	78	72	-	-	78
28	ASSOCIATE	6 167	-	-	516	4 160	-	-	-	-	-
29	BACHELOR'S	57 644	-	-	51 865	529	286	881	214	142	141
30	BACHELOR'S PLUS[2]	28 760	-	-	26 079	82	143	149	78	92	-
31	MASTER'S	16 320	-	-	13 774	-	141	142	-	-	-
32	PH.D.	861	-	-	720	-	-	-	-	-	71
33	ELECTRICAL AND ELECTRONIC ENGINEERS[1]	281 936	1 453	110	168 513	15 750	4 972	320	225	-	1 407
34	1-3 YEARS COLLEGE, NO DEGREE	33 232	210	110	16 796	4 343	981	110	225	-	101
35	4 OR MORE YEARS COLLEGE, NO DEGREE	6 165	110	-	2 714	910	210	-	-	-	229
36	ASSOCIATE	13 162	-	-	1 524	8 536	-	-	-	-	-
37	BACHELOR'S	83 662	110	-	70 651	678	1 762	210	-	-	752
38	BACHELOR'S PLUS[2]	46 187	-	-	38 332	426	782	-	-	-	101
39	MASTER'S	44 761	908	-	34 347	335	1 237	-	-	-	115
40	PH.D.	4 794	115	-	4 034	-	-	-	-	-	110
41	INDUSTRIAL ENGINEERS[1]	182 101	418	254	59 810	7 496	3 253	1 347	924	165	2 668
42	1-3 YEARS COLLEGE, NO DEGREE	29 619	85	168	10 007	3 238	668	167	252	-	336
43	4 OR MORE YEARS COLLEGE, NO DEGREE	4 083	168	-	1 830	249	-	-	-	-	-
44	ASSOCIATE	6 936	-	86	751	3 428	-	-	-	-	-
45	BACHELOR'S	49 452	83	-	26 844	163	1 176	843	337	82	1 498
46	BACHELOR'S PLUS[2]	23 642	-	-	14 379	84	663	169	334	-	335
47	MASTER'S	17 180	82	-	5 586	83	747	84	-	83	331
48	PH.D.	1 162	-	-	413	-	-	83	-	-	168
49	MECHANICAL ENGINEERS[1]	179 572	325	153	109 920	8 819	782	231	396	-	712
50	1-3 YEARS COLLEGE, NO DEGREE	19 131	170	153	9 653	2 979	233	-	76	-	239
51	4 OR MORE YEARS COLLEGE, NO DEGREE	5 308	78	-	2 884	942	-	-	80	-	-
52	ASSOCIATE	5 949	-	-	475	4 117	-	-	-	-	-
53	BACHELOR'S	57 399	-	-	52 808	550	155	155	80	-	155
54	BACHELOR'S PLUS[2]	30 123	-	-	27 357	76	76	76	80	-	244
55	MASTER'S	20 198	76	-	15 467	-	317	-	78	-	75
56	PH.D.	1 688	-	-	1 276	-	-	-	-	-	-

SEE FOOTNOTES AT END OF TABLE.

FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE—Continued

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED											LINE NO.
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED	
2 173	1 069	599	4 705	1 841	5 481	813	31 768	3 443	14 806	46 319	1
114	123	152	491	359	614	178	6 441	667	5 301	1 996	2
-	36	36	-	104	355	35	1 152	-	679	33	3
-	-	317	-	-	97	-	153	-	2 230	213	4
589	467	59	2 265	851	1 831	253	13 947	1 102	2 699	1 261	5
749	372	36	942	282	1 793	105	4 052	791	1 549	221	6
483	-	-	698	245	622	70	5 972	738	1 694	256	7
238	71	-	108	-	170	105	26	145	231	33	8
18 564	6 274	3 561	5 153	4 348	12 094	2 645	59 665	15 548	51 258	281 149	9
1 389	848	809	747	1 188	1 576	884	11 261	3 292	18 094	12 730	10
273	196	61	485	137	835	98	1 698	493	3 846	1 682	11
-	143	1 017	-	-	187	32	679	163	7 923	2 116	12
6 537	1 662	954	2 362	1 103	4 569	453	16 656	5 877	6 602	8 166	13
5 691	1 671	522	1 163	640	1 740	242	7 476	2 757	4 655	3 599	14
3 670	1 404	104	362	986	3 186	312	21 545	2 886	5 423	2 396	15
1 004	351	93	33	293	-	200	349	79	695	402	16
1 857	400	127	127	125	361	65	2 450	961	2 725	10 936	17
90	30	33	-	32	-	33	334	157	977	549	18
61	-	-	-	-	-	-	60	-	331	92	19
-	-	62	-	-	-	32	94	-	364	32	20
703	160	32	64	61	210	-	672	403	281	340	21
480	61	-	30	32	92	-	304	243	363	149	22
361	58	-	-	-	60	-	987	158	285	152	23
162	91	-	33	-	-	-	-	-	29	-	24
221	1 026	612	234	212	1 063	362	2 620	1 392	4 040	46 044	25
-	-	234	163	141	255	72	885	524	1 106	2 124	26
-	-	-	-	-	156	72	142	-	525	158	27
-	143	219	-	-	78	-	-	-	981	71	28
73	292	159	-	-	141	-	517	510	457	1 434	29
148	426	-	71	-	72	-	293	215	292	619	30
-	165	-	-	71	361	148	782	142	448	144	31
-	-	-	-	-	-	71	-	-	-	-	32
7 862	762	1 060	321	422	1 195	445	9 186	1 832	10 510	55 594	33
544	211	215	101	110	215	336	2 095	679	3 790	2 061	34
-	-	-	-	-	115	-	325	-	1 124	427	35
-	-	224	-	-	110	-	101	-	2 080	586	36
3 024	111	151	111	101	325	-	1 969	668	1 079	1 961	37
2 578	-	469	110	111	110	-	1 277	224	779	888	38
1 499	330	-	-	101	320	-	3 318	260	1 204	786	39
215	110	-	-	-	-	-	101	-	-	110	40
1 165	667	332	2 256	1 580	5 346	670	22 281	4 086	13 857	53 525	41
82	85	165	250	334	503	251	3 858	667	5 750	2 754	42
-	-	-	251	82	83	-	333	168	752	167	43
-	-	-	-	-	-	-	167	-	2 007	498	44
414	169	167	1 168	583	2 342	169	8 408	2 085	2 005	916	45
419	167	-	504	167	1 078	84	2 749	585	1 588	336	46
251	165	-	83	332	1 339	83	6 518	580	583	249	47
-	82	-	-	83	-	-	248	-	84	-	48
1 255	386	311	382	393	486	312	4 886	1 415	4 173	44 236	49
78	233	-	153	153	-	78	1 013	308	1 740	1 872	50
-	76	-	-	-	316	-	159	-	229	543	51
-	-	78	-	-	-	-	78	163	713	324	52
464	76	233	151	162	85	78	545	469	308	925	53
396	-	-	78	78	85	-	317	165	311	781	54
155	-	-	-	-	-	80	2 774	310	545	320	55
161	-	-	-	-	-	-	-	-	87	163	56

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	MALE--CONTINUED										
1	SALES ENGINEERS[1]	54 560	91	86	21 885	2 178	454	416	257	27	753
2	1-3 YEARS COLLEGE, NO DEGREE	8 033	27	59	3 191	542	83	84	32	-	56
3	4 OR MORE YEARS COLLEGE, NO DEGREE	1 939	35	-	780	202	27	29	-	-	-
4	ASSOCIATE	1 744	-	-	83	1 183	-	-	-	-	-
5	BACHELOR'S	18 791	-	-	11 561	169	178	221	109	27	391
6	BACHELOR'S PLUS[2]	7 704	-	-	5 140	-	139	56	116	-	140
7	MASTER'S	2 990	29	27	1 075	27	27	27	-	-	112
8	PH.D.	144	-	-	29	-	-	-	-	-	53
9	OTHER ENGINEERS[1]	288 149	578	263	160 362	10 946	4 620	1 107	795	222	8 557
10	1-3 YEARS COLLEGE, NO DEGREE	29 038	212	237	13 183	3 537	831	222	47	-	330
11	4 OR MORE YEARS COLLEGE, NO DEGREE	6 414	-	-	2 977	656	219	26	27	121	197
12	ASSOCIATE	9 344	-	-	944	5 824	-	-	-	-	-
13	BACHELOR'S	81 322	-	26	64 692	485	1 180	402	155	76	3 430
14	BACHELOR'S PLUS[2]	47 336	-	-	36 075	181	815	217	51	25	2 254
15	MASTER'S	48 137	366	-	30 414	26	1 360	214	376	-	1 281
16	PH.D.	15 102	-	-	12 053	-	215	25	138	-	1 065
17	MATHEMATICAL SPECIALISTS, TOTAL[1]	44 782	380	59	2 021	234	22 570	400	334	26	316
18	1-3 YEARS COLLEGE, NO DEGREE	2 183	24	-	359	110	125	38	26	-	26
19	4 OR MORE YEARS COLLEGE, NO DEGREE	616	-	-	87	-	321	-	-	-	-
20	ASSOCIATE	547	-	36	26	76	-	-	-	-	-
21	BACHELOR'S	6 296	-	-	491	25	2 455	52	26	26	74
22	BACHELOR'S PLUS[2]	5 268	-	-	342	-	2 386	153	110	-	29
23	MASTER'S	14 737	233	-	438	-	9 273	104	61	-	80
24	PH.D.	11 275	123	23	279	23	7 988	52	110	-	108
25	LIFE SCIENTISTS, TOTAL[1]	68 097	24	27	1 213	153	266	23 695	22 485	1 660	835
26	1-3 YEARS COLLEGE, NO DEGREE	1 620	24	27	154	24	-	260	245	25	27
27	4 OR MORE YEARS COLLEGE, NO DEGREE	1 003	-	-	-	25	-	210	185	52	-
28	ASSOCIATE	321	-	-	-	53	-	23	29	-	-
29	BACHELOR'S	16 907	-	-	537	23	80	11 146	2 523	484	183
30	BACHELOR'S PLUS[2]	8 562	-	-	218	27	133	3 877	2 387	172	233
31	MASTER'S	13 701	-	-	160	-	29	5 041	5 087	210	114
32	PH.D.	19 215	-	-	143	-	24	3 138	12 030	717	278
33	BIOLOGICAL SCIENTISTS[1]	35 873	24	-	318	76	211	3 349	20 315	1 068	765
34	1-3 YEARS COLLEGE, NO DEGREE	1 032	24	-	50	24	-	56	245	25	27
35	4 OR MORE YEARS COLLEGE, NO DEGREE	584	-	-	-	25	-	29	162	29	-
36	ASSOCIATE	82	-	-	-	-	-	-	29	-	-
37	BACHELOR'S	4 635	-	-	123	-	53	1 109	2 269	102	160
38	BACHELOR'S PLUS[2]	4 056	-	-	25	27	133	545	2 031	102	233
39	MASTER'S	7 846	-	-	50	-	-	1 010	4 522	139	90
40	PH.D.	15 081	-	-	71	-	24	600	11 057	671	255
41	OTHER LIFE SCIENTISTS[1]	32 225	-	27	895	77	55	20 346	2 171	592	70
42	1-3 YEARS COLLEGE, NO DEGREE	588	-	27	104	-	-	204	-	-	-
43	4 OR MORE YEARS COLLEGE, NO DEGREE	419	-	-	-	-	-	182	23	23	-
44	ASSOCIATE	238	-	-	-	53	-	23	-	-	-
45	BACHELOR'S	12 273	-	-	414	23	26	10 036	254	382	23
46	BACHELOR'S PLUS[2]	4 506	-	-	194	-	-	3 331	356	70	-
47	MASTER'S	5 855	-	-	110	-	29	4 031	565	71	23
48	PH.D.	4 134	-	-	72	-	-	2 539	973	47	23
49	PHYSICAL SCIENTISTS, TOTAL[1]	178 624	237	103	15 944	1 794	2 751	2 528	9 879	481	59 584
50	1-3 YEARS COLLEGE, NO DEGREE	10 559	21	61	1 818	612	278	80	538	21	2 639
51	4 OR MORE YEARS COLLEGE, NO DEGREE	3 012	78	-	261	130	98	24	146	-	813
52	ASSOCIATE	2 577	-	-	248	871	-	-	-	-	103
53	BACHELOR'S	38 492	54	-	4 542	104	1 094	1 484	1 707	-	17 264
54	BACHELOR'S PLUS[2]	26 558	-	-	3 362	-	643	236	1 673	50	9 860
55	MASTER'S	33 607	84	-	3 639	-	448	246	1 395	70	10 001
56	PH.D.	46 019	-	42	2 075	26	190	458	4 421	340	18 904
57	CHEMISTS[1]	110 701	165	103	8 898	1 458	863	2 355	9 206	304	58 175
58	1-3 YEARS COLLEGE, NO DEGREE	7 775	-	61	1 215	465	98	54	538	-	2 616
59	4 OR MORE YEARS COLLEGE, NO DEGREE	2 205	54	-	166	104	50	-	146	-	789
60	ASSOCIATE	2 001	-	-	200	732	-	-	-	-	103
61	BACHELOR'S	27 496	54	-	2 938	104	477	1 438	1 560	-	16 978
62	BACHELOR'S PLUS[2]	15 448	-	-	1 842	-	50	211	1 531	50	9 568
63	MASTER'S	16 546	57	-	1 550	-	96	246	1 296	49	9 766
64	PH.D.	25 738	-	42	987	-	92	405	4 135	205	18 354

SEE FOOTNOTES AT END OF TABLE.

FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE—Continued

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED											LINE NO.
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED	
309	337	308	812	393	815	141	6 068	1 039	3 626	14 565	1
-	-	56	59	85	85	115	1 343	139	1 482	595	2
-	-	29	27	56	59	27	222	29	279	140	3
-	-	89	-	-	-	-	29	-	223	139	4
110	278	108	555	197	587	-	2 226	677	913	485	5
114	29	27	172	-	54	-	1 068	168	342	141	6
85	29	-	-	29	29	-	1 180	27	230	56	7
-	-	-	-	27	-	-	-	-	35	-	8
5 896	2 696	811	1 021	1 223	2 829	649	12 174	4 824	12 328	56 249	9
595	288	106	23	334	517	-	1 732	819	3 249	2 775	10
212	119	32	207	-	106	-	458	296	606	154	11
-	-	345	-	-	-	-	210	-	1 555	466	12
1 748	576	104	313	-	879	206	2 320	1 065	1 559	2 105	13
1 556	988	26	199	252	250	158	1 468	1 157	980	684	14
1 319	656	104	279	454	1 077	-	5 986	1 409	2 127	689	15
465	68	93	-	182	-	129	-	79	460	129	16
819	309	190	1 593	486	1 000	260	3 533	3 549	2 365	4 337	17
-	-	29	31	53	86	-	420	136	556	164	18
-	-	-	-	50	-	-	52	26	81	-	19
-	-	88	26	-	-	-	26	-	189	80	20
129	26	-	569	55	199	52	1 432	280	355	49	21
218	98	-	313	156	302	23	367	359	330	81	22
169	96	73	343	125	227	129	1 062	1 588	484	253	23
304	89	-	311	48	185	26	147	1 160	108	190	24
154	427	657	566	600	1 066	2 630	259	2 829	1 581	6 967	25
29	-	146	-	25	58	68	54	76	218	161	26
-	54	-	-	49	50	115	-	69	100	94	27
-	-	162	-	-	-	-	-	-	54	-	28
-	111	219	102	29	298	171	73	611	127	191	29
24	74	81	73	56	212	383	52	285	162	110	30
-	53	29	237	211	368	371	80	1 157	352	201	31
101	135	21	155	231	80	811	-	630	380	338	32
154	292	258	51	600	493	2 505	184	1 865	870	2 473	33
29	-	93	-	25	29	37	54	76	107	132	34
-	54	-	-	49	27	92	-	-	24	94	35
-	-	27	-	-	-	-	-	-	27	-	36
-	56	52	27	29	144	171	50	240	25	24	37
24	27	58	-	56	46	383	-	239	89	37	38
-	53	29	25	211	198	324	80	812	179	122	39
101	103	-	-	231	49	811	-	498	327	283	40
-	135	399	516	-	573	125	75	964	711	4 495	41
-	-	53	-	-	29	31	-	-	111	29	42
-	-	-	-	-	23	23	-	69	75	-	43
-	-	135	-	-	-	-	-	-	27	-	44
-	56	167	75	-	154	-	23	372	101	166	45
-	48	23	73	-	166	-	52	47	74	73	46
-	-	-	213	-	170	47	-	345	173	79	47
-	32	21	155	-	31	-	-	132	53	55	48
23 001	23 828	1 097	329	736	1 606	2 938	2 925	4 282	3 943	20 638	49
146	380	49	61	134	78	422	743	347	1 265	867	50
226	283	-	-	-	45	164	80	171	265	227	51
-	56	560	-	-	50	-	-	-	660	29	52
2 277	5 725	211	74	149	538	578	586	719	360	1 027	53
2 999	4 890	114	51	189	188	596	103	864	446	295	54
5 404	7 335	24	124	80	365	358	1 413	1 733	419	471	55
11 949	5 159	89	21	184	342	510	-	449	288	574	56
743	1 476	823	209	419	660	2 519	2 035	2 327	2 402	15 561	57
50	50	49	61	103	54	370	532	50	759	652	58
103	52	-	-	-	-	164	54	122	198	203	59
-	-	452	-	-	50	-	-	-	464	-	60
209	382	211	49	103	362	578	475	517	261	800	61
103	275	61	-	115	-	543	-	649	240	212	62
115	520	-	99	54	44	335	974	778	219	347	63
163	198	-	-	44	151	370	-	213	144	236	64

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	MALE--CONTINUED										
1	PHYSICISTS[1]	34 801	26	-	3 821	277	792	24	425	44	802
2	1-3 YEARS COLLEGE, NO DEGREE	1 090	-	-	276	86	79	-	-	-	-
3	4 OR MORE YEARS COLLEGE, NO DEGREE	407	-	-	94	26	49	-	-	-	-
4	ASSOCIATE	348	-	-	48	138	-	-	-	-	-
5	BACHELOR'S	2 933	-	-	353	-	185	-	67	-	56
6	BACHELOR'S PLUS[2]	4 606	-	-	779	-	281	-	142	-	154
7	MASTER'S	9 037	26	-	1 481	-	172	-	27	-	210
8	PH.D.	14 541	-	-	790	26	26	24	189	44	382
9	OTHER PHYSICAL SCIENTISTS[1]	33 122	45	-	3 226	60	1 097	149	248	132	607
10	1-3 YEARS COLLEGE, NO DEGREE	1 694	21	-	327	60	100	26	-	21	23
11	4 OR MORE YEARS COLLEGE, NO DEGREE	400	24	-	-	-	-	24	-	-	24
12	ASSOCIATE	228	-	-	-	-	-	-	-	-	-
13	BACHELOR'S	8 063	-	-	1 250	-	433	46	80	-	230
14	BACHELOR'S PLUS[2]	6 505	-	-	742	-	312	24	-	-	138
15	MASTER'S	8 025	-	-	608	-	180	-	72	21	25
16	PH.D.	5 740	-	-	298	-	72	29	96	90	167
17	SOCIAL SCIENTISTS, TOTAL[1]	121 459	241	107	6 593	311	1 508	1 314	702	175	1 007
18	1-3 YEARS COLLEGE, NO DEGREE	5 290	34	107	702	77	99	34	-	-	-
19	4 OR MORE YEARS COLLEGE, NO DEGREE	1 922	29	-	199	27	69	-	-	-	45
20	ASSOCIATE	756	-	-	34	84	-	32	-	-	-
21	BACHELOR'S	19 245	-	-	2 257	26	468	633	156	56	232
22	BACHELOR'S PLUS[2]	14 166	-	-	1 998	-	448	265	114	-	284
23	MASTER'S	37 702	178	-	1 312	36	330	245	83	57	124
24	PH.D.	32 150	-	-	59	-	95	105	348	63	323
25	ECONOMISTS[1]	68 401	212	81	5 043	181	1 267	1 093	159	34	802
26	1-3 YEARS COLLEGE, NO DEGREE	4 533	34	81	518	77	99	34	-	-	-
27	4 OR MORE YEARS COLLEGE, NO DEGREE	1 078	-	-	143	-	69	-	-	-	45
28	ASSOCIATE	597	-	-	34	33	-	32	-	-	-
29	BACHELOR'S	16 639	-	-	2 017	-	468	471	66	-	232
30	BACHELOR'S PLUS[2]	8 601	-	-	1 320	-	310	206	-	-	165
31	MASTER'S	20 192	176	-	946	36	276	245	-	-	69
32	PH.D.	8 928	-	-	33	-	45	105	93	34	291
33	OTHER SOCIAL SCIENTISTS[1]	53 057	29	27	1 549	131	241	221	543	141	206
34	1-3 YEARS COLLEGE, NO DEGREE	757	-	27	184	-	-	-	-	-	-
35	4 OR MORE YEARS COLLEGE, NO DEGREE	844	29	-	56	27	-	-	-	-	-
36	ASSOCIATE	159	-	-	-	51	-	-	-	-	-
37	BACHELOR'S	2 605	-	-	240	26	-	162	90	56	-
38	BACHELOR'S PLUS[2]	5 565	-	-	678	-	138	58	114	-	119
39	MASTER'S	17 510	-	-	365	-	54	-	83	57	55
40	PH.D.	23 222	-	-	26	-	49	-	255	29	31
	FEMALE										
41	OPERATIONS AND COMPUTER SPECIALISTS, TOTAL[1]	56 794	2 418	2 903	264	45	11 080	74	984	-	609
42	1-3 YEARS COLLEGE, NO DEGREE	8 628	910	1 890	-	45	645	74	-	-	76
43	4 OR MORE YEARS COLLEGE, NO DEGREE	877	-	160	-	-	295	-	-	-	-
44	ASSOCIATE	1 983	74	818	-	-	-	-	-	-	-
45	BACHELOR'S	20 703	671	-	142	-	7 827	-	665	-	497
46	BACHELOR'S PLUS[2]	3 314	76	-	-	-	1 293	-	154	-	-
47	MASTER'S	4 238	687	36	122	-	1 020	-	120	-	-
48	PH.D.	228	-	-	-	-	-	-	45	-	36
49	COMPUTER PROGRAMMERS[1]	35 405	1 980	2 419	76	-	8 512	74	691	-	573
50	1-3 YEARS COLLEGE, NO DEGREE	5 399	615	1 519	-	-	609	74	-	-	76
51	4 OR MORE YEARS COLLEGE, NO DEGREE	767	-	160	-	-	295	-	-	-	-
52	ASSOCIATE	1 470	74	740	-	-	-	-	-	-	-
53	BACHELOR'S	14 611	600	-	76	-	6 039	-	533	-	497
54	BACHELOR'S PLUS[2]	1 861	76	-	-	-	927	-	74	-	-
55	MASTER'S	2 405	615	-	-	-	642	-	84	-	-
56	PH.D.	-	-	-	-	-	-	-	-	-	-

SEE FOOTNOTES AT END OF TABLE.

FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE—Continued

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED											LINE NO.
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED	
21 328	1 661	171	27	235	310	336	406	1 559	516	2 041	1
73	-	-	-	-	24	23	109	247	124	50	2
123	-	-	-	-	45	-	-	49	21	-	3
-	27	53	-	-	-	-	-	-	82	-	4
1 868	93	-	-	21	72	-	88	79	26	24	5
2 690	126	29	27	49	30	53	30	137	50	30	6
5 124	550	24	-	26	139	24	180	857	121	75	7
11 448	864	64	-	140	-	115	-	190	46	191	8
930	20 691	104	94	82	636	83	484	395	1 025	3 036	9
23	331	-	-	31	-	29	103	50	383	166	10
-	231	-	-	-	-	-	26	-	46	24	11
-	29	55	-	-	-	-	-	-	114	29	12
200	5 250	-	24	24	105	-	23	123	73	204	13
206	4 489	24	24	26	158	-	73	78	156	53	14
165	6 264	-	25	-	181	-	258	97	80	49	15
337	4 097	24	21	-	191	25	-	47	99	147	16
369	398	148	15 222	20 960	21 187	1 069	23 893	4 308	10 806	11 140	17
-	55	33	103	47	168	59	1 842	93	1 432	404	18
36	-	-	133	109	271	51	217	99	538	97	19
-	-	52	-	-	-	-	151	29	340	33	20
67	119	-	2 114	452	1 944	150	7 667	419	1 696	591	21
119	25	-	1 319	1 550	2 424	34	2 974	262	1 967	384	22
119	92	63	5 080	6 335	7 790	85	10 053	2 282	2 880	559	23
28	107	-	6 473	12 467	8 564	225	988	1 125	663	519	24
200	149	69	14 946	553	3 448	394	23 442	1 238	6 529	8 561	25
-	-	33	103	47	33	33	1 764	65	1 264	348	26
36	-	-	108	-	69	-	192	-	371	45	27
-	-	-	-	-	-	-	151	-	314	33	28
67	36	-	2 059	114	1 123	150	7 590	312	1 398	536	29
33	-	-	1 215	144	883	34	2 895	148	999	249	30
64	66	36	4 989	214	982	33	9 863	619	1 265	312	31
-	47	-	6 473	34	358	33	988	93	164	137	32
169	249	79	276	20 407	17 738	675	450	3 071	4 277	2 579	33
-	55	-	-	-	136	27	78	27	169	56	34
-	-	-	26	109	201	51	26	99	166	53	35
-	-	52	-	-	-	-	-	29	27	-	36
-	83	-	54	338	620	-	77	107	497	54	37
86	25	-	105	1 406	1 541	-	79	114	969	134	38
55	26	26	91	6 121	6 808	52	191	1 663	1 615	247	39
28	60	-	-	12 433	8 206	192	-	1 031	500	382	40
260	209	277	1 083	971	3 667	497	3 663	2 953	6 612	18 224	41
-	-	-	127	116	337	235	1 451	583	1 123	1 017	42
-	-	-	-	-	76	-	107	-	205	34	43
-	-	158	-	-	-	-	45	-	777	111	44
220	173	118	834	550	2 373	112	1 468	1 505	3 393	155	45
-	-	-	82	116	332	150	357	217	496	40	46
-	35	-	39	112	550	-	236	648	548	85	47
40	-	-	-	76	-	-	-	-	31	-	48
76	94	234	693	597	2 142	309	1 807	1 991	3 338	9 800	49
-	-	-	94	74	148	84	543	393	415	756	50
-	-	-	-	-	76	-	76	-	160	-	51
-	-	158	-	-	-	-	-	-	422	76	52
76	94	76	599	373	1 597	76	868	1 001	2 029	76	53
-	-	-	-	74	94	150	244	148	76	-	54
-	-	-	-	76	228	-	76	449	236	-	55
-	-	-	-	-	-	-	-	-	-	-	56

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	FEMALE--CONTINUED										
1	OTHER OPERATIONS AND COMPUTER SPECIALISTS[1]	21 388	438	485	188	45	2 568	-	293	-	36
2	1-3 YEARS COLLEGE, NO DEGREE	3 229	295	371	-	45	36	-	-	-	-
3	4 OR MORE YEARS COLLEGE, NO DEGREE	109	-	-	-	-	-	-	-	-	-
4	ASSOCIATE	513	-	78	-	-	-	-	-	-	-
5	BACHELOR'S	6 093	70	-	66	-	1 788	-	132	-	-
6	BACHELOR'S PLUS[2]	1 453	-	-	-	-	366	-	81	-	-
7	MASTER'S	1 833	73	36	122	-	378	-	36	-	-
8	PH.D.	228	-	-	-	-	-	-	45	-	36
9	ENGINEERS, TOTAL[1]	15 894	169	30	3 011	85	604	217	54	-	140
10	1-3 YEARS COLLEGE, NO DEGREE	1 909	86	-	96	-	54	-	-	-	-
11	4 OR MORE YEARS COLLEGE, NO DEGREE	162	-	30	27	-	-	-	27	-	-
12	ASSOCIATE	380	-	-	-	85	-	-	-	-	-
13	BACHELOR'S	3 793	-	-	1 312	-	468	66	27	-	27
14	BACHELOR'S PLUS[2]	1 866	-	-	980	-	55	151	-	-	-
15	MASTER'S	1 841	83	-	598	-	27	-	-	-	114
16	PH.D.	158	-	-	-	-	-	-	-	-	-
17	AERONAUTICAL AND ASTRONAUTICAL ENGINEERS[1]	957	-	30	164	-	164	-	27	-	-
18	1-3 YEARS COLLEGE, NO DEGREE	245	-	-	-	-	27	-	-	-	-
19	4 OR MORE YEARS COLLEGE, NO DEGREE	57	-	30	-	-	-	-	27	-	-
20	ASSOCIATE	27	-	-	-	-	-	-	-	-	-
21	BACHELOR'S	136	-	-	55	-	55	-	-	-	-
22	BACHELOR'S PLUS[2]	164	-	-	55	-	55	-	-	-	-
23	MASTER'S	82	-	-	55	-	27	-	-	-	-
24	PH.D.	-	-	-	-	-	-	-	-	-	-
25	CIVIL ENGINEERS[1]	1 702	-	-	869	-	66	66	-	-	-
26	1-3 YEARS COLLEGE, NO DEGREE	133	-	-	66	-	-	-	-	-	-
27	4 OR MORE YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
28	ASSOCIATE	-	-	-	-	-	-	-	-	-	-
29	BACHELOR'S	615	-	-	332	-	66	66	-	-	-
30	BACHELOR'S PLUS[2]	338	-	-	265	-	-	-	-	-	-
31	MASTER'S	272	-	-	206	-	-	-	-	-	-
32	PH.D.	-	-	-	-	-	-	-	-	-	-
33	ELECTRICAL AND ELECTRONIC ENGINEERS[1]	3 080	-	-	863	-	151	151	-	-	-
34	1-3 YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
35	4 OR MORE YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
36	ASSOCIATE	-	-	-	-	-	-	-	-	-	-
37	BACHELOR'S	753	-	-	301	-	151	-	-	-	-
38	BACHELOR'S PLUS[2]	903	-	-	452	-	-	151	-	-	-
39	MASTER'S	110	-	-	110	-	-	-	-	-	-
40	PH.D.	-	-	-	-	-	-	-	-	-	-
41	INDUSTRIAL ENGINEERS[1]	5 265	86	-	275	-	-	-	-	-	-
42	1-3 YEARS COLLEGE, NO DEGREE	938	86	-	-	-	-	-	-	-	-
43	4 OR MORE YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
44	ASSOCIATE	189	-	-	-	-	-	-	-	-	-
45	BACHELOR'S	1 020	-	-	181	-	-	-	-	-	-
46	BACHELOR'S PLUS[2]	189	-	-	95	-	-	-	-	-	-
47	MASTER'S	568	-	-	-	-	-	-	-	-	-
48	PH.D.	-	-	-	-	-	-	-	-	-	-
49	MECHANICAL ENGINEERS[1]	907	83	-	163	85	83	-	-	-	-
50	1-3 YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
51	4 OR MORE YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
52	ASSOCIATE	85	-	-	-	85	-	-	-	-	-
53	BACHELOR'S	329	-	-	163	-	83	-	-	-	-
54	BACHELOR'S PLUS[2]	-	-	-	-	-	-	-	-	-	-
55	MASTER'S	83	83	-	-	-	-	-	-	-	-
56	PH.D.	-	-	-	-	-	-	-	-	-	-
57	SALES ENGINEERS[1]	93	-	-	29	-	-	-	-	-	-
58	1-3 YEARS COLLEGE, NO DEGREE	29	-	-	29	-	-	-	-	-	-
59	4 OR MORE YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
60	ASSOCIATE	-	-	-	-	-	-	-	-	-	-
61	BACHELOR'S	29	-	-	-	-	-	-	-	-	-
62	BACHELOR'S PLUS[2]	-	-	-	-	-	-	-	-	-	-
63	MASTER'S	-	-	-	-	-	-	-	-	-	-
64	PH.D.	-	-	-	-	-	-	-	-	-	-

SEE FOOTNOTES AT END OF TABLE.

FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE—Continued

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED											
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED	
184	115	42	390	374	1 525	188	1 856	962	3 274	8 424	
-	-	-	34	42	189	151	908	190	708	260	
-	-	-	-	-	-	-	31	-	45	34	
-	-	-	-	-	-	-	45	-	356	35	
144	80	42	235	177	776	36	600	504	1 363	79	
-	-	-	82	42	238	-	113	70	420	40	
-	35	-	39	36	322	-	160	198	312	85	
40	-	-	-	76	-	-	-	-	31	-	
229	94	-	340	326	311	-	905	768	2 664	5 948	
-	-	-	95	27	27	-	358	296	680	189	
-	-	-	-	-	-	-	-	-	79	-	
-	-	-	-	-	-	-	-	27	268	-	
151	27	-	78	82	189	-	453	120	688	106	
-	-	-	73	122	-	-	-	151	335	-	
-	66	-	95	95	95	-	95	95	480	-	
79	-	-	-	-	-	-	-	79	-	-	
-	27	-	-	55	27	-	55	27	136	245	
-	-	-	-	27	27	-	55	-	109	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	27	-	-	
-	27	-	-	-	-	-	-	-	-	-	
-	-	-	-	27	-	-	-	-	27	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	66	-	151	-	-	-	-	66	73	345	
-	-	-	-	-	-	-	-	66	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	78	-	-	-	-	-	73	-	
-	-	-	73	-	-	-	-	-	-	-	
-	66	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
151	-	-	-	-	-	-	-	151	301	1 314	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
151	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	151	-	
-	-	-	-	-	-	-	-	151	151	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	189	271	284	-	568	189	947	2 454	
-	-	-	95	-	-	-	189	-	379	189	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	189	-	
-	-	-	-	82	189	-	284	95	189	-	
-	-	-	-	95	-	-	-	-	-	-	
-	-	-	95	95	95	-	95	95	95	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	83	410	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	83	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	29	-	-	35	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	29	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	FEMALE--CONTINUED										
1	OTHER ENGINEERS[1]	3 890	-	-	648	-	140	-	27	-	140
2	1-3 YEARS COLLEGE, NO DEGREE	563	-	-	-	-	27	-	-	-	-
3	4 OR MORE YEARS COLLEGE, NO DEGREE	105	-	-	27	-	-	-	-	-	-
4	ASSOCIATE	79	-	-	-	-	-	-	-	-	-
5	BACHELOR'S	911	-	-	281	-	114	-	27	-	27
6	BACHELOR'S PLUS[2]	271	-	-	114	-	-	-	-	-	-
7	MASTER'S	726	-	-	228	-	-	-	-	-	114
8	PH.D.	158	-	-	-	-	-	-	-	-	-
9	MATHEMATICAL SPECIALISTS, TOTAL[1]	16 897	199	36	24	-	4 939	-	281	-	122
10	1-3 YEARS COLLEGE, NO DEGREE	1 959	65	36	-	-	126	-	24	-	-
11	4 OR MORE YEARS COLLEGE, NO DEGREE	365	89	-	-	-	53	-	-	-	-
12	ASSOCIATE	244	-	-	-	-	-	-	-	-	-
13	BACHELOR'S	3 358	-	-	-	-	1 031	-	98	-	32
14	BACHELOR'S PLUS[2]	1 706	-	-	24	-	845	-	94	-	61
15	MASTER'S	3 575	45	-	-	-	2 416	-	65	-	-
16	PH.D.	790	-	-	-	-	468	-	-	-	29
17	LIFE SCIENTISTS, TOTAL[1]	15 411	-	-	26	-	28	241	7 938	398	262
18	1-3 YEARS COLLEGE, NO DEGREE	672	-	-	26	-	-	-	206	28	-
19	4 OR MORE YEARS COLLEGE, NO DEGREE	269	-	-	-	-	-	-	84	-	-
20	ASSOCIATE	365	-	-	-	-	-	-	-	-	-
21	BACHELOR'S	3 585	-	-	-	-	-	49	1 998	77	102
22	BACHELOR'S PLUS[2]	2 188	-	-	-	-	28	58	1 178	74	99
23	MASTER'S	3 869	-	-	-	-	-	112	2 608	114	32
24	PH.D.	2 283	-	-	-	-	-	22	1 864	104	28
25	BIOLOGICAL SCIENTISTS[1]	14 349	-	-	26	-	28	186	7 759	371	262
26	1-3 YEARS COLLEGE, NO DEGREE	614	-	-	26	-	-	-	206	28	-
27	4 OR MORE YEARS COLLEGE, NO DEGREE	269	-	-	-	-	-	-	84	-	-
28	ASSOCIATE	333	-	-	-	-	-	-	-	-	-
29	BACHELOR'S	3 363	-	-	-	-	-	26	1 946	51	102
30	BACHELOR'S PLUS[2]	2 096	-	-	-	-	28	58	1 146	74	99
31	MASTER'S	3 774	-	-	-	-	-	80	2 577	114	32
32	PH.D.	2 219	-	-	-	-	-	22	1 800	104	28
33	OTHER LIFE SCIENTISTS[1]	1 062	-	-	-	-	-	55	179	26	-
34	1-3 YEARS COLLEGE, NO DEGREE	58	-	-	-	-	-	-	-	-	-
35	4 OR MORE YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
36	ASSOCIATE	32	-	-	-	-	-	-	-	-	-
37	BACHELOR'S	223	-	-	-	-	-	23	53	26	-
38	BACHELOR'S PLUS[2]	90	-	-	-	-	-	-	32	-	-
39	MASTER'S	95	-	-	-	-	-	32	32	-	-
40	PH.D.	63	-	-	-	-	-	-	63	-	-
41	PHYSICAL SCIENTISTS, TOTAL[1]	17 729	-	-	609	-	189	211	2 159	215	6 663
42	1-3 YEARS COLLEGE, NO DEGREE	1 451	-	-	110	-	55	-	110	36	219
43	4 OR MORE YEARS COLLEGE, NO DEGREE	276	-	-	54	-	21	-	-	-	-
44	ASSOCIATE	186	-	-	-	-	-	-	55	-	-
45	BACHELOR'S	6 089	-	-	61	-	37	61	506	54	3 550
46	BACHELOR'S PLUS[2]	2 343	-	-	136	-	76	-	348	-	917
47	MASTER'S	3 071	-	-	184	-	-	125	277	57	1 187
48	PH.D.	2 160	-	-	64	-	-	25	863	68	790
49	CHEMISTS[1]	14 713	-	-	535	-	55	186	2 109	179	6 596
50	1-3 YEARS COLLEGE, NO DEGREE	1 212	-	-	110	-	55	-	110	-	219
51	4 OR MORE YEARS COLLEGE, NO DEGREE	220	-	-	54	-	-	-	-	-	-
52	ASSOCIATE	164	-	-	-	-	-	-	55	-	-
53	BACHELOR'S	5 444	-	-	61	-	-	61	506	54	3 504
54	BACHELOR'S PLUS[2]	1 995	-	-	136	-	-	-	348	-	897
55	MASTER'S	2 221	-	-	110	-	-	125	277	57	1 187
56	PH.D.	1 796	-	-	64	-	-	-	813	68	790
57	PHYSICISTS[1]	1 410	-	-	73	-	37	-	-	36	-
58	1-3 YEARS COLLEGE, NO DEGREE	72	-	-	-	-	-	-	-	36	-
59	4 OR MORE YEARS COLLEGE, NO DEGREE	37	-	-	-	-	-	-	-	-	-
60	ASSOCIATE	-	-	-	-	-	-	-	-	-	-
61	BACHELOR'S	223	-	-	-	-	37	-	-	-	-
62	BACHELOR'S PLUS[2]	147	-	-	-	-	-	-	-	-	-
63	MASTER'S	599	-	-	73	-	-	-	-	-	-
64	PH.D.	184	-	-	-	-	-	-	-	-	-

SEE FOOTNOTES AT END OF TABLE.

FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE—Continued

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED											
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED	
79	-	-	-	-	-	-	253	334	1 123	1 145	1
-	-	-	-	-	-	-	114	230	193	-	2
-	-	-	-	-	-	-	-	-	79	-	3
-	-	-	-	-	-	-	-	-	79	-	4
-	-	-	-	-	-	-	139	26	193	106	5
-	-	-	-	-	-	-	-	-	158	-	6
79	-	-	-	-	-	-	-	-	385	-	7
								79	-	-	8
84	-	64	417	387	711	183	896	1 628	1 548	5 379	9
31	-	-	32	29	169	33	424	290	469	232	1
-	-	-	-	-	-	-	84	70	36	33	1
-	-	29	-	-	-	-	-	-	186	29	1
32	-	35	223	159	289	94	325	311	587	140	1
-	-	-	70	119	93	-	33	183	156	29	1
-	-	-	60	29	131	22	29	612	79	87	1
22	-	-	33	50	29	-	-	160	-	-	1
23	54	139	-	230	108	1 435	58	830	1 191	2 451	1
23	-	-	-	-	-	26	-	25	185	152	1
-	-	-	-	-	-	25	-	-	105	55	1
-	-	74	-	28	-	53	-	-	182	28	2
-	-	-	-	53	58	659	26	225	339	-	2
-	-	-	-	25	28	394	-	184	88	32	2
-	54	65	-	26	-	154	32	396	220	56	2
-	-	-	-	98	22	72	-	-	72	-	2
23	54	139	-	230	76	1 435	-	772	1 064	1 923	2
23	-	-	-	-	-	26	-	25	154	126	2
-	-	-	-	-	-	25	-	-	105	55	2
-	-	74	-	28	-	53	-	-	150	28	2
-	-	-	-	53	26	659	-	225	275	-	2
-	-	-	-	25	28	394	-	126	88	32	3
-	54	65	-	26	-	154	-	396	220	56	3
-	-	-	-	98	22	72	-	-	72	-	3
-	-	-	-	-	32	-	58	58	127	528	3
-	-	-	-	-	-	-	-	-	32	26	3
-	-	-	-	-	-	-	-	-	-	-	3
-	-	-	-	-	-	-	-	-	32	-	3
-	-	-	-	-	32	-	26	-	63	-	3
-	-	-	-	-	-	-	-	58	-	-	3
-	-	-	-	-	-	-	32	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	4
1 019	752	55	111	55	275	888	305	835	965	2 425	4
-	82	-	-	-	55	76	152	139	364	54	4
-	-	-	-	55	-	37	-	-	57	55	4
-	-	55	-	-	-	-	21	-	55	-	4
211	193	-	111	-	159	397	94	348	194	113	4
137	187	-	-	-	61	272	37	109	-	61	4
487	184	-	-	-	-	68	-	179	295	27	4
184	106	-	-	-	-	-	-	61	-	-	4
-	275	55	111	55	226	793	110	695	791	1 943	4
-	55	-	-	-	55	55	110	111	279	54	5
-	-	-	-	55	-	-	-	-	57	55	5
-	-	55	-	-	-	-	-	-	55	-	5
-	55	-	111	-	110	397	-	306	167	113	5
-	110	-	-	-	61	272	-	109	-	61	5
-	55	-	-	-	-	68	-	108	233	-	5
-	-	-	-	-	-	-	-	61	-	-	5
942	26	-	-	-	-	74	37	-	73	111	5
-	-	-	-	-	-	-	-	-	36	-	5
-	-	-	-	-	-	37	-	-	-	-	5
-	-	-	-	-	-	-	-	-	-	-	6
186	-	-	-	-	-	-	-	-	-	-	6
109	-	-	-	-	-	-	37	-	-	-	6
462	26	-	-	-	-	-	-	-	37	-	6
184	-	-	-	-	-	-	-	-	-	-	6

