

DOCUMENT RESUME

ED 133 608

CE 009 733

AUTHOR Driscoll, Jeanne Baker; Herz, Edwin L.
 TITLE Professional, Technical and Kindred Workers: Where They Come From, Where They Go In The Commonwealth of Pennsylvania. Information For Student Career Planning.
 INSTITUTION Pennsylvania State Univ., University Park. Dept. of Counselor Education.
 SPONS AGENCY Pennsylvania Research Coordinating Unit for Vocational Education, Harrisburg.
 REPORT NO VT-103-529
 BUREAU NO 19-5802
 PUB DATE Aug 76
 NOTE 204

EDRS PRICE MF-\$0.83 HC-\$11.37 Plus Postage.
 DESCRIPTORS *Career Change; Career Planning; Census Figures; *Employment Patterns; *Employment Qualifications; Employment Statistics; Graphs; *Occupational Clusters; *Occupational Information; *Occupational Mobility; Occupations; Professional Occupations; Technical Occupations
 IDENTIFIERS *Pennsylvania

ABSTRACT

Intended for use in occupational and education planning by students and counselors, this document contains information about the 106 occupations which are included in the professional, technical, and kindred workers cluster of the U.S. census. The occupations are grouped by field of interest. For each occupation, the information provided includes a one-page narrative description of the occupation along with census data on occupational mobility in Pennsylvania expressed in the form of bar graphs. The narrative briefly defines the occupation, then discusses personal qualifications, job duties, possible advantages and disadvantages, preparation and training, and sources of additional information. One bar graph depicts the 1965 activities of all 1970 workers in the occupation. This is followed by a paragraph highlighting some of the major shifts or similarities in workers' occupations between 1965 and 1970. The second graph shows what 1965 workers in an occupation were doing in 1970. The total number of workers in the occupation is given for 1965 and 1970, along with a list of job titles classified under the occupational heading. (RG)

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PROFESSIONAL, TECHNICAL AND KINDRED WORKERS

Where They Come From
Where They Go

In The Commonwealth of Pennsylvania

Information For Student Career Planning

By

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EDWIN L. HERR

The Pennsylvania State University
Department of Counselor Education

August 1976

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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Funded by the

Pennsylvania Department of Education
Bureau of Vocational Education
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(Project No. ~~19-5002~~)

19-5802

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BACKGROUND OF THE PROJECT

America has been characterized by great social, geographic and occupational mobility among its people. As its technological character has changed, personal opportunities have also expanded and changed. But unless such possibilities are known to people, and appropriate planning and preparation occur regarding those preferred, occupational mobility for any particular person can be elusive.

Occupational mobility can be seen as a number of streams; there may be several routes to the same occupation. Each of these routes may be thought of as an escalator toward, or a feeder of, some occupation. Some of these streams are a function of different ways of learning, in vocational or general education curricula, or on the job itself. Other streams are functions of particular occupations representing the supply from which the recruits for other occupations come. Some occupations tend to be where most people who enter them stop. Other occupations are only way stations on the road to another point in one's career.

Many persons interested in career planning tend to believe that there is only one route to given occupations. If they do not like the route they know about, they simply reject the resulting occupation and look elsewhere. But, occupational mobility is complex. The mobility patterns across and among different occupations describe a giant lattice of interrelated movements rather than single, isolated and clearcut tracks.

Fundamental to current models of Career Education, cluster concepts of vocational education, and personal power is the need for a base of information by which students or adults can plan immediate, intermediate, and distant goals. Such planning in any particular case may need to take into account any of the following types of questions:

1. What are the multiple ways by which persons enter particular occupations?
2. What lines of transfer exist among occupations?
3. Which occupations feed other occupations?
4. What is the likelihood of persons remaining in the same occupation for five year periods?

Unfortunately, information to answer the types of questions about occupational mobility important to many persons in the process of choice-making is not available except in gross national generalizations. Thus, persons in a state or in a local area have no clearcut sense of whether national trends or statistics are pertinent to them. Or, if such information is available, it is frequently not in a form which a counselor or a student can use to facilitate decision-making.

The purpose of this document is to translate Census data¹ about occupa-

¹ Table 178, 1970 Census. "Occupational and Geographic Mobility between 1965 & 1970 By Race and Sex." A specialized run for Pennsylvania. U.S. Bureau of the Census, Washington, D.C. 1975.

3-

tional mobility in Pennsylvania into a graphic form so that it can be used by students and counselors in occupational and educational choice and planning. It is not possible in a brief document to cover all levels of occupations. Thus, the information contained here deals with the 106 occupations which are included in the Professional, Technical and Kindred Workers Cluster of the Census. For ease of understanding, or because some occupations contain very few workers, some of the basic 106 occupations have been collapsed or eliminated. Although Census data is always "old data," it is also the most complete information about Pennsylvania which is available. Because of the numbers of persons involved in the Census, aside from minor variations, the trends in occupational mobility shown here are likely to persist through the 1970's.

The project from which this document has emerged was stimulated by the work and concern of Mr. John Senior, Manpower Specialist, Research Coordinating Unit, Bureau of Vocational Education, The Pennsylvania State Department of Education. As cited previously, the funding for this project was provided by the Bureau of Vocational Education, Pennsylvania Department of Education, through the Research Coordinating Unit.

INFORMATION -- THE FUEL OF THE DECISION-MAKER

Good information does not insure good decisions but good decisions are unlikely without good information. Contradictory? Not at all. In order to choose wisely, students must have accurate and pertinent information to feed into the decision-making process. If such information is not available, choices are made on the basis of stereotype or by theology -- unstable grounds, indeed.

The first element of decision-making is accurate self-knowledge. Students need to be able to identify their personal values and interests as well as how these are related to their strengths and weaknesses in verbal, quantitative and scholastic abilities. Hopefully, an accurate, realistic self-concept will result. Such a base can then be used to evaluate whatever choice options are available.

Beyond self-knowledge, however, knowledge of the occupational structure is highly important to choice-making. Students need to know the breadth of the occupational structure, the variables which distinguish different occupations, and how the possible outcomes associated with different occupations -- e.g. human relationships, status, interesting work activity, specific kind of work activity -- relate to their personal preferences.

Given a base of self-knowledge and knowledge of the occupational structure, it is also useful for students to have some understanding of how many or how few people are employed in a particular occupation, where they come from and where they go. While absolute numbers tell little about the existing job market in a specific community, they do give the student a sense of the magnitude of opportunity available in an occupation within the Commonwealth. Further, knowing the ways by which people enter a particular occupation can help a student develop contingency plans. If

a preferred way of entering an occupation is not possible, they can determine which other paths to that occupation they might wish to take. Finally, by possessing information about which occupations people enter after leaving a previous occupation, a student can be helped to consider not only immediate choices but also intermediate and future choices for which plans might now be made.

Obviously, every occupational choice has educational implications. Therefore, in considering what immediate or future occupations they hope to enter, students also need to consider what type of education they will need to complete in order to qualify for entry, and what type of continuing education they will need to pursue to maintain and improve their skills in the preferred occupations. Since this document deals primarily with professional, technical and kindred occupations, it is likely that virtually any occupation chosen from those included here will require some form of post-secondary education.

Use of the information included here will need to be supplemented by other material. For example, Occupational Outlook Handbook and Pennscripts will discuss working conditions, earning levels, and of training required in each occupation. Directories of proprietary school, community college or college and university curricula will be helpful in identifying where appropriate education for each occupation can be secured. In addition, information about the individual's interest, aptitude, and achievement patterns will be essential content as specific occupations or levels of education are considered.

ORGANIZATION OF THE MATERIAL

All the occupations included in this text are classified by the Bureau of the Census as within the "professional, technical and kindred workers" cluster. The order of presentation of the occupations follows that used by the Bureau of the Census. Because the Bureau's format is being used, the occupations are not alphabetized, but appear in groups, arranged by field of interest.

The Narrative

A one-page description introduces each occupation. Each narrative briefly defines the occupation, then discusses desired personal qualifications of future employees, job duties, and preparation and training. Possible advantages and disadvantages of the job as well as addresses of additional sources of information are also included. Appropriate D.O.T. numbers are listed, as well as a request to contact the school counselor for further assistance. Much of the material for the narrative was taken from three resources: Pennscript, The Occupational Outlook Handbook, 1974-75 edition and the Dictionary of Occupational Titles, Volumes I and II. The Career Research Monographs, published by The Institute for Research in Chicago and Hopke's Encyclopedia of Careers and Vocational Guidance (Volumes I & II, Revised Edition) were also used to compile some descriptions.

The Graphs

The two graphs included for each occupation reflect occupational mobility. The uppermost graph depicts the 1965 activities of all the 1970 workers in a particular occupation. A paragraph follows, which highlights some of the major shifts or similarities in workers' occupations between 1965 and 1970. The second graph describes what 1965 workers in a certain occupation were doing by 1970. The last section of the page is devoted to a listing of job titles that the Bureau of the Census has categorized within each occupation.

Explanation of the graphs

Both of the graphs use the same format to convey information. The horizontal axis shows percentages from zero to one hundred. In every case the percentage is based on the total number of workers in a given occupation either in 1965 or 1970. That number is presented underneath the graph.

The vertical axis reflects the individual occupations and/or occupational clusters of workers. Because of space restrictions, some of the listings along the vertical axis had to be abbreviated. A glossary of the abbreviations is included immediately following this introductory chapter. Frequently, several occupations or clusters are grouped into one category. In such instances, the group which comprises the largest portion of that percentage is listed first. (Ex.: If "crafts, operatives, service = 4.3%," then a greater portion of that percentage are craftsmen than are operatives, etc.)

Omissions

The data collected by the Census for the 1965 information is retrospective data. That is, workers in 1970 were asked what they were doing in 1965. Consequently, persons who died between 1965 and 1970 are not included in this information. Therefore, the totals for each occupation, including the percentage of any group that is categorized as "not in the labor force," exclude that segment that died between 1965 and 1970.

A small number of the occupations which are listed by the Bureau of the Census under professional, technical, and kindred workers, have been omitted. In all cases they were excluded because the total number of workers in 1965 and/or in 1970 was less than 100. Additionally, most of the occupations with such a small total had only one or two entries describing occupational shifts. A few occupations with small totals for either 1965 or 1970 were retained either because of perceived interest by students or projected increase in the number of workers in a particular occupation.

GLOSSARY FOR USE

Acc't - accountants
AF - Armed Forces
Aero - aeronautical
Astro - astronomical
Atmos./space - atmospheric and space (scientists)
Clerical - clerical and kindred workers
Col./univ. prof. - college and university professors
comp. prog. - computer programmers
comp. spec. - computer specialists
comp. sys. anal. - computer systems analysts
crafts - craftsmen and kindred workers
econ. - economists
eng. - engineer(s)
E & E - electrical and electronic
E & S tech. - engineering and science technicians
farm - farmers and farm managers, farm laborers and farm foremen
lbrs. - laborers, except farm
Metal. & mat. - metallurgical and material (engineer)
Mgmt. - management
Mgr. & admin. - managers and administrators
n.e.c. - not elsewhere classified
Not in LF - not in the labor force
Occup. - occupation(s)
ONR - occupation not reported
Operatives - operatives, including transportation workers
Oper./sys./res. - operation's and systems researchers and workers
Pers./lab. rel. - personnel and labor relations workers
Prekgtn./kgtn. tchr. - prekindergarten and kindergarten teachers
PTK - professional, technical, and kindred workers
R E agents - real estate agents
Sales - sales workers
Sec. - secondary
Service - service workers, including private household workers
T & T - technologists and technicians
Unemp. in '65 - unemployed in 1965
Writ./art./ent. - writers, artists, and entertainers

ACCOUNTANTS

D.O.T. # 160.188

What does an accountant do? An accountant compiles and analyzes business records and prepares financial reports for clients.

TO GET THE JOB

You should be able to:

- Exercise good judgment
- Be persuasive, but get along well with others.
- Express yourself well
- Write neatly and legibly

You should prefer to:

- Work with numbers and with people
- Do accurate and detailed work
- Finish everything you start

You should be physically able to:

- Work while sitting for long periods of time
- Work under stress

You should know that:

- A license is needed in all states to be a certified public accountant
- Handicapped workers can be accountants
- Accountants are employed in business, industry or government

ON THE JOB

The public accountant examines the accounting system of clients and may suggest changes. Sometimes an entirely new accounting system may be set up. The accountant must realize the effects that accounting information will have on the client's business. Company operations seek to lower costs and raise profits either through better accounting methods or by a change in procedure. The accountant may give advice on tax matters and prepare tax returns for companies or individuals. Auditors (specialized accountants) check over financial reports and records in order to give an opinion on their accuracy.

THINGS TO THINK ABOUT

Advantages:

- Many accountants are independent and self-employed
- Accountants may become Certified Public Accountants
- Many accountants advance to administrative positions in business

Disadvantages

- Work hours are long and irregular during certain seasons
- Clients may apply pressure to finish jobs by deadlines
- Accountants' work may involve frequent travel

PREPARATION AND TRAINING

A four-year college degree is usually necessary for entering the field today. High school courses such as mathematics, English and public speaking are helpful.

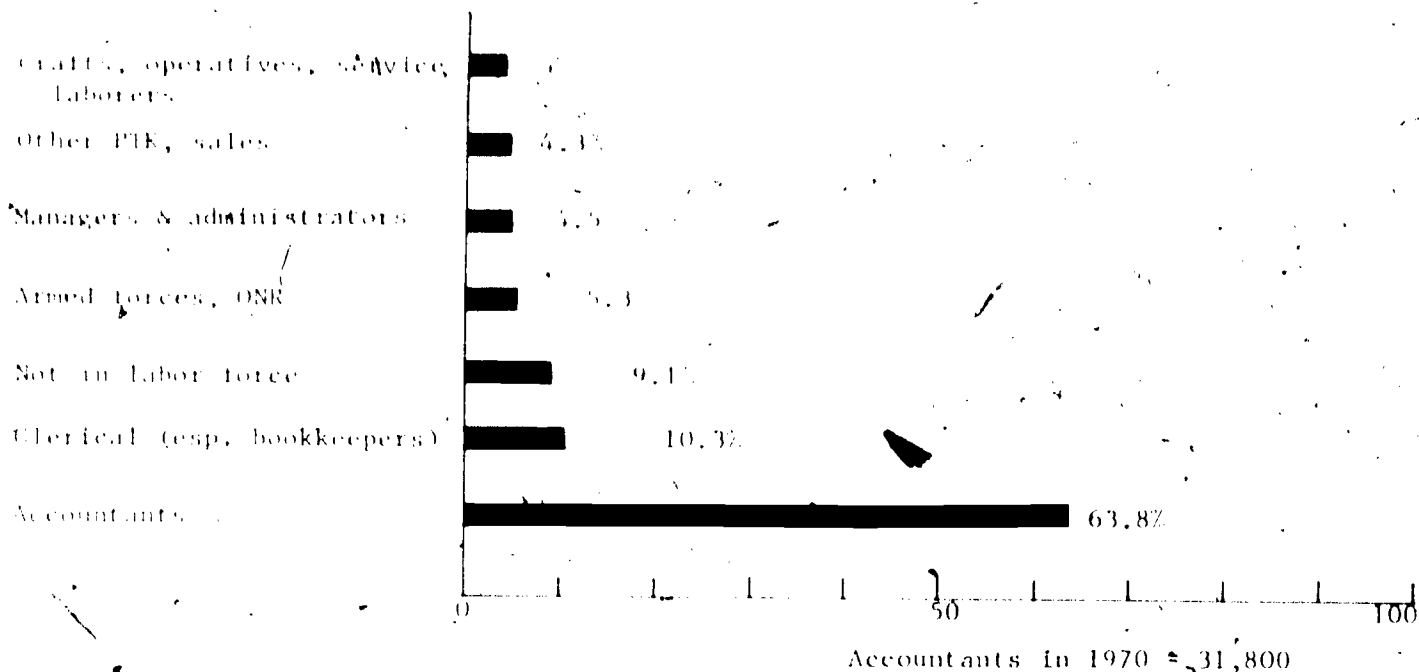
For continued advancement an applicant should become a Certified Public Accountant. CPA requirements vary among states, but the CPA exam is the same throughout the United States.

WHERE TO GET MORE INFORMATION

National Association of Accountants
506 Park Avenue
New York, New York 10022

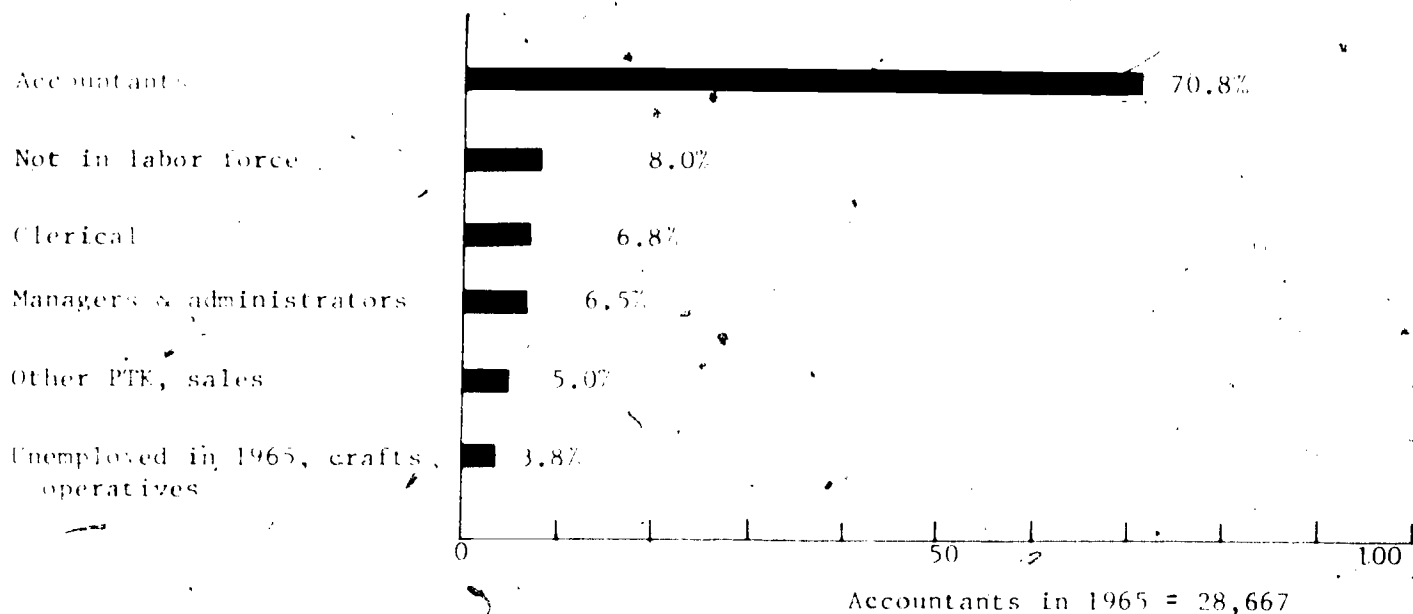
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Accountants Were Doing in 1965



More than 1/4 of the new accountants in 1970 were clerical workers in 1965. Another 25% were probably in college (not in the labor force). Most workers from other clusters who became accountants in 1970 very likely took some courses in business or accounting. Close to 75% of the 1965 accountants remained in that field or moved into another professional occupation by 1970.

What 1965 Accountants Were Doing in 1970



Some job titles classified under this heading:

- Bank examiner
- Cost analyst
- Financial agent
- Income tax advisor
- Industrial accountant
- Payroll auditor

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ARCHITECTS

D.O.T. # 001.081

What does an architect do? An architect designs buildings that successfully combine elements of attractiveness, safety and usefulness.

TO GET THE JOB

You should be able to:

Do well in math and physical sciences
Work well in a team or independently
Have a creative talent or imagination

You should prefer to:

Work indoors
Do detailed and accurate work
Serve the public

You should be physically able to:

See well
Work under pressure
Sit for long periods of time

ON THE JOB

An architect plans and designs buildings and equipment for public and/or private use. The architect first discusses the purposes, requirements and cost of a project with the client. Then, after some preliminary drawings and further discussion, a final design is completed, which shows floor plans and structural details. Working drawings that pinpoint specific details are also prepared. It may even include planning the use of the space and grounds surrounding the buildings. The design must conform to all existing regulations. Information about the cost of materials, equipment, and estimated building time may also be provided by the architect. After all the design drawings are completed, a construction contractor is selected and a contract is negotiated. Architects may specialize in one phase of the work. Marine architects are mainly concerned with the design and construction of marine crafts related structures such as ships and docks.

THINGS TO THINK ABOUT

Advantages:

Diversity of routine
Good chance for advancement or establishing own firm

Disadvantages:

Irregular hours (sometimes nights and weekends)
Long period of training and preparation for licensing
One of first professions to be affected by the economy

PREPARATION AND TRAINING

Usually takes 5 years to obtain a bachelor's degree in the architecture program.
A license is required in all states.
A license requires a degree from an accredited school and 3 years of experience.

WHERE TO GET MORE INFORMATION

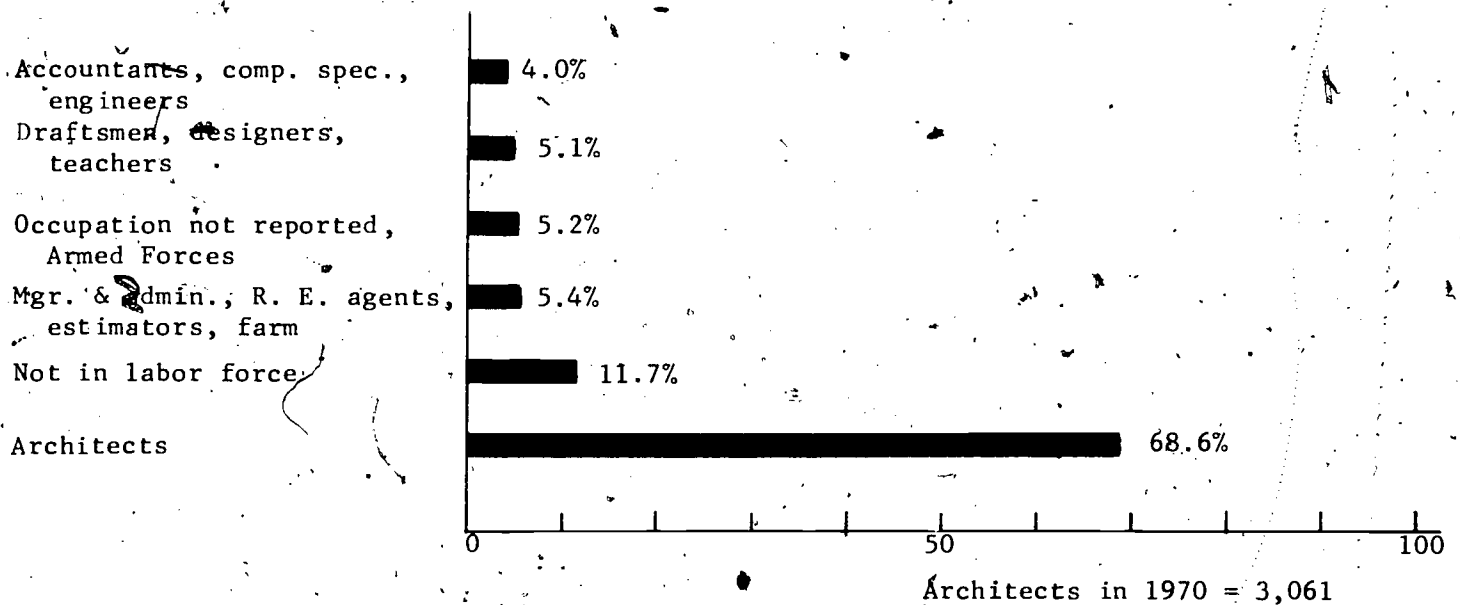
The American Institute of Architects
1735 New York Avenue
Washington, D.C. 20036

Society of American Registered
Architects
600 South Michigan Avenue
Chicago, Illinois 60605

13

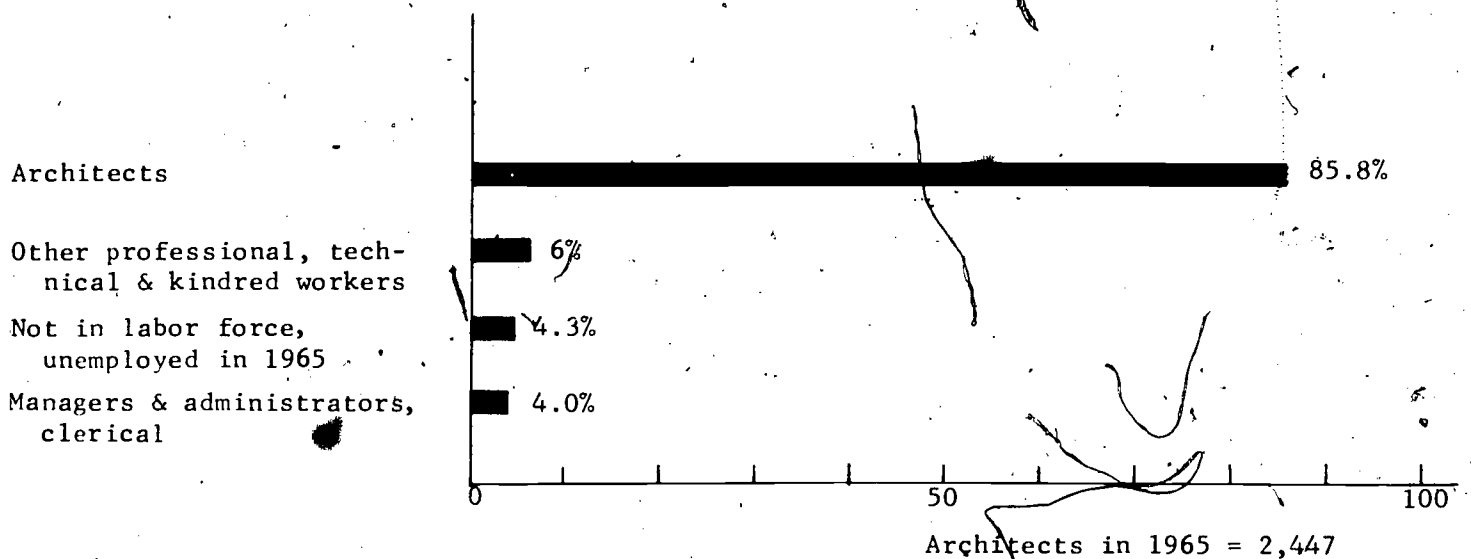
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Architects Were Doing in 1965



Almost 70% of the 1970 architects were in the same profession five years earlier. More than one-third of those who became architects in 1970 were probably in college in 1965 (not in the labor force). Another 25% were previously in other technical professions. Over 90% of the 1965 architects remained in that occupation or moved into another profession in 1970.

What 1965 Architects Were Doing In 1970



Some job titles classified under this heading:

- Architectural designer
- Building consultant
- Landscape architect
- Naval architect

COMPUTER PROGRAMMERS

D.O.T. # 020.188

What does a computer programmer do? A computer programmer prepares program sheets to be used in transcribing data, including step-by-step directions, for the computer to process the information.

TO GET THE JOB

You should be able to:

- Think logically and objectively
- Work patiently with detail
- Understand mathematical and statistical relationships

You should prefer to:

- Work with computer equipment
- Work as part of a team

You should be physically able to:

- Sit or stand for long periods of time
- Use your eyes for long periods of time without strain

ON THE JOB

The programmer prepares the detailed instructions that tell an electronic computer how to process data. That involves devising a flow chart the computer will use and including step-by-step directions, statements of business problems must be converted into computer language. In order to do that consultations with a supervisor or representatives of various business departments may be necessary. Questions may arise concerning the intent of the program, the form of the anticipated output, the extent of the programming and evaluation. After instructions are written the programmer does a "trial run" to make sure the program is correct. If it isn't he or she must make the necessary corrections. Besides working in business, computer programmers may be employed by industries which use computers in the manufacturing process.

THINGS TO THINK ABOUT

Advantages:

- Chance of advancement to supervisor or department head
- A highly technical occupation with widely expanding opportunities

Disadvantages:

- Work is often routine
- Must keep up to date with technical changes in computers

PREPARATION AND TRAINING

A high school education with coursework in business, math, science, and English is a good background. Most employers now require a college degree.

Technical employers prefer programmers with an engineering, math, and/or business administration background.