Table 11. MAJOR FIELD OF STUDY FOR HIGHEST DEGREE, BY HIGHEST DEGREE HELD IN 1972, AND SEX

LINE NO.	OCCUPATION IN 1970, HIGHEST DEGREE HELD IN 1972, AND SEX	MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD									
		TOTAL	COMPUTER SCIENCE AND SYSTEMS ANALYSIS	DATA PROCESSING RELATED FIELDS	ENGINEERING	ENGINEERING RELATED FIELDS	MATHEMATICAL SCIENCES	AGRICULTURAL SCIENCES AND RELATED FIELDS	BIOLOGICAL SCIENCES AND RELATED FIELDS	OTHER BIOLOGICAL AND AGRICULTURAL SCIENCES	CHEMISTRY
	FEMALE--CONTINUED										
1	OTHER PHYSICAL SCIENTISTS[1]	1 606	-	-	-	-	97	25	50	-	67
2	1-3 YEARS COLLEGE, NO DEGREE	166	-	-	-	-	-	-	-	-	-
3	4 OR MORE YEARS COLLEGE, NO DEGREE	21	-	-	-	-	21	-	-	-	-
4	ASSOCIATE	21	-	-	-	-	-	-	-	-	-
5	BACHELOR'S	422	-	-	-	-	-	-	-	-	-
6	BACHELOR'S PLUS[2]	201	-	-	-	-	76	-	-	-	46
7	MASTER'S	251	-	-	-	-	-	-	-	-	21
8	PH.D.	180	-	-	-	-	-	25	50	-	-
9	SOCIAL SCIENTISTS, TOTAL[1]	29 841	-	114	118	76	84	-	125	-	-
10	1-3 YEARS COLLEGE, NO DEGREE	985	-	79	-	76	-	-	-	-	-
11	4 OR MORE YEARS COLLEGE, NO DEGREE	287	-	-	-	-	-	-	-	-	-
12	ASSOCIATE	149	-	-	-	-	-	-	-	-	-
13	BACHELOR'S	3 998	-	-	-	-	31	-	27	-	-
14	BACHELOR'S PLUS[2]	2 726	-	-	30	-	25	-	98	-	-
15	MASTER'S	11 820	-	-	88	-	28	-	-	-	-
16	PH.D.	6 354	-	35	-	-	-	-	-	-	-
17	ECONOMISTS[1]	8 281	-	79	-	45	31	-	-	-	-
18	1-3 YEARS COLLEGE, NO DEGREE	491	-	79	-	45	-	-	-	-	-
19	4 OR MORE YEARS COLLEGE, NO DEGREE	-	-	-	-	-	-	-	-	-	-
20	ASSOCIATE	90	-	-	-	-	-	-	-	-	-
21	BACHELOR'S	2 769	-	-	-	-	31	-	-	-	-
22	BACHELOR'S PLUS[2]	799	-	-	-	-	-	-	-	-	-
23	MASTER'S	1 679	-	-	-	-	-	-	-	-	-
24	PH.D.	558	-	-	-	-	-	-	-	-	-
25	OTHER SOCIAL SCIENTISTS[1]	21 559	-	35	118	31	53	-	125	-	-
26	1-3 YEARS COLLEGE, NO DEGREE	493	-	-	-	31	-	-	-	-	-
27	4 OR MORE YEARS COLLEGE, NO DEGREE	287	-	-	-	-	-	-	-	-	-
28	ASSOCIATE	59	-	-	-	-	-	-	-	-	-
29	BACHELOR'S	1 229	-	-	-	-	-	-	27	-	-
30	BACHELOR'S PLUS[2]	1 927	-	-	30	-	25	-	98	-	-
31	MASTER'S	10 141	-	-	88	-	28	-	-	-	-
32	PH.D.	5 796	-	35	-	-	-	-	-	-	-

- ENTRY REPRESENTS ZERO.
[1]INCLUDES FIRST PROFESSIONAL, REGISTERED NURSE, AND OTHER DEGREES NOT SHOWN SEPARATELY, DEGREE NOT REPORTED, AND PERSONS WITH NO COLLEGE.
[2]SOME GRADUATE WORK BUT NO GRADUATE DEGREE.

FOR ENGINEERS AND SCIENTISTS IN THE 1970 EXPERIENCED CIVILIAN LABOR FORCE—Continued

MAJOR FIELD OF STUDY FOR HIGHEST DEGREE HELD--CONTINUED										
PHYSICS	OTHER PHYSICAL SCIENCES	SCIENCE RELATED FIELDS	ECONOMICS	PSYCHOLOGY	OTHER SOCIAL SCIENCES	HEALTH FIELDS	BUSINESS AND COMMERCE	EDUCATION	OTHER FIELDS	NOT REPORTED
77	451	-	-	-	50	21	157	140	101	371
-	27	-	-	-	-	21	42	27	48	-
-	-	-	-	-	-	-	-	-	-	-
25	137	-	-	-	-	-	21	-	-	-
27	77	-	-	-	50	-	94	42	27	-
25	104	-	-	-	-	-	-	-	-	-
-	106	-	-	-	-	-	-	70	25	27
-	-	-	1 872	9 381	6 454	705	1 157	2 342	3 799	3 614
-	-	-	36	92	-	58	155	-	403	85
-	-	-	-	121	47	29	-	59	31	-
-	-	-	-	-	-	-	45	-	104	-
-	-	-	543	305	719	61	632	272	1 303	105
-	-	-	190	831	597	124	44	174	539	75
-	-	-	673	4 402	3 641	258	281	1 449	891	109
-	-	-	429	3 632	1 431	114	-	388	196	129
-	-	-	1 781	170	925	138	1 040	484	1 757	1 833
-	-	-	36	35	-	-	125	-	171	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	45	-	45	-
-	-	-	514	45	446	-	601	155	932	45
-	-	-	161	45	123	65	44	34	251	75
-	-	-	642	44	325	36	225	226	182	-
-	-	-	429	-	31	-	-	68	31	-
-	-	-	91	9 212	5 529	567	117	1 858	2 042	1 781
-	-	-	-	57	-	58	30	-	232	85
-	-	-	-	121	47	29	-	59	31	-
-	-	-	-	-	-	-	-	-	59	-
-	-	-	30	259	272	61	31	117	371	60
-	-	-	30	785	474	58	-	140	289	-
-	-	-	31	4 358	3 317	222	56	1 223	709	109
-	-	-	-	3 632	1 401	114	-	320	166	129

APPENDIX A

The 1972 Professional, Technical, and Scientific Manpower Survey: Background and Content; Data Collection, Processing, and Tabulating

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THE 1972 POSTCENSAL SURVEY OF PROFESSIONAL SCIENTIFIC AND TECHNICAL MANPOWER

Norman Seltzer, National Science Foundation

The need for meaningful data on a Nation's resources of all types of manpower has become more urgent in recent years as Government (at all levels) has become more involved in the planning, funding, and evaluation of many economic, educational, and scientific policies and programs affecting all sectors of the economy. It is generally taken for granted today that the stock of trained scientific and technical personnel in the U.S. is one of the controlling and essential resources determining scientific and technological activity for economic growth, technological change, and the advancement of knowledge. Furthermore, scientific and technical manpower has, over the past decade, assumed a national and international importance far beyond its numerical size.

In pursuit of more meaningful information about this resource, the NSF decided that the 1970 Census of Population presented a once-in-ten years opportunity (as it did after the 1960 Census) to obtain on a nation-wide basis a large array of detailed information on high level manpower.

In the 1970 Census of Population, 20 percent of the enumerated population supplied information on labor force status, occupation, and level of education (i.e., number of years of schooling completed). Utilizing this 20 percent sample, the Foundation planned (with the cooperation of the Census Bureau) to exploit this comprehensive source of information by surveying in detail two sample populations of persons in the civilian labor force: (1) those classified in the Census in scientific, engineering, technical, and related occupations, and (2) those with 4 or more years of higher education (post-H.S.) regardless of current occupation. This project provides the opportunity to obtain, in much greater detail than would be available from the regular Census, data on occupations, functional activities, types of employment, formal education and supplementary training, salary, and mobility, and the relationships among these various characteristics.

Broadly speaking, the Postcensal Project provides three main inputs to assessing our scientific and technical manpower resources:

(1) A nation-wide inventory of the characteristics of U.S. manpower resources, employed and/or trained in scientific, engineering, and technical fields;

(2) Insights into the career patterns of the scientific, engineering and technical manpower resources as related to education and training and other demographic variables for various cohort groups; and

(3) A comprehensive and basic statistical benchmark for evaluating and reconciling data on scientific and technical manpower obtained from a variety of sources.

The postcensal survey also provides the opportunity to obtain two unique sets of information not available from other sources:

(1) Detailed data representing the entire work force of natural and social scientists, engineers, and technicians currently employed for all sectors of the economy at a specific point in time.

(2) General information representing the entire college-educated population (i.e., four or more years of college education) regardless of current occupations at a specific point in time.

A brief review of some of the substantive outputs to be obtained through this project follows:

To begin with, because in the 1970 Census schedule, the amount of information available pertaining to a person's occupation and work activities is quite limited, an attempt is being made to obtain some insight into the extent to which interdisciplinary work in science and technology has resulted in persons classified as engineers working in an area of the physical or life sciences, physicists concerning themselves primarily with some aspect of the medical sciences, or mathematicians calling physics their present field of work.

Another equally important area of job information is the activities or duties that are actually performed; that is, what do people classified in professional and technical occupations "really do" in their jobs. Although we may have some indication that a certain number of engineers may be involved in "research", what the varied job requirements or duties of these personnel are, has not been too well known. For some, this may mean that aside from engaging in research, the job may entail supervising a team of other professional personnel, and writing technical reports; for others, there may be sales duties, and making estimates of markets for new products. For persons in other occupations, there are of course a similar wide range of activities which make up the different types of jobs in which such personnel are engaged.

If our knowledge in the past concerning the current employment and job activities of professional and technical personnel has been limited, this has been even more so about the process over time by which cohorts of such highly trained persons are allocated to various jobs and employers, the career paths which may characterize different groups, and the movement of scientific and technical personnel between various types of employers, occupations, and work activities. Insights into this complex area would be helpful in dealing with an assortment of problems including the one that policy makers always want a definitive answer to--the supply and demand of scientific and technical personnel. To

this end, detailed information on employment and work activities has been obtained for the most current job and the two prior jobs held as well as for the entry job into the labor force. It is obvious, of course, that such information cannot encompass complete work histories but it should provide a broad overview of mobility patterns. It will be possible to analyze many factors in relation to changers and non-changers among the various occupational group.

What insights can be provided by such data? The past decade, up to the present time, has been marked by, among other things, changes and shifts in emphasis in vast Federal Government expenditures for research and development, a build-up and cut-back of activities in both government and industry for the space and defense programs, an increase in existing as well as new programs for medical and health research, more emphasis on the development of new products in many technologically-oriented industries, and a considerable expansion and then leveling off of educational facilities to accommodate the influx of new students and provide for ongoing research programs. Against this background, the recent mobility data will provide an evaluation of the movement between employers, jobs, activities, and geographic locations. For example, have more scientists been moving from academic employers to industrial jobs than vice versa? Are a greater proportion of engineers concerned with administrative or supervisory duties than heretofore? Are certain industries attracting a higher proportion of the mobile personnel? Does there appear to be a shifting or upgrading of persons in non-professional jobs (i.e., the technician occupations) to professional occupations? To what extent have these various movements among occupations, employers, functions, etc., resulted in substantial shifts geographically?

By going back to the entry point for job histories, it may be possible to establish typical and variant career histories for specific occupations and occupational groups, for respondents with specific levels and types of training, and for those with certain demographic characteristics.

Several additional items of employment and labor market interest on which data is being obtained relate to reasons for changing jobs, how these persons acquired their different jobs, whether their work was supported or sponsored by Government funds, and levels of salary and income.

In the area of training, a considerable amount of detail was sought on various facets of both formal education and informal types of training. By and large, persons in the occupations covered in this survey have a fairly high level of training, especially when compared to the general population. Requirements for employment in these scientific and technical occupations generally require this background--even more so in the past few decades.

To begin with, since information on training has been obtained as of 1972, it will be possible to update the Census occupational information on number of years of formal training completed. However, the primary interest lies beyond this data, in that we want to determine some of the specifics of higher education obtained in relation to subsequent employment, and data was therefore requested on major fields of study for different types of degrees granted, where appropriate. In addition, because of the general knowledge that a substantial amount of training takes place outside of the formal educational system, inquiry was made about informal types of training received, such as company training programs, military training applicable to civilian occupations, home study correspondence courses, etc.

Some of the more apparent uses of this information includes: a detailed description of the formal education and training of persons in various professional, scientific, and technical occupations; an analysis of current occupation and work activities as well as overall job histories in relation to major fields of study at both undergraduate and graduate levels; the extent to which persons are employed with less than a college in professional occupations, and what types of informal training as well as experience may have contributed to their attaining such positions; and, an analysis of the personal and other background characteristics of the respondents to determine whether any insight can be obtained regarding differences in levels of training and subject matter studied.

Last (but not least), for these occupational groups, information was sought on background and personal characteristics both to supplement data available from Census and other sources and as factors to relate to data obtained in the areas dealing with employment and training.

As indicated previously, a sample of the 4-year college group was surveyed (outside of the target occupations) from whom similar information was obtained in order to provide a general analysis of the Nation's college-educated population. Insights are being sought on the extent to which persons trained in scientific and technical fields were, in 1970 (or beyond), working in occupations seemingly unrelated to this training; the same for persons who started their careers in scientific and technical occupations and were employed elsewhere in 1970, and finally, despite present conditions, what potential might exist for reemployment in scientific and technical fields.

It should also be mentioned here that with all of the information being obtained in this study, there exists the possibility of developing manpower models using multiple regressions and similar techniques which would enable us to relate data on income to other factors such as age, education, industry, geographic location, activities, etc. One additional and important note relating to the problem of occupational information remains to be mentioned. Because data on scientists, engineers, and technicians have been obtained over the years from various sources (i.e., individuals' self-reporting, employer surveys, household surveys, etc.), it has been difficult to reconcile the different counts obtained for persons in such occupations. Using the

postcensal data based on the Census nation-wide occupational sample, it is our intention to redefine the populations in the target occupations employing various criteria which will combine such reported items as occupation in different jobs, self-identification in terms of education and experience, level of education attained, fields of study, current national society membership, and valid professional licensure or registration. For example, in the case of engineers, whereas the Census categorized as such only those currently working as engineers, or in the case of the unemployed those last working as engineers, we will use the aforementioned criteria to estimate different engineering populations for specific points in time. This will entail eliminating some persons originally identified as engineers by Census (drop-outs), and transferring into the engineering group some persons originally classified in the other occupational groups or in the broad college-educated group (drop-ins). With newly estimated populations in hand, various inventory and analytical tabulations will be obtained.

In closing, the body of information to be obtained in the Postcensal Survey will be substantial, however, the requirement for timely answers to manpower questions and problems continues to grow. Data collection and analysis of scientific and technical manpower issues will continue to face greater challenges in the years ahead. The growing awareness of the need for better information on these resources are increasing, and it is anticipated that the postcensal survey results will provide a meaningful base for future work.

THE CENSUS ROLE IN SCIENTIFIC AND TECHNICAL MANPOWER PROGRAMS FOR THE 70'S

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INTRODUCTION

The extensive data needs of the National Science Foundation and the proximate universality of the Census of Population as a classifying device are the underlying circumstances engendering a supporting role for the Bureau of the Census in the Foundation's statistical programs for scientific and technical manpower in the 1970's. In briefest summary, the Bureau's role is to use the Census of Population as a device to focus on the particular groups in the population in which NSF is interested, then expand the amount of information available by a specialized follow-on survey and finally to extend the data through time by periodic recanvassing of the same population. The task of identifying these particular population groups and expanding the amount of information available for them comprises the Postcensal Manpower Survey (PMS). The task of extending the availability of data through time will be the function of a series of annual or biennial science and engineering manpower surveys.

A single sample selection process served both these tasks by selecting a sufficient number of cases (designated as Sample I) to meet the needs of the Postcensal Manpower Survey and by simultaneously selecting, for specified occupations, an equal number of cases (designated as Sample II) for use in maintaining sufficient panel size for periodic recanvassing. The components of the samples are shown in List A. Both Samples I and II were canvassed in approximately the same span of time, and comparative data on response rates are presented in table 2. However, the focus of this paper is on the procedural and methodological aspects of the Postcensal Manpower Survey, and comment on the work connected with Sample II is limited chiefly to salient differences between the purpose and treatment of the two samples.

POSTCENSAL MANPOWER SURVEY

The Postcensal Manpower Survey is a large-scale survey addressed to persons recorded in the Census of Population as in the experienced civilian labor force and reported in certain occupations or identified as having completed 4 or more years of college. It was designed to obtain detailed information about the occupations and careers of these persons beyond that which is available in the census. Of course, the individual information collected in the survey is held in confidence by the Bureau, and only statistical summaries are made available to the sponsor and the public. The survey is basically similar to the postcensal survey undertaken by the Bureau for NSF in 1962, but it does represent a major effort to profit by and improve upon the experience gained in that earlier survey. The major phases of the Postcensal Manpower Survey are four:

1. Design of the questionnaire and related survey documents;
2. preparation of a mailing list, including sample design and selection, and locating the census questionnaire of each selected person;
3. data collection; and
4. data processing, including the editing, weighting, and tabulation of the information submitted on the questionnaires.

Pretest.--A pretest of the questionnaire content and procedures for this survey was conducted in Dane County, Wisconsin, in the spring of 1970. From the 1968 special census of Dane County, questionnaires were located for persons in target scientific and technical occupations and with 4 or more years of college, and their names and addresses were transcribed for use in mailing the pretest questionnaires. The data collection phase comprised an initial mailing, a reminder postal card, and two followup mailings by first class postage. Selected panels of nonrespondents were treated to experimental followups using certified mail and the telephone. Returned questionnaires underwent clerical coding and editing and were key coded on magnetic tape. The resulting data tapes were subjected to a computer editing program, and item tallies were run for the purpose of evaluating the effectiveness of the questionnaire. The pretest included 10,942 persons of whom 7,549, or 68.8 percent, returned completed questionnaires. Comments on particular experiences in the pretest as they apply to the postcensal survey will be made under the appropriate sections below.

DESIGN OF QUESTIONNAIRES 1/

Survey goals.--The preparation of the questionnaires and other forms to be used in the survey involved a process of design, testing, and review over a period of 2 years. Two major requirements guided the development of these forms. First, the PMS questionnaires should obtain key information about scientists and engineers beyond that which would be available in the census. Second, the National Science Foundation desired to be able to identify persons who might be considered to be engineers or scientists according to definitions other than that prevailing in the census. The census identifies as such only those persons who reported themselves to be currently working as engineers or scientists (or unemployed or in the labor reserve and having last worked as engineers or scientists). Meeting this second requirement, then, involved in addition being able to identify persons who had been trained or otherwise qualified in engineering and science fields. These goals required the addition of many questions about educational experience and career patterns, including specific degrees worked for or acquired, the fields of study for each of these degrees, the sources of financial support for academic work, and, in addition, information about jobs held at periods other than the time of the census, first professional job held, self-identification of one's profession, membership in national societies, and the holding of valid professional licenses. Finally, changes in the general economic situation and particular dislocations in industries employing significant numbers of scientific and technical personnel, which occurred in the course of our planning, emphasized the importance of obtain-

ing updated information on the employment situation for highly qualified manpower in general. This did not require significant modification of the basic design of the questionnaire, for it included questions which permitted the determination of current labor force status, recent employment experience, incidence of part-time employment, layoffs, reduction in wage rates, and pejorative occupational changes; however, these developments did affect our analytical view of certain questions.

Sources of content.--In designing the questionnaires, we sought to take advantage of the experience gained in other surveys. Certain questions, for example, were taken from the 1970 Census of Population and Housing forms. These were mainly of two types: (1) Questions on unchanging characteristics (e.g. date of birth, sex) which were repeated to make certain that we had indeed obtained the questionnaire data from the intended person and (2) questions on characteristics which could legitimately change between the time of the census and the time of the Postcensal Manpower Survey (e.g., educational attainment, employment status, marital status). Naturally, another major source of questions was the 1962 Postcensal Study of Professional and Technical Manpower. Other census surveys which contributed were the 1958 Survey of Professional Manpower, the Consumer Anticipations Survey, and the Subject Response Study for the 1970 Census. Although not an exhaustive list, the following also were sources for content of the PMS questionnaire: The 1968 National Engineers Register and National Register of Scientific and Technical Personnel (NSF), Transferability and Retraining of Defense Engineers (U.S. Arms Control and Disarmament Agency and Stanford Research Institute), the 1967 Professional, Scientific, and Technical Manpower Survey (Canada), and the 1966 Survey of Professional Engineers (United Kingdom). In addition, there were some topics which, although not appearing on any of the surveys which we reviewed, were added in order to contribute to meeting the goals of the survey. These included questions on such subjects as receipt of bonuses or participation in profit-sharing plans, means of acquiring specific jobs, reasons for leaving specific jobs, and the association of changes in residence and changes in jobs.

The process of questionnaire development included consultation with more than 2 dozen interested parties from private organizations and such Government agencies as the National Institutes of Health, the Bureau of Labor Statistics, the Manpower Administration, the Office of Education, and the Office of Management and Budget.

Retrospective inquiries.--At least two major differences between the 1962 survey questionnaire and the 1972 PMS questionnaire should be pointed out. One is the difference in handling retrospective questions about careers, and the other is the method of coding and reporting industry and occupation entries. In 1962, there were batteries of questions dealing with the respondent's current (1962) employment, his employment at the time of the census (April 1960), and the full-time civilian job held upon reaching age 24. Because of the acknowledged difficulties in obtaining accurate information when asking about employment at a given point in the past, it was decided to approach the topic of past employment much on the order of a resume; that is, we chose to ask the respondent to give us information about his current job (or his last job if not currently employed) and the two jobs immediately preceding it. The beginning and ending dates associated with each of the three jobs are also requested and from those it is possible to determine occupation at a specific point in time (e.g., April 1970) as well as to calculate the duration of jobs and the periods between jobs. In addition, the questionnaire sent to professional workers also asks about the occupation and beginning date of the first full-time professional job ever held and the occupation and ending date of the last regular full-time job prior to that. The point of this is to more precisely determine the date and nature of the professional career entry job.

Respondent coding of industry and occupation.--The wording of the questions on industry and occupation was essentially the same for 1962 and 1972, as both are designed to be consistent with Census practice. However, in 1962 the question was open ended; the respondent was allowed to enter whatever response he desired, and that entry was coded clerically using the techniques which served in the Decennial Census. In 1972, the National Science Foundation strongly desired to avoid the clerical coding step and preferred to have the respondent choose from a set of lists enclosed with the questionnaire the code which best described his industry and occupation as well as field of specialization for degrees. This procedure has the advantage of standardizing response and, of course, eliminates a major clerical expense. This procedure was tried in the pretest, and a comparison was made of the code given to the respondent's occupation on the Dane County Special Census questionnaire and the code picked from the list by the respondent for the job he reported on the PMS pretest form as being held in April 1968. About 70 to 80 percent of these comparisons fell within the same occupational group (i.e., engineers, social scientists, etc.), and since there may have been differences in the actual job reported or in the descriptions rendered, this self-coding technique was considered to be acceptable for use in the national survey.

Transmittal letters.--All transmittal letters in the pretest were sent over the signature of Bureau officials, whereas in the national survey, the initial transmittal letter was sent over the signature of a National Science Foundation official with subsequent transmittal letters signed by Bureau officials. One rather important difference in the transmittal letters for the pretest and the national survey should be noted. Bureau administrative regulations introduced after the pretest required the inclusion in the transmittal letters for the national survey of a specific statement that participation in the survey was voluntary. This change doubtless weakened response in the national survey relative to the pretest; however, the pretest transmittal letter clearly stated that the survey was a test confined to Dane County, and the lack of such qualifications in the national survey letter probably favored response. The pre-

cise net effect of these changes on the response rate is not known, as we have not yet prepared a separate tally of response rates for Dane County in the national survey.

PREPARATION OF THE MAILING LIST

Sample design and selection.--The sample of approximately 108,000 persons for the Postcensal Manpower Survey (Sample I) was selected from 41 groups of census occupations as shown in List A. These 41 groups were composed of 65 target occupations or strata defined by the Census of Population. Within each stratum, a systematic sample of persons was selected across all 50 States and the District of Columbia. The sampling frame for the survey was the 20-percent census sample records. Each record had been assigned a weight by an involved ratio estimation procedure which is briefly described in the 1970 Census of Population publications. The probability of selection of a person within a stratum was proportional to this 20 percent census weight. The selected cases were confined to the records of persons 16 years old and over and in the experienced civilian labor force. Persons living in group quarters were excluded from the sample. Sample groups 1-31 comprise 54 primary target occupations, and the sample as selected will support detailed tabulations of respondents' characteristics in all but sample group 21. Sample groups 32-40 comprise 9 secondary target occupations with a known propensity for persons who, by training or other qualifications, could be included in the primary target occupations under alternative occupational criteria. The sample size for each of these 9 groups will also permit detailed tabulations of respondents' characteristics in all but sample group 34. The sampling fractions for groups 1-40 do not differ by more than a factor of four, so that it will be possible to reclassify the respondents by alternative occupational criteria (other than the "working as" concept) and tabulate the detailed characteristics of the resulting new groups without increasing the variance for a given sample group by more than 50 percent. Sample group 41 is the residual population in the experienced civilian labor force reporting 4 or more years of college. The size of the sample for this group will permit (1) the tabulation of aggregate statistics for the group and (2) the calculation of the aggregate number of persons who would be in primary target occupations (engineers or scientists only) if no coding errors were made or if alternative occupational criteria were applied.

Sample groups 1-40 include only persons with those occupations actually reported in the census. Persons with imputed entries in those occupations are in the scope of sample group 41.

As stated above, simultaneously with the selection of Sample I for the Postcensal Manpower Survey, another panel of about 58,000 cases, Sample II, was selected for possible future longitudinal surveys. Sample II was selected only from sample groups 1-25 and is equivalent in size to Sample I for those groups. The main purpose in selecting the supplementary sample was to create a reserve to maintain sufficient panel size to permit recanvassing this population annually or biennially to ascertain changes in labor force status and other characteristics. As a byproduct, it is also possible to combine Samples I and II and, for items appearing on the questionnaires for both surveys, produce tabulations with about half the variance as for either sample separately. This feature will be especially useful in tabulating unemployment rates.

The actual sample selection was made in two stages: First, all in-scope records on the Census of Population sample detail file were stripped off and tallied to permit calculation of precise sampling fractions. Second, the sample was selected from the stripped file, and printouts (sample listing sheets) were prepared containing the serial numbers and necessary identifying information for locating the census questionnaire for each selected case.

Obtaining names and addresses.--The process of searching for the appropriate census questionnaire and transcribing the names and addresses for the PMS sample was a major component of the survey's clerical workload, representing the expenditure of more than 12,000 man-hours over a 6-week period beginning in January 1972. The searching was done in two phases. First, all the enumeration district boxes for the indicated sample cases were isolated and the individual census schedule for each sample case was pulled. Second, the correct sample person was identified by matching characteristics on the sample listing sheet to the census questionnaire. Then the sample person's name and address were transcribed to the sample listing sheet. The serial number of each case was preprinted on the sample listing sheet to obviate the possibility of error in transcribing this number. It was also necessary to use address registers in conjunction with the census questionnaires for all rural areas and for selected urban areas. After the transcription operation was completed and verified, the census questionnaire sample pages pertaining to each sample person were microfilmed for future research use. The serial numbers, names, and addresses on the sample listing sheets were then key coded directly onto magnetic tape; a check-digit feature virtually prevented error in keying the serial number. The resulting data tape comprised the survey master control file and was used to create mailing labels and to check in responses. Of the original sample of 108,000 selected, Census of Population questionnaires were located and names and addresses were transcribed for almost 102,000 (94.2 percent).

DATA COLLECTION

Summary of response.--The data collection period extended from February 17 to July 17, 1972. In summary, for 12.4 percent of the persons mailed questionnaires, we received no response whatsoever; an additional 4.8 percent of the questionnaires mailed out were returned as not deliverable by the post office; 7.6 percent of the persons to whom questionnaires were mailed refused specifically and categorically to participate in the survey; 0.7 percent were reported as deceased; 0.8 percent returned questionnaires with so little data that it was impossible to process them; and 73.1 percent returned questionnaires with sufficient data

for processing. The latter have been termed "completed" questionnaires in this paper. About 0.2 percent of the panel were deleted as being out of scope or by reason of illness so severe that they should be excused from the survey.

Mail canvass.-- The initial mailing of the survey was on February 17, 1972, with followups going out to nonrespondents on March 9 and March 28. All three of these mailings were sent by first class postage. Preliminary results are shown in table 1. As expected, the successive mailings produced dinimishing returns with the proportion returning completed questionnaires declining from 26.1 percent in the initial mailing to 21.4 percent of those in the second mailing and 18.3 percent of those in the third mailing. An additional followup was sent by certified mail on April 24. Proportionately, this mailing was more effective than any of the earlier mailings with 31.2 percent returning completed questionnaires. However, the proportion refusing to complete the questionnaires increased sharply from less than 1 percent of each of the first three mailings to 3.7 percent of the certified. In fact, one-fifth of the total refusals of the survey were received in response to the certified mailing.

The total number of cases returned by the post office as undeliverable (postmaster returns) was approximately 6,000. While successive followups were being sent to nonrespondents, a program was underway to reduce this number. Each piece of mail returned by the post office was remailed to the same address to make sure that its return was not a result of mishandling. If returned a second time for the same reason, the microfilm record of that person's census questionnaire was looked up. These questionnaires were from either the 5 percent or the 15 percent sample in the Census of Population. The 15 percent questionnaire included an item on the name and address of the person's 1970 employer. The PMS package was remailed to the respondent's name in care of that employer. This program reduced the number of postmaster returns by about one-fifth to a total of 4,920.

Telephone followup.--We began telephoning all remaining nonrespondents on May 9. Approximately 32,000 persons were delinquent at that time. All these persons could not be called simultaneously, of course, and 3,100 of them responded before they could be telephoned. In addition, nearly 12,000 could not be contacted either because no telephone number was available or because the number we did obtain was not a good number. The purpose of the telephone call was to ascertain whether or not the respondent had received the questionnaire originally, to obtain the correct address and mail another one if he had not, and to secure his agreement to return a completed form. Of the 17,000 persons actually called, 4,900 refused to complete the questionnaire but agreed to answer an abbreviated list of questions on the telephone; 5,000 refused to cooperate to any extent. However, a good number, approximately 7,000, agreed to complete and return the regular questionnaire. Later, a check was made and those who promised to return a questionnaire but did not (4,900) were called again. These repeat calls yielded an additional 2,000 telephone interviews and almost 500 refusals. In total, of those actually contacted by telephone, 51.6 percent either returned completed questionnaires or gave answers to a list of questions over the telephone. But an additional 32.1 percent refused to participate in the survey; this comprised 71.0 percent of the total refusals for the survey.

Response by occupation and geographic area.--There were some notable differences among the occupation groups in the return rates, as can be seen from the preliminary results shown in table 2. Engineering and science technicians had the lowest rate of completed questionnaires returned (68.8 percent) of all the primary target occupations; this rate was significantly lower than the average for engineers and scientists of 75.0 percent. It was also lower than the rate (72.3 percent) for the secondary target occupations. Life and physical scientists had the highest rate of return of any occupation group at 79.4 percent. The other engineering and science occupations all ranged between 73.0 percent and 74.8 percent, with the exception of computer specialists at 71.9 percent.

Note that response rates for Sample II are higher than for Sample I in every occupation group, although the differences between occupation groups are approximately the same. Since the only significant difference between the techniques used to survey Sample II and sample groups 1-25 in Sample I is the length of the questionnaire, the disparity in response rates indicates the price one pays for increasing the respondent's burden. Furthermore, since the rate of completed questionnaires for Sample I includes cases for which only the short list of questions was answered on the telephone, the actual disparity between the two samples is masked. Presently, more refined data will be available for the investigation of this point.

The lowest rate of return of completed questionnaires for any of the 50 states was 65.8 percent for Nevada, followed by 69.9 percent for Arizona and 70.2 percent for New York. The highest rate of return of completed questionnaires was 81.9 percent for Nebraska followed by 81.1 percent for Delaware and 80.7 percent for West Virginia. As might be expected, the differences among geographic divisions were less, with the highest percentage of completed questionnaires being 75.9 percent for the West North Central Division and the lowest, 71.4 percent, for the Pacific Division. In all, 15 states and the District of Columbia had rates of return of completed questionnaires below the mean of 73.1 percent. Preliminary results by geographic division and State are shown in table 3.

DATA PROCESSING

Precomputer processing.--Mail receipts in the survey were initially classified and sorted by type of receipt: Refusals, correspondence, postmaster returns, completed questionnaires, incomplete questionnaires, and deceased. The postmaster returns, as previously noted, were researched and remailed in care of the employer's address. Deceased, refusals, and good receipts (completed questionnaires) were sent to check-in punch wherein the serial number of the questionnaire was keyed for updating

the master control file. Correspondence and incomplete questionnaires were set aside for review by an analyst. These incomplete questionnaires were screened out from other receipts because certain minimum entries were lacking. The standards required an entry which would indicate current educational attainment (either the highest year of schooling completed or the highest degree obtained by the person) and an entry for current labor force status and current or last occupation. When reviewed by an analyst, approximately half of the returns set aside as incomplete were salvaged based on information reported elsewhere on the questionnaire or by a telephone call made directly to the respondent. For refusals, incomplete returns, and deceased, the check-in punch was the terminal operation. Postmaster returns retained that status if no response was received after the mailout to the employer. Completed questionnaires, after check-in, were routed through two coding and verification processes. The first was general coding in which nonstandard entries were converted to proper form, degree level was coded, and conformity to certain standards on such items as wage and salary rates was enforced. Of the 74,000 questionnaires processed, approximately 15,000 were set aside during general coding for professional review, mostly for foreign degrees, wage entry failures, and job sequence problems. The second was geographical coding in which State or foreign country and, depending on the items, county or SMSA were coded for place of birth, location of higher education, location of last three jobs, place of residence before and after each of last three jobs, and current residence.

Computer edit.--After general coding and geographical coding, the information on the 74,000 questionnaires was key coded directly onto magnetic tape. The resulting data tape was passed through a computer editing program which checked for acceptability of codes and ranges of entries, made substitutions for certain missing items, performed certain recodes (for age, highest degree held, highest degree worked on, etc.), checked for consistency between items, and made a more refined edit of wage and salary rate entries. The specifications for the edit program called for the rejection of questionnaires which had passed the clerical screening without the minimum necessary entries or which contained unacceptable income or wage and salary entries. In addition, records which contained 10 or more minor errors, such as out-of-range entries or inconsistent entries, were also rejected, but records with fewer than 10 of the latter sort of errors were allowed to stay in the file with the erroneous items blanked. The rejects from the computer operation were reviewed, appropriate corrections were made, and the records were reentered on the file.

Matched data file.--The edited data file was then matched with (1) the survey master control file (the computer file used to control mailing and followup actions) so that each record would have an associated indication of its response code, and (2) the census sample detail file containing Census of Population data for each selected PMS case. The resulting matched edited data file therefore contains all census sample information for each person originally selected for the PMS sample, even if we may have been unable to find the censu questionnaire (and therefore a name and address fc mailing). It contains, in addition, the receip code classification for all cases mailed out i the survey whether or not a completed questionnair was returned. Finally, for cases in which com pleted questionnaires were returned in the survey all reported data that passed the edit also ar recorded in the file.

Weighting.--One further step is necessary before the final merged data can be used for tabulation: weighting up to census totals. Actually each record in the data file will contain fou separate weights. The first weight will not make any adjustment for noninterview and will be used for comparing the census characteristics of persons not responding in the postcensal survey to those of respondents. The second weight will make an adjustment for nonresponse and a ratio adjustment to known age, sex, and color census control totals by occupation group. This weight will be used for detailed tabulations by the original census occupation categories and for the tabulations by redefined occupation groups. The third weight will be used for purposes of variance computation. The fourth weight, similar in form to the second weight, will be used only when the Postcensal Manpower Survey sample and Sample II are combined for selected computations.

Tabulations.--The tabulations planned for the Postcensal Manpower Survey fall into three series reflecting relationship of content and priorities in design, programming, review, and publication. The first series of tables is planned to show changes in the employment status of engineers and scientists between 1970 and 1972. It will also provide the information necessary to evaluate the quality of reported data and to estimate the degree of nonresponse bias. Programming is substantially completed on the first part of the tables in this series, and we expect to be reviewing the initial data this fall. The second series of tables is planned to show the basic inventory of scientific, engineering, technical, and other highly qualified manpower for 1970 and 1972. These tables, similar to those in Technical Paper No. 21[2] which were based on the 1962 postcensal study, will include data on fields of study, job activity, citizenship, financial support for college work, industry, class of worker, salary rate, professional identification, and so forth, by age, sex, highest degree held, and occupation. This series will be run by the 1970 Census occupation. It will likely also be run for the redefined occupation groups. The design of the second series of tables is substantially completed, although programming is not yet begun. We hope to publish these tables during the winter of 1972-73. The third series of tables will present data focusing on more analytic relationships than the earlier series of tables: Exposure to science courses in high school and subsequent college work in a scientific field of study; field of study for first (or highest) degree, current occupation, and professional identification; father's occupation and field of study for first degree; salary rate for current job and average duration of last three jobs; and so forth. The design of the third series of tables is underway, although no programming has been initiated

These tables are planned for publication some time during 1973.

1/ Copies of the questionnaire and reference lists used in the survey are available upon request to the author, Social and Economic Statistics Administration, Bureau of the Census, Washington, D.C. 20233.

2/ U.S. Bureau of the Census, Characteristics of America's Engineers and Scientists: 1960 and 1962, Technical Paper No. 21, U. S. Government Printing Office, Washington, D.C. 1969.

LIST A

1972 POSTCENSAL MANPOWER SURVEY

LIST OF SAMPLE GROUPS

No.	Title	Census Occupation Code	Sample Size
	Computer specialists		
1.	Computer programmers	003	3188
2.	Computer systems analysts	004	3172
3.	Computer specialists, n.e.c	005	684
	Engineers		
4.	Aeronautical and astronautical engineers	006	3173
5.	Chemical engineers	010	2703
6.	Civil engineers	011	3178
7.	Electrical and electronic engineers	012	3673
8.	Industrial engineers	013	3176
9.	Mechanical engineers	014	3177
10.	Metallurgical and materials engineers	015	796
11.	Mining and petroleum engineers	020,021	806
12.	Sales engineers	022	2817
13.	Engineers, n.e.c., and engineering teachers*	023,111	3179
	Mathematical specialists		
14.	Actuaries, mathematicians, statisticians, and mathematics teachers*	034,035,036,112	3179
	Life and physical scientists		
15.	Agricultural scientists and agriculture teachers*	042,102	893
16.	Foresters and conservationists (with 4 or more years of college)	025	823
17.	Atmospheric, space, and marine scientists, geologists, and atmospheric, earth, marine, and space teachers*	043,051,052,103	1725
18.	Biological scientists and biology teachers*	044,104	2589
19.	Chemists and chemistry teachers*	045,105	3183
20.	Physicists, astronomers, and physics teachers*	053,110	1866
21.	Life and physical scientists, n.e.c	054	65
22.	Operations and systems researchers and analysts	055	3184
	Social scientists		
23.	Economists and economics teachers*	091,116	3169
24.	Psychologists and psychology teachers*	093,114	2104
25.	Political scientists, sociologists, urban and regional planners, social scientists, n.e.c., sociology teachers,* and social science teachers,* n.e.c	092,094,095, 096,121,122	1742
	Engineering and science technicians		
26.	Agricultural, biological, and chemical technicians, except health	150,151	3175
27.	Draftsmen	152	3780
28.	Electrical and electronic engineering technicians	153	3177
29.	Industrial and mechanical engineering technicians and numerical control tool programmers	154,155,172	1931
30.	Surveyors	161	3162
31.	Mathematical technicians and engineering and science technicians, n.e.c	156,162	3183
32.	Personnel and labor relations workers	056	3801
33.	Health specialties teachers*	113	1425
34.	Trade, industrial, and technicial teachers*	134	162
35.	Miscellaneous teachers*	135	991
36.	Teachers,* subject not specified	140	3189
37.	Technicians, n.e.c	173	1955
38.	Research workers, not specified	195	3177
39.	School administrators, college (with 4 or more years of college)	235	1506
40.	Managers and administrators, n.e.c. (with 4 or more years of college	245	9489
41.	Persons in the experienced civilian labor force, with 4 or more years of college, and not in any of the above occupations		5758

n.e.c. - not elsewhere classified

* College and university

Table 1.--1972 POSTCENSAL MANPOWER SURVEY: RESPONSE RATES BY TYPE AND COLLECTION PERIOD TO WHICH ATTRIBUTED (PRELIMINARY)

Collection period	Total at risk in the collection period	Completed questionnaires	Deceased	Refusal
Total number				
First mailing (2/17/72-3/14/72)	101,835	74,483	675	7,689
Second mailing (3/15/72-3/31/72)	101,835	26,603	270	47
Third mailing (4/3/72-4/28/72)	74,194	15,906	169	211
Certified mailing (5/1/72-7/17/72)	54,309	9,946	120	405
Telephone calls (5/15/72-7/17/72)	42,444	13,234	103	1,564
	17,042	8,794	13	5,462
Total percent				
First mailing (2/17/72-3/14/72)	100.0	73.1	0.7	7.6
Second mailing (3/15/72-3/31/72)	100.0	26.1	0.3	(1)
Third mailing (4/3/72-4/28/72)	100.0	21.4	0.2	0.3
Certified mailing (5/1/72-7/17/72)	100.0	18.3	0.2	0.7
Telephone calls (5/15/72-7/17/72)	100.0	31.2	0.2	3.7
	100.0	51.6	0.1	32.1
Total percent				
First mailing (2/17/72-3/14/72)	100.0	100.0	100.0	100.0
Second mailing (3/15/72-3/31/72)	100.0	35.7	40.0	0.6
Third mailing (4/3/72-4/28/72)	72.9	21.4	25.0	2.7
Certified mailing (5/1/72-7/17/72)	53.3	13.4	17.8	5.3
Telephone calls (5/15/72-7/17/72)	41.7	17.8	15.3	20.3
	16.7	11.8	1.9	71.0

1/ Less than 0.1 percent.

Table 2.--1972 POSTCENSAL MANPOWER SURVEY: RESPONSE RATES BY TYPE AND OCCUPATION GROUP FOR SAMPLES I AND II (PRELIMINARY)

Occupation group	Total mailed out	Completed questionnaires	Other responses			
			Total 1/	Deceased	Postmaster returns	Refusal
SAMPLE I						
All occupations						
Number	101,835	74,483	14,741	675	4,920	7,689
Percent	100.0	73.1	14.5	0.7	4.8	7.6
Primary target occupations	100.0	73.5	14.2	0.6	4.7	7.5
Engineers and scientists	100.0	75.0	13.6	0.6	4.4	7.2
Computer specialists	100.0	71.9	14.4	0.2	6.1	6.9
Engineers	100.0	74.8	14.2	0.8	3.6	8.5
Mathematical specialists	100.0	74.2	14.0	0.6	5.0	6.9
Life and physical scientists	100.0	79.4	11.3	0.5	4.9	4.7
Operations and systems researchers and analysts	100.0	73.0	14.9	0.8	3.7	9.2
Social scientists	100.0	73.1	13.2	0.7	5.0	6.2
Engineering and science technicians	100.0	68.8	16.4	0.6	5.8	8.5
Secondary target occupations	100.0	72.3	15.1	0.8	5.1	7.6
Other occupations, with 4 or more years of college	100.0	71.7	14.8	0.6	4.6	7.7
SAMPLE II						
All occupations						
Number	54,281	44,718	5,400	363	2,308	2,086
Percent	100.0	82.4	10.0	0.7	4.3	3.8
Primary target occupations	100.0	82.4	10.0	0.7	4.3	3.8
Engineers and scientists	100.0	82.4	10.0	0.7	4.3	3.8
Computer specialists	100.0	79.9	11.2	0.3	5.8	4.3
Engineers	100.0	82.7	9.8	0.8	3.4	4.4
Mathematical specialists	100.0	82.2	10.7	0.2	5.0	4.2
Life and physical scientists	100.0	84.6	8.7	0.5	4.5	2.4
Operations and systems researchers and analysts	100.0	81.5	10.3	0.6	3.4	4.8
Social scientists	100.0	80.8	10.6	0.7	5.5	3.0
Engineering and science technicians	(X)	(X)	(X)	(X)	(X)	(X)
Secondary target occupations	(X)	(X)	(X)	(X)	(X)	(X)
Other occupations, with 4 or more years of college	(X)	(X)	(X)	(X)	(X)	(X)

Not applicable

1/ Includes questionnaires returned with insufficient data for processing and cases deleted as out of scope.