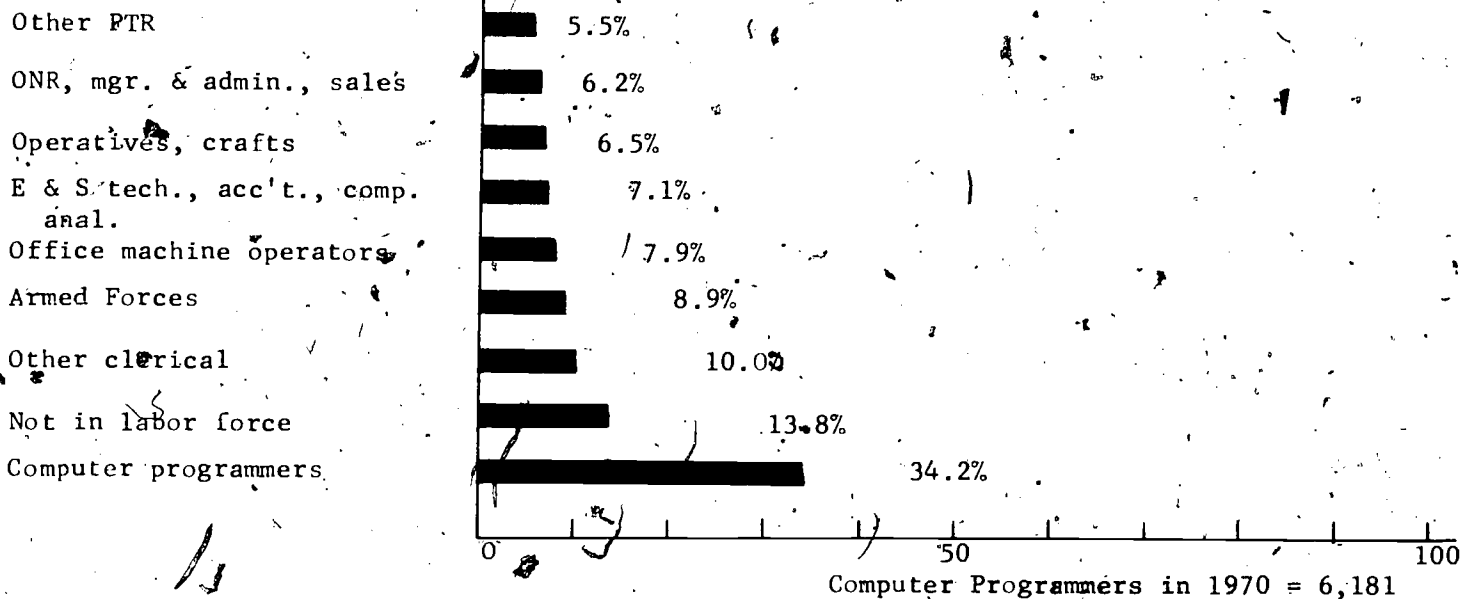
WHERE TO GET MORE INFORMATION

Data Processing Management Ass'n
524 Busse Highway
Park Ridge, Illinois 60068

Association for Computing Machinery
211 East 43rd Street
New York, New York 10017

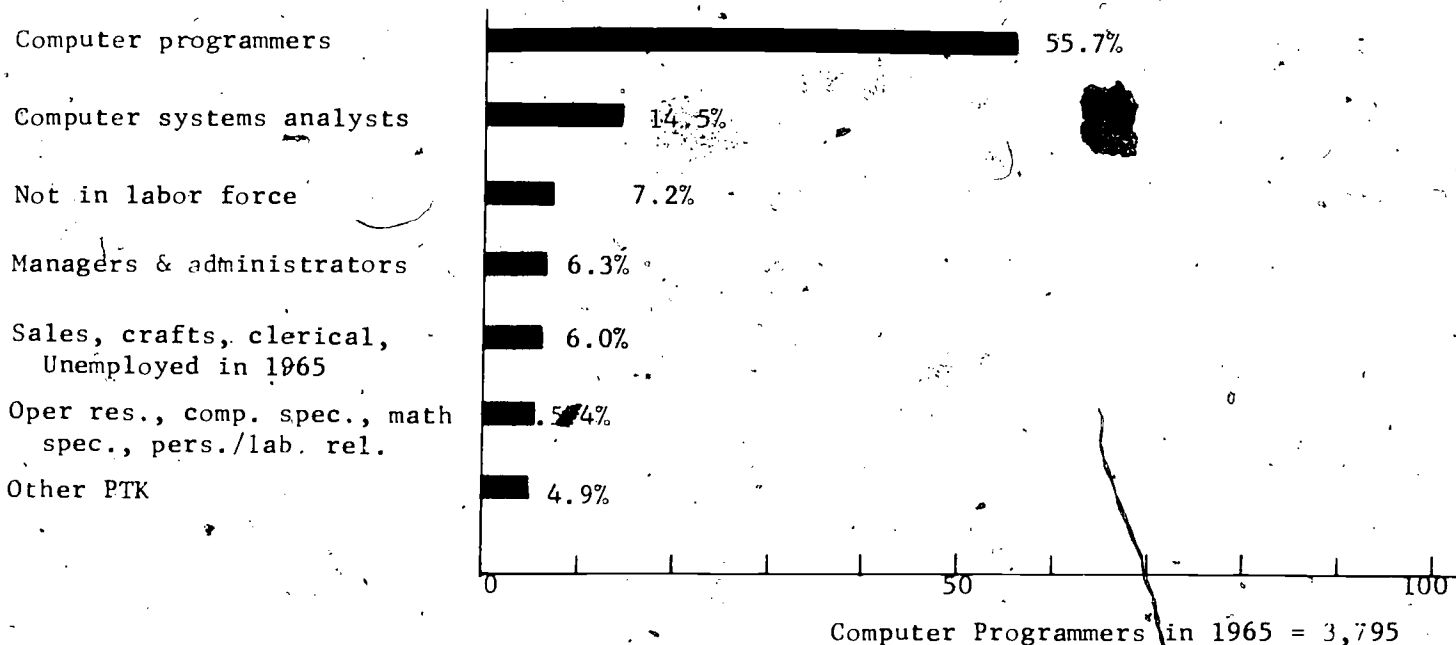
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Computer Programmers Were Doing in 1965



About two-thirds of the 1970 computer programmers were doing something else five years earlier. One-fifth of the job entrants were probably in college in 1965 (not in the labor force). Over 25% coming from other occupations were employed in clerical positions five years earlier, and another 10% came from the Armed Forces. More than 70% of the 1965 programmers were still working in the computer field in 1970.

What 1965 Computer Programmers Were Doing in 1970



Some job titles classified under this heading:

- Computer programmer
- Electronic data programmer
- Univac programmer

COMPUTER SYSTEMS ANALYSTS

D.O.T. # 012.168

What does a computer systems analyst do? A computer systems analyst develops methods to use computers in the processing and storage of information.

TO GET THE JOB

You should be able to:

Think logically, give clear directions, and organize work
Do data processing, accounting, math
Concentrate

You should prefer to:

Work with ideas and people
Work with details

You should be physically able to:

Mostly sit or stand

ON THE JOB

The systems analyst identifies the problem through consultation with clients and then decides the best method of processing information. This may include recommending the equipment to be used. After these decisions are made the analyst then prepares charts and diagrams of the systems and directions for the computer programmers. Some analysts adapt existing systems to handle new data; others research new methods of systems analysis.

Analysts are employed by business and industry as well as scientific and engineering organizations.

THINGS TO THINK ABOUT

Advantages

Regular hours
Advancement to managerial positions or department heads

Disadvantages

Problem may be difficult or frustrating to solve

PREPARATION AND TRAINING

A bachelor's degree in business administration, accounting, engineering, or programming. Experience in computer programming is often preferred.

WHERE TO GET MORE INFORMATION

American Federation of Information Processing Societies
210 Summit Avenue
Montvale, New Jersey 07645

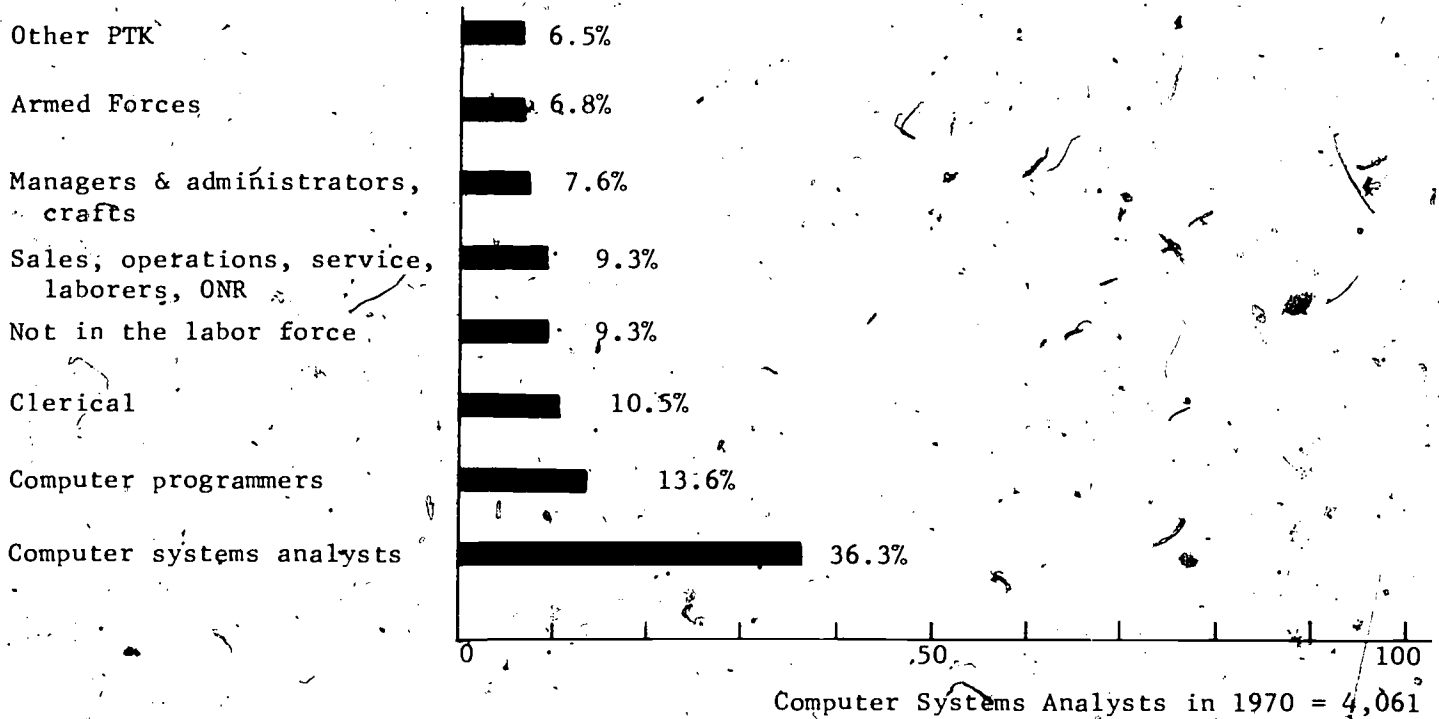
Data Processing Management Association
505 Busse Highway
Park Ridge, Illinois 60068

READING LIST OF CAREER OPPORTUNITIES

Association for Computing Machinery
1133 Avenue of the Americas
New York, New York 10036

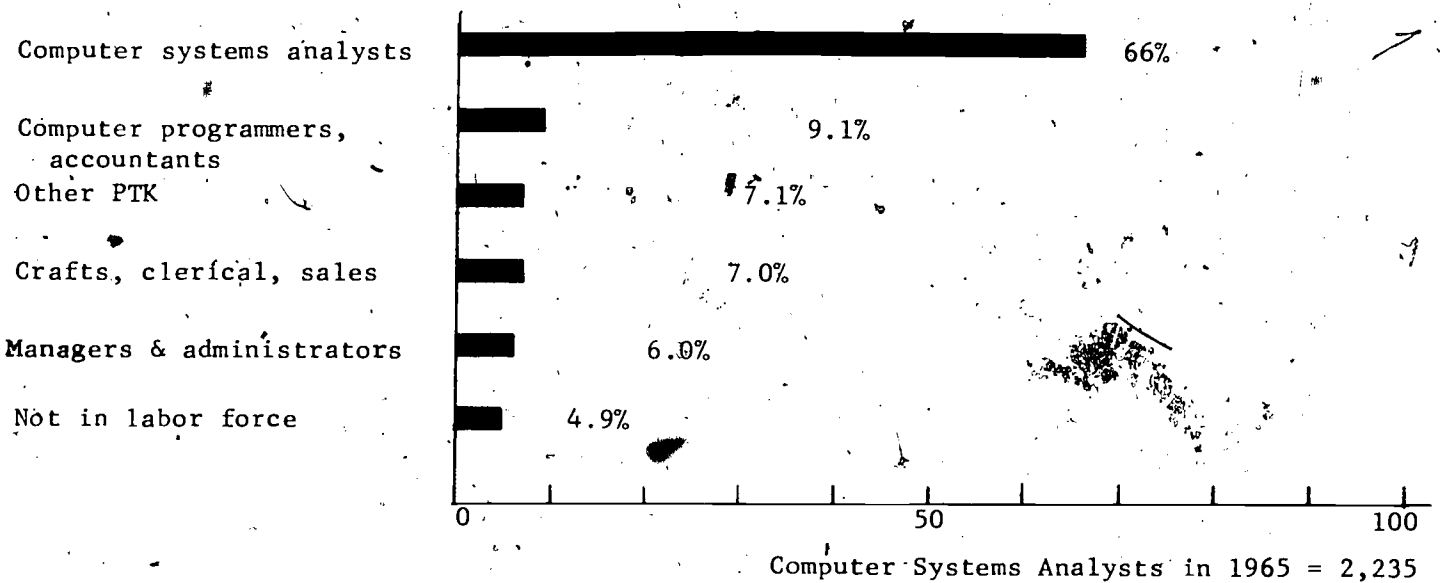
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Computer System Analysts Were Doing In 1965



Twenty percent of the workers who became computer systems analysts in 1970 were computer programmers in 1965. Another 15% were clerical workers, and about 14% were probably in college (not in the labor force) in 1965. Three-fourths of the 1965 analysts stayed in a computer-oriented field in 1970.

What 1965 Computer Systems Analysts Were Doing In 1970



Some job titles classified under this heading:

- Computer analyst
- Data-processing-systems analyst
- Systems engineer

COMPUTER SPECIALISTS

D.O.T. # 020.088

What does a computer specialist do? A computer specialist works primarily with mathematical concepts in analyzing data-processing problems, stating problems in computer language, and understanding the design of computers.

TO GET THE JOB

You should be able to:

- Think logically and objectively
- Understand mathematical and statistical relationships

You should prefer to:

- Work with numbers
- Have an interest in scientific or technological developments
- Work independently or as part of a team

You should be physically able to:

- See well
- Work with your hands
- Sit or stand for long periods of time

ON THE JOB

A good background in mathematics is essential for computer specialists. They apply the principles of math to all aspects of computer work: analyzing data-processing problems, stating problems in computer language, determining computational methods and sequencing the machine operations for the solution of problems. A few are employed in the design of computers through the development of new mathematical formulas and relationships.

THINGS TO THINK ABOUT

Advantages:

- Regular work hours
- Comfortable working conditions

Disadvantages:

- Highly technical work may be difficult or frustrating
- Must keep up-to-date with technical changes in computers.

PREPARATION AND TRAINING

A high school education with coursework in business math, science, and English is a good background.

A bachelor's degree in mathematics or computer science is the minimum educational requirement for entrance into this field.

Advanced degrees are necessary for research positions.

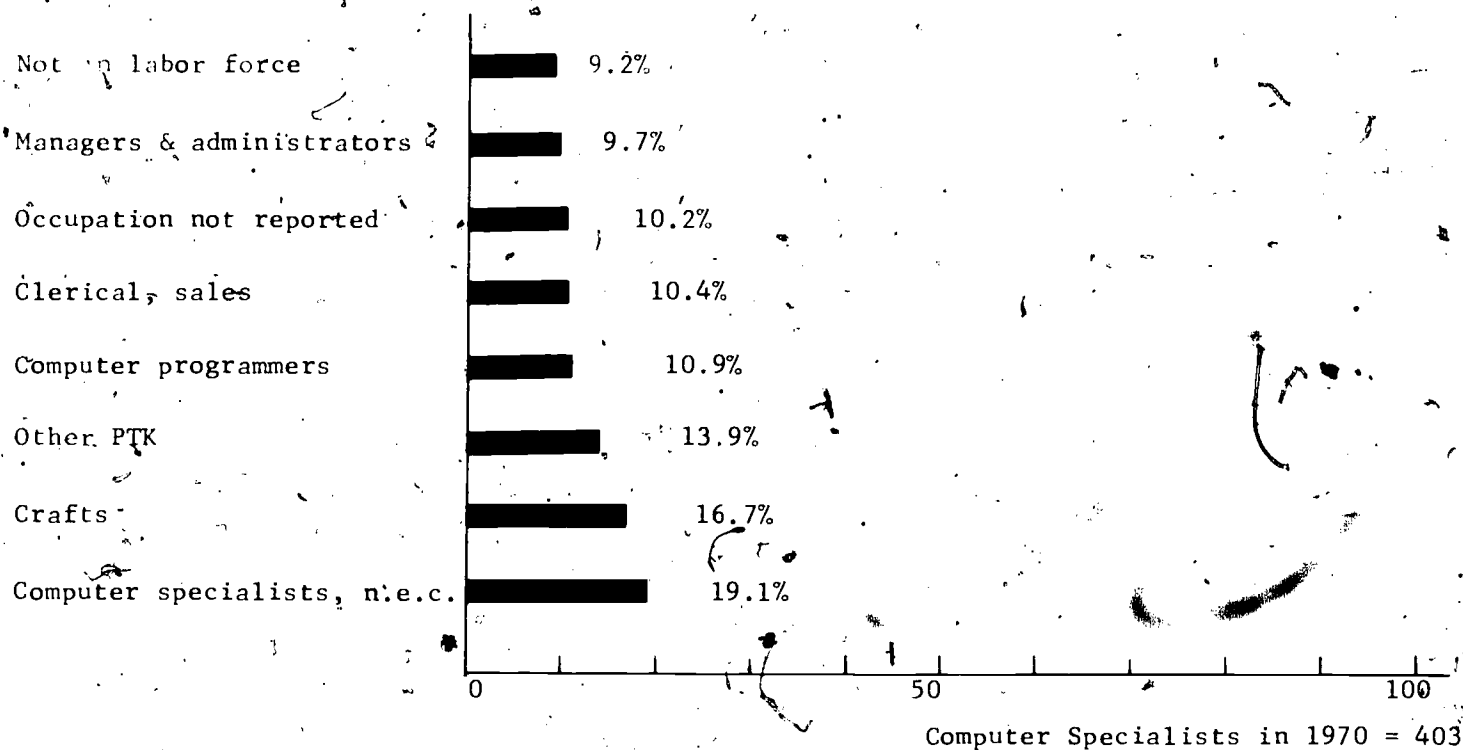
WHERE TO GET MORE INFORMATION

Association for Computing Machinery
1133 Avenue of the Americas
New York, New York 10036

American Federation of Information Processing Societies
210 Summit Avenue
Montvale, New Jersey 07645

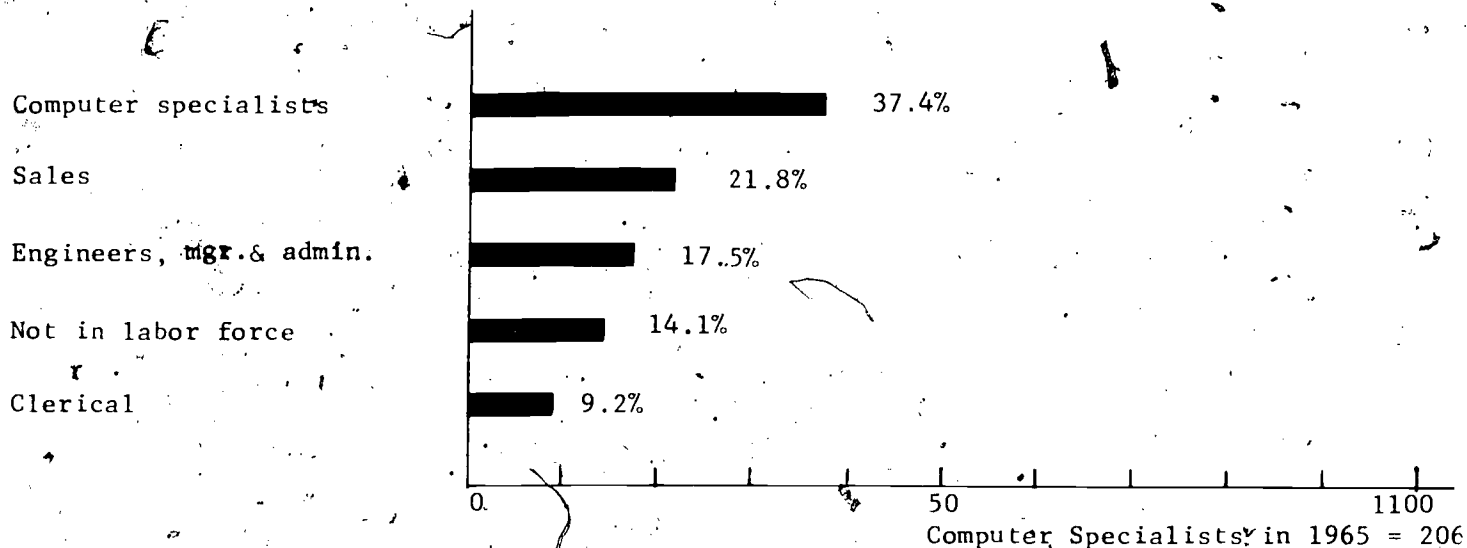
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Computer Specialists Were Doing In 1965



All professional computer-related jobs not classified under other headings are included here. Over 80% (326) of these 1970 specialists were doing something else five years earlier. Craftsmen and other professional, technical workers comprised almost 40% of that number (326). Forty-four of the incoming specialists were computer programmers in 1965.

What 1965 Computer Specialists Were Doing In 1970



Some job titles classified under this heading:

- Computer scientist
- Computer application engineer
- Software specialist

AERONAUTICAL AND ASTRONAUTICAL ENGINEERS

D.O.T. # 002.081

What does an aeronautical and astronautical engineer do? An aeronautical and astronautical engineer works on designs, construction, and tests of aircraft and missiles.

TO GET THE JOB

You should be able to:

- Do well in math, physics, and chemistry
- Visualize space relations of objects from drawings
- Be creative and imaginative

You should prefer to:

- Do precise work
- Work indoors
- Work with others, yet accept responsibility

You should be physically able to:

- Coordinate eye and hand movements.
- Sit or stand for long periods of time

ON THE JOB

The aeronautical and astronautical engineer is involved in all phases of the design and development of aircraft or missiles. He or she may conduct many experiments to test or improve the designs, evaluating stress, and other operating characteristics. Generally, such an engineer specializes in an area of work (such as structural design or production methods) or in one type of aerospace products (like satellites, launch vehicles).

THINGS TO THINK ABOUT

Advantages:

- Varied and challenging work
- Advancement to project head
- Opportunity to work as a consultant

Disadvantages:

- Constant study to keep abreast of advancements
- Training is expensive and lengthy
- License required

PREPARATION AND TRAINING

Bachelor's degree is the minimum requirement; graduate degrees are necessary for advanced positions.

Suggested courses included physics, chemistry, engineering

The required license in all states demands four years of college and four years of work experience.

To be employed by governmental bodies, you must pass a civil service exam.

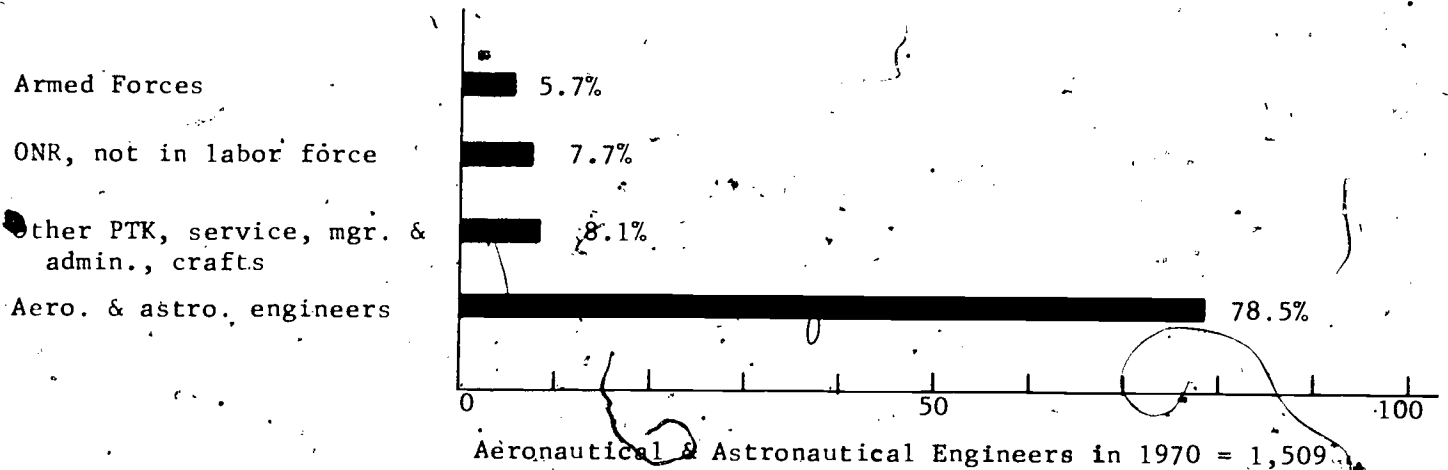
WHERE TO GET MORE INFORMATION

American Institute of Aeronautics and Astronautics, Inc.
1290 Avenue of the Americas
New York, New York 10019

Pennsylvania Society for Professional Engineers
2121 North Second Street
Harrisburg, Pennsylvania 17110

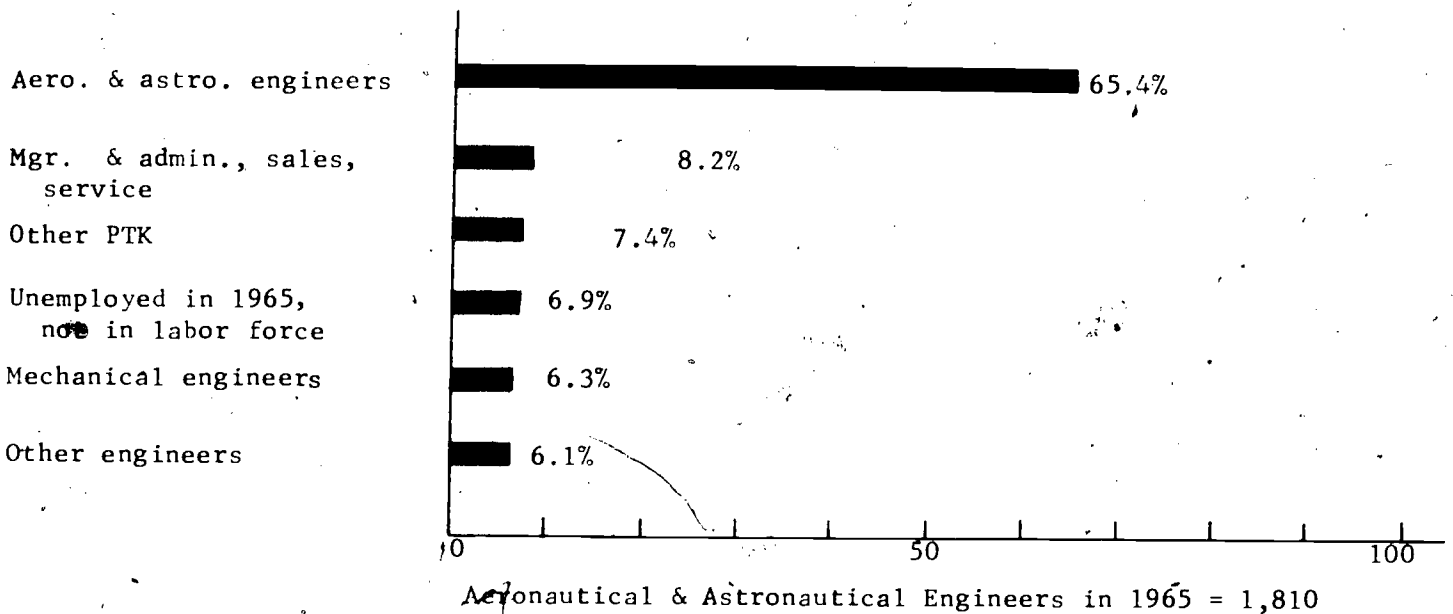
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Aeronautical and Astronautical Engineers Were Doing in 1965



It appears that workers in this profession stay in related jobs over a period of time. Only 22% of the 1970 engineers came from other sources. Almost 2/3 of those workers were not in the civilian labor force or did not report their occupation in 1965. Close to 80% of the 1965 engineers remained in an engineering occupation in 1970.

What 1970 Aeronautical and Astronautical Engineers Were Doing in 1965



Some job titles classified under this heading:

- | | |
|-------------------|----------------------|
| Aerodynamicist | Helicopter engineer |
| Aircraft engineer | Stress analyst |
| Flight engineer | Wind tunnel engineer |

CHEMICAL ENGINEERS

D.O.T. # 008.081

What does a chemical engineer do? A chemical engineer designs and constructs chemical plants and equipment, and may also do research to develop and improve processes for producing chemicals and synthetics for commercial use.

TO GET THE JOB

You should be able to:

- Do well in chemistry and mathematics
- Express yourself well
- Be creative and imaginative

You should have an interest in:

- Scientific literature
- Technological developments

You should be physically able to:

- Maintain good health

ON THE JOB

Chemical engineers do many different kinds of work. Their work may be so complex that they specialize in a particular operation, such as environmental control or production of specific products, such as plastics. Chemical engineers often design, plan the layout, and oversee the construction of chemical plants that are built to manufacture chemical products. They determine the most effective arrangement of the chemical processes (e.g., mixing, distillation, polymerization), and may supervise the workers who control the equipment which carries out the those operations.

THINGS TO THINK ABOUT

Advantages:

- Advancement possibilities to administrative or supervisory positions
- Hours are usually regular

Disadvantages:

- Constant reading to keep up with changing knowledge in the field
- Some danger in working with certain chemicals
- Some travel to job sites or to promote product

PREPARATION AND TRAINING

Bachelor's degree in engineering, physics or chemistry is a minimum requirement.

Some on-the-job training under a supervisor in working on joint projects
All 50 states require licensing of engineers whose work may affect life, health, or property, and who offer services to the public.

Licensing usually requires a bachelor's degree plus 4 years experience, as well as passing a state exam.

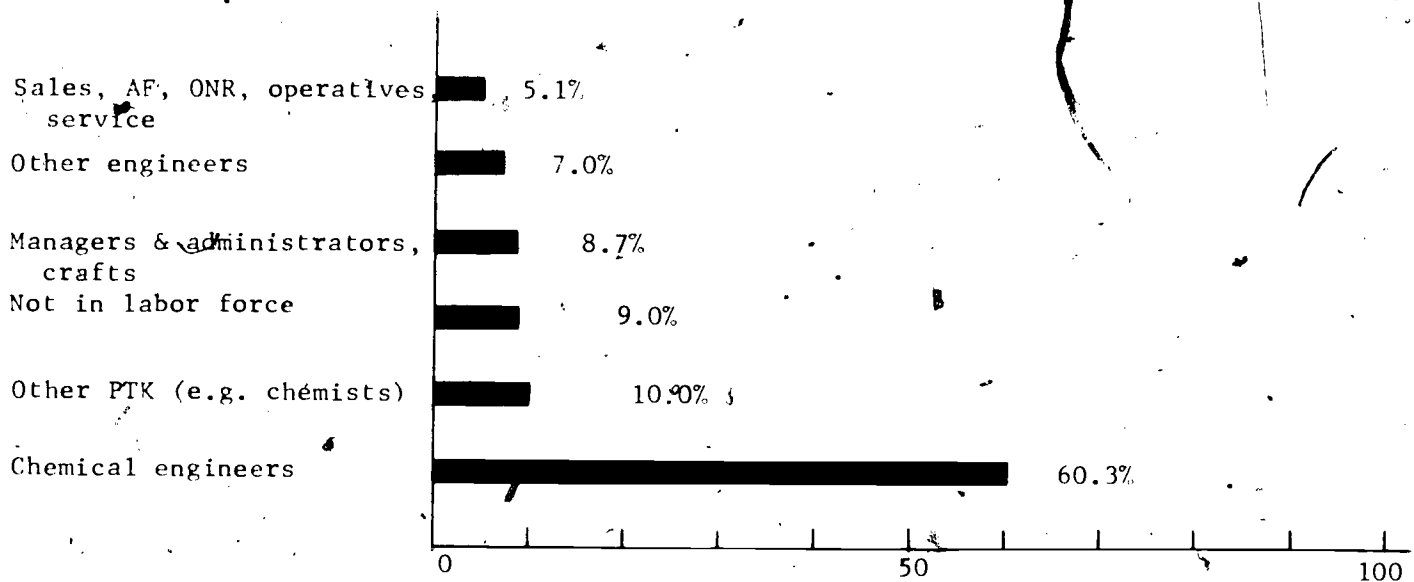
WHERE TO GET MORE INFORMATION

American Institute of Chemical Engineers
345 East 47th Street
New York, New York 10017

National Society of Professional Engineers
2029 K Street, N.W.
Washington, D.C. 20006

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

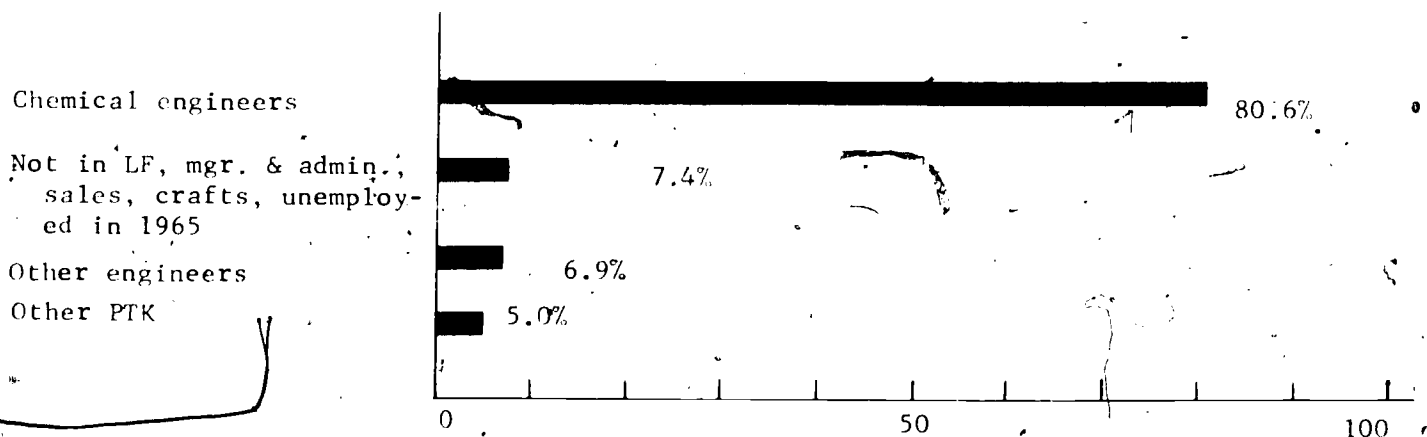
What 1970 Chemical Engineers Were Doing in 1965



Chemical Engineers in 1970 = 3,782

Almost 25% of the workers who entered the chemical engineering profession between 1965 and 1970 were probably in college in 1965 (not in the labor force). Another quarter of the new workers held other professional or technical positions, which probably required similar on-the-job skills. Nearly 88% of the 1965 engineers were still employed as engineers in 1970.