Table 3.--1972 POSTCENSAL MANPOWER SURVEY: RESPONSE RATES BY TYPE FOR DIVISIONS AND STATES (PRELIMINARY)

Division and state	Total	No response	Completed questionnaire	Other response			
				Total[1/]	Deceased	Post-master return	Refusal
UNITED STATES							
Number	101,835	12,611	74,483	14,741	675	4,920	7,689
Percent	100.0	12.4	73.1	14.5	0.7	4.8	7.6
NEW ENGLAND:	100.0	11.5	73.3	15.2	0.6	4.2	8.9
Maine	100.0	10.2	75.9	13.9	0.6	3.1	7.7
New Hampshire	100.0	10.2	76.4	13.4	0.8	4.7	6.8
Vermont	100.0	7.9	74.7	17.4	1.3	2.6	11.4
Massachusetts	100.0	12.3	72.6	15.1	0.5	4.7	8.6
Rhode Island	100.0	10.9	72.0	17.1	0.2	3.1	10.7
Connecticut	100.0	11.0	73.8	15.2	0.8	3.8	9.2
MIDDLE ATLANTIC:	100.0	12.5	72.8	14.7	0.8	4.4	8.1
New York	100.0	13.7	70.2	16.1	0.7	5.4	8.4
New Jersey	100.0	12.1	75.3	12.6	0.7	3.3	7.1
Pennsylvania	100.0	10.8	75.2	14.0	0.9	3.8	8.3
EAST NORTH CENTRAL:	100.0	12.0	73.5	14.5	0.7	4.2	8.2
Ohio	100.0	11.8	74.3	13.9	0.9	3.4	8.1
Indiana	100.0	12.0	74.2	13.8	0.7	4.4	7.4
Illinois	100.0	14.0	70.7	15.3	0.4	5.1	8.5
Michigan	100.0	11.4	74.1	14.5	0.7	4.0	8.5
Wisconsin	100.0	8.6	77.5	13.9	0.5	4.1	7.6
WEST NORTH CENTRAL:	100.0	11.1	75.9	13.0	0.7	4.2	6.7
Minnesota	100.0	11.2	74.7	14.1	0.8	4.8	7.2
Iowa	100.0	9.5	79.4	11.1	0.3	4.2	5.4
Missouri	100.0	13.2	72.1	14.7	0.8	4.5	7.5
North Dakota	100.0	10.3	79.5	10.2	1.1	3.2	4.9
South Dakota	100.0	12.8	77.7	9.5	2.1	2.7	4.8
Nebraska	100.0	8.7	81.9	9.4	0.0	2.6	6.1
Kansas	100.0	9.9	77.9	12.2	0.6	3.8	6.3
SOUTH ATLANTIC:	100.0	12.9	73.4	13.7	0.6	4.7	6.8
Delaware	100.0	7.4	81.1	11.5	0.4	3.5	7.0
Maryland	100.0	11.7	75.5	12.8	0.5	3.6	7.4
District of Columbia	100.0	20.7	60.6	18.7	0.7	10.4	5.9
Virginia	100.0	11.3	75.5	13.2	0.4	4.3	7.2
West Virginia	100.0	8.5	80.7	10.8	1.0	2.2	5.7
North Carolina	100.0	12.9	72.5	14.6	0.7	5.3	6.5
South Carolina	100.0	12.6	75.0	12.4	0.9	3.4	6.3
Georgia	100.0	14.3	71.0	14.7	0.6	6.3	6.5
Florida	100.0	15.4	70.3	14.3	0.6	5.2	6.8
EAST SOUTH CENTRAL:	100.0	11.6	75.1	13.3	0.9	4.8	6.4
Kentucky	100.0	11.3	76.9	11.8	0.6	3.7	6.4
Tennessee	100.0	11.5	75.5	13.0	0.5	4.2	6.7
Alabama	100.0	11.1	74.8	14.1	1.2	5.5	6.4
Mississippi	100.0	13.5	72.3	14.2	1.5	6.6	5.5
WEST SOUTH CENTRAL:	100.0	13.1	72.4	14.5	0.6	5.8	6.7
Arkansas	100.0	11.3	77.2	11.5	0.2	5.5	5.1
Louisiana	100.0	12.7	73.5	13.8	0.6	4.9	6.7
Oklahoma	100.0	13.3	71.9	14.8	0.5	5.2	7.3
Texas	100.0	13.3	71.9	14.8	0.6	6.2	6.6
MOUNTAIN:	100.0	11.5	73.6	14.9	0.6	6.2	6.7
Montana	100.0	12.3	77.1	10.6	0.3	3.4	6.2
Idaho	100.0	11.5	75.0	13.5	0.0	6.9	5.6
Wyoming	100.0	7.4	75.7	16.9	0.0	8.9	4.5
Colorado	100.0	9.5	76.6	13.9	0.6	5.9	5.9
New Mexico	100.0	12.9	71.8	15.3	0.6	5.4	7.4
Arizona	100.0	14.2	69.9	15.9	0.4	6.2	8.9
Utah	100.0	9.7	74.1	16.2	0.9	6.9	6.9
Nevada	100.0	17.1	65.8	17.1	1.7	9.4	4.7
PACIFIC:	100.0	13.2	71.4	15.4	0.6	5.7	7.7
Washington	100.0	11.5	73.6	14.9	0.7	5.6	7.3
Oregon	100.0	10.9	75.6	13.5	0.7	5.3	6.0
California	100.0	13.7	70.6	15.7	0.6	5.7	8.0
Alaska	100.0	9.4	74.5	16.1	0.0	12.8	2.7
Hawaii	100.0	14.7	74.5	10.8	0.5	5.4	4.1

1/ Includes questionnaires returned with insufficient data for processing and cases deleted as out of scope.

APPENDIX B

Selected Characteristics of Engineers and Scientists by Race

Persons in Engineering and Scientific Occupations in the 1970 Experienced Civilian Labor Force, by Age, Educational Attainment, Field of Highest Degree, and Race, 1972

Characteristics	Engineers		Mathematicians[1]		Life scientists		Physical scientists		Social scientists	
	Total	Races other than white[2]	Total	Races other than white[2]	Total	Races other than white[2]	Total	Races other than white[2]	Total	Races other than white[2]
Total, 1970 (in thousands)..	1,242.5	37.0	61.7	3.8	83.5	4.6	196.4	11.0	151.3	6.1
	Percent distribution									
Age, 1972.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 25 years.....	2.1	3.0	6.3	2.7	4.2	3.0	3.7	1.7	2.2	3.0
25-29.....	12.2	16.5	19.4	19.3	15.2	10.5	14.7	17.0	18.2	17.6
30-39.....	29.4	40.3	31.1	38.6	31.7	35.1	31.7	43.4	32.3	35.6
40-49.....	29.9	28.1	20.6	23.3	24.4	26.8	26.8	25.9	24.6	26.9
50-54.....	11.0	5.7	7.6	6.3	9.9	12.4	9.6	5.4	9.1	7.3
55-59.....	7.7	3.9	6.4	7.2	6.7	3.6	6.6	3.2	5.9	3.9
60-64.....	4.7	1.1	4.5	.9	4.8	5.8	4.6	2.1	4.2	2.2
65 and over.....	3.2	1.4	4.1	1.8	3.0	2.8	2.4	1.2	3.5	3.5
Educational Attainment, 1972.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than bachelor's[3].....	38.3	28.3	23.1	21.8	14.1	19.1	18.9	10.7	13.7	16.1
Bachelor's degree.....	45.9	41.3	27.0	26.4	37.4	30.6	37.4	40.9	26.5	21.3
Master's degree.....	13.1	22.8	29.7	34.5	21.0	22.9	18.7	17.5	32.7	39.6
Ph.D.....	2.0	7.2	19.6	17.3	25.7	24.3	24.5	29.7	25.4	20.9
Other degrees[4].....	.6	.5	.8	([5])	1.7	3.1	.4	1.2	1.6	2.1
Field of Highest Degree, 1972[6]....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineering.....	76.4	82.5	3.4	1.2	1.5	1.8	9.0	14.9	4.3	5.9
Mathematics.....	2.0	1.5	57.7	63.2	.4	-	1.7	.3	1.2	1.8
Life sciences.....	.9	.7	2.1	3.3	76.8	69.1	9.0	16.7	1.8	1.5
Physical science.....	4.6	1.9	3.2	2.3	2.2	3.6	68.6	58.1	1.2	.6
Social sciences.....	2.2	2.7	8.8	11.5	3.2	-	1.4	-	55.7	53.3
Other fields[7].....	13.9	10.7	24.8	18.5	15.8	25.5	10.3	10.1	35.8	37.0

- Represents zero.
[1] Includes statisticians and actuaries.
[2] Includes Negro, oriental, and other minority races.
[3] Includes no college, associate degree, and 1 to 4 years of college with no degree.
[4] Includes first professional, and registered nurse degrees.
[5] Less than .05 percent.
[6] Excludes persons without 4-year college degree.
[7] Includes other than science and engineering and no report.

Note: Detail may not add to 100.0 percent because of rounding.

Source: National Science Foundation. Science Resource Studies HIGHLIGHTS, "Selected Characteristics of Five Engineering and Scientific Occupational Groups, 1972" (NSF 73-306) July 20, 1973.

APPENDIX C

Questionnaire

O.M.B. No. 41-S71103; Approval Expires December 31, 1972

FORM PMS-1
(10-26-71)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

1972 PROFESSIONAL, TECHNICAL, AND SCIENTIFIC MANPOWER SURVEY

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 Booklet enclosed with this questionnaire.

IF YOU HAVE MOVED, or if there are errors in the address label above, please enter the correct information about your current residence below.

Name	Number and street	
City or town	State or foreign country 010	ZIP code

Part I — SOME FACTS ABOUT YOURSELF

1. In what month and year were you born? Month and year 011

2. Sex 012 1 ☐ Male 2 ☐ Female

3. What is your present marital status? 013 1 ☐ Now married 2 ☐ Separated or divorced 3 ☐ Widowed 4 ☐ Never married

4. In what State or foreign country were you born? State or foreign country 014 | *If foreign country* — When did you come to the United States to stay? Year 015

5. Citizenship *(Mark only one box)*

016 101 ☐ U.S.A. (native born) 160 ☐ Canada 150 ☐ Taiwan 169 ☐ Cuba
102 ☐ U.S.A. (naturalized) 110 ☐ United Kingdom 149 ☐ India ☐ Other — *Specify* _____
122 ☐ Germany 153 ☐ Philippines

If not U.S.A. — Are you a permanent resident (on immigrant visa) of the U.S.? . . . . . 017 1 ☐ Yes 2 ☐ No

6a. What kind of work did your father do when you were about 16 years old? *(Enter code and description from List C.)* . . . . . 018 Code | Description

OR × ☐ Father not living at that time

b. What was the highest level of education that your father ever attained? *(Mark only one box)*

019 1 ☐ Did not graduate from high school 3 ☐ Attended college, but did not graduate 5 ☐ College work beyond Bachelor's degree
2 ☐ Graduated from high school 4 ☐ Received Bachelor's degree

7. Have you ever served on extended active duty in the Army, Navy, or other Armed Forces of the United States?

020 1 ☐ No 2 ☐ Yes →

From *(Month and year)*	To *(Month and year)*
021	022
From *(Month and year)*	To *(Month and year)*
023	024

8. Are you currently a member of any national professional society or association? (For example, American Chemical Society, American Society of Civil Engineers, National Education Association.)

025 1 ☐ No 2 ☐ Yes — *List in space at right* →

9. Do you have a currently valid professional license, certification, or registration? (For example, engineering registration, medical license, teaching certificate.)

026 1 ☐ No 2 ☐ Yes — *Give title(s) at right* →

Part II – EDUCATION AND TRAINING

10. How many years of education and formal training have you COMPLETED? *(Mark highest year COMPLETED)*

Never attended school . . . . . 0 ☐ – *Skip to question 16*

Elementary and high school (grade or year) . . . . . 027 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐

Beyond high school – College, junior college, law school, technical institutes, etc. (academic years if full course or requirement load carried, otherwise equivalent number of academic years) . . . . . 028 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 or more ☐

11. Did you receive a high school diploma? . . . . . 029 1 ☐ No 2 ☐ Yes – In what year? 19 _____

12. While you were in high school, did you take courses in any of the following subjects? *(Mark as many as apply)*

030 1 ☐ ← *If you did not attend high school, mark the box at left and skip to question 16*

2 ☐ General science
3 ☐ Economics
4 ☐ Physics
5 ☐ Government or civics
6 ☐ Chemistry
7 ☐ Sociology

031 1 ☐ Biology
2 ☐ Psychology
3 ☐ Mathematics
4 ☐ Drafting
5 ☐ Shop work

13. If you attended a school BEYOND the high school level, did you take courses in any of the following subjects? *(Mark as many as apply)*

032 1 ☐ ← *If you did not attend a school beyond the high school level, mark the box at left and skip to question 16*

2 ☐ Chemistry
3 ☐ Physics
4 ☐ Earth Sciences
5 ☐ Engineering

033 1 ☐ Mathematics
2 ☐ Statistics
3 ☐ Agriculture or Forestry
4 ☐ Biological Sciences

034 1 ☐ Computer Sciences
2 ☐ Economics
3 ☐ Psychology
4 ☐ Sociology

035 1 ☐ Health Fields
2 ☐ Arts and Humanities
3 ☐ Business
4 ☐ Education

14. List below, beginning with the most recent and working back, each institution from which you have obtained or are currently obtaining formal training beyond the high school level, and give the other information as requested. Use academic years if full course or requirement load carried, otherwise the number of equivalent academic years. Designate degrees by abbreviations, for example, AA, BA, MA, Ph.D, LLB, MD, etc. Use a separate line for each degree granted, worked for, or for any change in major field of specialized study. Refer to enclosed List A for the code numbers of major fields. Do NOT include work taken by correspondence course, on-the-job training, apprenticeship, or at employer's training school (training of this type should be reported in question 16). If you need more space, attach a separate sheet of paper and give the same type of information for each additional school listed.

College, university, or other post high school institution *Name, city, and State or foreign country*	Was this a less than four-year institution?	Attendance: Year From	Attendance: Year To	Attendance: Status	Number of academic years or equivalents	Type of degree worked for, if any, or none (AA, BA, etc.)	Year degree awarded or to be awarded	Major field *Enter code and description from List A*	
MOST RECENT 037	038 1 ☐ Yes 2 ☐ No	039 19 ___	040 19 ___ OR x ☐ Now enrolled	041 1 ☐ Part-time 2 ☐ Full-time	042	043 ___ OR x ☐ None	045 19 ___ OR x ☐ None	046 Code	Description
SECOND-TO-LAST 047	048 1 ☐ Yes 2 ☐ No	049 19 ___	050 19 ___	051 1 ☐ Part-time 2 ☐ Full-time	052	053 ___ OR x ☐ None	055 19 ___ OR x ☐ None	056 Code	Description
THIRD-TO-LAST 057	058 1 ☐ Yes 2 ☐ No	059 19 ___	060 19 ___	061 1 ☐ Part-time 2 ☐ Full-time	062	063 ___ OR x ☐ None	065 19 ___ OR x ☐ None	066 Code	Description
FOURTH-TO-LAST 067	068 1 ☐ Yes 2 ☐ No	069 19 ___	070 19 ___	071 1 ☐ Part-time 2 ☐ Full-time	072	073 ___ OR x ☐ None	075 19 ___ OR x ☐ None	076 Code	Description

15. How did you finance this post high school training? *(Mark as many as apply)*

	Undergraduate	Graduate or professional
Scholarship or fellowship (grant for which no services were required) from:		
College or university	077 1 ☐	078 1 ☐
National Science Foundation	2 ☐	2 ☐
Public Health Service or National Institutes of Health	3 ☐	3 ☐
NDEA Title IV (U.S. Office of Education)	4 ☐	4 ☐
Other – *Specify* _____	5 ☐	5 ☐
Research or teaching assistantship	6 ☐	6 ☐
Savings or other current earnings not included above	079 7 ☐	080 7 ☐
Loans from public or private institutions	8 ☐	8 ☐
Aid from parents, relatives, spouse, or spouse's relatives	9 ☐	9 ☐
Veterans' Administration Educational Benefits (G.I. Bill, Vocational Rehabilitation, War Orphans Programs, etc.)	081 10 ☐	082 10 ☐
Employer paid for training	11 ☐	11 ☐
Other sources	12 ☐	12 ☐
Enter the code number, 1–12 from above, of the single most important source (in terms of dollar amounts) of funds used in financing your education	083	084
Approximately what percentage of your total expenses was covered by the most important source?	085 %	086 %

16. Aside from the formal training listed in question 14, have you ever received or are you currently receiving any of the following types of training? *(Mark as many as apply)*

087
1 ☐ Apprenticeships
2 ☐ Other formal on-the-job training programs
3 ☐ Military training applicable to civilian occupations
4 ☐ Extension or correspondence courses
5 ☐ Courses at employers training school
6 ☐ Courses at adult education center
7 ☐ Other training
8 ☐ None – *Go to question 17*

Of the types of training marked, which ones do you consider the most useful in your present or last job?

088 *Enter codes* _____ OR x ☐ None

Part III – WORK STATUS

17. Were you employed last week? *(If you had a job from which you were temporarily absent due to vacation, illness, etc., answer yes.)*

108 1 ☐ Yes – *Skip to question 20* 2 ☐ No – *Go to question 18*

18. If you were not employed last week, were you principally – *(Mark only one box)*

109 1 ☐ Looking for work 2 ☐ Retired 3 ☐ Housewife 4 ☐ Student 5 ☐ Other – *Specify* _____

19. 110 1 ☐ ← *If you have never been employed, mark the box at the left and skip to question 25 on page 8.*

Part IV – EMPLOYMENT PROFILE

In this part of the questionnaire, we are asking questions about your last **THREE** civilian jobs beginning with the major job you held last week (or the last job you held) and working back. Please include **all** jobs, not just scientific or technical jobs. In answering these questions, **consider a change in jobs to have occurred if there were significant changes in your duties, level of responsibility, or occupation,** even though you may have continued working for the same employer. Please answer each question for all three jobs. (If you had more than one regular job last week, report on the one which you considered to be your primary or most important job. (Information about second current regular job should be reported in question 37.)

	LAST CIVILIAN JOB Job held last week or most recent job Job A	SECOND-TO-LAST CIVILIAN JOB Job B	THIRD-TO-LAST CIVILIAN JOB Job C
20. **For whom did you work?** *Name of company, business, organization, government agency, or other employer (or self-employed)*	Name	Name	Name
Location where you were employed	City or county 111	City or county 112	City or county 113
	State/foreign country 114	State/foreign country 115	State/foreign country 116
21. **What kind of business was this?** Enter code and description from List B. If the organization conducted its activities at different locations, enter the *description of the activity at the location* where you were employed.	117 Code / Description	118 Code / Description	119 Code / Description
22. **What kind of work were you doing?** Enter code and description from List C.	120 Code / Description	121 Code / Description	122 Code / Description
23. **What were your most important activities or duties?** *For example:* design electronic mechanisms in the industrial instrument *industry;* or teach elementary and advanced courses in physics; or gather and analyze statistical data on wholesale price movements.	123	124	125
24. **What was your job title?**			
25. **Was any of your work being supported or sponsored by U.S. government funds?** *If yes* — In what area(s) was this work? 01 – Agriculture; 02 – Atomic energy; 03 – Defense; 04 – Housing; 05 – Education; 06 – Health; 07 – International; 08 – Transportation; 09 – Natural resources; 10 – Public works; 11 – Space; 12 – Urban development; 13 – Other – *Specify*	126 1 [ ] Yes → 2 [ ] No 3 [ ] Don't know *Enter code(s) from list at left* 129	127 1 [ ] Yes → 2 [ ] No 3 [ ] Don't know *Enter code(s) from list at left* 130	128 1 [ ] Yes → 2 [ ] No 3 [ ] Don't know *Enter code(s) from list at left* 131

26. **Were you primarily –**	*(Mark only one box)*	*(Mark only one box)*	*(Mark only one box)*
1 – Employee of private company, business, or individual for wages, salary, or commissions?	132 1 [ ]	133 1 [ ]	134 1 [ ]
2 – Employee of non-profit organization (except government)?	2 [ ]	2 [ ]	2 [ ]
3 – Federal Government employee?	3 [ ]	3 [ ]	3 [ ]
4 – State government employee?	4 [ ]	4 [ ]	4 [ ]
5 – Local government employee (city, county, etc.)?	5 [ ]	5 [ ]	5 [ ]
Self-employed in own business, professional practice, or farm –			
6 – Own business – not incorporated?	6 [ ]	6 [ ]	6 [ ]
7 – Own business – incorporated?	7 [ ]	7 [ ]	7 [ ]
8 – Working without pay in family business or farm?	8 [ ]	8 [ ]	8 [ ]
27. **Did you usually work full-time or part-time?**	135 1 [ ] Full-time 2 [ ] Part-time	136 1 [ ] Full-time 2 [ ] Part-time	137 1 [ ] Full-time 2 [ ] Part-time
28. **Between what dates did you hold this position?** *(Enter month and year for each job)*	From 138 To 141 x [ ] Or last week	From 139 To 142	From 140 To 143
29. **About how much was your basic annual salary rate –** *(Report to nearest hundred dollars)* *(Exclude bonuses and profit-sharing plans. If self-employed, give an estimated equivalent salary rate, or report income before taxes and other deductions such as Social Security contributions but after deducting business expenses.)*			
1 – When you began the job?	Beginning salary 144 $	Beginning salary 145 $	Beginning salary 146 $
2 – *If academically employed* – For how many months was this?	Number of months 147	Number of months 148	Number of months 149
3 – When you left the job (or last week, if currently employed)?	Current or ending salary 150 $	Ending salary 151 $	Ending salary 152 $
4 – *If academically employed* – For how many months was this?	Number of months 153	Number of months 154	Number of months 155
30. **In addition to your annual salary, did you receive any bonuses and/or participate in any profit-sharing plans (either cash payments or stock acquisitions)?**	156 1 [ ] Yes 2 [ ] No	157 1 [ ] Yes 2 [ ] No	158 1 [ ] Yes 2 [ ] No
If yes – Did these arrangements begin when you took this job?	159 1 [ ] Yes 2 [ ] No → They began in 19____	160 1 [ ] Yes 2 [ ] No → They began in 19____	161 1 [ ] Yes 2 [ ] No → They began in 19____
31. **Was the change between this job and the previous one, or the acceptance of this job if not previously employed associated with a change in your residence?**	162 1 [ ] Yes 2 [ ] No	163 1 [ ] Yes 2 [ ] No	164 1 [ ] Yes 2 [ ] No
If yes – Where did you live – Before assuming this job?	City or county 165	City or county 166	City or county 167
	State/foreign country 168	State/foreign country 169	State/foreign country 170
After assuming this job?	City or county 171	City or county 172	City or county 173
	State/foreign country 174	State/foreign country 175	State/foreign country 176

32. Here is a list of activities. For each job, estimate the percent of total working time spent both in doing the work yourself, and in supervising and administering others doing the activities detailed below. Please account for total working time.	LAST CIVILIAN JOB Job held last week or most recent job Job A — Percent of total working time	SECOND-TO-LAST CIVILIAN JOB Job B — Percent of total working time	THIRD-TO-LAST CIVILIAN JOB Job C — Percent of total working time
1. **Teaching and training** – preparing and teaching courses, guiding and counselling students or trainees	1. 177 %	1. 178 %	1. 179 %
2. **Research** – basic and applied research	2. 180 %	2. 181 %	2. 182 %
3. **Development** – product, process, and technical development	3. 183 %	3. 184 %	3. 185 %
4. **Clinical practice** – diagnosis, treatment, etc., for patients and clients	4. 186 %	4. 187 %	4. 188 %
5. **Design** – of equipment, processes, models; also drafting, drawing, blue prints	5. 189 %	5. 190 %	5. 191 %
6. **Quality control, testing, and evaluation** – of equipment, materials, devices, etc.	6. 192 %	6. 193 %	6. 194 %
7. **Operations** – production, maintenance, construction, installation, inspection	7. 195 %	7. 196 %	7. 197 %
8. **Distribution** – sales, traffic, purchasing, customer and public relations	8. 198 %	8. 199 %	8. 200 %
9. **Statistical work** – designing and conducting sample and other surveys, statistical analysis, forecasting	9. 201 %	9. 202 %	9. 203 %
10. **Consulting** – on technical aspects of professional, scientific, and management fields or products	10. 204 %	10. 205 %	10. 206 %
11. **Computer applications** – programming, data systems analysis, development of programming techniques, controlling computer operations	11. 207 %	11. 208 %	11. 209 %
12. Other activities – *Specify* _____	12. 210 %	12. 211 %	12. 212 %
YOUR ENTRIES IN EACH COLUMN SHOULD SUM TO 100% →	100 %	100 %	100 %
33. Mark the one statement which best describes your level of supervisory responsibility in each job.	*(Mark only one box)*	*(Mark only one box)*	*(Mark only one box)*
1. Supervised no personnel	213 1 ☐	214 1 ☐	215 1 ☐
2. Responsibility for indirect or staff supervision (no line authority)	2 ☐	2 ☐	2 ☐
3. Supervised team, unit, project, or section	3 ☐	3 ☐	3 ☐
4. Managed major department or division	4 ☐	4 ☐	4 ☐
5. General management of organization	5 ☐	5 ☐	5 ☐

34. How did you acquire this job? *(Mark most important means)*	*(Mark only one box)*	*(Mark only one box)*	*(Mark only one box)*
1. Promotion within same organization	273 1 ☐	274 1 ☐	275 1 ☐
2. Told of position by acquaintance in organization	2 ☐	2 ☐	2 ☐
3. Told of position by acquaintance not in organization	3 ☐	3 ☐	3 ☐
4. Contact by official recruiter or personnel officer of organization by letter or personal visit	4 ☐	4 ☐	4 ☐
5. Found position at professional society meeting	5 ☐	5 ☐	5 ☐
6. Found position through a public employment agency	6 ☐	6 ☐	6 ☐
7. Found position through a private employment agency	7 ☐	7 ☐	7 ☐
8. Found position through college placement office	8 ☐	8 ☐	8 ☐
9. Answered want ad	9 ☐	9 ☐	9 ☐
10. Began own business or professional practice	10 ☐	10 ☐	10 ☐
11. Purchased business or professional practice	11 ☐	11 ☐	11 ☐
12. Other	12 ☐	12 ☐	12 ☐
35. Why did you leave this job?	*(Mark as many as apply)*	*(Mark as many as apply)*	*(Mark as many as apply)*
If still working at most recent job, mark here →	X ☐ Currently employed in this job		
1. Laid off from work or job terminated	276 1 ☐	277 1 ☐	278 1 ☐
2. Higher salary, essentially same position and responsibility	2 ☐	2 ☐	2 ☐
3. Higher salary and advancement	3 ☐	3 ☐	3 ☐
4. Improved working conditions	4 ☐	4 ☐	4 ☐
5. Change in type of work	5 ☐	5 ☐	5 ☐
6. Better opportunity for advancement	6 ☐	6 ☐	6 ☐
7. Association with outstanding specialists in my field	279 7 ☐	280 7 ☐	281 7 ☐
8. Entered active duty in Armed Forces	8 ☐	8 ☐	8 ☐
9. Retirement	9 ☐	9 ☐	9 ☐
10. Stay home and take care of family	282 10 ☐	283 10 ☐	284 10 ☐
11. Spouse's change in job	11 ☐	11 ☐	11 ☐
12. Move closer to other family members	12 ☐	12 ☐	12 ☐
13. Return to school	285 13 ☐	286 13 ☐	287 13 ☐
14. Relocate in different city, State, region, or country	14 ☐	14 ☐	14 ☐
15. Other	15 ☐	15 ☐	15 ☐
If more than one box marked – Which of the above was the most important reason?	Enter code 288	Enter code 289	Enter code 290
36. What were you doing immediately prior to this job?	291 *(Mark only one box)*	292 *(Mark only one box)*	293 *(Mark only one box)*
1. Employed	1 ☐ *If you have not already answered questions 20–36 about Job B, please do so*	1 ☐ *If you have not already answered questions 20–36 about Job C, please do so*	1 ☐
2. Unemployed and seeking work	2 ☐ *If you had a job at any time prior to this one, please answer questions 20–36 about Job B. If you have not already done so.*	2 ☐ *If you had a job at any time prior to this one, please answer questions 20–36 about Job C. If you have not already done so.*	2 ☐ *Go to question 37*
3. In school	3 ☐	3 ☐	3 ☐
4. At home caring for family	4 ☐	4 ☐	4 ☐
5. Retired temporarily	5 ☐	5 ☐	5 ☐
6. Ill	6 ☐	6 ☐	6 ☐
7. In Armed Forces	7 ☐	7 ☐	7 ☐
8. Other	8 ☐	8 ☐	8 ☐

Before answering the next questions, please be sure you have completed questions 20–36 for each of your last three jobs.

37. Second regular job – In addition to your major current job, did you have a second regular job last week?

294 1 ☐ Yes 2 ☐ No – *Go to question 38*

If yes –

What kind of work were you doing? . . . . . 295 Code | | Description from List C

In what kind of business were you working? . . . . . 296 Code | | Description from List B

38. First full-time professional job (Do not consider as your first full-time professional job part-time or summer employment.)

Was one of the jobs described above your first full-time professional job?

297 1 ☐ No – *Go to question 39*

2 ☐ Yes – Which of these was your first full-time professional job?

3 ☐ Job A, the job you held last week or most recent job

4 ☐ Job B, the second-to-last job

5 ☐ Job C, the third-to-last job

Skip to question 40

39. What kind of work did you do in your first full-time professional job? . . . . . 298 Code | | Description from List C

In what year did you begin this job? . . . . . 299 19_____

40. Prior to your first full-time professional job, did you hold a regular full-time *NON-PROFESSIONAL JOB?*

300 1 ☐ No

2 ☐ Yes

What kind of work did you do in your last regular full-time non-professional job before your first full-time professional job? . . . . . 301 Code | | Description from List C

In what year did you leave this job? . . . . . 302 19_____

41. Complete the following statement:

Based on my total education and experience, I regard myself professionally as a (an) – . . . . . 303 Code | | Description from List C

Part V – INCOME

42. How many weeks did you work at all jobs in 1971 either full-time or part-time? (Count paid vacation, paid sick leave, and military service as weeks worked.) – *Mark only one box*

308 1 ☐ 13 weeks or less 3 ☐ 27 to 39 weeks 5 ☐ 48 to 52 weeks

2 ☐ 14 to 26 weeks 4 ☐ 40 to 47 weeks 6 ☐ Did not work in 1971

43. How much did you earn from all jobs in 1971 in wages, salaries, commissions and bonuses? *(Estimate to nearest hundred dollars.)* . . . . . 309 $ _____ OR x ☐ None

Income from sources such as royalties, consulting fees, etc., should be reported in question 44 below.

44. How much did you earn in 1971 from your own business, practice, or partnership? Report income before personal income taxes and other deductions such as Social Security contributions, but after deducting any business expenses. *(Estimate to nearest hundred dollars)* . . . . . 310 $ _____ OR x ☐ None

Income from wages, salaries, commissions, and bonuses should be reported in question 43 above.

Part VI – OTHER

45. In the event it is necessary to contact you to clarify some of the information you provide, may we contact you by telephone?

311 1 ☐ Yes 2 ☐ No

If yes –

Enter the telephone number on which you can be reached . . . . . Area code | Number

If there is an alternate number on which you can be reached, enter it also. . . . . Area code | Number

46. Please enter the name of a person, other than yourself at an address other than yours, through whom you can be reached.

Name

Address – *Number and street*

City | State or foreign country | ZIP code

47. Date prepared | Print your full name

 If you have any comments or suggestions regarding this survey attach a separate sheet of paper

APPENDIX D

Cover Letter and Reference Lists

NATIONAL SCIENCE FOUNDATION

WASHINGTON, D.C. 20550

PMS-3 (10-71)

Dear Colleague:

This Nation's strength depends in large part upon the creative capacity, motivation, and contributions of its highly trained people. Greater knowledge about this valuable resource is essential for the Government and other groups to plan for the effective development and utilization of highly qualified persons. We need to know more about their education and how it was obtained, about the development of their careers, and about the relationship of training to subsequent occupations. This information is also very useful in assessing past and future impacts of Federal science- and technology-related expenditures on career patterns and mobility.

The National Science Foundation, an agency of the Federal Government, is responsible for the collection, assessment, and dissemination of information on the Nation's science resources, including the supply and utilization of highly qualified science and engineering manpower. The Foundation has asked the Bureau of the Census to conduct a survey of a carefully selected statistical sample of persons in a variety of occupations and with particular levels of educational attainment. For the survey to be successful and yield truly representative information, everyone who receives the enclosed questionnaire should respond.

Please be assured that the report which you submit is confidential by law. It will be seen only by sworn Census employees and cannot be used for anything but statistical purposes.

Please complete and return the questionnaire in the enclosed self-addressed envelope which requires no postage. Your participation in this voluntary survey will be greatly appreciated.

Thank you for your cooperation.

Sincerely,

Charles E. Falk

CHARLES E. FALK
Director
Division of Science Resources Studies
National Science Foundation

Enclosures

NOTE – REFERENCE LIST BOOKLET BEGINS ON NEXT PAGE

List A – MAJOR FIELDS OF STUDY

This list is to be used in answering the questions about the fields in which you have completed 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.**

When the instructions for a particular item on the questionnaire direct you to enter a code and description from this list, **scan the entire list**, then choose the appropriate answer for the question. If none of the categories listed below adequately describes what you were studying or being trained in, use the "Other" category (code 589 or 614) 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 science
506 Bacteriology, virology, mycology, parasitology, microbiology
507 Biochemistry
508 Biology, general
509 Botany, general
510 Dairy science (dairy husbandry)
511 Entomology
512 Farm management
513 Fish and game or wildlife management
514 Food science (food technology and processing, dairy manufacturing and technology, food industry)
515 Forestry
516 Genetics
517 Horticulture
518 Physiology
519 Plant pathology
520 Soil science (soil management, soil conservation)
521 Zoology, general
522 Biological and agricultural sciences, other fields

Education

523 Biological sciences education
524 Mathematics education
525 Physical sciences education
526 Trade and industrial training
527 Education, other fields

Engineering

528 Aerospace, aeronautical, astronautical, and related fields
529 Agricultural
530 Architectural
531 Chemical, petroleum refining
532 Civil, construction, transportation
533 Electrical, electronics
534 Engineering sciences, mechanics, physics
535 Engineering, technology
536 General or unified
537 Industrial
538 Mechanical
539 Metallurgical, materials, ceramics
540 Mining, mineral
541 Naval architecture and marine engineering
542 Petroleum
543 Engineering, other fields

Health Fields

544 Medicine or premedicine, and clinical medical sciences
545 Nursing (4 year or longer program)
546 Pharmacy
547 Health professions, other fields (4 year or longer program)

Code — Description

Mathematical Sciences

548 Mathematics
549 Statistics and actuarial sciences
550 Computer sciences and systems analysis

Physical Sciences

551 Astronomy
552 Chemistry
582 Geography
553 Meteorology
554 Physics
555 Physical sciences, general
556 Geology and geophysics
557 Oceanography
558 Physical sciences, other fields

Psychology

559 Clinical
560 Educational
561 General psychology
562 Psychology, other fields

Social Sciences

563 Anthropology
564 Area studies, regional studies
565 Economics, agricultural
566 Economics, except agricultural
567 Foreign service programs
582 Geography
568 History
569 Industrial relations
570 International relations
571 Political science or government
572 Public administration
573 Social sciences, general
574 Social work, social administration, social welfare
575 Sociology
576 Social sciences, other fields

Arts, Humanities, and Other Specialties

577 Arts, general
578 Business and commerce, including accounting, hotel and restaurant administration, and secretarial studies
579 English and journalism
580 Fine and applied arts, all fields
581 Foreign language and literature, all fields
582 Geography
583 Home economics, all fields
584 Law or prelaw
585 Library science
586 Military science, including merchant marine deck officer
587 Philosophy, all fields
588 Religion and theology, all fields
589 Other *(Describe briefly under the applicable item on the questionnaire.)*

List A – MAJOR FIELDS OF STUDY – Continued

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

590 Computer programming
591 Computer operating
592 All other data processing fields of study or training

Engineering-related fields of study or training

593 Drafting and design, all fields
594 Aeronautical technology
595 Architectural or building technology
596 Chemical technology
597 Civil technology
598 Electrical and electronics technology
599 Industrial technology
600 Mechanical technology
601 All other engineering-related fields of study or training

Science-related fields of study or training

602 Agriculture
603 Forestry
604 Other science-related fields of study or training

Code — Description

Other fields of study or training

605 Business- and commerce-related fields of study or training
606 Craft (skilled) occupations-related fields of study or training (such as carpentry, bricklaying, tool and die making, etc.)
607 Educational-related fields of study or training
608 Home economics
609 Nursing and other health service-related fields of study or training
610 Operative occupations-related fields of study or training (such as machine operation, driving, inspecting, etc.)
611 Police technology or law enforcement
612 Sales- and marketing-related fields of study or training
613 Service occupations-related fields of study or training (such as food preparation, grooming, fire fighting, etc.)
614 All other fields of study or training *(Describe briefly under the applicable item on the questionnaire.)*

List B – KINDS OF BUSINESSES

This list is to be used in answering the questions about the kind of business or industry for which you worked. When the instructions for a particular item on the questionnaire direct you to enter a code and description from this list, **please scan the entire list**, then choose the appropriate answer for the question. If none of the categories listed below adequately describes the kind of business for which you worked, use the "Other" category (code 726) and enter a brief description of the kind of business in the space provided on the questionnaire.

Code — Description

Manufacturing

701 Aircraft, aircraft engines, and parts
702 Chemicals and allied products
703 Electrical machinery, equipment, and supplies for the generation, storage, transmission, transformation, and utilization of el ctrical energy
704 Fabricated metal products (except ordnance, machinery, and transportation equipment)
705 Machinery (except electrical), including engines and turbines and machinery used in farming, construction, mining, metalworking, and other manufacturing; office, computing, accounting, and service industry machines
706 Motor vehicles and motor vehicle equipment
707 Ordnance, including manufacture of arms, ammunition, tanks, and complete guided missiles and space vehicles
708 Primary metal industries, including smelting, refining, rolling, drawing, and alloying, and manufacture of castings, forgings, and other basic metal products
709 Professional and scientific equipment and supplies
710 Other manufacturing industries, including printing and publishing *(Describe briefly under the applicable item on the questionnaire.)*

Educational Institutions

711 College or university (offering at least a BA degree)
712 Junior college or technical institute
713 Other educational institutions

Health Services

714 Hospital or clinic
715 Other medical and health services

Code — Description

Other Kinds of Businesses

716 Agriculture, forestry, and fisheries
717 Business, personal, and repair services
718 Construction
719 Engineering or architectural services
720 Finance, insurance, or real estate
721 Mining and petroleum extraction
722 Professional and technical societies
723 Research institutions
724 Retail and wholesale trade
725 Transportation, communication, or other public utilities
726 Other *(Describe briefly under the applicable item on the questionnaire.)*

Public Administration (Includes 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 727, Federal public administration; on the other hand, if you work at a Veterans' Administration Hospital, use code 714, Hospital or clinic; if you work at a State university, use code 711, College or university; if you work for a county road building agency, use code 718, Construction; if you work in a Defense Department research laboratory, use code 723, Research institution.)

727 Federal public administration
728 State public administration
729 Local public administration (city, county, etc.)

List C – OCCUPATIONS

This list is to be used in answering the questions about the kind of work you were doing and about your professional or occupational classification. When the instructions for a particular item on the questionnaire request you to enter a code and description from this list, **please scan the entire list**, then choose the appropriate entry. 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 469) 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, enviromental and sanitary
412 Engineer, other fields *(Describe briefly under the applicable item on the questionnaire.)*

Computer Specialists, including college professors and instructors

413 Computer programmer
414 Computer systems analyst
415 Computer scientist
416 Other computer specialist *(Describe briefly under the applicable item on the questionnaire.)*

Mathematicians and Statisticians, including college professors and instructors

417 Actuary
418 Mathematician
419 Statistician
420 Operations research analyst

Natural Scientists, including college professors and instructors

421 Agricultural scientist, including foresters and conservationists
422 Biological scientist
423 Biochemist
424 Chemist
425 Earth and marine scientist, including geoglogists, geophysicists, oceanographers, etc.
426 Medical scientist, **excluding** persons who are primarily medical practitioners; see Health Occupations below
427 Physicist
428 Other natural scientist *(Describe briefly under the applicable item on the questionnaire.)*

Social Scientists, including college professors and instructors

429 Economist
430 Psychologist
431 Sociologist or anthropologist
432 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 426, Medical scientist.

433 Physician or surgeon
434 Technician, dental
435 Technician, medical
436 Other health occupation *(Describe briefly under the applicable item on the questionnaire.)*

Technicians and Technologists, except medical

437 Designer, electronic parts and machine tools
438 Designer, industrial
439 Designer, other
440 Draftsman
441 Surveyor
442 Technician, biological and agricultural
443 Technician, electrical and electronic
444 Technician, construction, highways, and architectural
445 Technician, mechanical
446 Technician, other engineering
447 Technician, physical science
448 Technician, other fields *(Describe briefly under the applicable item on the questionnaire.)*

Teachers

449 Teacher, elementary school
450 Teacher, secondary school
451 Teacher, college and university, excluding engineerin and science (Engineering and science teachers see codes 401-432 above.)