What 1965 Chemical Engineers Were Doing in 1970



Chemical Engineers in 1965 = 2,828

Some job titles classified under this heading:

- Blending coordinator
- Ceramic engineer
- Explosives engineer
- Polymerization supervisor
- Process engineer
- Sand analyst

CIVIL ENGINEERS

D.O.T. # 005.081

What does a civil engineer do? The majority of civil engineers work in the construction and supervision of construction. That construction may involve highways, airstrips, bridges, dams, tunnels, sewage systems, a public water supply.

TO GET THE JOB

You should be able to:

- Get along well with others
- accept responsibility

You should prefer to:

- Study math, physics, and chemistry
- Be precise in your work
- Keep up with scientific advances

You should be physically able to:

- See and hear well
- Maintain good health

ON THE JOB

The civil engineer is involved in the planning, design, and construction of a variety of projects. A knowledge of physics, math, and engineering principles is used to determine the best type of material and the best design in the construction of the projects. Some civil engineers are involved in the maintenance of projects that have been completed. Specialties include:

Structural civil engineer -- designs buildings, bridges, and dams which must resist forces of nature, including earthquakes, floods, and gravity

Transportation and traffic -- designs railways, roads, and airports to facilitate traffic movement

Hydraulic civil engineer -- designs dams, canals, reservoirs

Sanitary civil engineer -- designs water and sewage treatment plants

Construction civil engineer -- supervises all types of construction projects including homes and buildings

THINGS TO THINK ABOUT

Advantages:

- Prestige in community
- Feeling of making a worthwhile contribution to society
- Chance of advancements to project head

Disadvantages:

- Frequent moving to work on different projects
- Working hours are long and irregular
- Continuous study to keep up with scientific advancements

PREPARATION AND TRAINING

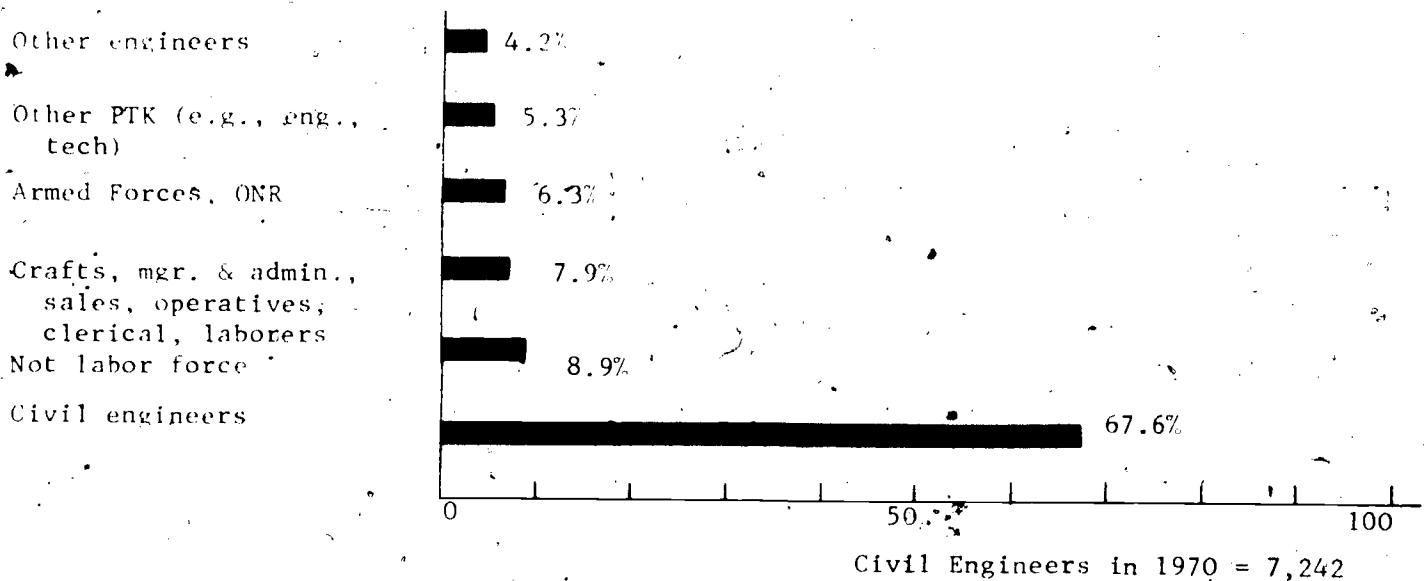
Bachelor's degree in engineering, physics, or chemistry is a minimum requirement. Advanced graduate degree or significant experience at the basic engineering level are required for research work

WHERE TO GET MORE INFORMATION

American Society of Civil Engineers
345 East 47th Street
New York, New York 10017

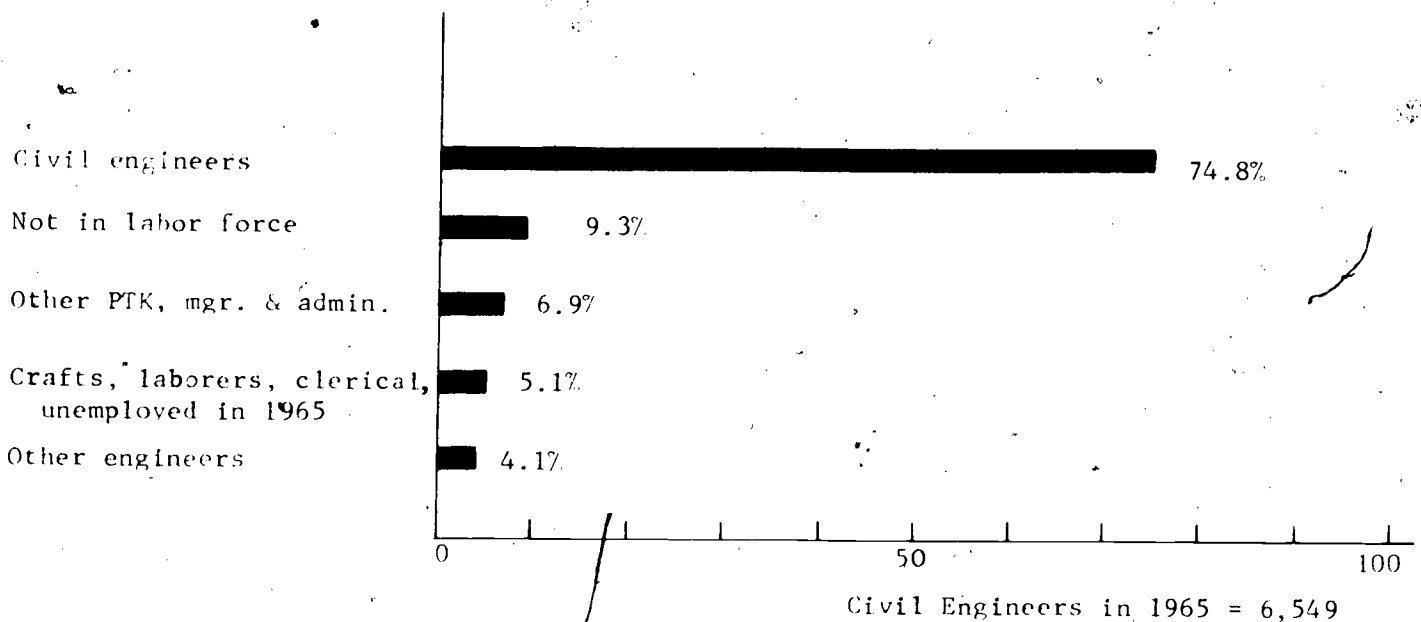
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Civil Engineers Were Doing in 1965



Two-thirds of the 1970 civil engineers were already in the profession in 1965. Almost 30% of the new entrants were probably in college five years earlier (not in the labor force) and another 30% had jobs related to civil engineering. Almost 80% of the 1965 engineers continued to work in engineering professions in 1970.

What 1965 Civil Engineers Were Doing in 1970



Some job titles classified under this heading:

- Building engineer
- Construction engineer
- District engineer
- Highway engineer
- Sanitary engineer
- Transportation engineer

ELECTRICAL AND ELECTRONIC ENGINEERS

D.O.T. #'s
003.081, 003.151
and 003.187

What does an electrical and electronic engineer do? An electrical and electronic engineer designs, develops and supervises the manufacturing of electrical and electronic equipment.

TO GET THE JOB

You should be able to:

- Do well in math and physical sciences
- Direct the work of others
- Get along well with others

You should prefer to:

- Work indoors
- Be precise in your work
- Study math, physics and chemistry

You should be physically able to:

- See and hear well
- Coordinate eye and hand movements

ON THE JOB

Electrical and electronic engineers are concerned with the application of the laws of electrical energy and the principles of engineering to the generation, transmission, and use of electricity. They may also design machinery for the production and use of electric power. Electrical and electronic engineers may specialize in power distribution, atomic power, electrical equipment manufacturing, radio and television broadcasting, as well as telephone, telegraph, and electronic computer engineering including missile guidance and tracking.

THINGS TO THINK ABOUT

Advantages:

- Indoor work in comfortable surroundings
- Advancement to project head or consultant work

Disadvantages:

- Working hours may be long and irregular
- Long training period
- Must keep up with scientific advancement

PREPARATION AND TRAINING

- Bachelor's degree is the minimum requirement
- Large companies have training programs or graduates are assigned as assistants to experienced engineers
- Professional license is usually required which includes a college degree in engineering and 4 years of experience before taking the exam
- Civil service exam for state and Federal government jobs.

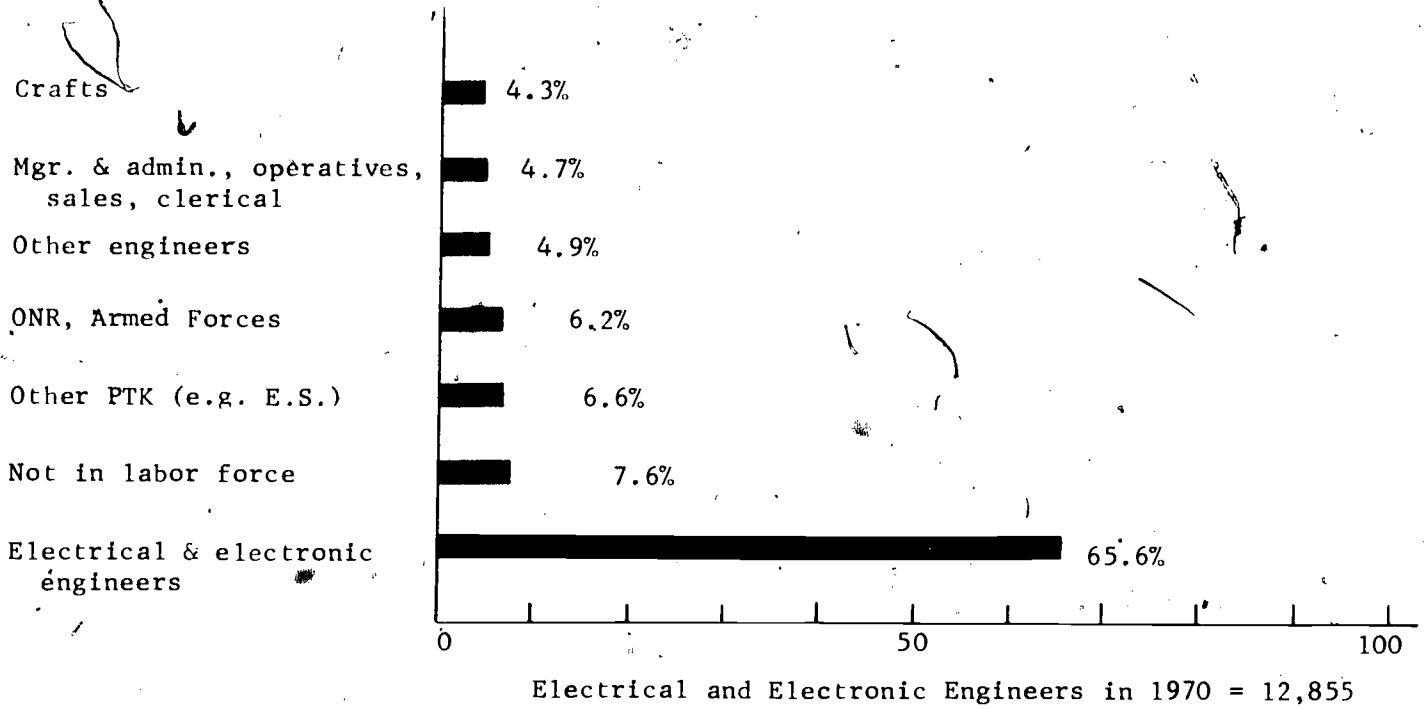
WHERE TO GET MORE INFORMATION

- Institute of Electrical and Electronic Engineers
345 East 47th Street
New York, New York 10017

- National Society of Professional Engineers
2029 K Street, N.W.
Washington, D.C. 20006

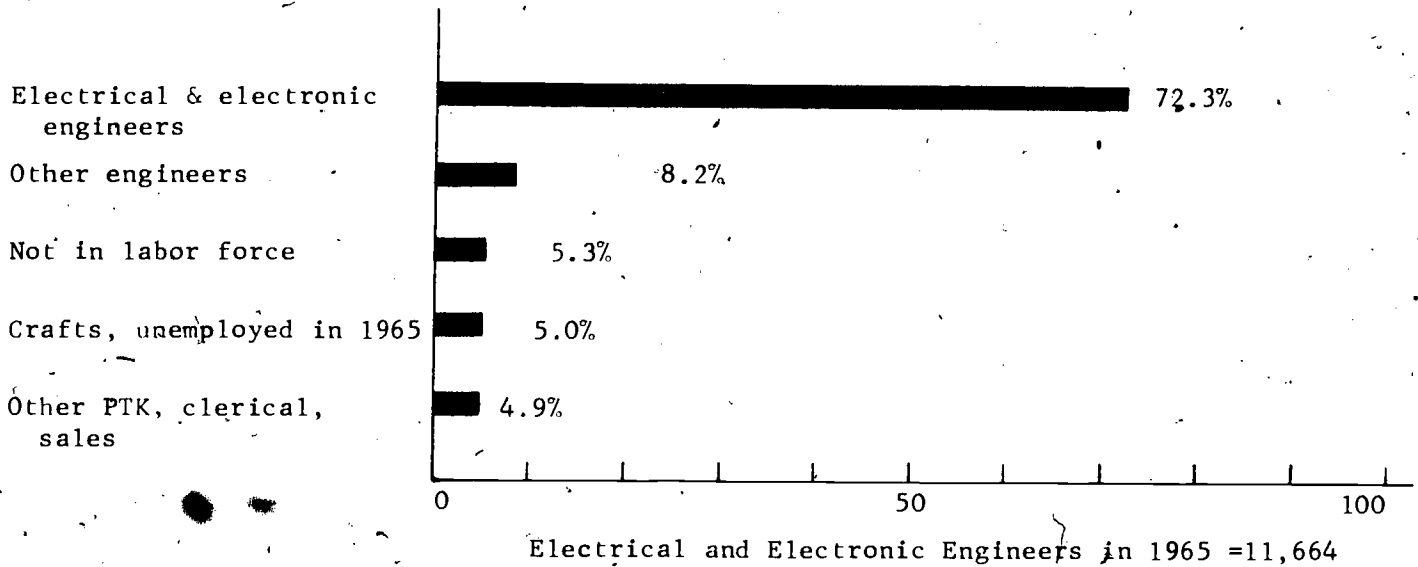
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Electrical and Electronic Engineers Were Doing in 1965



Two-third of the 1970 workers in this profession were already in the field five years earlier. Over 20% of the new entrants were probably in college in 1965 (not in the labor force). Almost one-third of the new workers came from other engineering or technical professions. Over 80% of the 1965 engineers remained in an engineering occupation in 1970

What 1965 Electrical and Electronic Engineers Were Doing in 1970



Some job titles classified under this heading:

- | | |
|-----------------------------|-------------------------|
| Audio engineer | Nuclear engineer |
| Electronic systems engineer | Sound engineer |
| Lighting engineer | Transmission supervisor |

INDUSTRIAL ENGINEERS

D.O.T. # 012.081, 012.168
012.188

What does an industrial engineer do? An industrial engineer determines the most effective way of using manpower, machines, and materials in production.

TO GET THE JOB

You should be able to:

- Organize and coordinate activities
- Communicate ideas clearly
- Get along well with others

You should prefer to:

- Work with people and things
- Study math, physics and chemistry
- Be precise

You should be physically able to:

- See and hear well
- Coordinate eye and hand movements
- Manipulate fingers deftly

ON THE JOB

Industrial engineers may design systems for data processing, and develop management programs to aid in financial planning and cost analysis. They usually become involved in the design of production planning and control systems to coordinate activities and improve quality control. Industrial engineers may specialize in plant layout, cost control, production methods and standards, time, motion, and incentive studies, and safety engineering.

THINGS TO THINK ABOUT

Advantages

- Sometimes work indoors in comfortable surroundings
- May advance to project head or manager
- May do consultant work

Disadvantages

- Long training period
- Continual studying to keep up with advancements
- Hours may be long and irregular
- Factories may be noisy and dirty

PREPARATION AND TRAINING

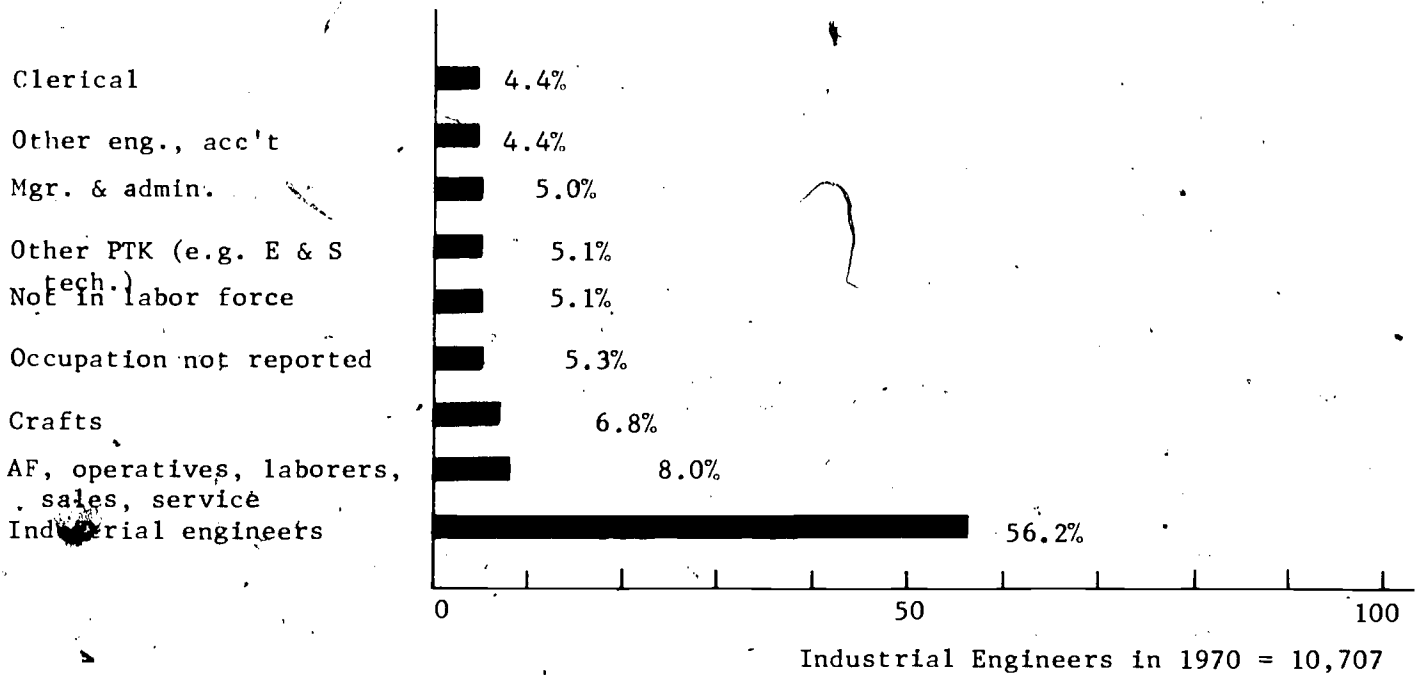
- A bachelor's degree in physics, mechanical engineering, math, or electricity is the minimum requirement
- A recent graduate is usually assigned to assist an experienced engineer
- A Professional Engineer license is usually required. This may be issued to a person with 8 or more years of active engineering experience, but usually requires a college degree and 4 years experience before taking the exam.

WHERE TO GET MORE INFORMATION

American Institute of Industrial Engineers, Inc.
345 East 47th Street
New York, New York 10017

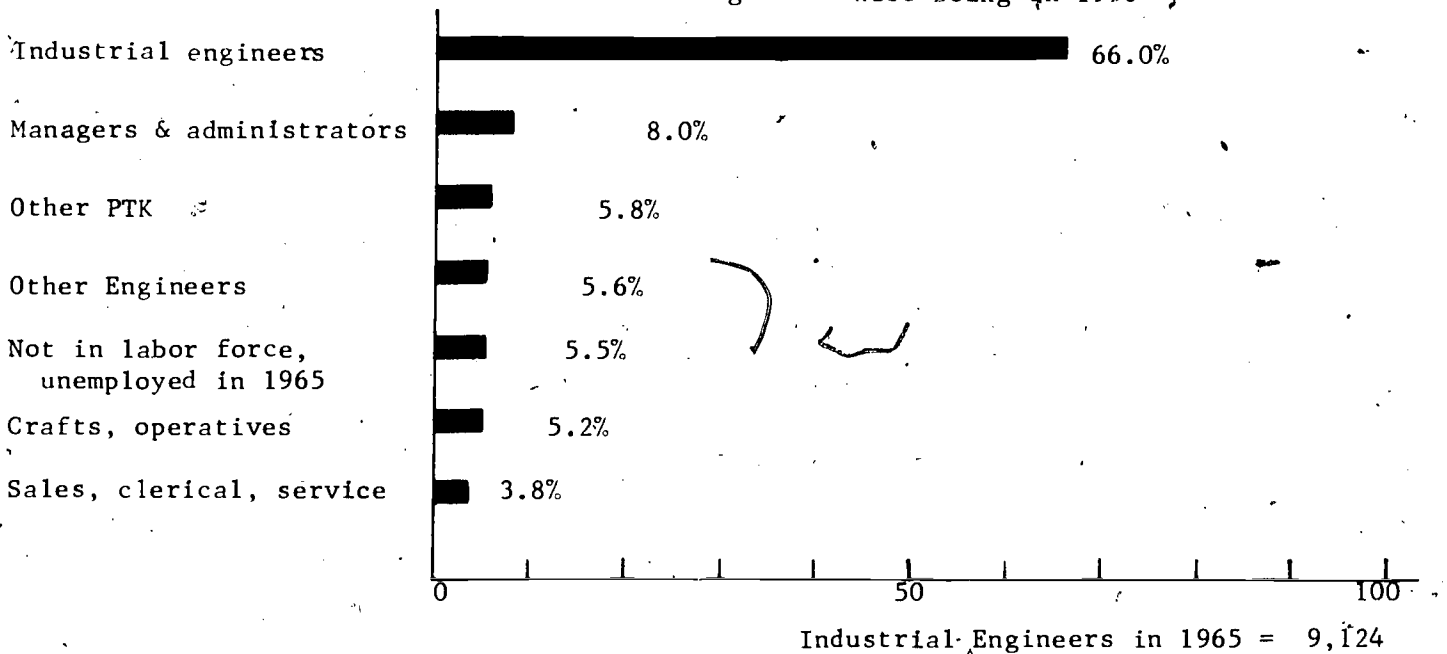
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Industrial Engineers Were Doing in 1965



Almost half of the 1970 industrial engineers were doing something else five years earlier. About 20% of the new entrants were working as other engineers, accountants or in other technical professions. Nearly 15% were craftsmen in 1965. It appears that people in a variety of occupations move into and out of industrial engineering. Two-thirds of the 1965 engineers were employed in the same field in 1970.

What 1965 Industrial Engineers Were Doing in 1970



Some job titles classified under this heading:

Efficiency expert
 Field engineer
 Management Consultant

30

Production-control planner
 Quality-control director
 Time-motion analyst

MECHANICAL ENGINEERS

D.O.T. # 007.081 # 007.181
007.151 • 007.187
007.168 • 007.281

What does a mechanical engineer do? A mechanical engineer is concerned with the production, transmission, and use of heat and mechanical power, and the design and production of tools and machines.

TO GET THE JOB

You should be able to:

- Work easily with math principles
- Direct the work of others
- Accept responsibility

You should prefer to:

- Be precise in your work
- Read about scientific advances
- Study math, physics and chemistry

You should be physically able to:

- Maintain good health
- See and hear well
- Coordinate eye and hand movements

ON THE JOB

Mechanical engineers apply the principles of physics and engineering to create, transmit, and use the power of heat and machines. Sometimes they design machines that produce power, such as internal combustion engines, steam and gas turbines, jet and rocket engines, or nuclear reactors. They also design machines such as refrigeration and air-conditioning equipment, elevators, machine tools, steel rolling mills or railroad equipment. The work of mechanical engineers varies with the industry in which they are employed. Many are involved in research and design. Others are managers and administrators.

THINGS TO THINK ABOUT

Advantages:

- Some indoor work in comfortable surroundings
- Advancement to project head
- Able to work as a consultant

Disadvantages:

- Long training and licensing period
- Irregular hours
- Continuous study to keep up with advances

PREPARATION AND TRAINING

Minimum of a bachelor's degree
A license is usually required. A license requires a college degree plus 4 years of experience before taking the exam; however, it may be issued to people with 8 years of active engineering experience.
Graduate degrees are often required for supervisory positions.

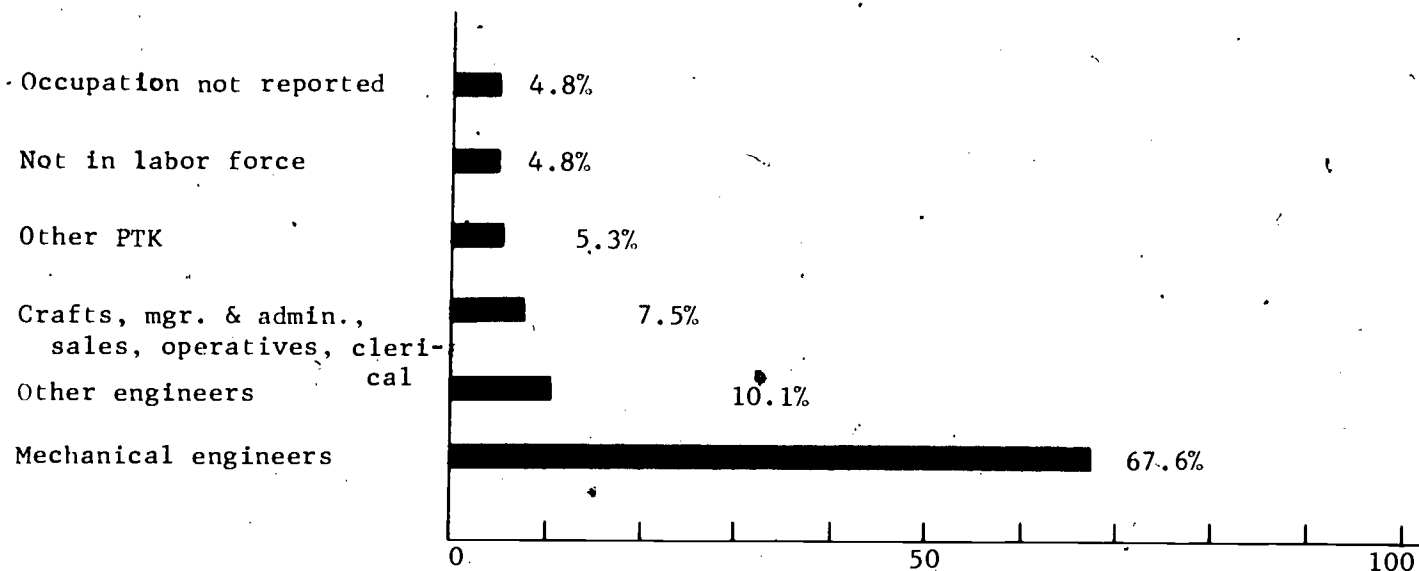
WHERE TO GET MORE INFORMATION

The American Society of Mechanical Engineers
345 East 47th Street
New York, New York 10017

Engineers Society of Pennsylvania
504 Telegraph Building
Harrisburg, Pennsylvania 17101

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

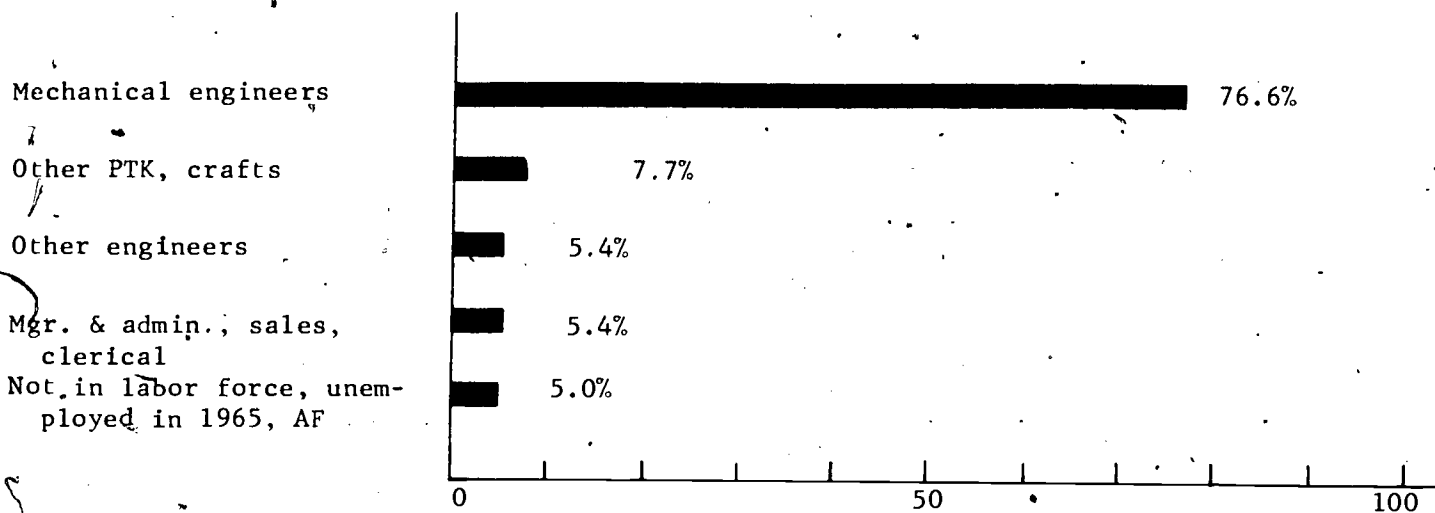
What 1970 Mechanical Engineers Were Doing in 1965



Mechanical Engineers In 1970 = 9,450

One-third of the 1970 mechanical engineers were doing something else in 1965. About 30% of that group were already other engineers. Another 25% were employed in jobs not classified as professional or technical occupations. Over 80% of the 1965 mechanical engineers remained in the field of engineering in 1970.