Administrators, Managers, and Officials, excluding farm

452 College president or dean
453 Administrator or manager, scientific and technical research and development
454 Administrator or manager, production and operations
455 Administrator, manager, or official, all other, excludin self-employed
456 Self-employed proprietor

All Other Occupations

457 Accountant
458 Attorney or judge
459 Clerical or sales worker (such as salesman, bookkeepe secretary, etc.)
460 Clergyman
461 Craftsman (such as baker, carpenter, electrician, mechanic, repairman, etc.)
462 Farmer (owner, manager, tenant, or farm laborer)
463 Fireman or policeman
464 Laborer, except farm
465 Librarian
466 Merchant or shopkeeper, self-employed
467 Operative (such as assembler, factory worker, miner, welder, truck driver, etc.)
468 Postal worker
469 Other occupations, not specified above *(Describe briefly under the applicable item on the questionnaire.)*

APPENDIX E

Occupational Classification

OCCUPATIONAL CLASSIFICATION

Major occupational groupings[1]	Intermediate stub[2]	Detailed stub[3]	Census occupational categories[4] (identified by code)
Operations and Computer Specialists	Computer programmers	Computer programmers	003
	Other operations and computer specialists	Computer systems analysts	004
		Computer specialists, n.e.c.[5]	005
		Operations and systems analysts	055
Engineers	Aeronautical and astronautical engineers	Aeronautical and astronautical engineers	006
	Civil engineers	Civil engineers	011
	Electrical and electronic engineers	Electrical and electronic engineers	012
	Industrial engineers	Industrial engineers	013
	Mechanical engineers	Mechanical engineers	014
	Sales engineers	Sales engineers	022
	Other engineers	Chemical engineers	010
		Metallurgical and materials engineers	015
		Mining and petroleum engineers	020,021
		Engineers, n.e.c.[5], and engineering teachers[6]	023,111
Mathematical specialists	Mathematical specialists	Actuaries and statisticians	034,036
		Mathematicians	035,112
Life scientists	Biological scientists	Biological scientists	044,104
	Other life scientists	Agricultural scientists	042,102
		Foresters and conservationists[7]	025
Physical scientists	Chemists	Chemists	045,105
	Physicists	Physicists	053,110
	Other physical scientists	Other physical scientists	043,051,052 054,103
Social scientists	Economists	Economists	091,116
	Other social scientists	Psychologists	093,114
		Other social scientists	092,094,095 096,121,122

[1]Applicable to the stub of every table in this report.
[2]Applicable to the stub of tables 1, 5, and 9.
[3]Applicable to the stub of tables 4, 6, 7, 8, and 11.
[4]Detailed information on the composition of the occupational categories is given in the publication, 1970 Census of Population, Classified Index of Industries and Occupations, U.S. Government Printing Office, Washington, D.C., 1971.
[5]N.E.C. - Not elsewhere classified.
[6]Excludes teachers below the college and university level.
[7]Excludes persons who reported in the 1970 census having completed less than four years of college.

APPENDIX F

Highest Degree Held in 1972: Alternate Specifications

The set of specifications used to designate highest egree held in 1972 when the respondent failed to rovide any information on the date of award of the ighest degree he had worked for (see section on highest egree held in "Definitions and Explanations") was nly one of many possible sets. The substitution of ifferent sets, with all other criteria for designating ighest degree held in 1972 remaining constant, may hange the numbers in some or all of the highest degree eld levels. The results of two such substitutions are ompared with the data from this report in table B f this appendix. In table B, the category "set 1" repesents the actual data from this report whereas the ategories "set 2" and "set 3" represent data resulting rom substitutions of the kind mentioned above. The pecifications associated with each of these categories re shown in table A.

Table A. Minimum Years of Postsecondary Education Necessary to Assume Award of Degree

Highest degree worked for	Set 1	Set 2	Set 3	
	All occupations	All occupations	Engineers	All other occupations
No degree.....	-	-	-	-
Other.....	-	1	1	1
AA.....	2	2	2	2
BN.....	3	3	3	3
BA.....	4	5	5	4
MA.....	5	6	6	7
LLB.....	7	8	8	8
MD.....	8	8	8	8
PH.D.....	7	8	8	8

- Represents zero.

Table B. Engineers and Scientists in the 1970 Experienced Civilian Labor Force, by Highest Degree Held in 1972 and Specification Set

Occupation in 1970 and specification sets		Highest degree held in 1972											
		Total	No degree			Associate	Bachelor's	Bachelor's plus	Master's	Ph.D	Other degree	Degree not reported
			No college	1-3 years college	4 or more years of college							
Operations and computer specialists	Set 1	337,933	60,150	64,012	7,963	14,648	82,362	36,329	33,442	3,316	1,409	28,309
	Set 2	337,933	60,150	64,012	16,479	14,974	79,733	38,485	31,284	3,062	1,445	28,309
	Set 3	337,933	60,150	64,012	9,181	14,678	87,478	39,993	29,660	3,062	1,409	28,309
Engineers	Set 1	1,242,519	159,074	145,151	30,528	46,256	372,828	197,771	162,753	25,092	7,611	95,457
	Set 2	1,242,519	159,074	145,151	70,214	47,111	332,694	208,114	153,101	24,186	7,419	95,457
	Set 3	1,242,519	159,074	145,151	58,565	48,579	345,167	211,963	148,946	24,186	7,419	95,457
Mathematical specialists	Set 1	61,679	5,781	4,143	981	791	9,654	6,574	18,312	19,065	463	2,515
	Set 2	61,679	5,781	4,143	2,061	822	8,629	7,579	17,906	11,832	411	2,515
	Set 3	61,679	5,781	4,143	1,287	791	9,552	7,834	17,553	11,832	411	2,515
Life scientists	Set 1	83,509	5,042	2,292	1,272	686	20,493	10,739	17,870	21,497	1,416	2,490
	Set 2	83,509	5,042	2,292	2,671	736	19,676	11,406	17,142	21,263	1,390	2,490
	Set 3	83,509	5,042	2,292	1,355	686	20,486	11,791	16,734	21,263	1,390	2,490
Physical scientists	Set 1	196,353	11,840	12,010	3,299	2,762	44,881	28,901	36,678	58,179	815	7,296
	Set 2	196,353	11,840	12,010	7,570	2,937	40,256	30,904	38,075	47,561	815	7,296
	Set 3	196,353	11,840	12,010	3,996	2,762	44,335	32,520	33,218	47,561	815	7,296
Social scientists	Set 1	151,299	5,889	6,275	2,209	805	22,242	16,992	49,533	38,504	2,466	5,395
	Set 2	151,299	5,889	6,275	4,877	960	20,826	18,577	48,047	37,132	2,327	5,395
	Set 3	151,299	5,889	6,275	3,142	929	23,041	20,213	46,956	37,132	2,327	5,395

APPENDIX G

Field of Study Codes: Tables 10 and 11

Field of Study Codes of Table 10, by Field of Study Codes of Table 11

(Codes are derived from list A of appendix D)

Field of Study: Table 11	Field of Study: Table 10							
	Engineering	Computer science and systems analysis	Mathematical sciences	Physical sciences	Biological and agricultural sciences	Social sciences	Business and commerce	Other field of study
Computer science and systems analysis.....		550						
Data processing related fields.....		590-592						
Engineering.....	528-543							
Engineering related fields.....	593-601							
Mathematics.....			548-549					
Agricultural sciences and related fields.....					501-503, 505, 510, 512-515, 517, 520			
Biological sciences and related fields.....					504, 506-509, 511, 516, 518, 519, 521			
Other biological and agricultural sciences.....					522			
Chemistry.....				552				
Physics.....				554				
Other physical sciences.....				551, 553, 555-558				
Science-related fields.....					602-603			
Economics.....						565, 566		
Psychology.....						559-562		
Other social sciences.....						563, 564, 567-576, 582		
Health fields.....								544-547
Business and commerce.....							578	
Education.....								523-527
Other fields.....								577, 579-589* 605-614

* Except 582.

APPENDIX H

Analysis of Response

Analysis of Response in the 1972 Professional, Technical, and Scientific Manpower Survey by Occupation and Education in 1970 and Age in 1972

Occupation and education in 1970, and age in 1972	Number in universe[1]	Number in sample	No address found	Cases mailed: Total: Number	Cases mailed: Total: Percent	Cases mailed: Completed question-naire	Cases mailed: Other return	Cases mailed: No return
Computer specialists[2]	257,064	7,044	356	6,688	100.0	72.0	14.3	13.7
Under 25 years	24,102	570	71	499	100.0	66.1	18.4	15.4
Less than 4 years of college	19,022	451	63	388	100.0	66.2	17.6	16.3
4 or more years of college	5,080	119	8	111	100.0	65.7	21.7	12.6
25 to 29 years	77,579	1,970	83	1,887	100.0	69.7	15.6	14.8
Less than 4 years of college	38,991	967	43	924	100.0	65.5	17.8	16.7
4 or more years of college	38,587	1,003	39	964	100.0	73.7	13.4	13.0
30 to 49 years	138,981	3,978	176	3,803	100.0	73.7	12.9	13.3
Less than 4 years of college	75,105	2,059	86	1,973	100.0	71.0	13.8	15.3
4 or more years of college	63,876	1,919	90	1,829	100.0	76.9	12.0	11.1
50 to 64 years	15,523	498	23	475	100.0	74.1	15.6	10.3
Less than 4 years of college	10,357	333	17	316	100.0	71.9	15.8	12.3
4 or more years of college	5,167	165	6	159	100.0	78.7	15.0	6.3
65 years and over	879	28	3	25	100.0	64.0	28.0	8.0
Less than 4 years of college	488	14	1	13	100.0	61.5	38.4	-
4 or more years of college	391	14	2	12	100.0	66.6	16.7	16.7
Operations and systems researchers and analysts[2]	80,868	3,184	113	3,071	100.0	73.0	14.9	12.0
Under 25 years	2,090	81	5	76	100.0	69.7	10.6	19.7
Less than 4 years of college	1,495	58	4	54	100.0	70.3	9.2	20.4
4 or more years of college	595	23	1	22	100.0	68.2	13.6	18.2
25 to 29 years	13,212	528	20	508	100.0	69.6	13.0	17.4
Less than 4 years of college	6,050	242	8	234	100.0	66.2	13.7	20.1
4 or more years of college	7,162	286	12	274	100.0	72.6	12.4	14.9
30 to 49 years	46,188	1,816	66	1,750	100.0	72.5	15.2	12.2
Less than 4 years of college	26,886	1,058	39	1,019	100.0	68.9	17.0	14.0
4 or more years of college	19,303	758	27	731	100.0	77.6	12.8	9.7
50 to 64 years	18,239	715	21	694	100.0	77.3	15.6	7.2
Less than 4 years of college	14,016	549	16	533	100.0	76.0	17.4	6.6
4 or more years of college	4,223	166	5	161	100.0	81.3	9.3	9.3
65 years and over	1,139	44	1	43	100.0	69.8	23.2	7.0
Less than 4 years of college	726	28	1	27	100.0	74.0	25.9	-
4 or more years of college	412	16	-	16	100.0	62.5	18.8	18.8
Engineers	1,242,518	26,681	1,387	25,294	100.0	74.7	14.3	11.1
Under 25 years	28,569	566	58	508	100.0	66.7	17.5	15.7
Less than 4 years of college	17,978	337	43	294	100.0	59.8	19.7	20.4
4 or more years of college	10,590	229	15	214	100.0	76.2	14.4	9.3
25 to 29 years	151,912	3,204	164	3,040	100.0	72.1	13.6	14.3
Less than 4 years of college	47,587	943	44	899	100.0	63.9	17.7	18.5
4 or more years of college	104,326	2,261	120	2,141	100.0	75.6	11.8	12.6
30 to 49 years	726,326	15,561	754	14,807	100.0	75.4	13.4	11.1
Less than 4 years of college	278,535	5,652	299	5,353	100.0	69.1	16.7	14.3
4 or more years of college	447,792	9,909	455	9,454	100.0	79.0	11.6	9.4
50 to 64 years	295,151	6,508	347	6,161	100.0	75.1	15.6	9.3
Less than 4 years of college	150,735	3,176	155	3,021	100.0	70.7	18.8	10.6
4 or more years of college	144,416	3,332	192	3,140	100.0	79.4	12.6	8.1
65 years and over	40,559	842	64	778	100.0	71.6	21.6	6.8
Less than 4 years of college	21,854	442	34	408	100.0	69.7	23.3	7.1
4 or more years of college	18,705	400	30	370	100.0	73.7	19.7	6.5
Mathematical specialists	61,680	3,180	201	2,979	100.0	74.0	14.3	11.7
Under 25 years	4,336	220	49	171	100.0	67.8	18.1	14.0
Less than 4 years of college	2,799	142	38	104	100.0	68.3	15.4	16.4
4 or more years of college	1,537	78	11	67	100.0	67.2	22.4	10.5
25 to 29 years	12,269	625	33	592	100.0	70.3	14.4	15.4
Less than 4 years of college	2,373	121	9	112	100.0	61.6	14.3	24.1
4 or more years of college	9,896	504	24	480	100.0	72.2	14.4	13.3
30 to 49 years	31,234	1,610	80	1,530	100.0	76.2	12.5	11.3
Less than 4 years of college	6,036	306	12	294	100.0	66.0	18.0	16.0
4 or more years of college	25,198	1,304	68	1,236	100.0	78.6	11.2	10.2
50 to 64 years	11,355	593	30	563	100.0	72.7	17.1	10.3
Less than 4 years of college	4,579	232	8	224	100.0	64.7	24.1	11.2
4 or more years of college	6,776	361	22	339	100.0	77.8	12.4	9.7
65 years and over	2,486	132	9	123	100.0	78.9	17.9	3.2
Less than 4 years of college	775	40	2	38	100.0	71.0	26.3	2.6
4 or more years of college	1,711	92	7	85	100.0	82.4	14.1	3.6

See footnotes at end of table.

Analysis of Response in the 1972 Professional, Technical, and Scientific Manpower Survey by Occupation and Education in 1970 and Age in 1972—Continued

Occupation and education in 1970, and age in 1972	Number in universe[1]	Number in sample	No address found	Cases mailed				
				Total		Completed questionnaire	Other return	No return
				Number	Percent			
Life scientists	83,511	4,306	224	4,082	100.0	79.3	12.0	8.[illegible]
Under 25 years	4,051	215	33	182	100.0	64.9	20.3	14.[illegible]
Less than 4 years of college	2,418	128	24	104	100.0	59.6	20.2	20.[illegible]
4 or more years of college	1,632	87	9	78	100.0	71.8	20.5	7.[illegible]
25 to 29 years	12,729	656	37	619	100.0	75.4	13.8	10.[illegible]
Less than 4 years of college	1,972	101	6	95	100.0	71.5	13.7	14.[illegible]
4 or more years of college	10,757	555	31	524	100.0	76.1	13.8	10.[illegible]
30 to 49 years	46,996	2,406	104	2,302	100.0	79.9	11.3	8.[illegible]
Less than 4 years of college	5,209	267	14	253	100.0	64.8	18.6	16.[illegible]
4 or more years of college	41,787	2,139	90	2,049	100.0	81.8	10.4	7.[illegible]
50 to 64 years	16,990	878	41	837	100.0	84.8	9.8	5.[illegible]
Less than 4 years of college	2,943	155	6	149	100.0	76.5	13.4	10.[illegible]
4 or more years of college	14,047	723	35	688	100.0	86.5	9.0	4.[illegible]
65 years and over	2,746	151	9	142	100.0	73.9	20.4	5.[illegible]
Less than 4 years of college	822	46	3	43	100.0	69.7	23.2	7.[illegible]
4 or more years of college	1,924	105	6	99	100.0	75.7	19.2	5.[illegible]
Physical scientists	196,351	6,842	346	6,496	100.0	79.5	10.9	9.[illegible]
Under 25 years	8,185	273	24	249	100.0	64.2	20.1	15.7
Less than 4 years of college	4,668	152	16	136	100.0	62.5	19.9	17.7
4 or more years of college	3,517	121	8	113	100.0	66.4	20.3	13.3
25 to 29 years	28,578	940	58	882	100.0	74.3	12.6	13.1
Less than 4 years of college	6,452	191	6	185	100.0	64.8	13.0	22.[illegible]
4 or more years of college	22,127	749	52	697	100.0	76.7	12.5	10.7
30 to 49 years	114,482	4,068	181	3,887	100.0	80.8	10.0	9.2
Less than 4 years of college	20,255	649	34	615	100.0	72.8	13.5	13.6
4 or more years of college	94,227	3,419	147	3,272	100.0	82.3	9.4	8.4
50 to 64 years	39,907	1,381	71	1,310	100.0	82.4	10.0	7.6
Less than 4 years of college	9,866	307	14	293	100.0	77.1	13.0	9.8
4 or more years of college	30,040	1,074	57	1,017	100.0	84.0	9.2	6.9
65 years and over	5,200	180	12	168	100.0	76.8	16.7	6.5
Less than 4 years of college	1,265	42	3	39	100.0	56.4	30.8	12.8
4 or more years of college	3,935	138	9	129	100.0	82.9	12.4	4.6
Social scientists	151,296	7,018	352	6,666	100.0	73.1	13.4	13.6
Under 25 years	4,187	197	32	165	100.0	59.3	22.4	18.1
Less than 4 years of college	2,219	107	22	85	100.0	53.0	28.2	18.9
4 or more years of college	1,968	90	10	80	100.0	66.3	16.2	17.6
25 to 29 years	26,966	1,249	59	1,190	100.0	67.9	15.2	16.9
Less than 4 years of college	2,489	109	3	106	100.0	53.8	19.8	26.4
4 or more years of college	24,477	1,140	56	1,084	100.0	69.3	14.7	16.0
30 to 49 years	86,312	4,007	176	3,831	100.0	74.4	12.1	13.5
Less than 4 years of college	11,045	485	30	455	100.0	63.3	16.7	20.0
4 or more years of college	75,267	3,522	146	3,376	100.0	75.8	11.5	12.6
50 to 64 years	28,385	1,320	66	1,254	100.0	75.5	13.2	11.4
Less than 4 years of college	6,221	280	11	269	100.0	66.9	20.1	13.0
4 or more years of college	22,164	1,040	55	985	100.0	77.8	11.3	10.9
65 years and over	5,446	245	19	226	100.0	72.5	20.8	6.6
Less than 4 years of college	1,539	64	2	62	100.0	59.7	30.7	9.7
4 or more years of college	3,907	181	17	164	100.0	77.5	17.1	5.5
Engineering and science technicians	827,033	18,412	998	17,414	100.0	68.6	16.6	14.7
Under 25 years	119,173	2,538	297	2,241	100.0	63.0	18.5	18.6
Less than 4 years of college	114,067	2,428	289	2,139	100.0	62.8	18.4	18.7
4 or more years of college	5,106	110	8	102	100.0	66.6	18.7	14.7
25 to 29 years	175,571	3,790	160	3,630	100.0	65.4	16.6	18.0
Less than 4 years of college	154,142	3,300	132	3,168	100.0	64.8	16.6	18.6
4 or more years of college	21,429	490	28	462	100.0	69.7	17.1	13.2
30 to 49 years	381,292	8,620	364	8,256	100.0	69.7	15.9	14.4
Less than 4 years of college	339,249	7,616	319	7,297	100.0	69.0	16.5	14.6
4 or more years of college	42,043	1,004	45	959	100.0	75.6	11.5	13.0
50 to 64 years	133,897	3,064	145	2,919	100.0	74.2	16.7	9.1
Less than 4 years of college	117,495	2,697	127	2,570	100.0	73.8	17.1	9.2
4 or more years of college	16,403	367	18	349	100.0	77.9	13.5	8.6
65 years and over	17,100	400	32	368	100.0	66.8	21.2	12.0
Less than 4 years of college	14,717	343	27	316	100.0	66.8	21.5	11.7
4 or more years of college	2,383	57	5	52	100.0	67.3	19.2	13.5

[1]Data may differ from data in detailed tables because of weighting differences.

[2]Data on operations and computer specialists are broken out under its major component occupations, computer specialists and operations and systems researchers and analysts.

APPENDIX I

Selected Professional and Demographic Characteristics of Engineers: 1969

Note: The following report summarizes the results of an investigation of persons enumerated in the July, August, and September 1969 Current Population Survey (CPS) and reported as engineers. (For a description of the 1969 CPS, see Source of Data in this appendix.) The study was sponsored by the National Science Foundation and conducted by the Bureau of the Census.

Within the Bureau of the Census, William G. Sneed under the supervision of C.L. Kincannon prepared this report, and Murray S. Weitzman, Assistant Division Chief (Socioeconomic Statistics Programs), Population Division, provided overall direction for the project.

SELECTED PROFESSIONAL AND DEMOGRAPHIC CHARACTERISTICS OF ENGINEERS: 1969

In October 1969 a questionnaire (Attachment A) was mailed to persons reported in the CPS sample as engineers in order to obtain information on highest degree held, academic curricula, State licenses held, professional society memberships, and other characteristics. Based on this information, the respondents were classified into two groups: Group A engineers are (1) those with a degree in an engineering curriculum or (2) those licensed as an engineer in any State but without an engineering degree; Group B engineers are (1) those with a bachelors degree or higher not in engineering and not licensed in any State, or (2) those with less than a bachelors degree and not licensed in any State.

The total sample size was 1,286 and there were 1,184 acceptable receipts for purposes of tabulation. These were subsequently weighted up to national totals.

SUMMARY OF RESULTS

There were about 760,000 engineers in group A and about 460,000 engineers in group B. Of the group A engineers, about 700,000 held engineering degrees, and approximately 200,000 were registered with one or more State boards of engineering. There were 158,000 engineers who met both the degree and registration criteria, 551,000 had a degree but were not registered, and 48,000 were registered but held no degree. Detailed characteristics for both group A and group B are shown in table 1. Note, though, that the distributions are based on the reports of persons enumerated in the July, August, and September 1969 CPS and may differ from distributions based on the CPS annual average or other sources.

By age, group B was somewhat older than group A with about 40 percent at least 45 years old, whereas around 30 percent of group A was as old as 45.

As for place of residence, there was almost no difference between the two groups, except for a significant difference between the proportion of the two groups residing in the North Central region. About one-third of group B, as compared with approximately one-quarter of group A, resided in this area.

Four-fifths of group B engineers had no degree whatsoever, compared with about three percent of group A engineers. Approximately one-fifth of group A, but only about three percent of group B, had a master's degree or higher. About 94 percent of group A had received degrees in engineering; one-quarter of group A were registered in one or more States. By definition, none of the group B engineers held degrees in engineering or were registered by State boards of engineering.

Concerning the type of work on which the most time was spent, two salient differences can be discerned between the group A engineers and the group B engineers. First, approximately one-third of group A were primarily employed in design and research and development, compared with about one-fifth of group B. Second, a member of group B was much more likely than a member of group A to be primarily occupied in the activities of production, quality control, testing, and sales and marketing.