What 1965 Mechanical Engineers Were Doing in 1970



Mechanical Engineers In 1965 = 8,346

Some job titles classified under this heading:

Automotive engineer
 Combustion engineer
 Hydraulic engineer

Machine designer
 Textile engineer
 Tool and die engineer

METALLURGICAL AND MATERIALS ENGINEERS

D.O.T. # 001.081

What does a metallurgical and materials engineer do? A metallurgical and materials engineer develops methods to process and convert metals into useful products.

TO GET THE JOB

You should be able to:

Work knowledgeably with math, physics, and chemistry concepts
Give directions clearly

You should prefer to:

Work with people as a team
Work with detail

You should be physically able to:

Maintain good health
See and hear well

ON THE JOB

Metallurgical engineers develop methods to process metal ores into their final product. They may try to develop new metals and alloys as well as adapting current metals to new needs. The recycling of materials may become a growing concern, as well as the need to solve metallurgical problems associated with the efficient use of nuclear energy. The three main areas of metallurgy are extractive (extracting metals from ores), physical (concerning the physical properties of metals) and mechanical (working and shaping metals). Metallurgical engineers may specialize in research, testing, new materials, inspection, or mechanical design.

THINGS TO THINK ABOUT

Advantages:

Possibility of advancement to project head
Some indoor work in comfortable surroundings

Disadvantages:

Constant study to keep up with new scientific advancements
May sometimes work on the job site
Long training and licensing period

PREPARATION AND TRAINING

Minimum requirement is the bachelor's degree.
Graduate training is important for advanced positions.
A license is generally required in all states. Getting a license involves four years of experience and a bachelor's degree from an accredited school, then getting a passing score on a licensing examination.

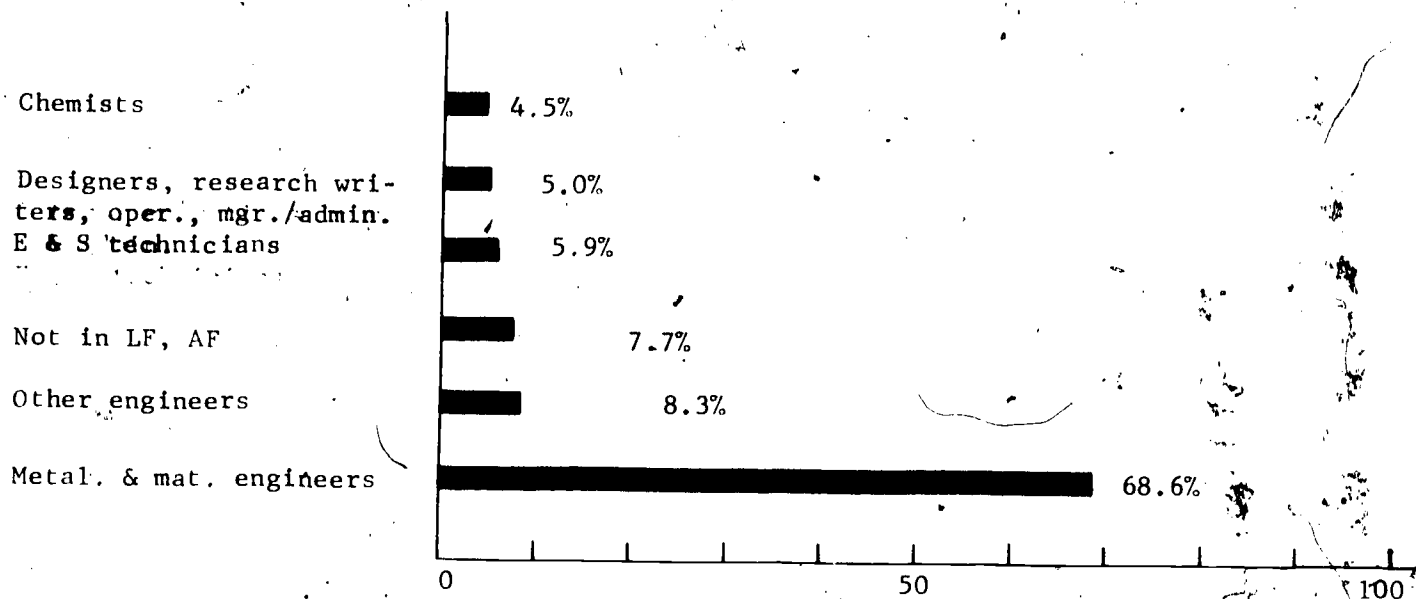
WHERE TO GET MORE INFORMATION

The Metallurgical Society of the American Institute
of Mining, Metallurgical, and Petroleum Engineers
345 East 47th Street
New York, New York 10017

American Society of Metals
Metal Park
Ohio 44073

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

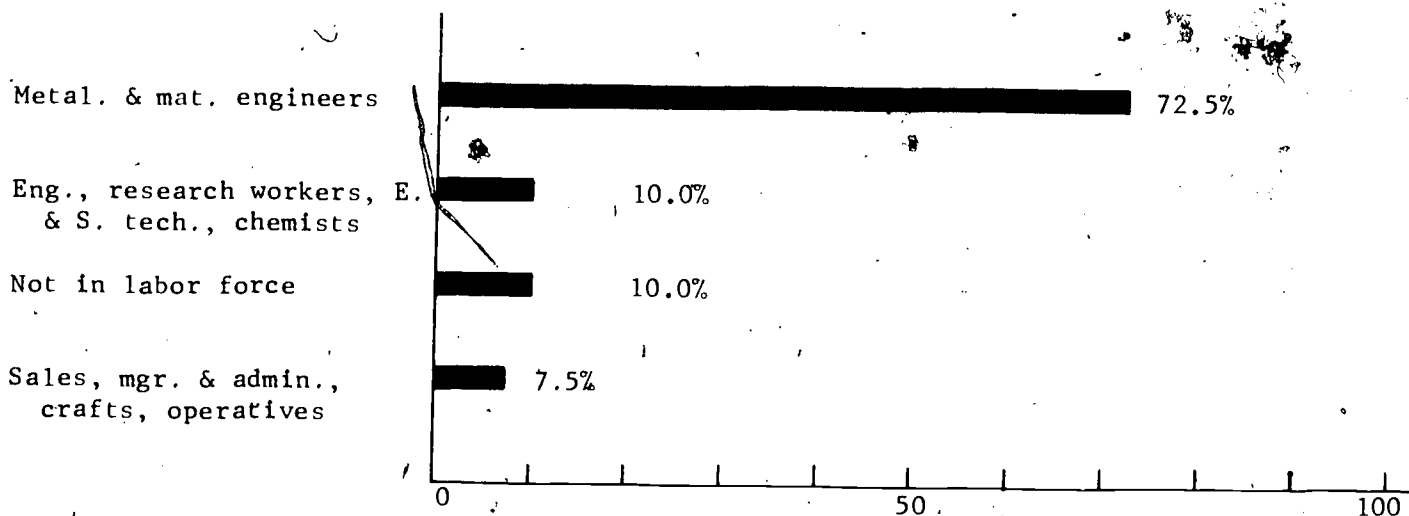
What 1970 Metallurgical And Materials Engineers Were Doing in 1965



Metallurgical and Materials Engineers in 1970 = 1,942

Less than one-third of these 1970 engineers had other occupations in 1965. Over 25% of the new entrants were already other engineers. Another third were technicians or chemists. Over 80% of the 1965 engineers remained in the field or entered a related field by 1970. Ten percent of the 1965 workers left the work force by 1970.

What 1965 Metallurgical And Materials Engineers Were Doing in 1970



Metallurgical and Materials Engineers in 1965 = 1,837

Some job titles classified under this heading:

- Foundry process engineer
- Physical metallurgist
- Smelting Engineer

MINING ENGINEERS

D.O.T. # 010.081, 010.187

What does a mining engineer do? A mining engineer finds, extracts, and prepares minerals for industrial use. Developing and improving mining techniques and responsibility for mine safety may also be part of the work of the mining engineer.

TO GET THE JOB

You should be able to:

Give clear directions
Work with math and physical sciences

You should prefer to:

Do accurate and detailed work
Work with other people as part of a team

You should be able to:

Maintain good health
See and hear well

ON THE JOB

The planning and development of a mine is part of the job of the mining engineer. The engineer supervises the construction of mine shafts and tunnels. He or she is also concerned with mine safety, including ventilation, water and power supply, communications, and equipment maintenance. Some mining engineers work with other specialists to locate and evaluate new ore deposits. More are now working on environmental problems such as mined-land reclamation and pollution control. Specializations primarily involve the extraction of specific ores, e.g., coal, iron ore, bauxite, or natural gases and petroleum.

THINGS TO THINK ABOUT

Advantages:

Usually indoor work
Possibility of advancement to supervisory position

Disadvantages:

Hazardous conditions in some job sites
Long training and licensing period

PREPARATION AND TRAINING

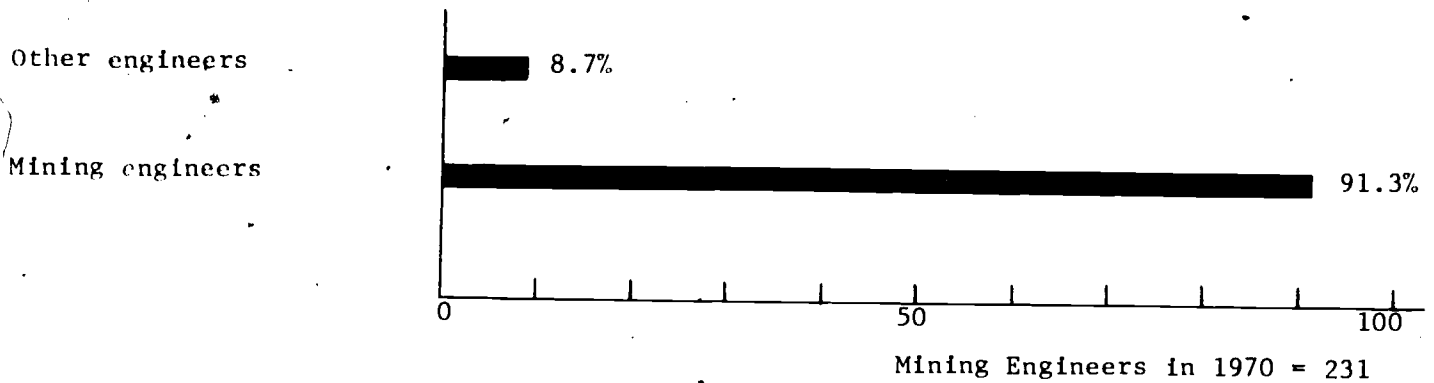
- A bachelor's degree in engineering or a related field is the minimum requirement.
- A license may be required (Professional Engineer) in all 50 states. To get a license you will need a bachelor's degree and four years experience prior to taking an examination.
- A government job requires passing a civil service test.

WHERE TO GET MORE INFORMATION

The Society of Mining Engineers of the American Institute
of Mining, Metallurgical, and Petroleum Engineers
345 East 47th Street
New York, New York 10017

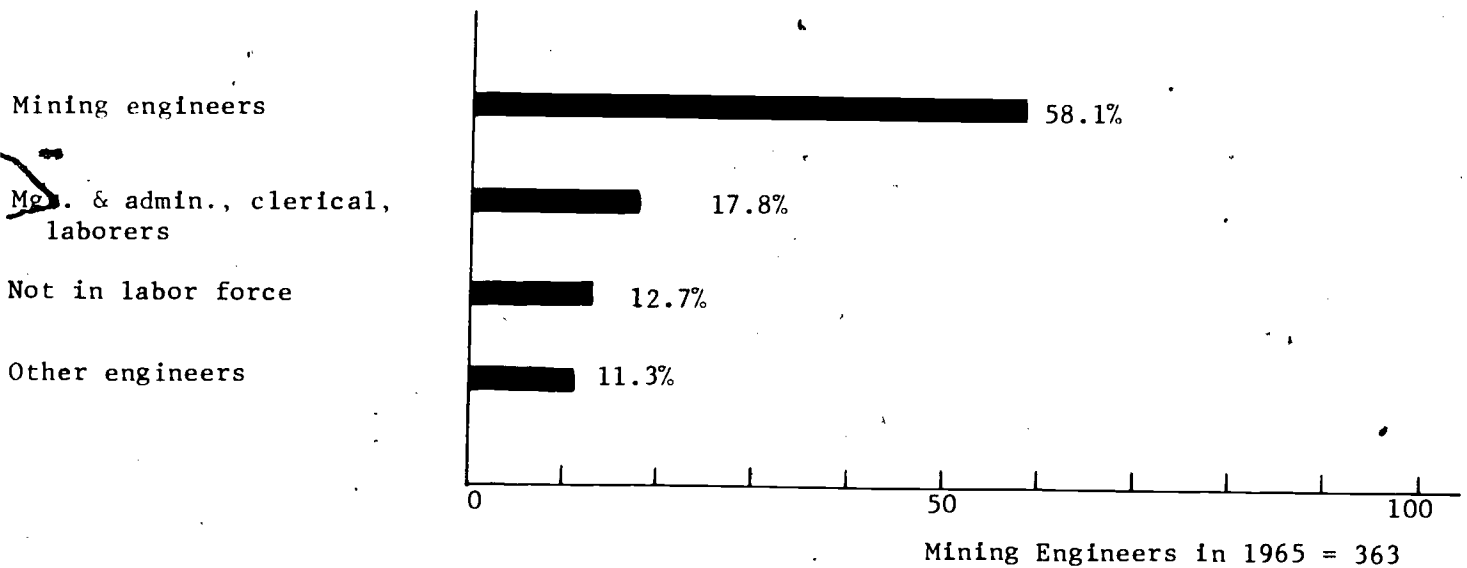
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Mining Engineers Were Doing in 1965



Only 20 of the 231 mining engineers in 1970 were not in that occupation in 1965. However, they were already other engineers five years earlier. Since there is a nationwide demand for persons with this training, new college graduates probably took jobs in other states. Once in the field, many 1965 workers remained or moved into management or other engineering positions by 1970.

What 1965 Mining Engineers Were Doing in 1970



Some job titles classified under this heading:

- | | |
|---------------------------|----------------------|
| Geophysical Engineer | Mine analyst |
| Mine Expert | Mine-safety director |
| Mine exploration engineer | Safety supervisor |

PETROLEUM ENGINEERS

D.O.T. # 011.081

What does a petroleum engineer do? A petroleum engineer is concerned with the extraction and preparation of petroleum for industrial use.

TO GET THE JOB

You should be able to:

Understand the principles of math and the physical sciences
Work with a team

You should prefer to:

Do accurate and detailed work
Read scientific literature

You should be able to:

Maintain good health
See and hear well

ON THE JOB

The petroleum engineer supervises the planning and development of petroleum wells, which includes several steps. First, geological surveys, earth samples and other data are studied to determine the appropriate type of derrick and drilling equipment. Then, the engineer oversees the construction of the shafts and the drilling operations to extract the petroleum. He or she also supervises the production of the well by controlling the flow of oil or gas and recommending procedures for treating it to remove impurities. The engineer may specialize in the extraction of natural gas or petroleum, safety, research, management, or exploration for new sites.

THINGS TO THINK ABOUT

Advantages:

Some jobs are indoor work
Possibility of advancement to supervisory positions as your knowledge and experience increase

Disadvantages:

Hours may be irregular
May require travel to job sites
Long training period
May need to relocate frequently

PREPARATION AND TRAINING

Minimum requirement of a bachelor's degree, preferably in engineering, physics, or chemistry.

A license may be required in some states. A license involves a bachelor's degree plus four years experience prior to taking and passing a licensing exam.

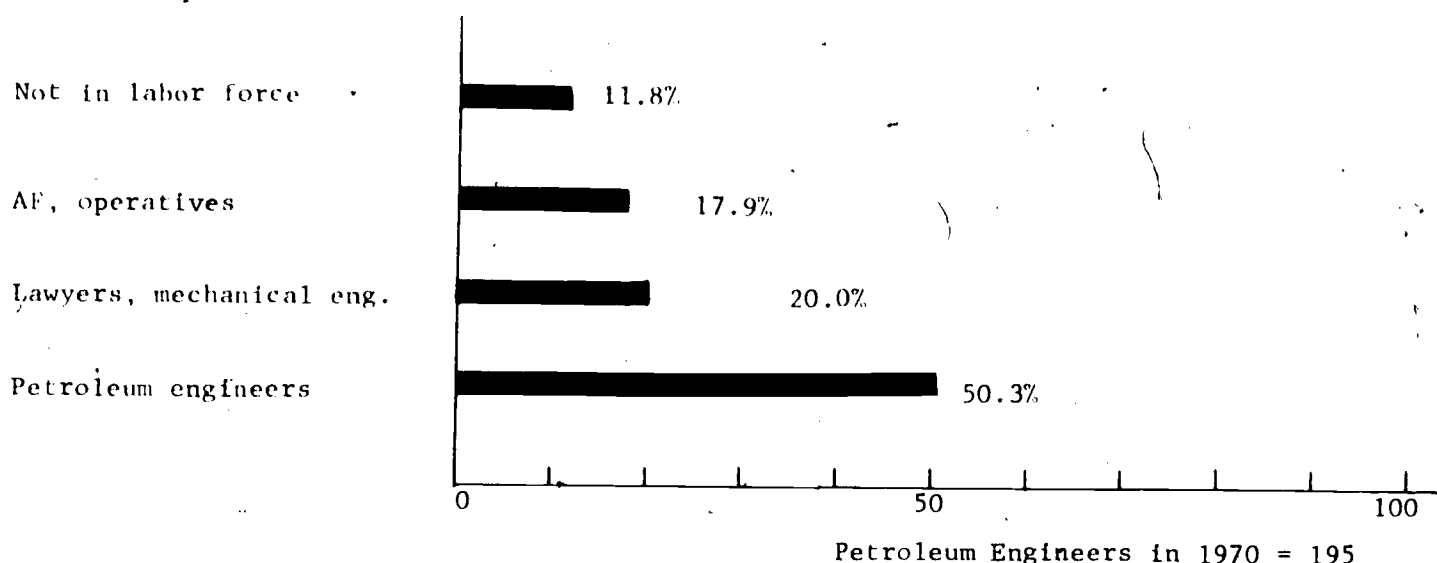
WHERE TO GET MORE INFORMATION

The American Institute of Mining, Metallurgical and Petroleum Engineers
345 East 47th Street
New York, New York 10017

National Society of Professional Engineers
2029 K Street, N.W.
Washington, D.C. 20006

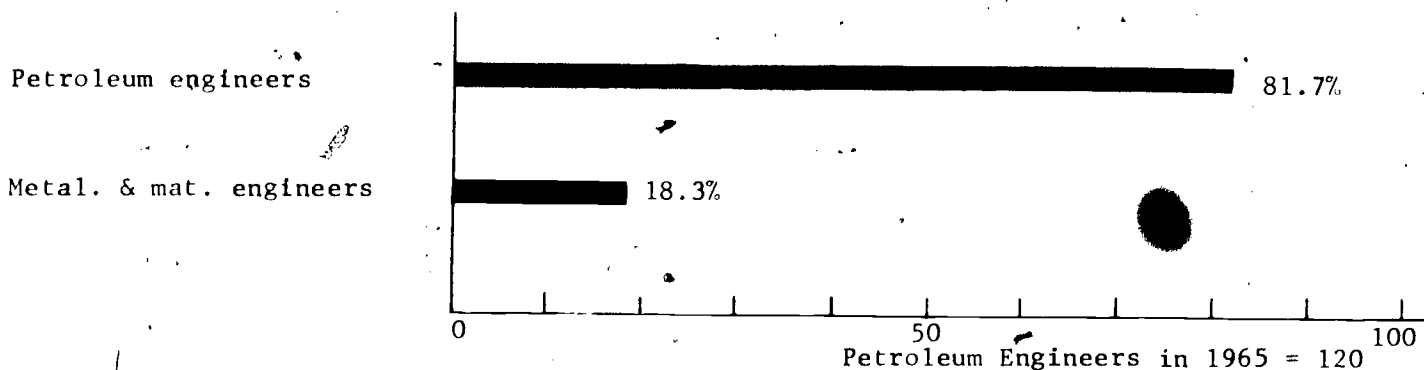
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Petroleum Engineers Were Doing In 1965



Half of the 1970 petroleum engineers were doing something else in 1965. Forty per. cent of the new entrants were lawyers or mechanical engineers five years earlier. Another fifth were probably in college (not in the labor force) in 1965. All of the 1965 petroleum engineers (who stayed in Pennsylvania) remained in the field or moved to other engineering positions by 1970.

What 1965 Petroleum Engineers Were Doing in 1970



Some job titles classified under this heading:

- Natural gas engineer
- Oil Scout
- Well surveying engineer

SALES ENGINEERS

D.O.T. # 101.151

What does a sales engineer do? A sales engineer's work involves the technical presentation, sale, and installation of engineering products or services.

TO GET THE JOB

You should be able to:

- Understand math principles
- Have a knowledge of the business field
- Visualize spatial relationships among objects

You should prefer to:

- Do things requiring a technical orientation
- Influence people in their opinions or judgments about ideas or things

You should be physically able to:

- Hear, see, and talk well
- Keep yourself well-groomed

ON THE JOB

Sales engineers apply their knowledge of engineering to a business market. They usually advise and assist customers in purchasing industrial machinery, air conditioning systems, and other products of a technical nature. These engineers may also direct the installation of the product. Some products need to be adapted to the individual customer's needs. Sales engineers work closely with their clients to solve technical problems, work out the cost, and persuade the customers of the advantages of one product over another.

THINGS TO THINK ABOUT

Advantages:

- Commission in some sales to increase earnings
- May be able to regulate own hours
- Advancement to managerial positions to top salespersons or to related positions within the company such as purchasing.

Disadvantages:

- Frequent travel to contact clients
- Irregular hours
- Frequent transfers early in the career

PREPARATION AND TRAINING

A college degree in engineering plus a good background in business administration or marketing is the usual requirement.

Sometimes experience of an advanced technical nature may eliminate the degree requirement if you can convince the employer of your persuasive abilities.

Most employers offer formal training programs or on-the-job training.

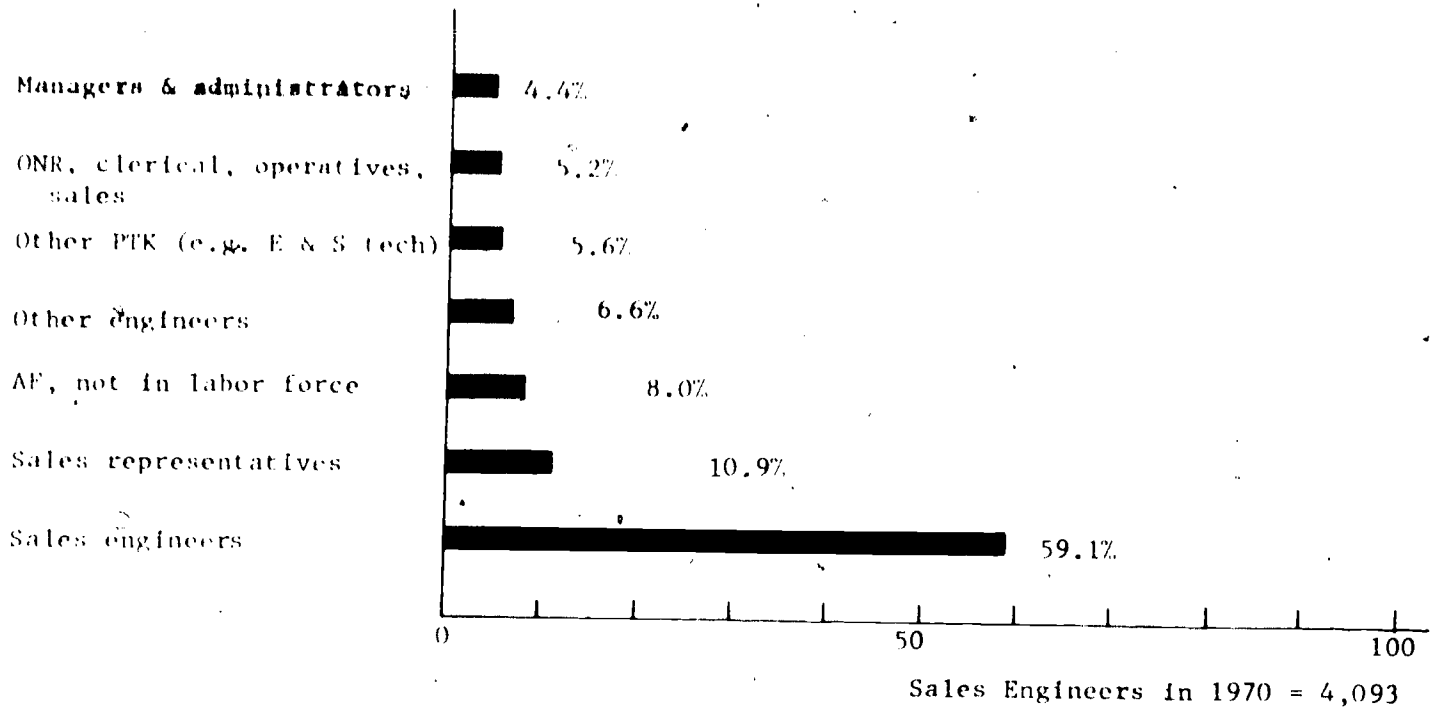
WHERE TO GET MORE INFORMATION

Sales and Marketing Executives, International
630 Third Avenue
New York, New York 10017

The Council on Opportunities in Selling, Inc.
144 East 44th Street
New York, New York 10017

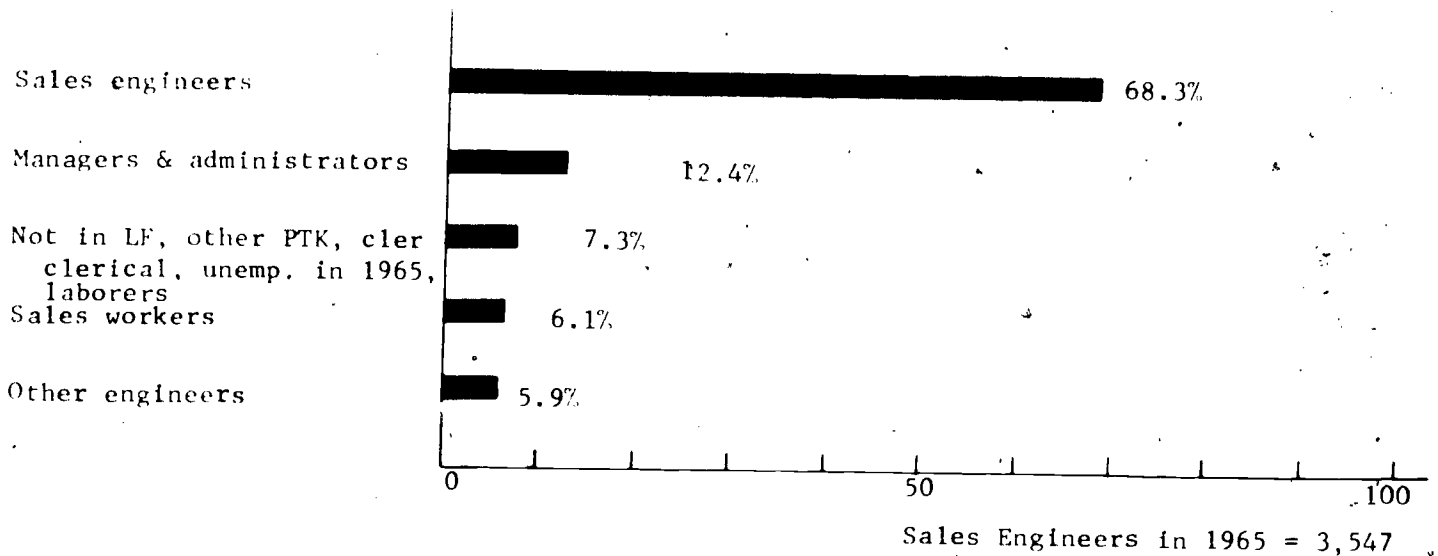
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Sales Engineers Were Doing In 1965



One-fourth of the new sales engineers in 1970 were sales representatives in 1965. Another 30% were working as engineers or in other professional or technical occupations. Twenty per cent of the new entrants were in the Armed Forces or probably training for the occupation five years earlier. Almost 25% of the 1965 sales engineers moved into other engineering positions, management or sales in 1970.

What 1965 Sales Engineers Were Doing in 1970



Some job titles classified under this heading:

- Engineer
- Sales

ENGINEERS

D.O.T. # 010.168, 013.081

What does an engineer do? This category of engineers includes the wide variety of people who utilize the principles of engineering in their work, but whose jobs are too specific to discuss under other categories.

TO GET THE JOB

You should be able to:

Give directions clearly

Understand the principles of math and the physical sciences

You should prefer to:

Work with people and things

Be precise in your work

Read scientific literature

You should be physically able to:

Maintain good health

ON THE JOB

Engineers work in a variety of settings. Although they all apply engineering principles to their work, exactly what they do depends on the job setting. Traffic engineers maintain vehicle counts on roads and bridges, calculate the stress on road surfaces, and make recommendations for safer and more efficient road construction and traffic patterns. Agricultural engineers apply their knowledge of the biological sciences to agricultural problems concerned with power and machinery, buildings, soil and water conservation, and processing of agricultural products. Chief methods engineers plan and coordinate activities with design, production, and other departmental personnel engaged in manufacturing. Other areas in which engineers work include computer application, biomedical fields, inspecting, meteorological, optical, packaging, public health, salvage, testing, and other services.

THINGS TO THINK ABOUT

Advantages:

Possibility of advancement to department manager or project head

Able to do work as a consultant

Disadvantages:

Hours may be irregular depending on job setting

Travel and frequent relocation are required in some jobs

Continuous study to keep up with advances

PREPARATION AND TRAINING

Minimum requirement of a bachelor's degree preferably in engineering, physics, or chemistry.

A license is usually required in all 50 states.

Getting a license involves a bachelor's degree plus four years experience prior to taking and passing a licensing exam.

WHERE TO GET MORE INFORMATION

National Society of Professional Engineers

2029 K Street, N.W.

Washington, D.C. 20006

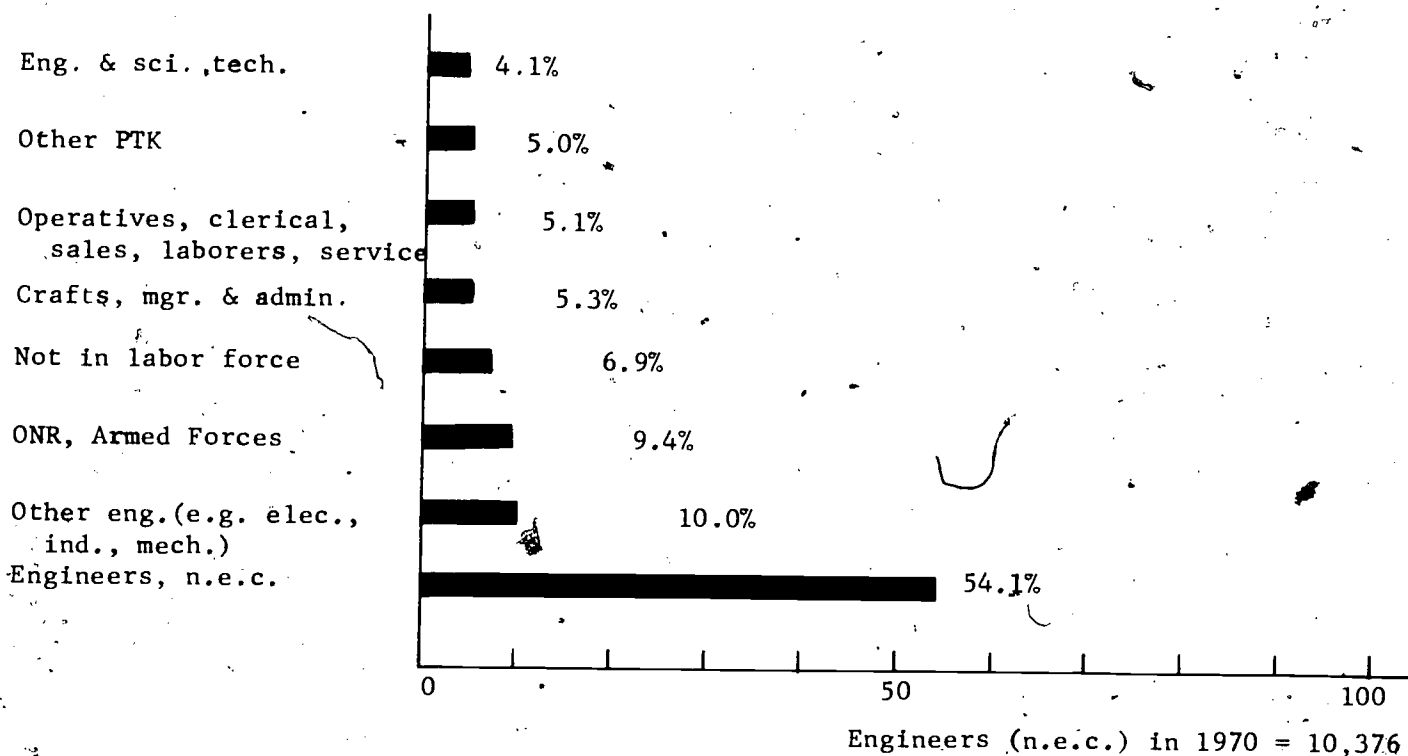
Engineers' Council of Professional Development

345 East 47th Street

New York, New York 10017.

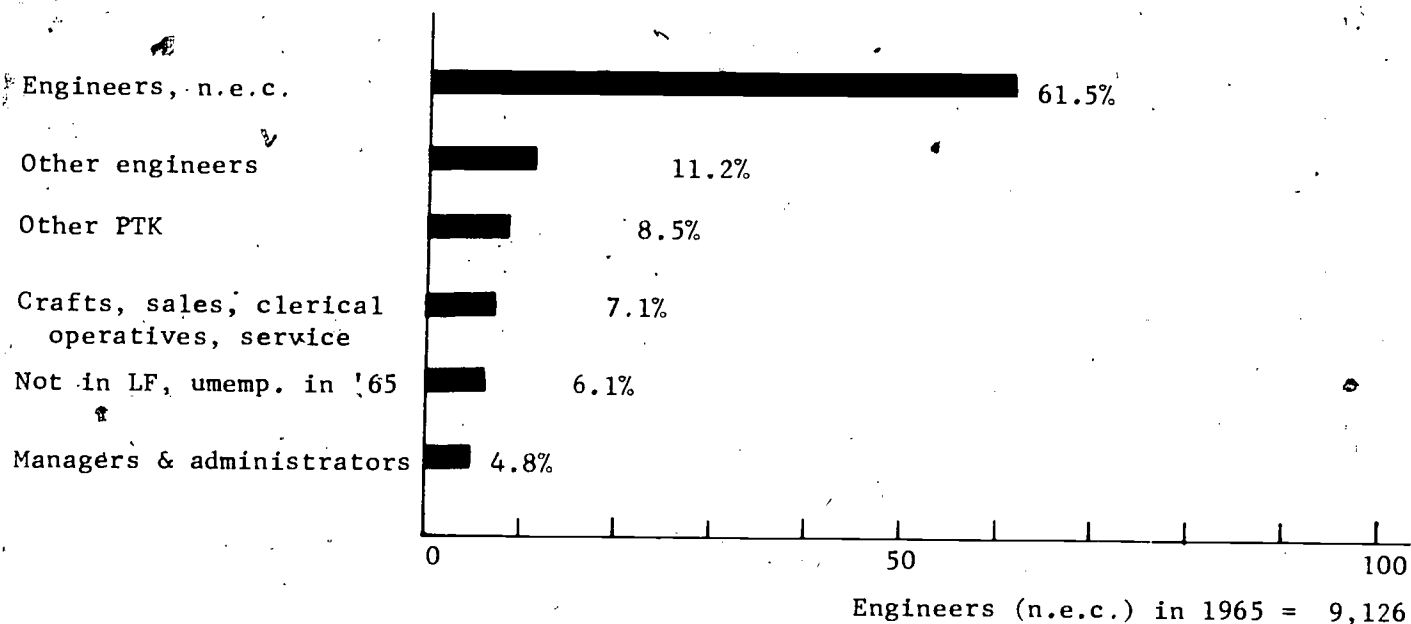
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Engineers (n.e.c.) Were Doing in 1965



Almost 5,000 of these 1970 engineers were doing something else in 1965. Thirty per cent of them were other engineers or technicians. About 15% were probably in college (not in the labor force). Over 80% of the 1965 engineers remained in the field or moved into other professional or technical occupations by 1970.

What 1965 Engineers (n.e.c.) Were Doing in 1970



Some job titles classified under this heading:

Agricultural engineer
Biomedical engineer
Engineering inspector

Environmental engineer
Human factors engineer
Meteorological engineer

FARM MANAGEMENT ADVISORS

D.O.T. # 096.128

What does a farm management adviser do? A farm adviser instructs farmers on matters regarding agricultural problems and informs commercial and community organizations of available services to promote extension programs.

TO GET THE JOB

You should be able to:

- Communicate ideas to other people
- Plan programs of instruction
- Make recommendations on the basis of agricultural-technical knowledge

You should prefer to:

- Work with other people
- Be involved in activities of a scientific nature
- Work with farmers, their families, and farm problems

You should be physically able to:

- Carry weights up to 50 lbs.
- Speak, hear, and see well

ON THE JOB

Farm management advisers (agricultural agents) work primarily with collecting, analyzing, and evaluating agricultural data to assist farmers in solving problems such as crop rotation and soil erosion. They may deliver lectures and prepare articles concerning farm management and soil conservation. Demonstrating new machinery or discussing practical procedures used in solving agricultural problems are also parts of the farm advisers' duties. Some farm advisers analyze research data and plan activities to coordinate special services.

THINGS TO THINK ABOUT

Advantages:

- Fairly rapid promotions early in the career to more responsible positions
- May be able to join the staff at state agricultural colleges

Disadvantages:

- May require long periods of field work alternated with long periods of office work
- Much traveling within own district
- Many meetings held in the evening

PREPARATION AND TRAINING

- Depending on the level of the job, one to eight years of training and preparation beyond high school are necessary.
- An agent employed by the government would require at least a bachelor's degree in agriculture or some related field.

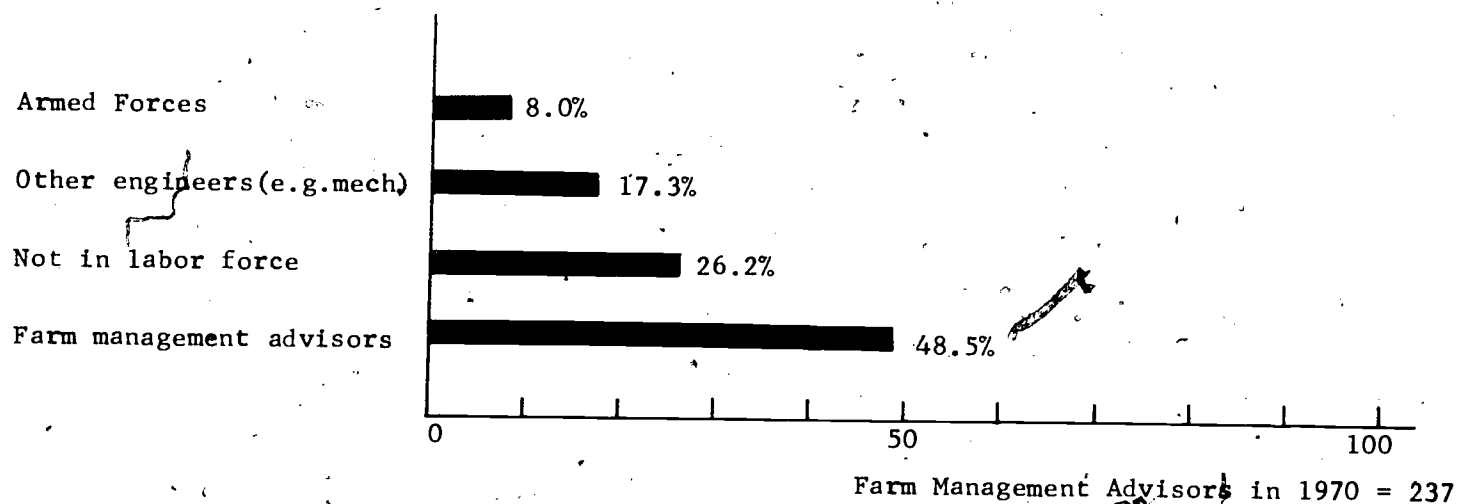
WHERE TO GET MORE INFORMATION

Office of Personnel
U.S. Department of Agriculture
Washington, D.C. 20250

Careers in Agriculture and Natural Resources - Agriculture
American Association of Land-Grant
Colleges and State Universities
Washington, D.C. 20000

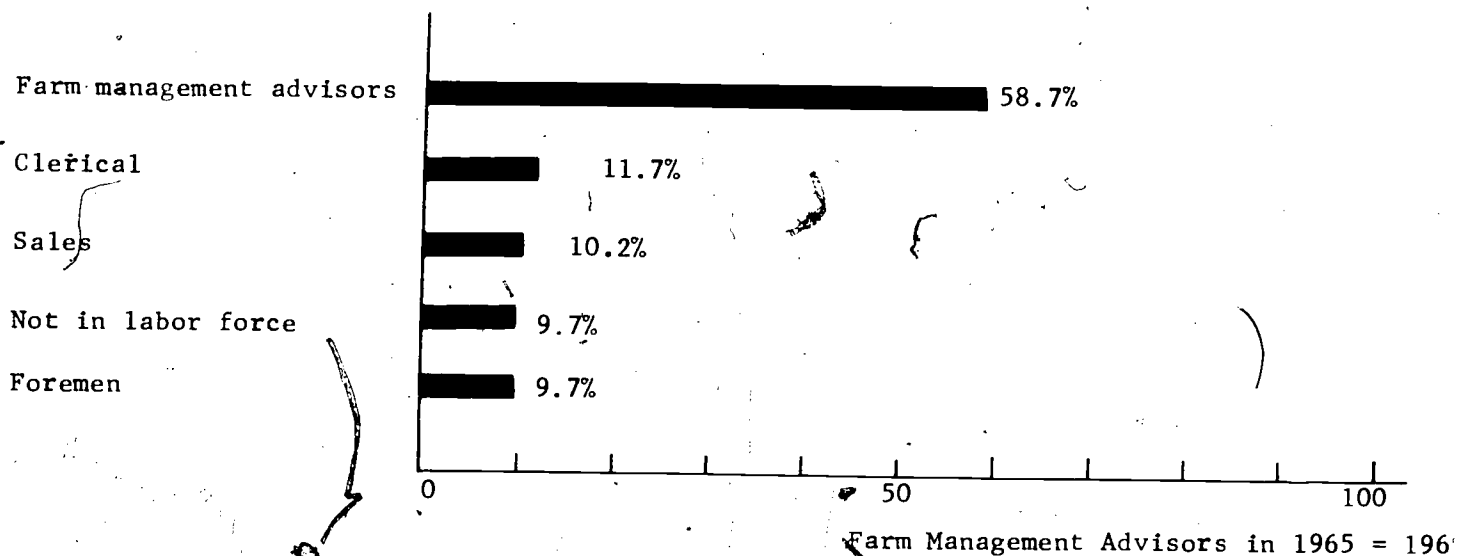
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Farm Management Advisors Were Doing in 1965



Over half of the persons who became farm management advisors between 1965 and 1970 were probably in college in 1965 (not in labor force). Another third were working in the engineering professions; the remainder were engaged in military service. Over 30% of the 1965 farm management advisors (62) moved out of professional and technical occupations by 1970.

What 1965 Farm Management Advisors Were Doing in 1970



Some job titles classified under this heading:

- Agricultural extension agent
- Coun. agent
- Extension service supervisor

FORESTERS AND CONSERVATIONISTS D.O.T. # 040.081

What do the forester and conservationist do? The forester and conservationist develop, protect and manage forests, wildlife, waterways and recreational areas.

TO GET THE JOB

You should be able to

- Work in remote areas
- Meet and work with people
- Work alone part of the time

You should prefer to

- Work outdoors most of the time
- Aid the growth of plants and wildlife
- Work along for long periods of time

You should be physically able to

- Walk for long periods of time
- Handle a variety of equipment
- Do hard outdoor work

ON THE JOB

Foresters and conservationists are mainly interested in the development and protection of natural resources. Besides having the responsibility of seeing that forests and waterways are being properly used, people in these professions should like working with people in the community. Foresters determine the locations and types of recreation that may be allowed in the forest. They direct the planting, cutting, sale, processing, marketing, and use of forest products. Foresters usually specialize in one area of work such as timber management, outdoor recreation, or forest economics.

THINGS TO THINK ABOUT

Advantages

- Much work is done without a supervisor
- Opportunity to work in the clean, fresh outdoors
- Experienced foresters may advance to responsible positions in management of forests or related research

Disadvantages

- The forester is often alone
- Government workers may have to move their families often
- Emergency duty such as fire-fighting will occasionally occur

PREPARATION AND TRAINING

- A bachelor's degree in forestry or a related field is required
- An advanced degree is needed for teaching and research

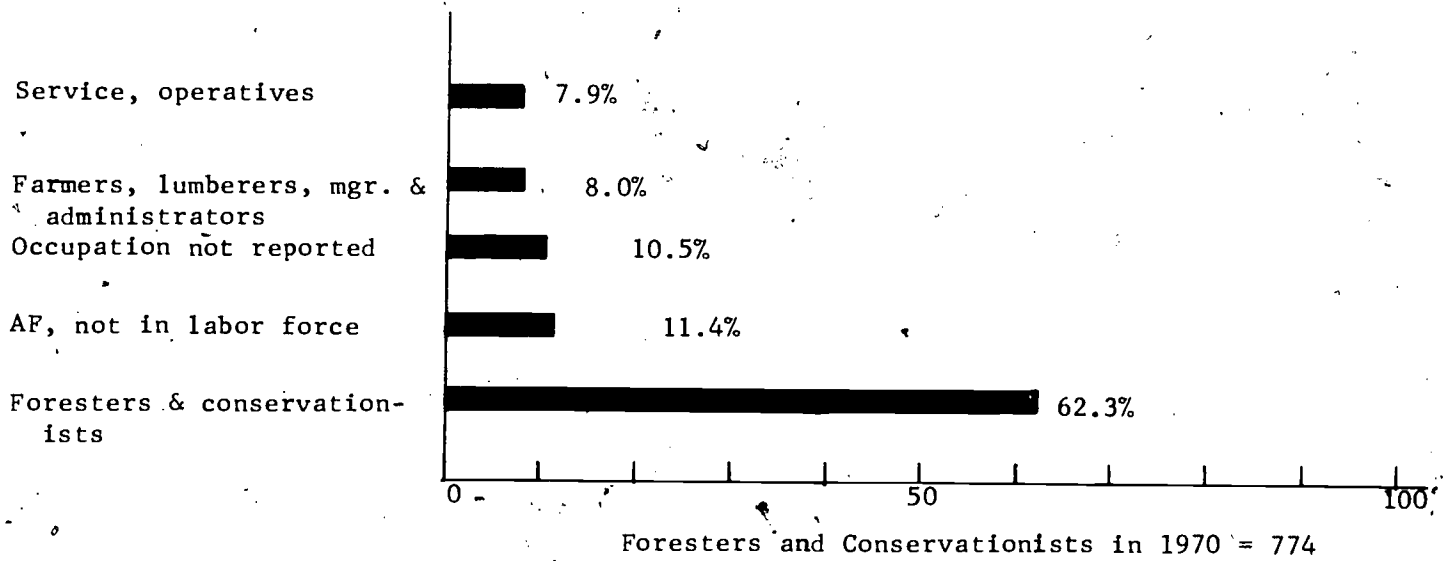
WHERE TO GET MORE INFORMATION

Society of American Foresters
1010 - 16th Street, N.W.
Washington, D.C. 20036

U. S. Department of Agriculture Forest Service
Washington, D.C. 20250

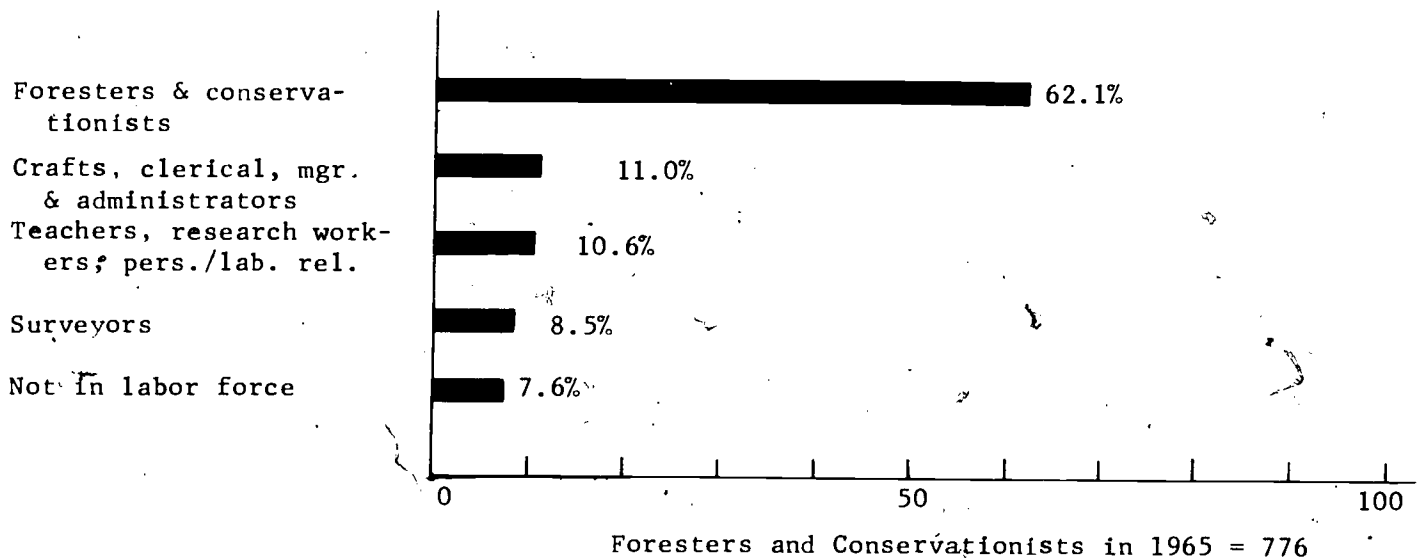
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Foresters and Conservationists Were Doing in 1965



Twenty-seven per cent of the people (81) who became foresters and conservationists in 1970 did not report their occupation in 1965. Another 30% were serving in the military or were probably in college (not in the labor force) five years earlier. By 1970, 30% of the 1965 foresters and conservationists had moved into other occupations, but close to half of those workers remained in other professional or technical occupations.

What 1965 Foresters and Conservationists Were Doing in 1970



Some job titles classified under this heading:

- | | |
|----------------------|----------------------|
| Fire-control officer | Smoke jumper |
| Fish culturist | Soil conservationist |
| Forest ranger | Tree expert |

HOME MANAGEMENT ADVISORS

D.O.T. # 096.128

What does a home management adviser do? A home management adviser develops, interprets, and applies principles of homemaking to promote health and welfare of individuals and families. They also advise individuals and families concerning budget and other home management problems.

TO GET THE JOB

You should be able to:

- Communicate with others
- Understand the role of a homemaker
- Work with people from different social and economic backgrounds

You should prefer to:

- Work closely with people while teaching them to help themselves
- Work without supervision

You should be physically able to:

- See and hear well
- Stand or sit for periods of time

ON THE JOB

Although most home management advisers are teachers for either a school district or a county agency, some home economists are employed by industry. In industry they study the needs of buyers and make suggestions to manufacturers. A few work in test kitchens to improve products or create new ones for food manufacturers. Home management advisers working for government agencies acts as advisers on household budgets and improved homemaking. They may also teach the handicapped how to adapt to a disability by changing their home arrangement. Adult education programs on nutrition and family management are also the duties of home management advisers.

THINGS TO THINK ABOUT

Advantages:

- Pleasant working conditions
- Advanced training and demonstrated ability may lead to supervisory positions

Disadvantages:

- Working evenings or irregular hours

PREPARATION AND TRAINING

A bachelor's degree in home economics is required. The basic courses include English, science, psychology, besides a concentration in nutrition, buying, and preparation of foods.

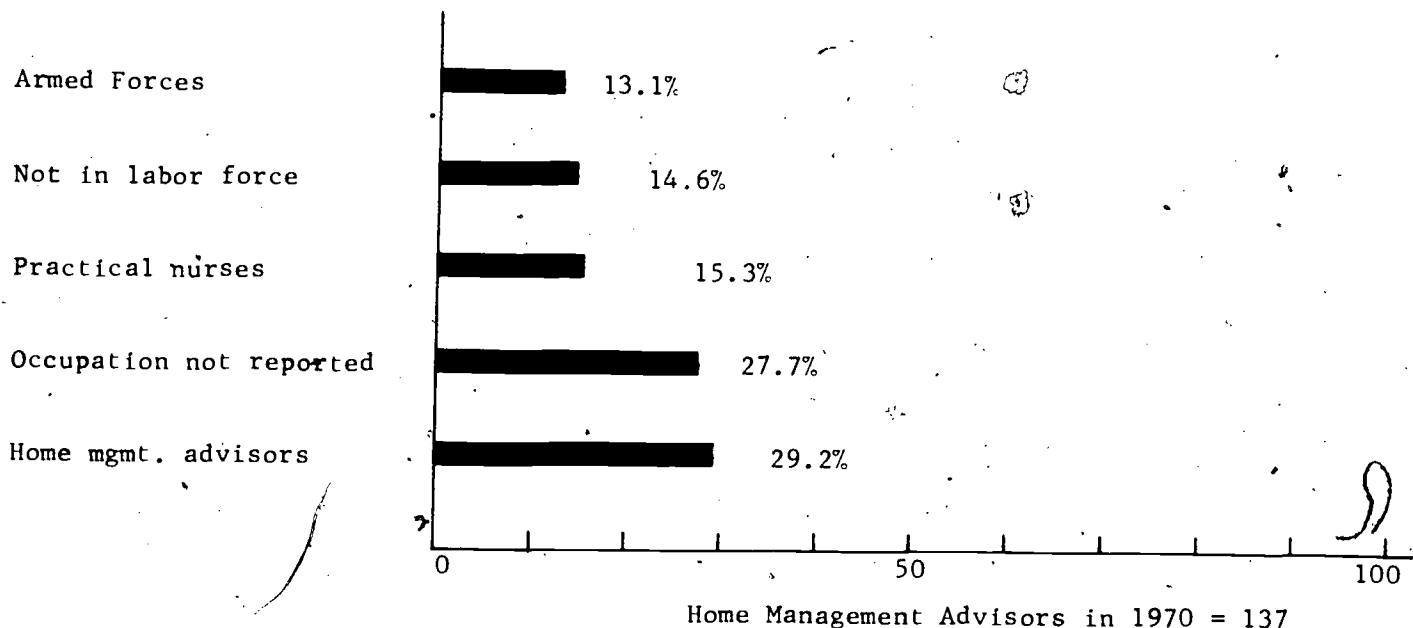
WHERE TO GET MORE INFORMATION

Home Economic Unit
Bureau of Adult and Vocational Education
Office of Education
U.S. Department of Health, Education, and Welfare
Washington, D.C. 20202

American Home Economics Association
1600 - 20th Street, N.W.
Washington, D.C. 20009

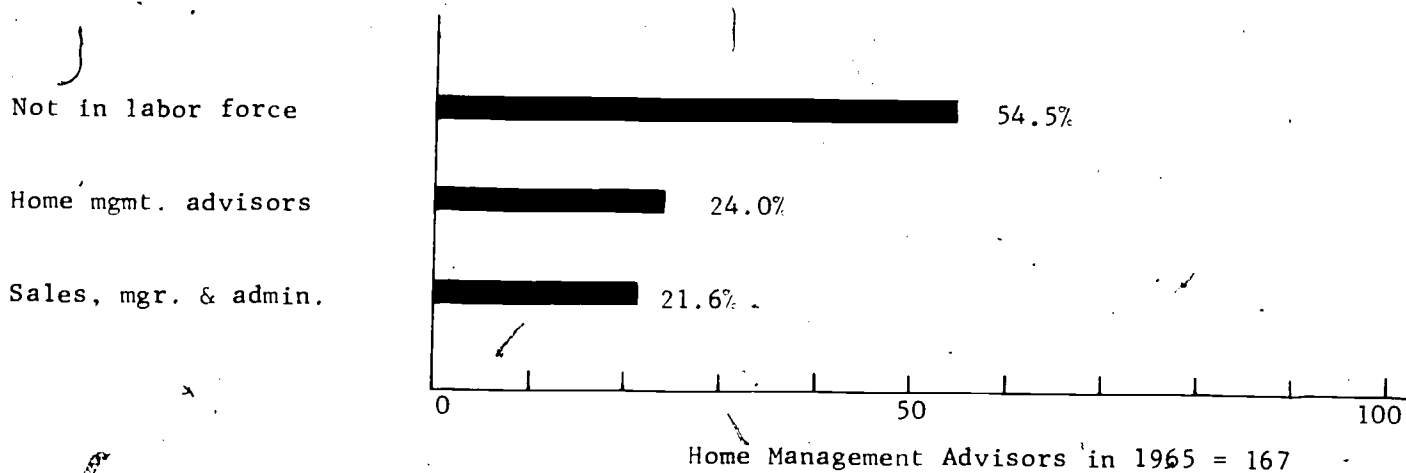
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Home Management Advisors Were Doing in 1965



Forty per cent of the new home management advisors in 1970 did not report their occupations in 1965. Over 20% were practical nurses five years earlier. Another 20 people were probably in college (not in the labor force) in 1965. More than half the 1965 advisors (mostly women) left the labor force by 1970. About one-fourth of the 1965 advisors remained in the profession in 1970.

What 1965 Home Management Advisors Were Doing in 1970



Some job titles classified under this heading:

- County-home demonstrator
- Home economist
- Home-service director

JUDGES

D.O.T. # 111.108

What does a judge do? A judge listens to presentations of cases, rules on admissibility of evidence, and administers judgements according to laws and the Constitution.

TO GET THE JOB

You should be able to:

- Think and reason logically
- Have and maintain good scholastic and moral character records
- Speak clearly and persuasively

You should prefer to:

- Read intellectual and historical books
- Work with people
- Do accurate and detailed work

You should be physically able to:

- Hear and speak well
- Sit for long periods of time

ON THE JOB

Judges arbitrate, advise, and administer justice in the courts of law. They may establish rules of procedure that have not been decided upon by other courts. Listening to the presentation of cases prior to making decisions is a large part of their duty. They may instruct jurors and lawyers on the admissibility of evidence to the questions of law involved. In criminal cases they may sentence defendants or determine the liability of defendants in civil cases. Judges may preside over a particular court and be called a Juvenile-Court Judge or a Prbbate Judge.