As might be expected, membership in national engineering and other professional societies is more a characteristic of group A engineers than of group B engineers.

Civil engineers accounted for about one-fifth of group A, but only a tenth of group B. Inversely, one-tenth of group A were industrial engineers, compared with one-fifth of group B engineers.

The industry of employment was not statistically significantly different between the two groups. Manufacturing was by far the largest industry of employment, accounting for about 60 percent of both groups.

DEFINITIONS

Occupation, industry, and class of worker for the employed apply to the job held in the survey week. Persons with two or more jobs were classified in the job at which they worked the greatest number of hours during the survey week. The unemployed were classified according to their latest full-time civilian job lasting two weeks or more. Persons not in the labor force were classified according to last job held. The occupation and industry groups used in data derived from the CPS household interviews are defined as in the 1960 Census of Population. For further details, see U.S. Bureau of the Census, 1960 Census of Population, Classified Index of Occupations and Industries, U.S. Government Printing Office, Washington, D.C., 1960, and U.S. Bureau of the Census, Concepts and Methods Used in Manpower Statistics from the Current Population Reports, Series P-23, No. 22, U.S. Government Printing Office, Washington, D.C., 1967.

SOURCE AND RELIABILITY OF THE ESTIMATES

Source of data. The estimates in this report for 1969 are based on data obtained in the Current Population Survey of the Bureau of the Census. The sample was spread over 449 areas comprising 863 counties and independent cities, with coverage in each of the 50 States and the District of Columbia. Approximately 50,000 households were eligible for interview each month. Of this number 2,250 occupied units, on the average, were visited but interviews were not obtained because the occupants were not found at home after repeated calls or were unavailable for some other reason. In addition to the 50,000, there were also about 8,500 sample units in an average month which were visited but were found to be vacant or otherwise not to be interviewed.

The estimating procedure used in this survey involved the inflation of the weighted sample results to independent estimates of the civilian noninstitutional population of the United States by age, race, and sex. These independent estimates are based on statistics from the 1960 Census of Population; statistics of births, deaths, immigration and emigration; and statistics on the strength of the Armed Forces.

In October 1969 a questionnaire was mailed to persons reported in the July 1969 CPS sample and subsets of the August and September 1969 CPS sample as engineers. The total equivalent sample size in CPS is 75,000.

Reliability of the estimates. Since the estimates in this report are based on a sample, they may differ some-

what from the figures that would have been obtained if a complete census had been taken using the same schedules, instructions and enumerators. As in any survey work, the results are subject to errors of response and of reporting as well as being subject to sampling variability.

The standard error is primarily a measure of sampling variability, that is, of the variations that occur by chance because a sample rather than the whole of the population is surveyed. As calculated for this report, the standard error also partially measures the effect of response and enumeration errors, but it does not measure, as such, any systematic biases in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census figure by less than the standard error. The chances are about 90 out of 100 that this difference would be less than 1.6 times the standard error, and the chances are about 95 out of 100 that the difference would be less than twice the standard error.

All statements of comparison appearing in the text are significant at a 1.6 standard error level or better, and most are significant at a level of more than 2.0 standard errors. This means that for most differences cited in the text, the estimated difference is greater than twice the standard error of the difference. Statements of comparison qualified in some way (e.g., by the use of the phrase "some evidence") have a level of significance between 1.6 and 2.0 standard errors.

The figures presented in tables A and B are approximations to the standard errors of various estimates shown in this report. In order to derive standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, the tables of standard errors provide an indication of the order of magnitude rather than the precise standard error for any specific item. Table A contains the standard errors of estimated numbers.

Table A. Standard Errors of Estimated Numbers

(68 chances out of 100)

Size of estimate (000)	Standard error (000)	Size of estimate (000)	Standard error (000)
5	2	100	9
10	3	250	14
25	5	500	20
50	6	750	25
75	8	1,000	29

Table B. Standard Errors of Estimated Percentages

(68 chances out of 100)

Estimated percentage	Base of estimated percentages (000)						
	25	50	100	250	500	750	1,000
2 or 98	2.5	1.8	1.3	0.8	0.6	0.5	0.4
5 or 95	4.0	2.8	2.0	1.2	0.9	0.7	0.6
10 or 90	5.4	3.8	2.7	1.7	1.2	1.0	0.9
25 or 75	7.9	5.6	3.9	2.5	1.8	1.4	1.2
50	9.1	6.4	4.5	2.9	2.0	1.7	1.4

The reliability of an estimated percentage, computed by using sample data for both numerator and denominator, depends upon both the size of the percentage and the size of the total upon which the percentage is based. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. Table B contains the standard errors of estimated percentages.

Illustration of the use of tables of standard errors. Table 1 shows that 619,000 engineers hold a Bachelor's degree as their highest degree. Table A shows the standard error on an estimate of this size to be approximately 22,000. The chances are 68 out of 100 that the estimate would have been a figure differing from a complete census figure by less than 22,000. The chances are 95 out of 100 that the estimate would have differed from a complete census figure by less than 44,000.

Of these 619,000 bachelor degree engineers, 541,000, or 87.4 percent, were classified as group A engineers (those with a degree in an engineering curriculum or licensed as an engineer in any State but without an engineering degree). Table B shows the standard error of 87.4 percent on a base 619,000 to be approximately 1.2 percent. Consequently chances are 68 out of 100 that the estimated 87.4 percent would be within 1.2 percentage points of a complete census figure, and chances are 95 out of 100 that the estimate would be with 2.4 percentage points of a complete census figure, i.e., this 95 percent confidence interval would be from 85.0 to 89.8 percent.

Differences. For a difference between two sample estimates the standard error is approximately equal to the square root of the sum of the squares of the standard errors of each estimate considered separately. This formula will represent the actual standard error quite accurately for the difference between two estimates of the same characteristic in two differenct areas, or for the difference between separate and uncorrelated characteristics in the same area. If, however, there is a high positive correlation between the two characteristics, the formula will overestimate the true standard error.

Table 1 of this report shows that there were 130,000 engineers with a Master's degree as highest degree held. Thus the apparent difference between total with Bachelor's degree and total with Master's degree as highest degree held is 489,000. The standard error of 619,000 is 22,000 as shown above. Table A shows the standard error on an estimate of 130,000 to be approximately 10,000. The standard error of the estimated difference of 489,000 is about $24{,}000 = \sqrt{(22{,}000)^2 + (10{,}000)^2}$. This means the chances are 68 out of 100 that the estimated difference based on the samples would differ from the change derived using complete census figures by less than 24,000. The 68 percent confidence interval around the 489,000 difference is 465,000 to 513,000, i.e., 489,000 ± 24,000. A conclusion that the average estimate of the difference derived from all possible samples lies within a range computed in this way would be correct for roughly 68 percent of all possible samples. The 95 percent confidence interval is 441,000 to 537,000 and thus we can conclude with 95 percent confidence that the number of engineers with Bachelor's degree as highest degree held is actually greater than the number of engineers with Master's degree as highest degree held in 1969.

Table 1. Selected Characteristics of Engineers: 1969

(Detail may not add to total because of rounding)

Characteristics	Engineers					
	Total[1]		Group A[2]		Group B[3]	
	Number	Percent	Number	Percent	Number	Percent
AGE						
Total 14 years and over	1,266,000	100.0	757,000	100.0	459,000	100.0
14 to 24 years	109,000	8.6	77,000	10.2	29,000	6.3
25 to 34 years	328,000	25.9	223,000	29.4	98,000	21.4
35 to 44 years	388,000	30.6	245,000	32.4	135,000	29.4
45 to 54 years	293,000	23.1	139,000	18.4	128,000	27.9
55 to 64 years	115,000	9.1	53,000	7.0	55,000	12.0
65 years and over	34,000	2.7	19,000	2.5	14,000	3.1
PLACE OF RESIDENCE						
United States, total	1,266,000	100.0	757,000	100.0	459,000	100.0
Northeast	331,000	26.1	205,000	27.1	111,000	24.2
New England	81,000	6.4	52,000	6.9	25,000	5.4
Massachusetts	45,000	3.6	28,000	3.7	14,000	3.1
Other New England States	36,000	2.8	24,000	3.2	11,000	2.4
Middle Atlantic	250,000	19.7	153,000	20.2	86,000	18.7
New York	114,000	9.0	71,000	9.4	37,000	8.1
New Jersey	66,000	5.2	37,000	4.9	27,000	5.9
Pennsylvania	71,000	5.6	45,000	5.9	22,000	4.8
North Central	336,000	26.5	177,000	23.4	147,000	32.0
East North Central	269,000	21.2	149,000	19.7	109,000	23.7
Ohio	85,000	6.7	51,000	6.7	33,000	7.2
Illinois	27,000	2.1	17,000	2.2	7,000	1.5
Michigan	78,000	6.2	38,000	5.0	38,000	8.3
Other East North Central States	78,000	6.2	43,000	5.7	30,000	6.5
West North Central	67,000	5.3	28,000	3.7	38,000	8.3
South	298,000	23.5	192,000	25.4	99,000	21.6
South Atlantic	159,000	12.6	99,000	13.1	57,000	12.4
East South Central	45,000	3.6	29,000	3.9	13,000	2.8
West South Central	94,000	7.4	64,000	8.5	29,000	6.3
Texas	66,000	5.2	44,000	5.8	21,000	4.6
Other West South Central States	28,000	2.2	20,000	2.6	8,000	1.7
West	301,000	23.8	183,000	24.3	102,000	22.2
Mountain	56,000	4.4	35,000	4.6	17,000	3.7
Pacific	245,000	19.4	148,000	19.6	85,000	18.5
California	199,000	15.7	120,000	15.9	69,000	15.0
Other Pacific States	48,000	3.8	29,000	3.8	17,000	3.7
HIGHEST DEGREE HELD						
Total	1,266,000	100.0	757,000	100.0	459,000	100.0
Ph.D degree	23,000	1.8	21,000	2.8	2,000	0.4
Master's degree	130,000	10.3	119,000	15.7	11,000	2.4
Bachelor's degree	619,000	48.9	541,000	71.5	77,000	16.8
Associate degree	40,000	3.2	35,000	4.6	4,000	0.9
All other degrees	12,000	0.9	11,000	1.5	-	-
No degree	383,000	30.3	20,000	2.6	363,000	79.1
Not reported	56,000	4.4	9,000	1.2	1,000	0.2

See footnotes at end of table.

Table 1. Selected Characteristics of Engineers: 1969—Continued

(Detail may not add to total because of rounding)

Characteristics	Engineers					
	Total[1]		Group A[2]		Group B[3]	
	Number	Percent	Number	Percent	Number	Percent
CURRICULUM OF HIGHEST DEGREE HELD						
Total	1,266,000	100.0	757,000	100.0	459,000	100.0
Aeronautical	34,000	2.7	34,000	4.5	-	-
Chemical	50,000	3.9	50,000	6.6	-	-
Civil	109,000	8.6	109,000	14.4	-	-
Electrical	118,000	9.3	118,000	15.6	-	-
Electronic	46,000	3.6	46,000	6.1	-	-
Mechanical	169,000	13.3	169,000	22.3	-	-
All other engineering degrees	183,000	14.5	183,000	24.2	-	-
Nonengineering degrees	121,000	9.6	26,000	3.4	95,000	20.7
No degree	383,000	30.3	20,000	2.6	363,000	79.1
Not reported	53,000	4.2	2,000	0.3	1,000	0.2
REGISTRATION BY STATE BOARD OF ENGINEERING						
Total	1,266,000	100.0	757,000	100.0	459,000	100.0
Registered in one State	173,000	13.7	173,000	22.8	-	-
Registered in more than one State	33,000	2.6	33,000	4.4	-	-
Not registered	1,060,000	83.7	551,000	72.8	459,000	100.0
Not reported	-	-	-	-	-	-
TYPE OF WORK ON WHICH MOST TIME WAS SPENT						
Total	1,266,000	100.0	757,000	100.0	459,000	100.0
Construction	106,000	8.4	58,000	7.7	44,000	9.6
Consulting	71,000	5.6	57,000	7.5	14,000	3.1
Design	234,000	18.5	153,000	20.2	66,000	14.4
Research and development	156,000	12.3	119,000	15.7	35,000	7.6
Management of research and development	55,000	4.3	43,000	5.7	11,000	2.4
Other management administration and technical supervision	208,000	16.4	132,000	17.4	69,000	15.0
Production, quality control, testing	139,000	11.0	62,000	8.2	70,000	15.3
Sales and marketing	64,000	5.1	29,000	3.8	33,000	7.2
Teaching	14,000	1.1	11,000	1.5	3,000	0.7
Other	190,000	15.0	78,000	10.3	102,000	22.2
Not reported	28,000	2.2	15,000	2.0	12,000	2.6
MEMBERSHIP IN NATIONAL PROFESSIONAL SOCIETIES						
Total	1,266,000	100.0	757,000	100.0	459,000	100.0
No societal membership	781,000	61.7	361,000	47.7	374,000	81.5
Members of societies connected with the Engineers Joint Council	337,000	26.6	302,000	39.9	35,000	7.6
Members of all other national societies	148,000	11.7	93,000	12.3	50,000	10.9
Not reported	-	-	-	-	-	-
DETAILED OCCUPATION						
Total	1,266,000	100.0	757,000	100.0	459,000	100.0
Civil	186,000	14.7	137,000	18.1	43,000	9.4
Electrical	288,000	22.7	187,000	24.7	92,000	20.0
Industrial	156,000	12.3	60,000	7.9	88,000	19.2
Mechanical	259,000	20.5	152,000	20.1	91,000	19.8
All other	375,000	29.6	220,000	29.1	144,000	31.4

See footnotes at end of table.

Table 1. Selected Characteristics of Engineers: 1969—Continued

(Detail may not add to total because of rounding)

Characteristics	Engineers					
	Total[1]		Group A[2]		Group B[3]	
	Number	Percent	Number	Percent	Number	Percent
CLASS OF WORKER						
Total	1,266,000	100.0	757,000	100.0	459,000	100.0
Private	1,021,000	80.6	595,000	78.6	382,000	83.2
All government	221,000	17.5	143,000	18.9	72,000	15.7
Federal	79,000	6.2	49,000	6.5	30,000	6.5
State	5,000	0.4	4,000	0.5	1,000	0.2
Local	10,000	0.8	5,000	0.7	3,000	0.7
Not reported	127,000	10.0	85,000	11.2	38,000	8.3
Self-employed	24,000	1.9	19,000	2.5	5,000	1.1
INDUSTRY OF EMPLOYMENT						
Total	1,266,000	100.0	757,000	100.0	459,000	100.0
Construction	125,000	9.9	77,000	10.2	42,000	9.2
Manufacturing	733,000	57.9	433,000	57.2	269,000	58.6
Fabricated metals	84,000	6.6	45,000	5.9	34,000	7.4
Machinery	124,000	9.8	61,000	8.1	56,000	12.2
Electrical equipment	147,000	11.6	94,000	12.4	44,000	9.6
Automobiles	33,000	2.6	15,000	2.0	14,000	3.1
Other transportation equipment	160,000	12.6	95,000	12.5	63,000	13.7
Chemicals	50,000	3.9	40,000	5.3	8,000	1.7
Petroleum	11,000	0.9	6,000	0.8	5,000	1.1
Other manufacturing	124,000	9.8	77,000	10.2	45,000	9.8
Railroads and railway express and other transportation	19,000	1.5	6,000	0.8	7,000	1.5
Educational services	17,000	1.3	15,000	2.0	2,000	0.4
Public administration	94,000	7.4	58,000	7.7	34,000	7.4
All other industries	277,000	21.9	167,000	22.1	105,000	22.9

– Represents zero.

[1]Difference between total and sum of group A and group B engineers is equal to the number of cases without sufficient information for classification into either group A or group B.

[2]Engineers with a degree in an engineering curriculum or licensed as an engineer in any State. See page 1.

[3]Engineers without a degree in an engineering curriculum and not licensed in any State. See page 1.

ATTACHMENT A

FORM CPS-590 (9-69)

BUDGET BUREAU NO. 41-S69078
APPROVAL EXPIRES FEBRUARY 1970

U.S. DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

Dear Friend:

We greatly appreciate your cooperation in our regular series of surveys of the United States population conducted monthly throughout the Nation to provide the Official government figures on employment and unemployment.

In addition, we occasionally ask questions on other subjects important to the national interest. The National Science Foundation has requested the Census Bureau to conduct a study of persons in engineering fields. The purpose of this survey is to provide information on the level and type of training, the kind of work performed, and related data on engineering personnel.

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

Since this study is based on a sample, it is important that each person who has been selected fill out and return the questionnaire. Please mail the questionnaire, within five days, in the enclosed postage-paid envelope.

Your cooperation in both this and our Current Population Survey is greatly appreciated.

Sincerely,

Daniel B. Levine

DANIEL B. LEVINE
Chief, Demographic Surveys Division
Bureau of the Census

Enclosure

FOR CENSUS USE ONLY	PSU No.	Serial No.	Line No.	N.R.

SURVEY OF ENGINEERS

Line number	1. Please list the names of all colleges, universities or similar institutions you have attended beyond the high school level. *(Enter the names of each on the lines provided below.)*	2. What degree(s) did you receive? *(For example: B.A., B.S., M.A., Ph. D., M.D., etc.)*	*Do not write in this space*	3. In what year did you receive this degree(s)?	4. From the list below, enter the number corresponding to the major field of study for each degree received.
1					
2					
3					
4					

01. Aeronautical & Astronautical
02 Agricultural
03. Architechural
04. Bioengineering
05. Ceramic
06. Chemical
07. Civil
08. Communications
09. Construction
10. Electrical
11. Electronic
12. Engineering Mechanics
13. Engineering, General
14. Engineering Physics
15. Engineering Science
16. Engineering Technology
17. Environmental
18. Geological
19. Geophysical
20. Industrial
21. Marine
22. Materials
23. Mechanical
24. Metallurgical
25. Mineral
26. Mining
27. Naval Architecture
28. Nuclear
29. Petroleum
30. Sanitary
31. Textile
32. Transportation
33. Welding
34. Other Engineering – *Specify* _____
35. Business Administration
36. Chemistry
37. Physics
38. Other Nonengineering – *Specify* _____
39. No Degree Received

5. Are you now registered by a State Board of engineering examiners?

1 ☐ Yes →
2 ☐ No ↓

6. In which State(s) are you registered?

01. _____ 06. _____
02. _____ 07. _____
03. _____ 08. _____
04. _____ 09. _____
05. _____ 10. _____

7. On what type of work do you spend most of your time? *(Mark one)*

01 ☐ Construction
02 ☐ Consulting
03 ☐ Design
04 ☐ Research and Development
05 ☐ Management of Research and Development
06 ☐ Other Management, Administration, and Technical Supervision
07 ☐ Production, Quality Control, Testing, etc.
08 ☐ Sales and Marketing
09 ☐ Teaching
10 ☐ Other – *Specify* _____

8. Are you a member of a national professional society?

1 ☐ Yes – *A list of national professional societies appears below. Please mark each society to which you belong.*

2 ☐ No – *Go to Item 9*

01 ☐ Aeronautics and Astronautics (AIAA)
02 ☐ Agricultural (ASAE)
03 ☐ Air Pollution Control (APCA)
04 ☐ Audio (AES)
05 ☐ Automotive (SAE)
06 ☐ Ceramic (NICE)
07 ☐ Chemical (AIChE)
08 ☐ Civil (ASCE)
09 ☐ Concrete (ACI)
10 ☐ Consulting (AICE)
11 ☐ Corrosion (NACE)
12 ☐ Cost (AACE)
13 ☐ County (NACE)
14 ☐ Education (ASEE)
15 ☐ Electrical and Electronics (IEEE)
16 ☐ Fire Protection (SFPE)
17 ☐ Fluid Power (FPS)
18 ☐ Heating, Refrigerating, & Air Conditioning (ASHRAE)
19 ☐ History (SHOT)
20 ☐ Industrial (AIIE)
21 ☐ Instrument (ISA)
22 ☐ Illuminating (IES)
23 ☐ Iron and Steel (AISE)
24 ☐ Lubrication (ASLE)
25 ☐ Marine Technology (MTS)
26 ☐ Material Management (IMMS)
27 ☐ Mechanical (ASME)
28 ☐ Metals (ASM)
29 ☐ Military (SAME)
30 ☐ Mining, Metallurgical, Petroleum (AIME)
31 ☐ Motion Picture (SMPTE)
32 ☐ Naval Architects and Marine (SNAME)
33 ☐ Naval Engineers (ASNE)
34 ☐ Naval Ship Systems Command (ASE)
35 ☐ Nondestructive Testing (ASNT)
36 ☐ Nuclear (ANS)
37 ☐ Packaging and Handling (SPHE)
38 ☐ Packaging, Handling, and Logistics (NIPHLE)
39 ☐ Photogrammetry (ASP)
40 ☐ Photographic (SPSE)
41 ☐ Photo-optical Instrumentation (SPIE)
42 ☐ Plant (AIPE)
43 ☐ Plastics (SPE)
44 ☐ Power (NAPE)
45 ☐ Professional (NSPE)
46 ☐ Pulp and Paper (TAPPI)
47 ☐ Quality Control (ASQC)
48 ☐ Railway (AREA)
49 ☐ Reproduction (SRE)
50 ☐ Safety (ASSE)
51 ☐ Sanitary (ASSE)
52 ☐ Standards (SES)
53 ☐ Stress Analysis (SESA)
54 ☐ Traffic (ITE)
55 ☐ Testing and Materials (ASTM)
56 ☐ Tool and Manufacturing (ASTME)
57 ☐ Valve (SAVE)
58 ☐ Water Pollution Control (WPCF)
59 ☐ Water Works (AWWA)
60 ☐ Welding (AWS)
61 ☐ Well Log Analysts (SPWLA)
62 ☐ Women (SWE)
63 ☐ Other – *Specify* _____

9. Please check to make sure you have answered all the questions that apply to you. Then mail this questionnaire in the postage-paid envelope.

THANK YOU FOR YOUR COOPERATION

Use reverse side for comments →

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