THINGS TO THINK ABOUT

Advantages

- Continued advancement to higher courts of law
- Pleasant working conditions

Disadvantages

- Long training period
- Irregular hours
- May spend evenings or weekends preparing and reviewing cases to support your decision

PREPARATION AND TRAINING

A college degree, degree from a law school, and a few years experience in the profession are the minimum requirements.

Judges are either elected by the people or appointed by a government official--thus they must enter politics.

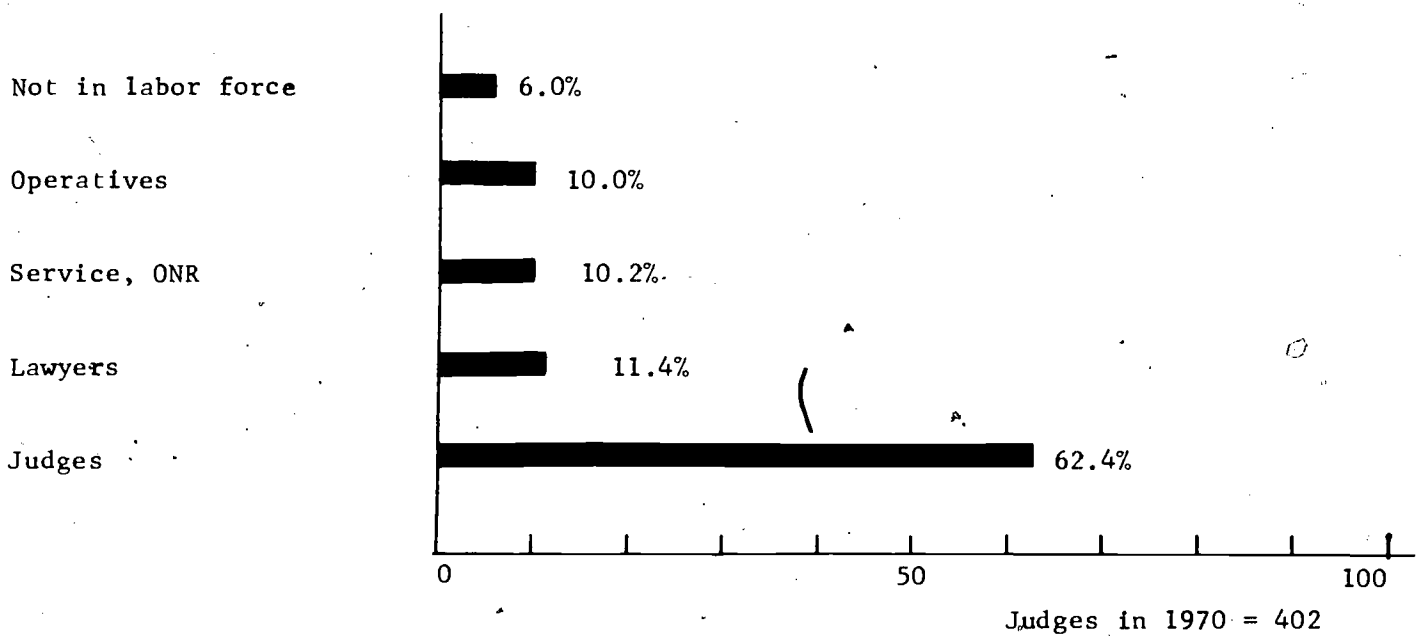
A passing score on a Bar Exam is required and the requirements vary according to the states.

WHERE TO GET MORE INFORMATION

The American Bar Association
1155 East 60th Street
Chicago, Illinois 60637

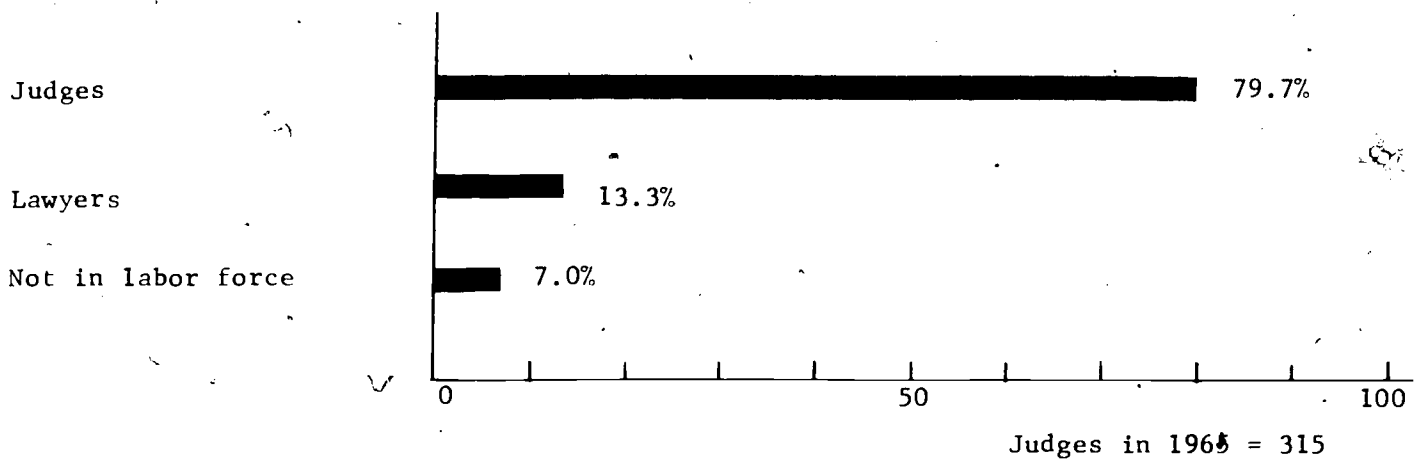
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Judges Were Doing in 1965



More than one-third (151 people) of the 1970 judges were doing something else in 1965. The largest portion (30%) of that group were lawyers. Over 50% were operatives, service workers or did not report their occupations. About 15% were probably in school (not in the labor force) five years earlier. In Pennsylvania only 22 people left the work force between 1965 and 1970. The rest continued as judges or moved into other law professions by 1970.

What 1965 Judges Were Doing in 1970



Some job titles classified under this heading:

Circuit court judge
Justice
Magistrate

LAWYERS

D.O.T. # 110.108

What does a lawyer do? A lawyer advises clients on their legal rights and obligations, and represents those clients in courts of law.

TO GET THE JOB

You should be able to:

- Think and reason logically
- Apply past knowledge (court cases) to new situations
- Maintain good scholastic and character records

You should prefer to:

- Read intellectual and historical books
- Work with people
- Do accurate and detailed work

You should be physically able to:

- Hear and speak well

ON THE JOB

A lawyer's main duties involve advising clients of their rights and obligations. In the specialty of criminal law, the lawyer handles cases concerning offenses against society such as murder, theft, and arson. Some other areas of specialization within the field include maritime, civil, corporation, tax, patent and real-estate law. A lawyer spends some time preparing a brief, or document which summarizes decisions in similar cases, to help defend his client. A lawyer also may be a trustee, a guardian, or an executor of an estate. He or she may draw up wills, or give advice on the legal aspects of buying and selling property.

THINGS TO THINK ABOUT

Advantages:

- Advancement to own law firm
- May enter politics and become a judge, mayor, legislator, or other governmental leader
- Comfortable working conditions

Disadvantages:

- Long training period
- Irregular hours
- May spend evenings and weekends preparing a case

PREPARATION AND TRAINING

A high school diploma, plus six to seven years of college and law school are the minimum requirements for a degree.

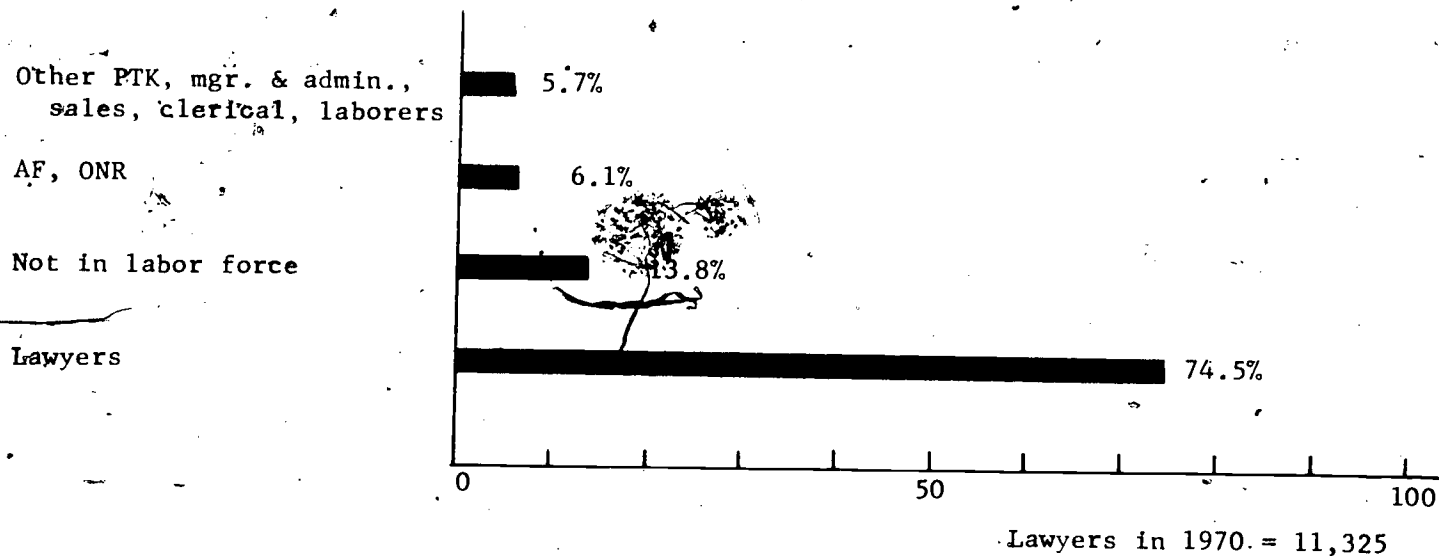
Before practicing law in any state, you must pass a Bar Exam. The requirements vary from state to state.

WHERE TO GET MORE INFORMATION

The American Bar Association
1155 East 60th Street
Chicago, Illinois 60637

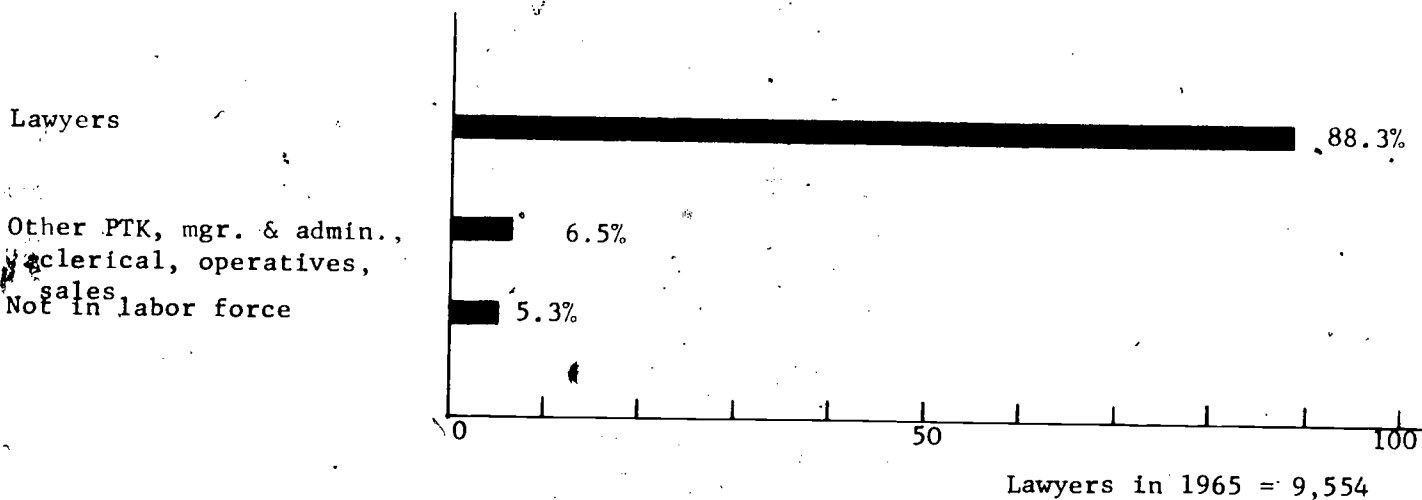
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Lawyers Were Doing in 1965



Three-fourths of the lawyers practicing in Pennsylvania in 1970, were already in the profession five years earlier. Over 50% of the group that entered the profession between 1965 and 1970 were probably in law school (not in the labor force) in 1965. The rest were working in many different occupations. Almost 90% of the 1965 lawyers were still in the profession in 1970. Only 5% left the work force.

What 1965 Lawyers Were Doing in 1970



Some job titles classified under this heading:

Attorney
Barrister
Counselor-at-law

Legal Counsel
Patent examiner
Prosecutor

Public Defender
Solicitor
Tariff expert

LIBRARIANS

D.O.T. # 100.168

What does a librarian do? A librarian works in public or private libraries cataloging books, and helps people to select books. A librarian often selects and purchases books and materials for the libraries.

TO GET THE JOB

You should be able to:

- Work with details
- Work with people

You should prefer to:

- Have an interest in books
- Be imaginative
- Work in community affairs

You should be physically able to:

- Lift light to heavy books
- Walk, stoop and bend

ON THE JOB

The librarian must catalogue by author, title, and subject every book or other item that is going to enter the library collection. Sometimes the librarian is responsible for writing book reviews of new books for a local newspaper. Community affairs often are an important element of the librarian's work. A knowledge of the needs and interests of the community is useful in selecting books and reference materials. Community organizations may also use the library as a meeting place.

THINGS TO THINK ABOUT

Advantages

- Pleasant working conditions
- Chance of advancement to administrative positions in large libraries

Disadvantages

- May have to work some evenings and weekends
- Some work may become routine

PREPARATION AND TRAINING

A high school and college diploma plus a master's degree in library science (1 year) and a reading knowledge of at least one foreign language.
Public librarians must be certified in some states.
School librarians must be certified and trained as teachers and librarians.
To work for the Federal Government beginning jobs require completion of a four year college course and a master's degree in library science or demonstration of the equivalent by passing an exam.

WHERE TO GET MORE INFORMATION

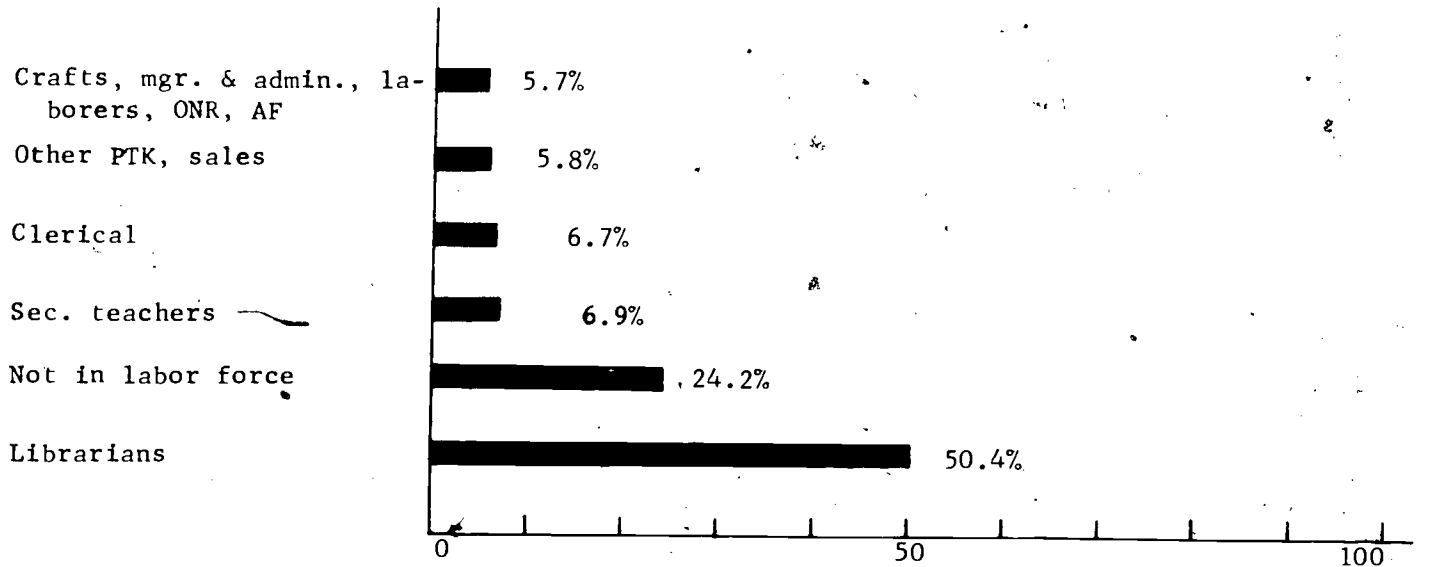
Special Libraries Association
235 Park Avenue, South
New York, New York 10003

Secretariat Federal Library Committee
Room 310, Library of Congress
Washington, D.C. 20540

Write your state Board of Education for certification requirements.

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

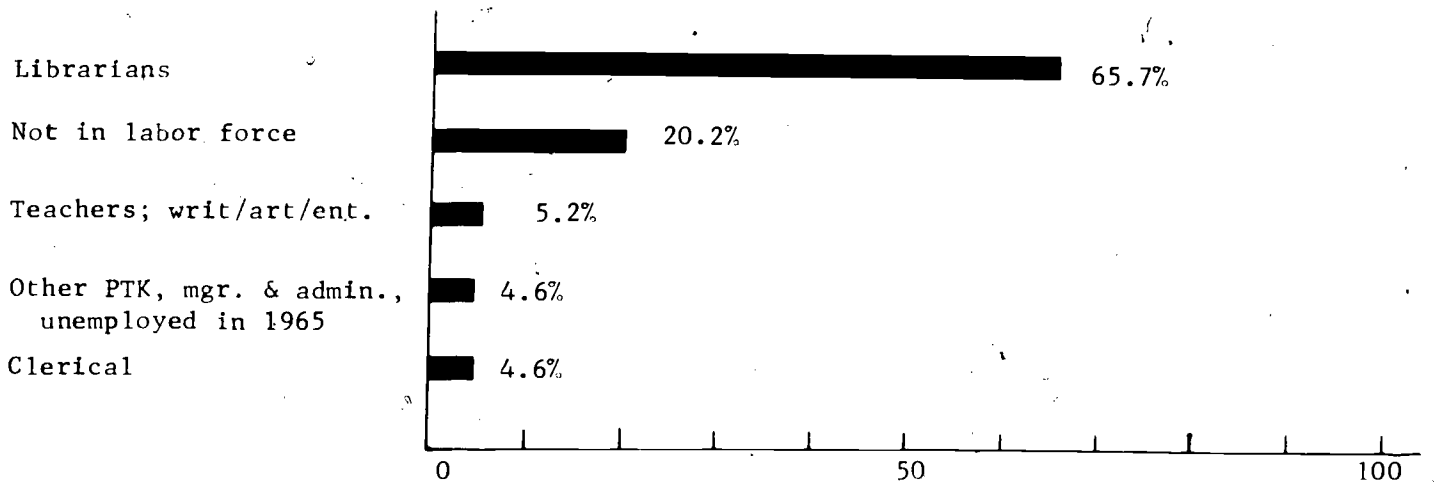
What 1970 Librarians Were Doing in 1965



Librarians in 1970 = 5,836

Half of the persons who became librarians in 1970 were probably studying for a master's in Library Science five years earlier. Another 25% were previously teachers or clerical workers who undoubtedly were also part-time students. By 1970 one-fifth of the 1965 librarians were no longer working. Over 70% remained in professional or technical occupations.

What 1965 Librarians Were Doing in 1970



Librarians in 1965 = 4,476

Some job titles classified under this heading:

Audio-visual director
Bibliographer
Cataloguer

Circulation manager
Film librarian
Record librarian

ARCHIVISTS AND CURATORS

D.O.T. # 101.168, 102.118

What does an archivist do? An archivist is responsible for identifying, preserving and cataloging historical documents of any value to the writing, research, or teaching historian.

What does a curator do? A curator is concerned with directing the activities involving instruction, research, and public service objectives of museums.

TO GET THE JOB

You should be able to:

- Organize and plan programs
- Communicate ideas verbally

You should prefer to:

- Work with people some of the time
- Read about historical incidents

You should be physically able to:

- Sit or stand for long periods of time
- See and read well

ON THE JOB

Archivists and curators usually work for large institutions. The archivist collects and evaluates items of historical significance. The curator is concerned with administering museums, art galleries, and botanical and zoological gardens. People in both professions may collect, preserve, authenticate, and provide information about items of historical, artistic or scientific interest. Although people in both of these careers may work in museums their jobs are dissimilar. The archivist will be more involved with cataloging and library research. The curator is more involved with organizing exhibitions and working with the public. He or she may specialize in one of a variety of areas: art, archeology, horticulture, natural history, or zoology.

THINGS TO THINK ABOUT

Advantages

- Doing work which interests you.
- Working conditions in modern libraries are good

Disadvantages

- May work long hours preparing exhibits (curator)
- Indoor work most of the time
- Possibility of eye strain (archivist)

PREPARATION AND TRAINING

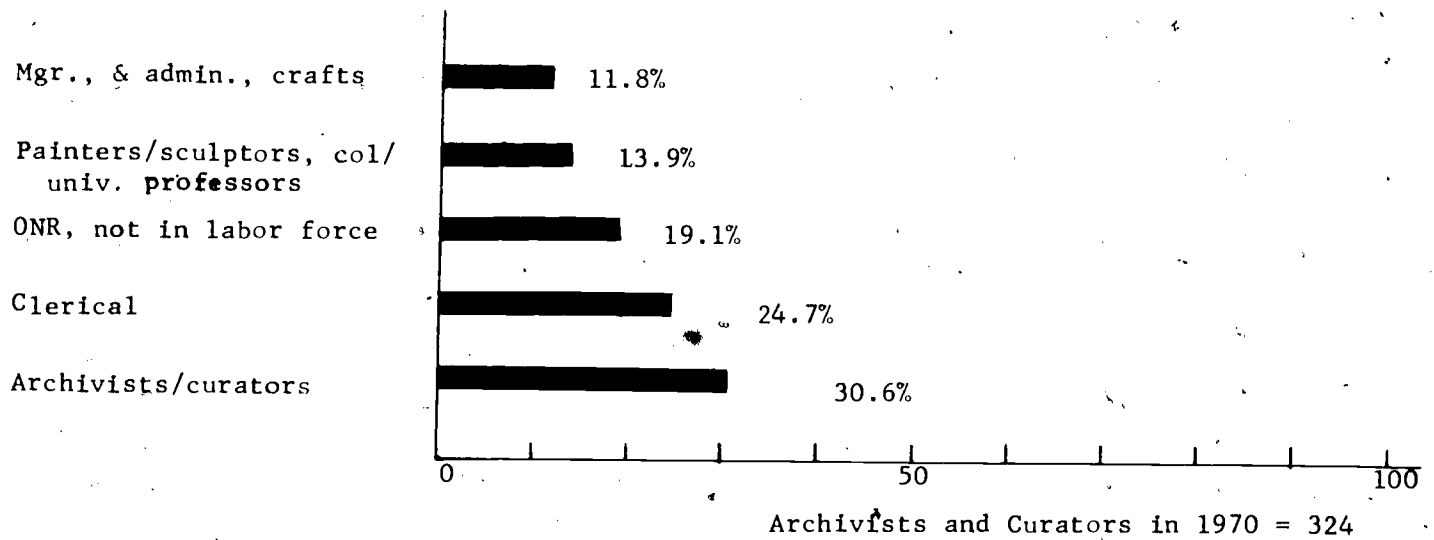
A master's degree is essential and chances of employment are much greater if you have a Ph.D. in history or a related field.

WHERE TO GET MORE INFORMATION

American Historical Association
400 A Street, S.E.
Washington, D.C. 20003

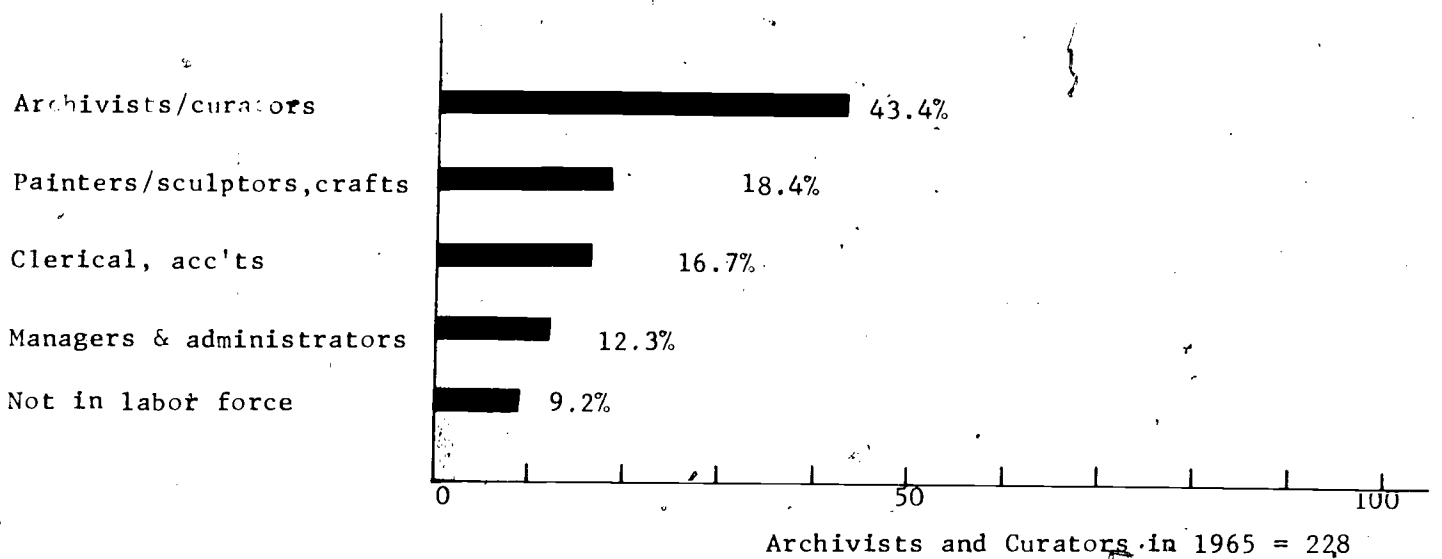
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Archivists and Curators Were Doing in 1965



Almost 70% of the 1970 archivists and curators were doing other things in 1965. Over one-third of the new entrants were clerical workers (such as library attendants) five years earlier. Another group were probably in school (not in the labor force) and one-fifth were artists or teachers in 1965. Less than half of the 1965 workers remained in the profession in 1970.

What 1965 Archivists and Curators Were Doing in 1970



Some job titles classified under this heading:

- | | |
|------------------------|----------------|
| Art appraiser | Museum curator |
| Curator of collections | Numismatist |
| Director | Philatelist |

ACTUARIES

D.O.T. # 020.188

What does an actuary do? An actuary designs insurance and pension plans that can be implemented and maintained on a sound financial basis.

TO GET THE JOB

You should have:

- A strong background in math and statistics
- Some knowledge of economics
- High verbal ability

You should prefer to:

- Work with numbers
- Work with people

You should be physically able to:

- Work with your eyes for long periods without eye strain
- Sit for long periods of time

ON THE JOB

Most actuaries are employed by insurance companies, but a few do work for the state or federal government. They assemble and analyze statistics about factors affecting the labor market pool or property. Then, they construct probability tables concerning fires, natural disasters, employment or death based on statistical analyses. Actuaries also use their understanding of the country's economy to see how that might effect insurance rates (particularly for their own company). The work also involves calculating premium rates and bases to distribute surplus earnings according to insurance contracts.

THINGS TO THINK ABOUT

Advantages

- Job security
- Advancement to administrative positions

Disadvantages

- Long period of training to reach professional status
- Much home study to pass a series of examinations

PREPARATION AND TRAINING

A bachelor's degree in math, accounting, or economics plus 6-7 years on-the-job training is required.

Must pass exams to be fully accepted into the profession. You become an "associate" after passing 4-5 exams and after passing all 10 exams, a "fellow."

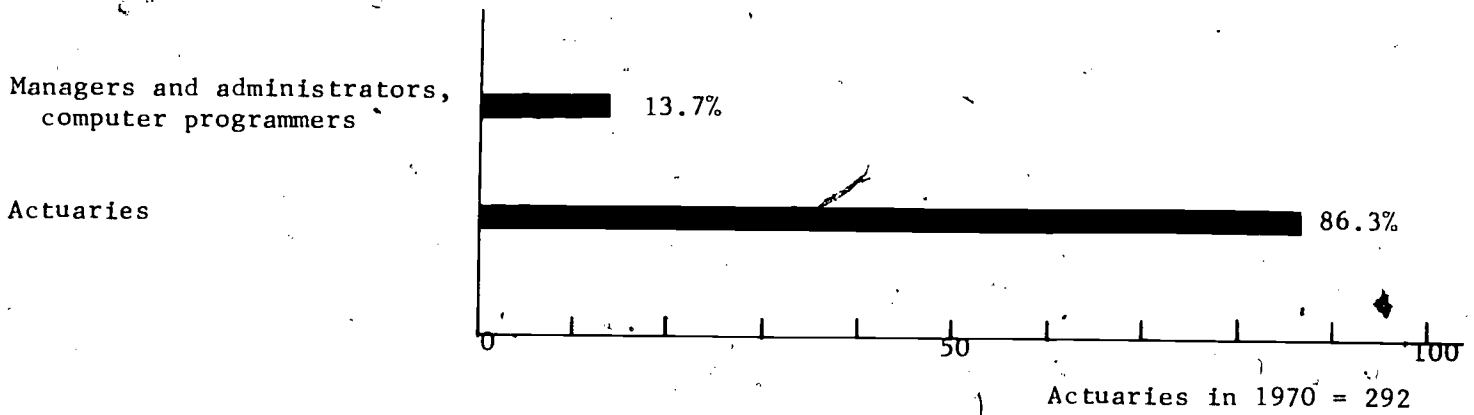
WHERE TO GET MORE INFORMATION

Society of Actuaries
208 South LaSalle Street
Chicago, Illinois 60604

Casualty Actuarial Society
200 East 42nd Street
New York, New York 10017

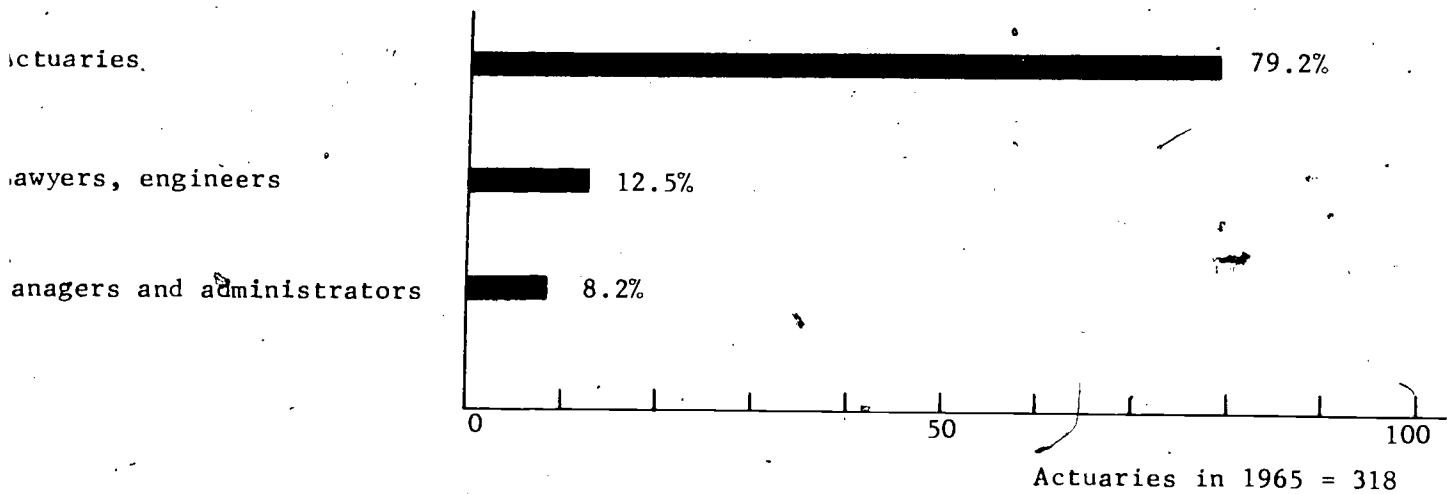
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Actuaries Were Doing in 1965



In 1965, 252 of all the 1970 actuaries working in Pennsylvania were already in that profession. The rest were in some type of administrative position or employed as computer programmers. Some of the 1965 actuaries had returned to management or administration by 1970. Others became lawyers or engineers.

What 1965 Actuaries Were Doing in 1970



Some job titles classified under this heading:

- Insurance actuary
- Rate analyst
- Rate engineer

MATHEMATICIANS

D.O.T. # 020.088

What does a mathematician do? A mathematician solves problems in advanced math necessary to the development of research and work in the physical, biological and social sciences.

TO GET THE JOB

You should be able to:

- Concentrate for long periods of time
- Present your findings in written reports
- Communicate well with others

You should prefer to:

- Work independently with ideas and solving problems
- Work with math principles

You should be physically able to:

- See well and have good fingering ability
- Work sitting down for periods of time

ON THE JOB

There are two branches of mathematical work. Theoretical mathematicians try to discover new principles and relationships between existing principles of math. Applied mathematicians develop techniques and approaches to solve practical problems in the physical, biological and social sciences. Some mathematicians (statisticians) use mathematical theories to design and improve statistical methods for collecting and analyzing numerical information.

Most mathematicians work in one of three areas. Some mathematicians are primarily college teachers, who may be involved in research. Many of those who are in management and administration oversee research and development programs. Mathematicians working directly in research and development further science by extending basic knowledge.

THINGS TO THINK ABOUT

Advantages

- Numerous opportunities for advancement to higher level positions
- Regular hours and pleasant working conditions

Disadvantages

- May require long periods of concentration with resulting eye and/or nerve strain

PREPARATION AND TRAINING

Bachelor's degree with a major in mathematics or a minor in math and a major in physics or engineering is the basic requirements. Training or experience in a field to which math can be applied is important.

WHERE TO GET MORE INFORMATION

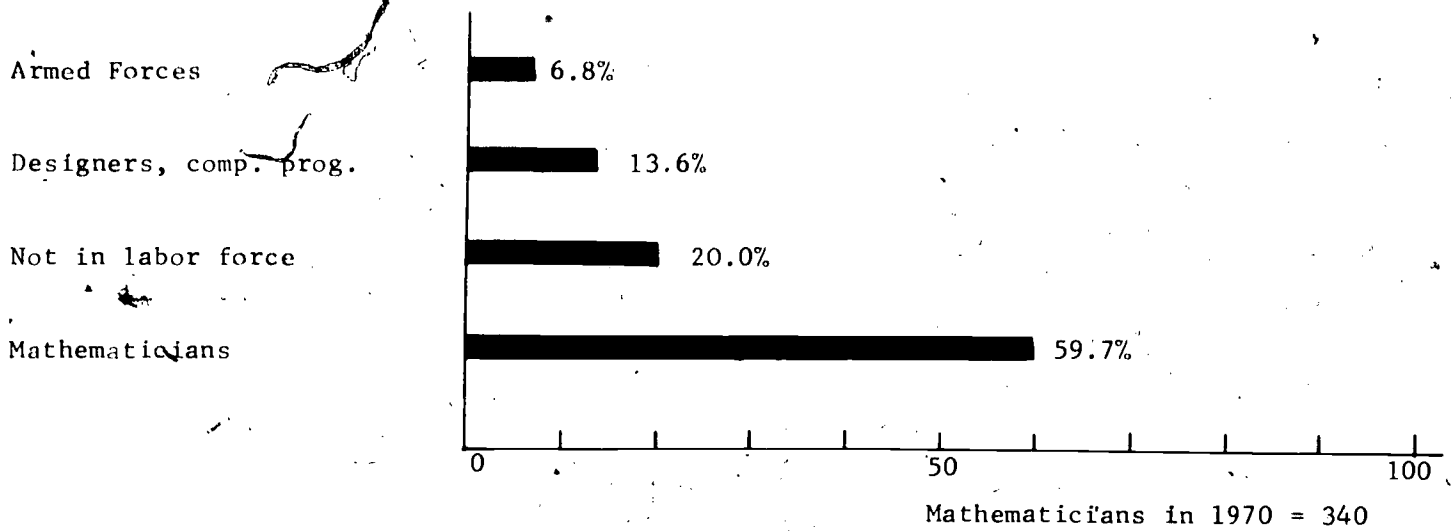
American Mathematical Society
Box 6248
Providence, Rhode Island 02904

Mathematical Association of America
1225 Connecticut Avenue, N.W.
Washington, D.C. 20036

Society for Industrial and
Applied Mathematics
33 South 17th Street
Philadelphia, Pennsylvania 19103

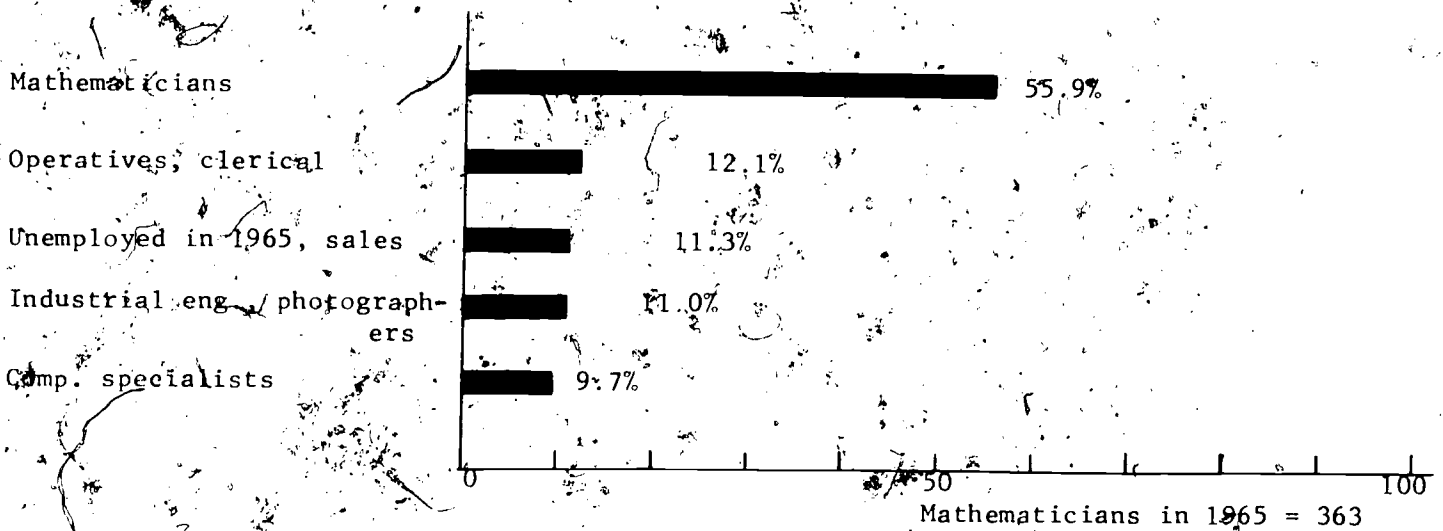
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION.

What 1970 Mathematicians Were Doing in 1965



One-half of the new mathematicians in 1970 were probably in college (not in the labor force) in 1965. Over one-third were working as designers or computer programmers. More than half of the 1965 mathematicians stayed in the field in 1970. Another 10% moved into computer-related occupations.

What 1965 Mathematicians Were Doing in 1970



Some job titles classified under this heading:

- Algebraist
- Cryptographer
- Geometrician

STATISTICIANS

D.O.T. # 020.188

What does a statistician do? A statistician collects, analyzes, and interprets numerical data based on his or her knowledge of statistical methods and of a particular subject, such as human behavior, engineering or economics.

TO GET THE JOB

You should be able to:

Tolerate frustration, be patient
Work with details

You should prefer to:

Work with mathematical concepts
Be objective about your work, not easily swayed by preconceived ideas

You should be physically able to:

See well
Have good fingering ability

ON THE JOB

Applied statisticians collect and analyze numerical data. They may forecast population growth, estimate crop yield, predict and evaluate the result of a new marketing program, or help engineers and scientists to determine the best design for a jet airplane. They make charts, or plot graphs and distributions. Statisticians may plan surveys, including selection of the sample and development of the questionnaire. Those who design experiments prepare mathematical models to test a particular theory. Statisticians who analyze data interpret and summarize their findings in tables or written reports. Theoretical statisticians work mainly with math theories and devising new ways to apply the statistical method.

THINGS TO THINK ABOUT

Advantages:

Pleasant working conditions
Rapid advancement, especially with two advanced degrees

Disadvantages:

Constant study to keep up with new developments

PREPARATION AND TRAINING

Minimum requirement is a bachelor's degree in statistics, or the field in which you hope to work.

Knowledge about computer applications would be helpful for many jobs.

Advancement is easiest with a master's degree in statistics.

Teaching positions require a Ph.D.

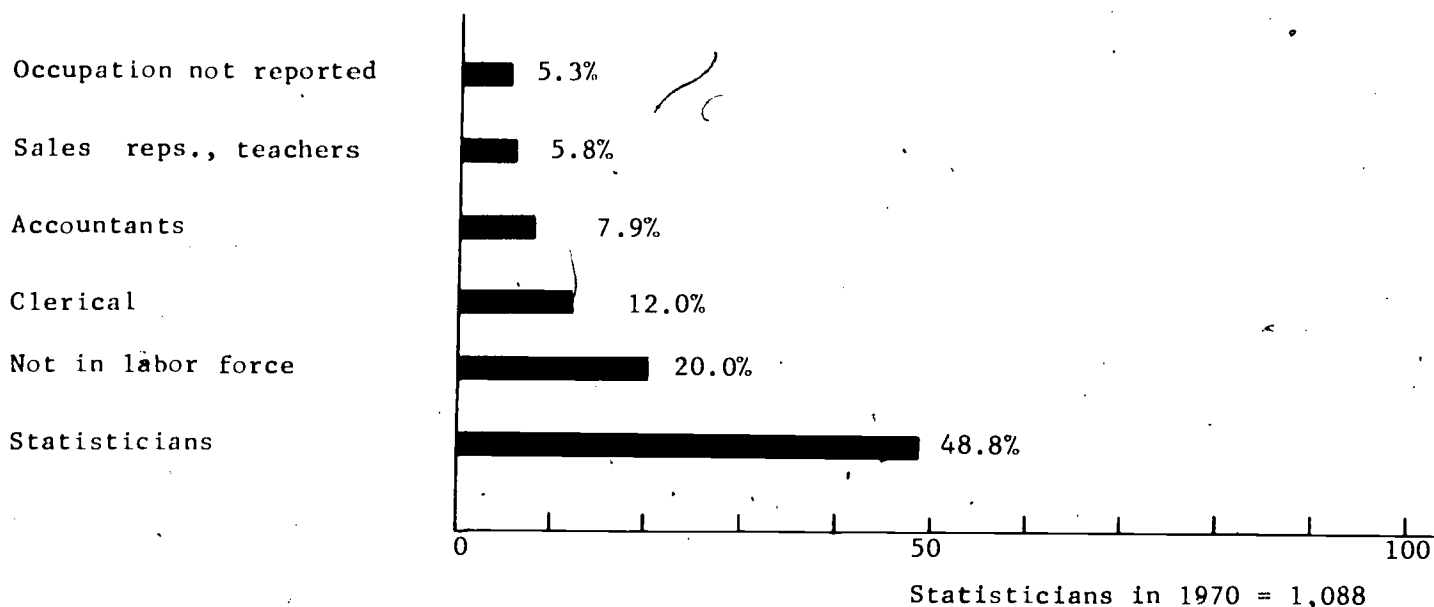
WHERE TO GET MORE INFORMATION

American Statistical Association
810 - 18th Street, N.W.
Washington, D.C. 20006

Biometrical Services
Agricultural Research Service
U.S. Department of Agriculture
Beltsville, Maryland 20705

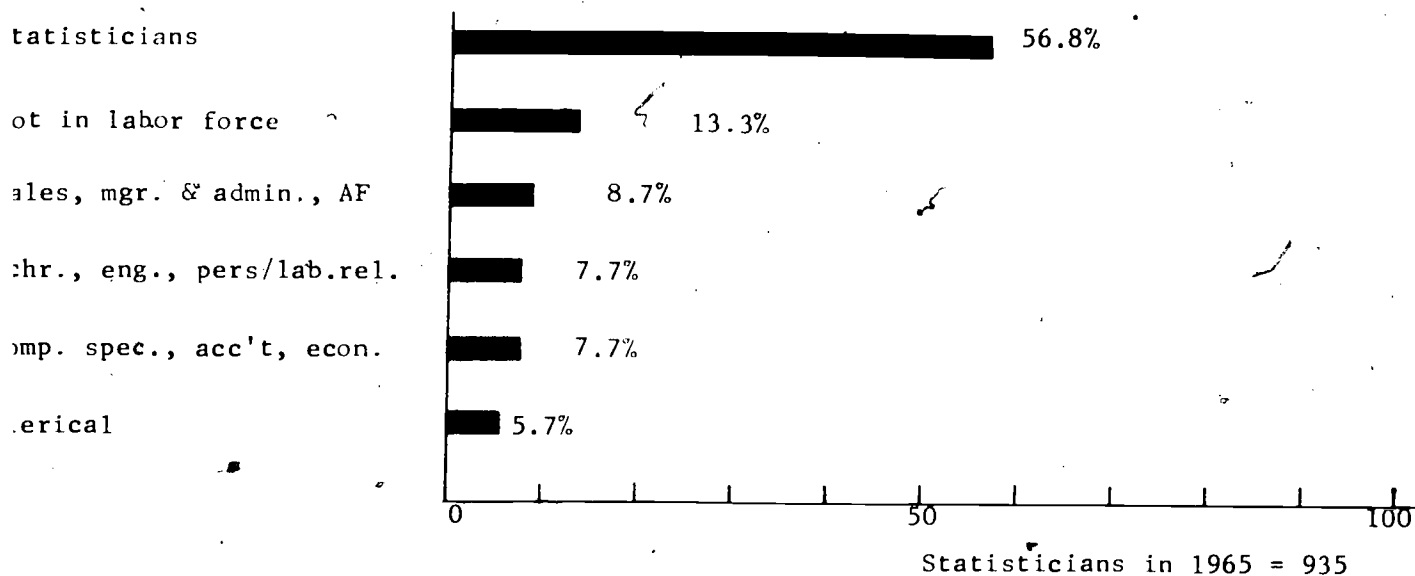
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Statisticians Were Doing in 1965



Almost 40% of the new statisticians in 1970 were probably in college (not in the labor force) five years earlier. Nearly one-fourth of them had been clerical workers, some working as bookkeepers or statistical clerks. About 15% were accountants in 1965. Close to 75% of the 1965 statisticians remained in that occupation or were workers in another professional field by 1970.

What 1965 Statisticians Were Doing in 1970



Some job titles classified under this heading:

- Biometrician
- Statistical analyst
- Pollster
- Statistical engineer
- Sampling expert
- Survey statistician

AGRICULTURAL SCIENTISTS

D.O.T. # 040. 081

What does an agricultural scientist do? An agricultural scientist is a professional who applies his or her field of knowledge to agriculture. These scientists include agricultural economists and engineers, agronomists, geneticists, entomologists, and plant scientists and inspectors.

TO GET THE JOB

You should be able to:

Communicate ideas
Understand the operation of a farm

You should prefer to:

Work in farm related jobs
Work with people

You should be physically able to:

Maintain good health

ON THE JOB

There are many different kinds of agricultural specialists. People in these occupations relate their special knowledge of engineering, genetics, biology, and botany to agricultural problems. All of them are concerned with making the farm more productive and increasing its efficiency. Agricultural engineers, for example, apply their knowledge of engineering principles to designing and developing farm machinery and buildings.

THINGS TO THINK ABOUT

Advantages

Advancement to supervisory positions or project head
Contribution to society (increasing production)
Comfortable working conditions in research

Disadvantages

Much traveling required for some jobs (inspectors)
Visits to various farm sites
Constant study to keep up with new developments

PREPARATION AND TRAINING

Most of these jobs require a minimum of a bachelor's degree in the related field.

Some jobs such as veterinarians and geneticists require more advanced degrees.

Government job such as inspectors also require passing a civil service examination.

WHERE TO GET MORE INFORMATION

College of Agriculture
Agriculture Administration Building
The Pennsylvania State University
University Park, Pennsylvania 16802

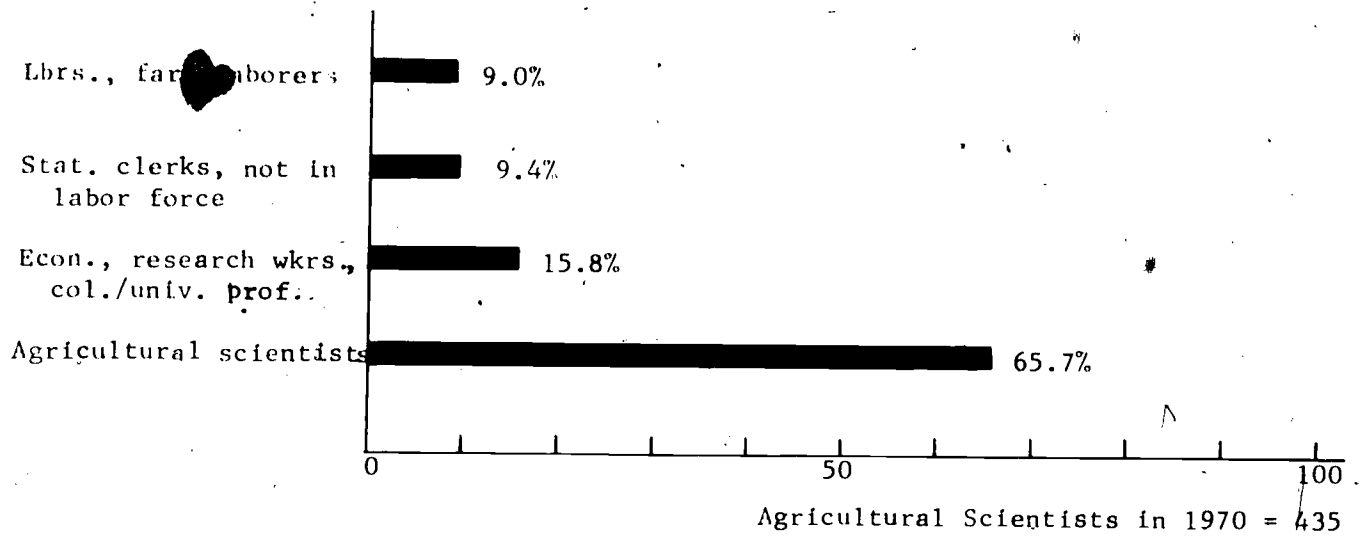
(Ask for the new copy of Careers in Agriculture and Natural Resources-Agriculture)

U.S. Department of Agriculture
Washington, D.C. 20250

The Department of Commerce
Washington, D.C. 20230

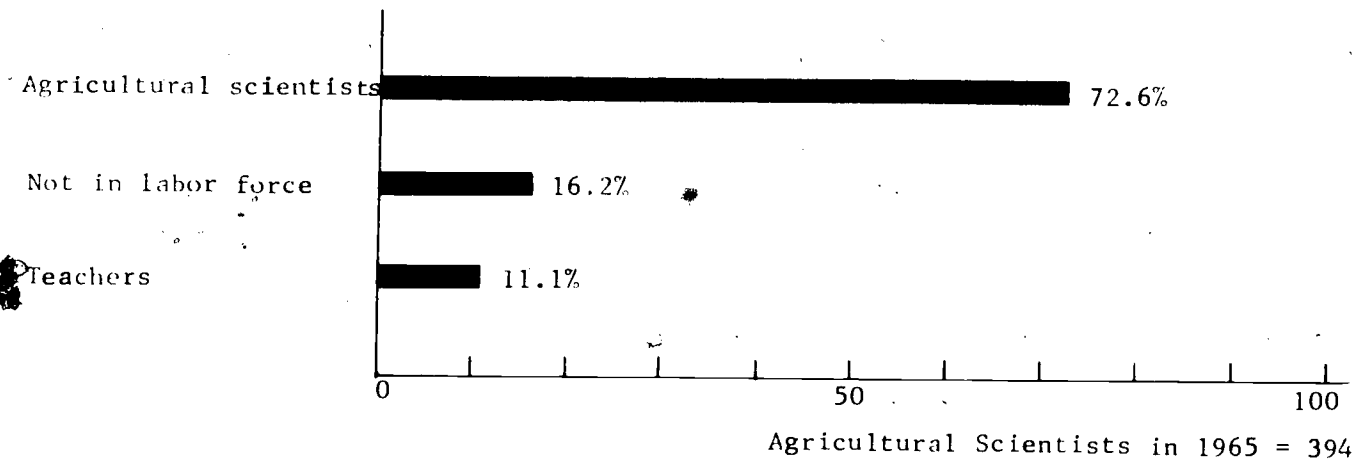
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Agricultural Scientists Were Doing in 1965



Nearly two-thirds of the 1970 agricultural scientists were already in the field in 1965. Close to 50% of the new entrants in 1970 were already working in other professional or technical positions, employed as economists, researchers or professors in 1965. Another 25% were working as clerks or were probably in college (not in the labor force). Almost 75% of the 1965 agricultural scientists remained in the field in 1970.

What 1965 Agricultural Scientists Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|--------------|-----------------|--------------------|
| Agronomist | Dairy scientist | Plant breeder |
| Apiculturist | Horticulturist | Soil expert |
| Arborist | Olericulturist | Wildlife biologist |

ATMOSPHERIC AND SPACE SCIENTISTS

What do atmospheric and space scientists do? Many atmospheric and space scientists are meteorologists or geophysicists. Meteorologists (D.O.T. #025.088), the largest group of atmospheric scientists, study the gases that surround the earth and other celestial bodies. Geophysicists (D.O.T. # 024.081) study the composition and physical aspects of the earth and planets.

TO GET THE JOB

You should be able to:

- Work as part of a team
- Work with some math principles
- Interpret scientific theories and data
- Be thorough and work with detail

You should prefer to:

- Read scientific literature
- Use your imagination
- Accept responsibility for your own work

You should be physically able to:

- See, hear and speak well

ON THE JOB

Meteorologists describe and try to understand the atmosphere's physical composition, motions, and processes, and determine the way these elements affect the rest of our physical environment. They usually specialize in one branch of the science such as weather forecasting, instrumentation, specialty, climatology, or industrial meteorology. Geophysicists measure the electric, magnetic, and gravitational fields and usually specialize in one of the following three general areas: solid earth, fluid earth, or upper atmosphere.

THINGS TO THINK ABOUT

Advantages:

- Advancement depends mainly on the job setting, and willingness to accept responsibility.
- If employed in a laboratory, you usually will work a regular 40 hour week at a desk-office job.

Disadvantages:

- Meteorologists work on a rotating basis to cover weekends and evenings
- Geophysicists often work outdoors in all weather conditions, may be required to lift some heavy objects, and are often required to travel.

PREPARATION AND TRAINING

- Most positions require four years of college with a bachelor's degree in geophysics, meteorology, physics, math or chemistry.
- Some government positions require coursework in geology.
- Civil service exams are necessary for government positions.

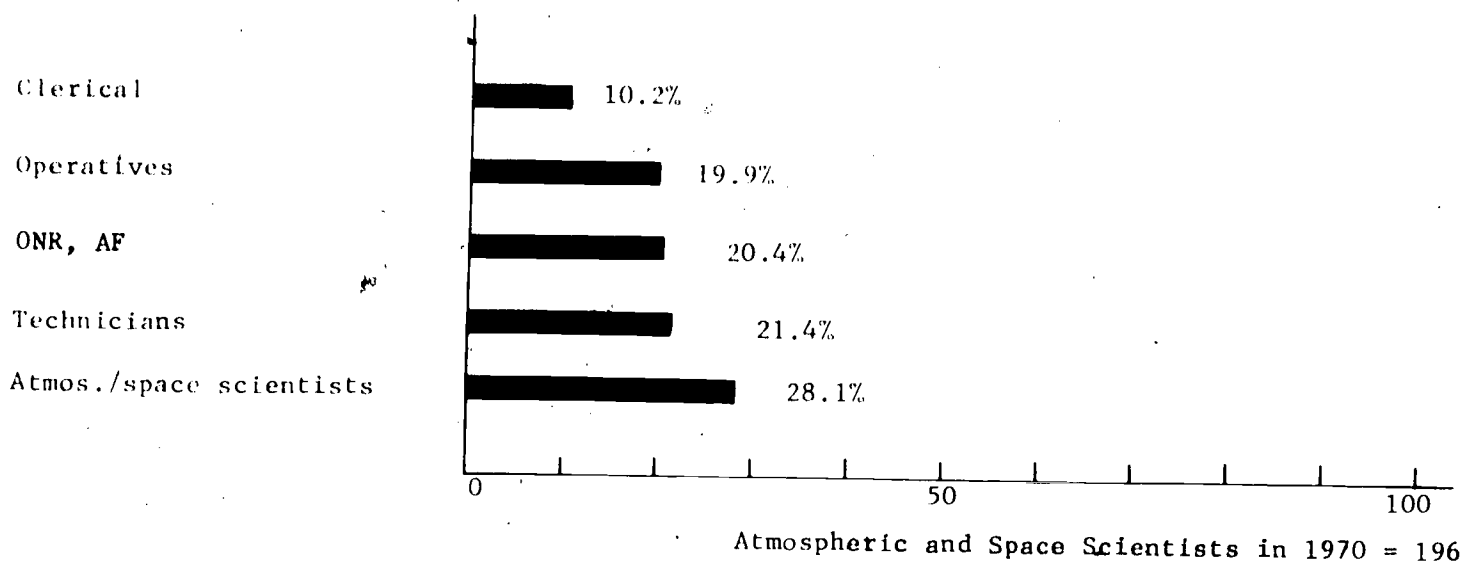
WHERE TO GET MORE INFORMATION

American Geophysical Union
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037

American Meteorological Society
45 Beacon Street
Boston, Massachusetts 02108

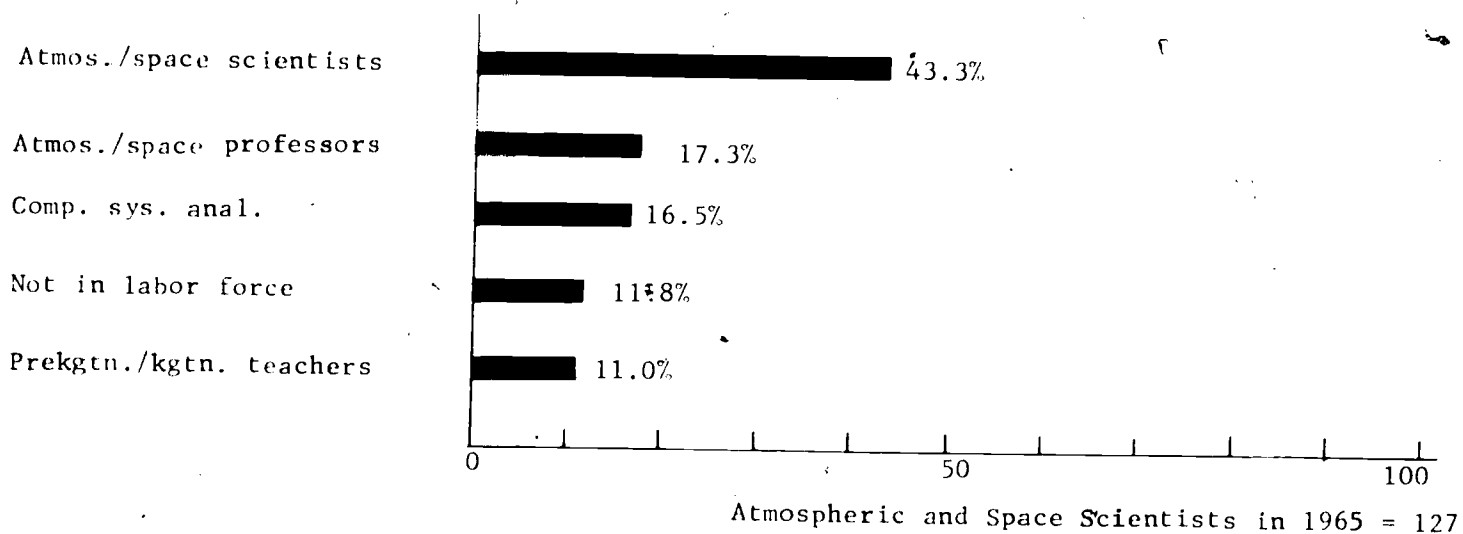
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Atmospheric and Space Scientists Were Doing in 1965



Only 55 of the 1970 atmospheric and space scientists were already in the field in 1965. Almost 30% of the new entrants were technicians five years earlier. Another fourth were working as operatives. Forty people did not report their occupation or were in the Armed Forces in 1965. Sixty per cent of the 1965 scientists remained employed in some aspect of the profession in 1970.

What 1965 Atmospheric and Space Scientists Were Doing in 1970



Some job titles classified under this heading:

- | | |
|-----------------|-----------------|
| Aerologist | Forecaster |
| Climatologist | Meteorologist |
| Cloud physicist | Weather analyst |

BIOLOGICAL SCIENTISTS

D.O.T. # 041.081

What does a biological scientist do? Biological scientists include many different specialists. All of them study the development, anatomy, function, and effects of drugs and chemicals on plants and animals,

TO GET THE JOB

You should be able to:

- Make accurate observations
- Understand principles of biology, chemistry, and ~~math~~
- Work independently and as part of a team

You should prefer to:

- Be precise in your work
- Be imaginative and inquisitive

You should be physically able to:

- Hear and see well
- Maintain good health

ON THE JOB

The three main branches of biological science include botany, the study of plants; microbiology, the study of organisms too small to see with the naked eye; and zoology, the study of animals. Biological scientists specialize in a wide variety of areas within biology. Heredity, agronomy, medicine, pharmacology, crytology, and vacteriology are just a few examples. They may work for drug companies, hospitals, schools, seed processors, dairies, zoos or museums. Other biologists may be chiefly horticulturists (developing plant varieties), ecologists (studying the effects of environmental influences) or embryologists (studying the newly created organism). Exactly what they do depends on the job setting.

THINGS TO THINK ABOUT

Advantages:

- Good working conditions
- Many opportunities for advancement to project chief or administrator

Disadvantages:

- Hours may be long with some evening and weekend work
- May come in contact with various diseases
- May work under pressure

PREPARATION AND TRAINING

Advanced degrees are necessary for most positions. Two year programs are adequate for lab technicians, but a four year college degree in biology is usually the minimum requirement.

Top research positions all require a Ph.D.

State licensing is required for some jobs in health services.

WHERE TO GET MORE INFORMATION

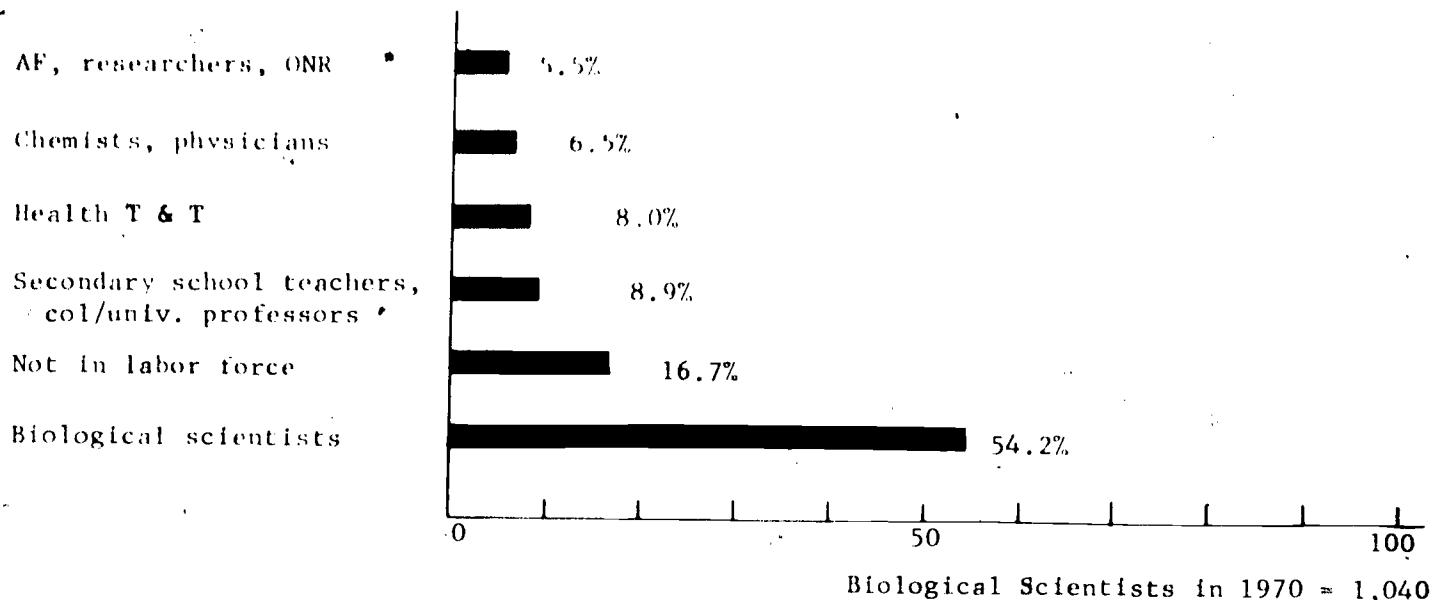
American Institute of Biological Sciences
3900 Wisconsin Avenue, N.W.
Washington, D.C. 20016

National Institutes of
Health
Bethesda, Maryland 20014

Employment Office
U.S. Department of Health, Education, and Welfare
Washington, D.C. 20025

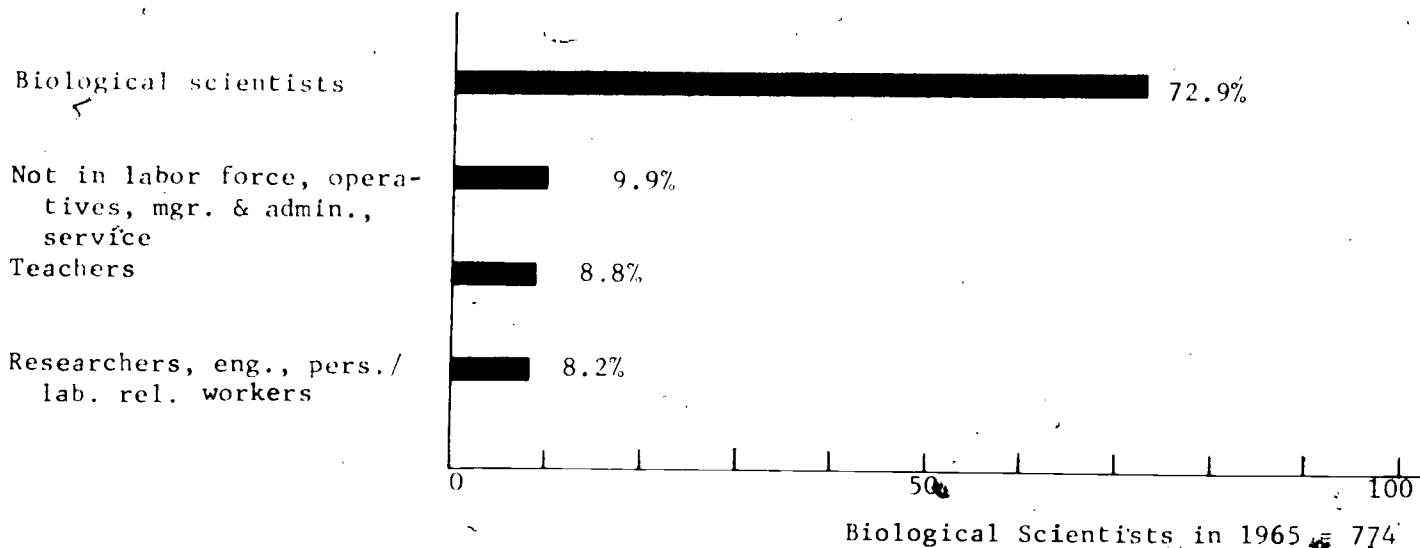
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Biological Scientists Were Doing in 1965



More than one-third of the new biological scientists in 1970 were probably in college in 1965 (not in the labor force). Almost 20% were teaching, very likely in a related subject. Another one-third were employed in related health fields (e.g. technologists, chemists). Over 80% of the 1965 scientists remained in the occupation or moved into teaching by 1970.

What 1965 Biological Scientists Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|------------|------------------|----------------|
| Botanist | Histologist | Pharmacologist |
| Ecologist | Marine biologist | Toxicologist |
| Geneticist | Naturalist | Zoologist |

CHEMISTS

D.O.T. # 022.081

What does a chemist do? A chemist investigates and analyzes the properties of drugs, plastics, foods, and/or other substances.

TO GET THE JOB

You should be able to:

- Understand the principles of chemistry, biology, and math
- Express yourself clearly
- Keep accurate records of observation

You should prefer to:

- Work imaginatively and with persistence
- Work as part of a team
- Work in an orderly manner

You should be physically able to:

- See well and manipulate objects with your fingers
- Stand for long periods of time

ON THE JOB

Chemists work in the development, production, sale, and/or evaluation of chemical products. They may test materials to see if they meet specifications and make recommendations based on their findings. There are specialties within the field of chemistry. Organic chemists are concerned with substances originally derived from plants or animals. Inorganic chemists work with the structures of metals and minerals. The effects of chemical substances on living organisms is the specialty of the biochemists.

THINGS TO THINK ABOUT

Advantages:

- Working conditions are usually pleasant and indoors
- Opportunity for advancement to project head or management

Disadvantages:

- Working with some hazardous materials
- May occasionally have to work weekends if the research demands it
- Constant study to keep up with advances

PREPARATION AND TRAINING

- Lab technicians may start with two year degrees, however, most positions require at least a bachelor's degree in chemistry.
- Industries usually have a training program for new employees after candidates have earned a bachelor's or master's degree.
- The Ph.D. degree offers the best chance of advancement.
- Knowledge of a foreign language is helpful.

WHERE TO GET MORE INFORMATION

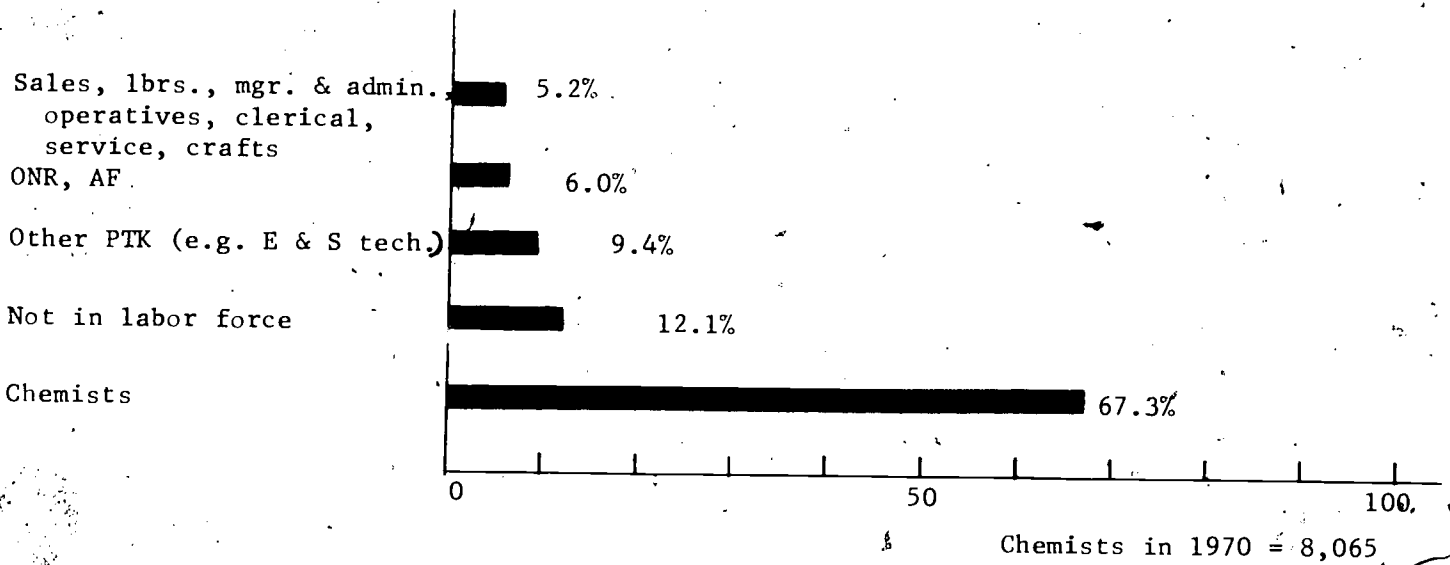
American Chemical Society
1155 - 16th Street, N.W.
Washington, D.C. 20009

International Chemical Workers Union
1659 West Market Street
Akron, Ohio 44313

Manufacturing Chemists Association, Inc.
1825 Connecticut Avenue, N.W.
Washington, D.C. 20009

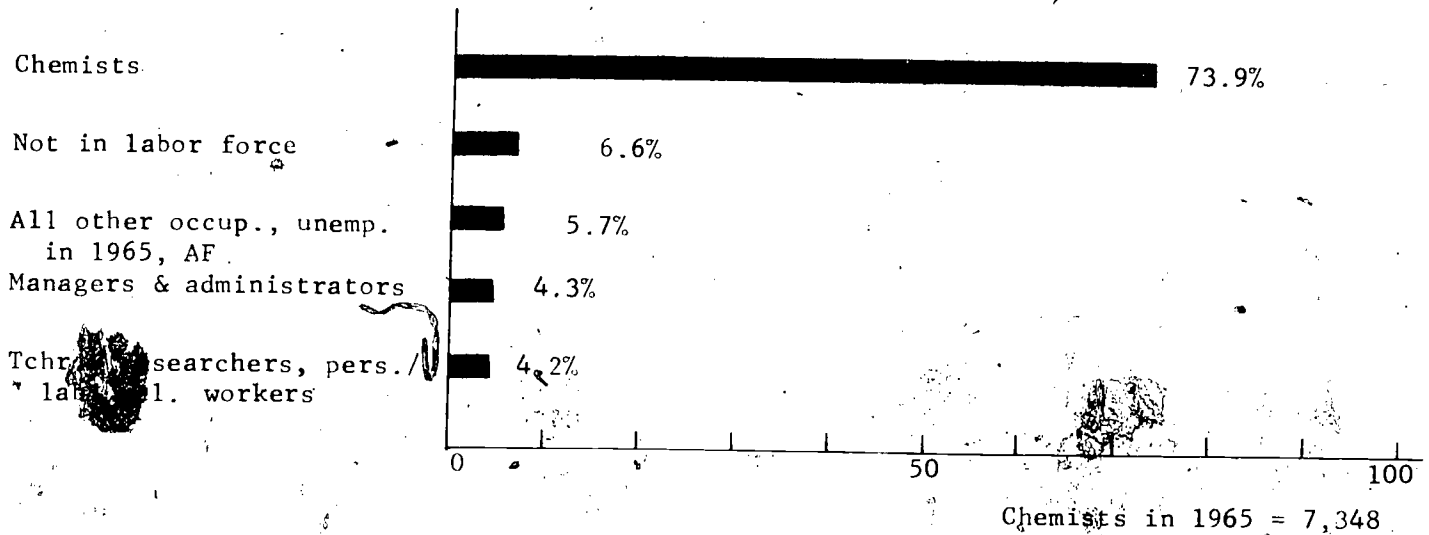
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Chemists Were Doing in 1965



More than one-third of the new chemists in 1970 were probably in college (not in the labor force) five years earlier. Almost 30% were working in other professional occupations, some as technicians or researchers. Nearly three-fourths of the 1965 chemists remained in the field in 1970.

What 1965 Chemists Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|------------------|----------------|-----------------|
| Analyst | Dye expert | Powder expert |
| Ceramist | Metallurgist | Soil chemist |
| Color consultant | Patent chemist | Textile chemist |

GEOLOGISTS

D.O.T. # 024.081

What does a geologist do? A geologist studies the structure, origin, and composition of the earth.

TO GET THE JOB

You should be able to:

Understand geology, physics, chemistry and math
Operate instruments and tools accurately
Read and understand charts and diagrams

You should prefer to:

Work outdoors
Work systematically and with precision
Be interested in the origin of matter and changes in nature

You should be physically able to:

Maintain good health
Stay in excellent physical condition

ON THE JOB

A geological project usually involves a three-step process. First, the geologist spends three to six months per year out in the field gathering data and samples. The next phase is analyzing the data and samples under controlled laboratory conditions. The last part of the project is spent assembling the information into reports to be used by other geologists or the industry or agency that requested the information. Geologists may be involved in a wide variety of specializations, such as petroleum geologists, engineering geologists, mineralogists, and stratigraphers. Other geologists may work primarily with erosion, fossils or the age determination of land forms. Knowledge of geology can also be combined with other fields as in geochemistry, the study of chemical changes in minerals and rocks.

THINGS TO THINK ABOUT

Advantages:

Opportunity for travel
With education and training you may advance to project head or important research positions

Disadvantages:

Long training period
Physical demands are rigorous
Long periods of work in the field

PREPARATION AND TRAINING

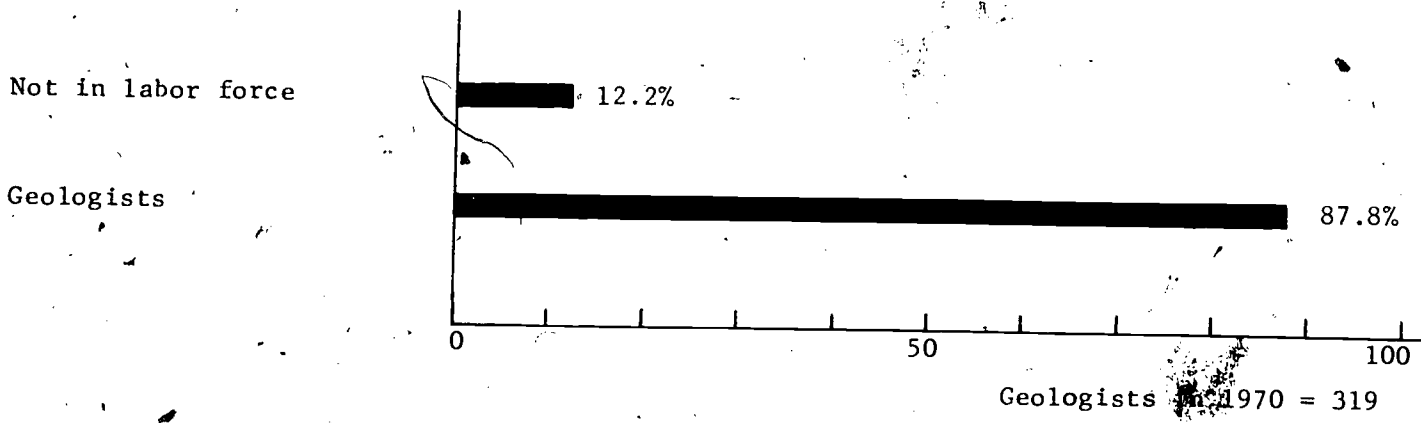
A bachelor's degree is a necessity.
A master's degree is a requirement for entry positions in research, teaching or exploration.
Ph.D. degrees are increasingly important for most positions.

WHERE TO GET MORE INFORMATION

American Geological Institute
2201 M Street, N.W.
Washington, D.C. 20027

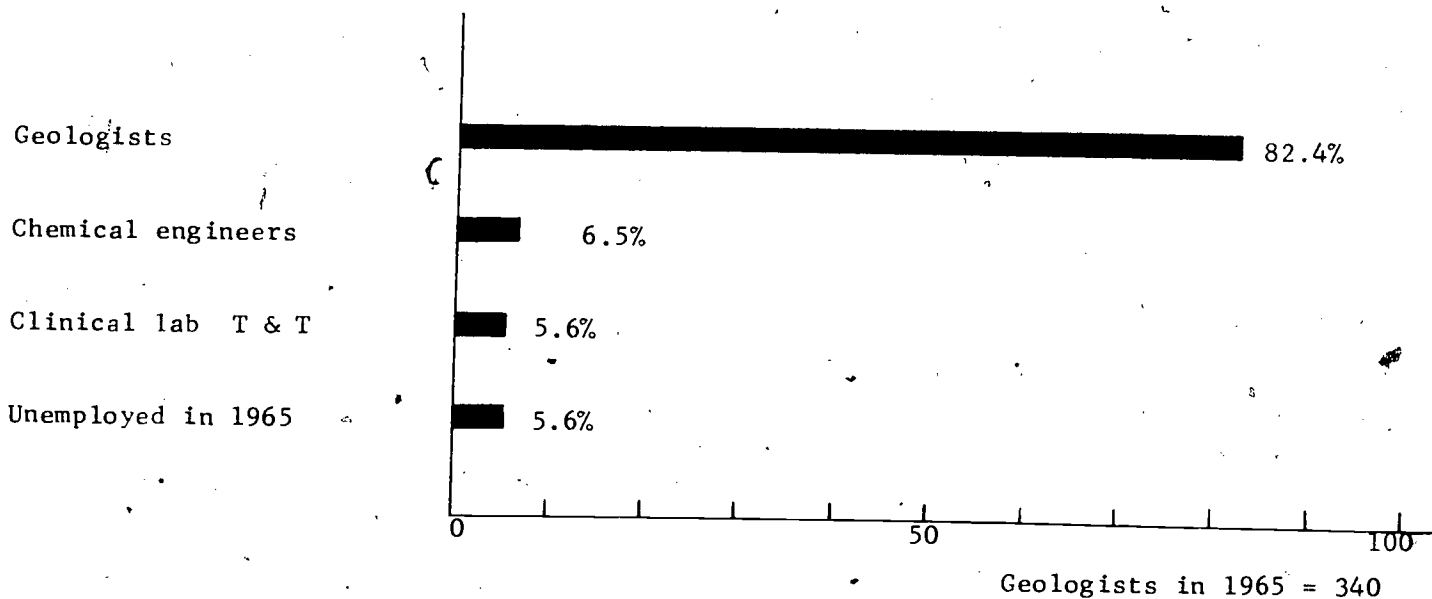
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Geologists Were Doing in 1965



Almost 90% of the geologists employed in Pennsylvania in 1970 were already working in the field five years earlier. Most of the rest were probably in college preparing for an entry-level position in the field. Most of the 1965 chemists, who left the occupation by 1970, became employed in related technical or engineering positions. A few (19 people) retired or became disabled.

What 1965 Geologists Were Doing in 1970



Some job titles classified under this heading:

- | | |
|--------------|---------------|
| Core analyst | Petrologist |
| Geochemist | Seismologist |
| Geophysicist | Stratigrapher |

PHYSICISTS AND ASTRONOMERS D.O.T. # 023.081 & # 021.088

What does a physicist do? A physicist attempts to understand the laws of nature and how these laws may be put to use.

What does an astronomer do? An astronomer studies the universe and heavenly bodies by collecting and analyzing data about celestial bodies.

TO GET THE JOB

You should be able to:

Think logically and precisely
Understand principles of math, physics, and statistics
Express ideas verbally and in writing

You should prefer to:

Work with ideas and imagination
Make accurate observations

You should be physically able to:

See ~~all~~
Sit or stand for long periods of time

ON THE JOB

Physicists observe the relationships between matter and energy. They use mathematical laws to describe their observations and use that knowledge to make predictions. Physicists usually specialize in a branch of the science, e.g., nuclear, acoustics, elementary-particles, and plasma physics. Astronomers study the structure of the universe by computing the positions of the planets. Using principles of math and physics they are able to chart the orbits of the planets, their moons, and man-made satellites. In making the calculations astronomers use complex photographic techniques and equipment, and other light sensitive instruments. Astronomers also theorize about the composition of stars and how they change. Astronomers are sometimes called astrophysicists.

THINGS TO THINK ABOUT

Advantages:

Pleasant working conditions
Advancement to project director
Physicists who develop new products may form their own company

Disadvantages:

Some danger when working with radioactive materials
May occasionally have to work irregular hours

PREPARATION AND TRAINING

A bachelor's degree in physics is the minimum requirement for beginning jobs. Graduate work is becoming more important.

Astronomy usually requires a Ph.D. People with lesser degrees may begin as assistants in observatories, planetariums, or large university departments.

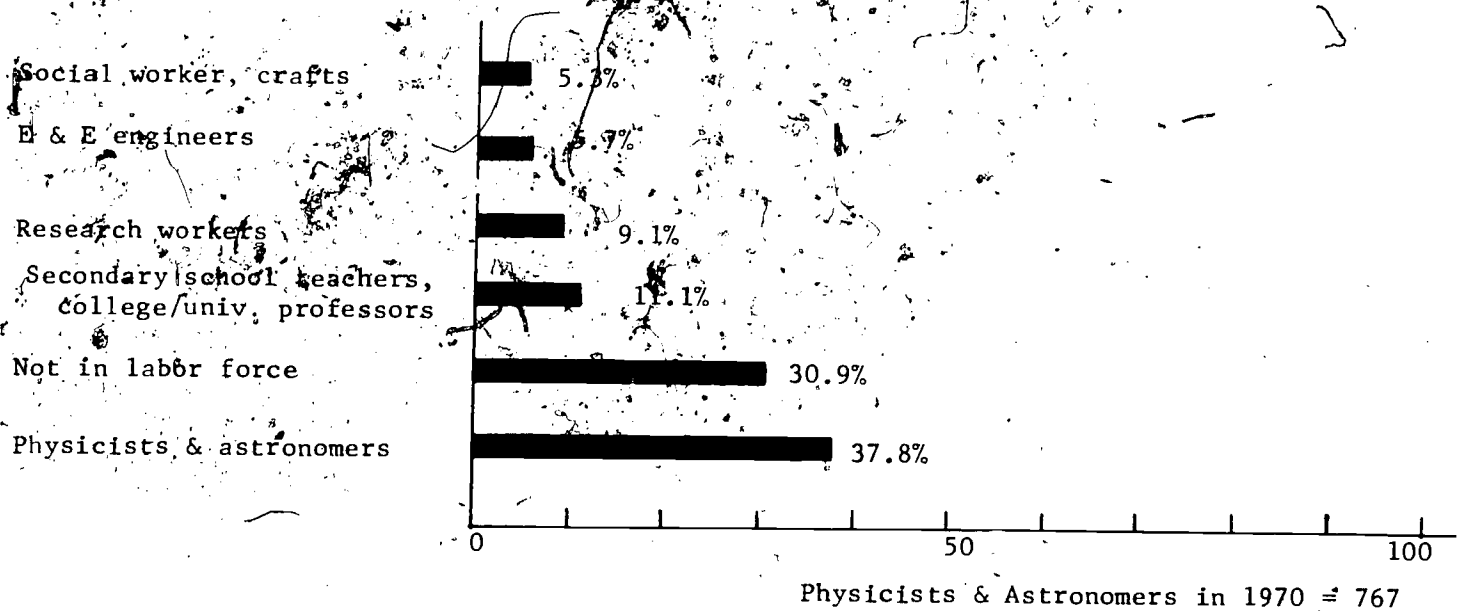
WHERE TO GET MORE INFORMATION

American Institute of Physics
335 East 45th Street
New York, New York 10017

American Astronomical Society
211 Fitz Randolph Road
Princeton, New Jersey 08540

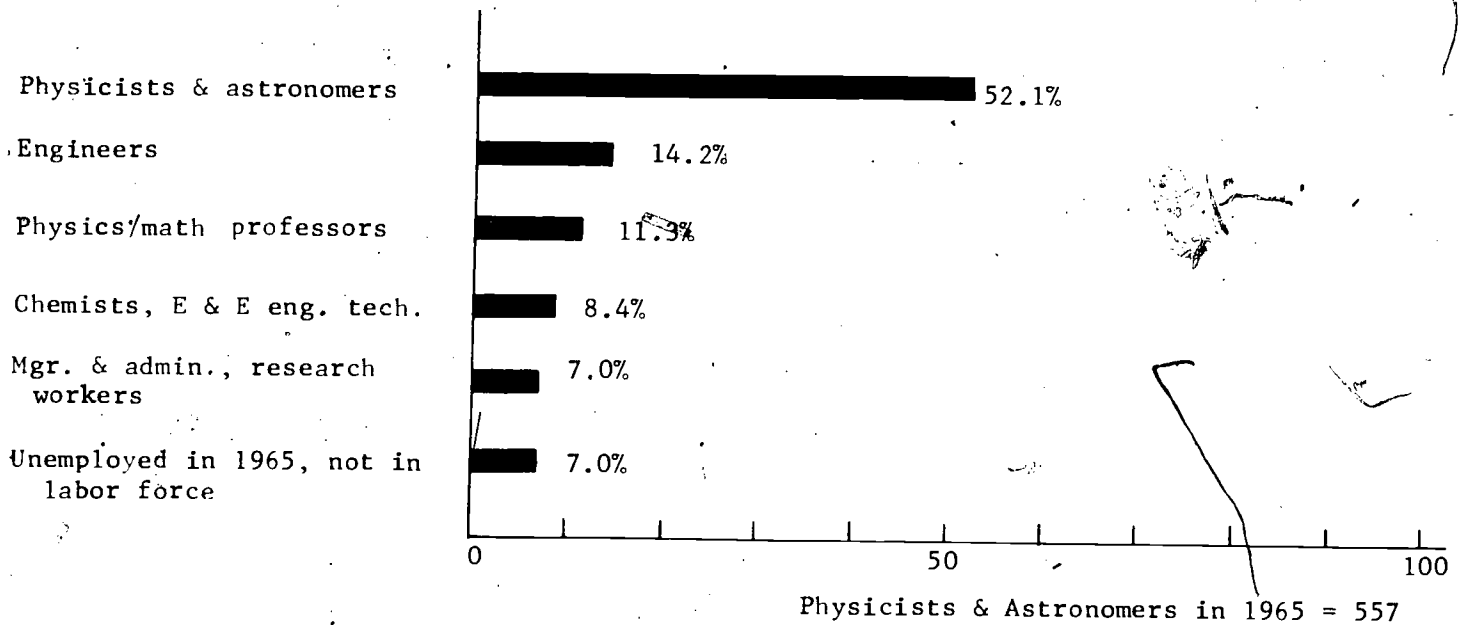
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Physicists and Astronomers Were Doing in 1965



Over 60% of the 1970 physicists and astronomers were doing something else five years earlier. About half of the new entrants were probably in college in 1965. Another one-third were teachers or researchers, very likely working in a related subject area. Close to 90% of the 1965 workers remained in the field or entered another professional or technical occupation by 1970.

What 1965 Physicists and Astronomers Were Doing in 1970



Some job titles classified under this heading:

Aerodynamicist
Astrophysicist
Ballistician

Laser specialist
Nuclear physicist
Radiation engineer

OPERATIONS AND SYSTEMS RESEARCHERS AND ANALYSTS

D.O.T. #'s 050.088 & 020.088

What do operations and systems researchers and analysts do? Operations and systems researchers and analysts study management problems and formulate mathematical models of the problems to be solved by computer or by personnel recommendations.

TO GET THE JOB

You should be able to:

Think logically, give clear directions, and organize work
Do data processing, math, statistical analysis
Concentrate
Plan and implement a study

You should prefer to:

Work with ideas and people
Work with details
Travel

You should be physically able to:

Mostly sit or stand

ON THE JOB

Operations analysts study the problems of business and management. From their observations they prepare mathematical models of the problem area in the form of several equations. Working with the restrictions of certain requirements of management, operations analysts will make recommendations from their personal judgment and the mathematical tests. They also prepare written reports, based on those observations and recommendations, which discuss and evaluate various alternatives. Most of the problems that these analysts examine involve time and cost or similar studies to increase the efficiency of production. Some operations analysts specialize in research or in the preparation of contract proposals.

THINGS TO THINK ABOUT

Advantages:

Regular work schedule
Pleasant work facilities
Prestige as a key person dealing with management problems

Disadvantages:

Repetitious and tedious
Problems may be difficult or frustrating to solve
Must assume some responsibility for solutions that do not work

PREPARATION AND TRAINING

High school courses in English and social studies can be advantageous.
A bachelor's degree in business administration, engineering or economics can be useful with coursework in statistics, computer programming, and psychology.

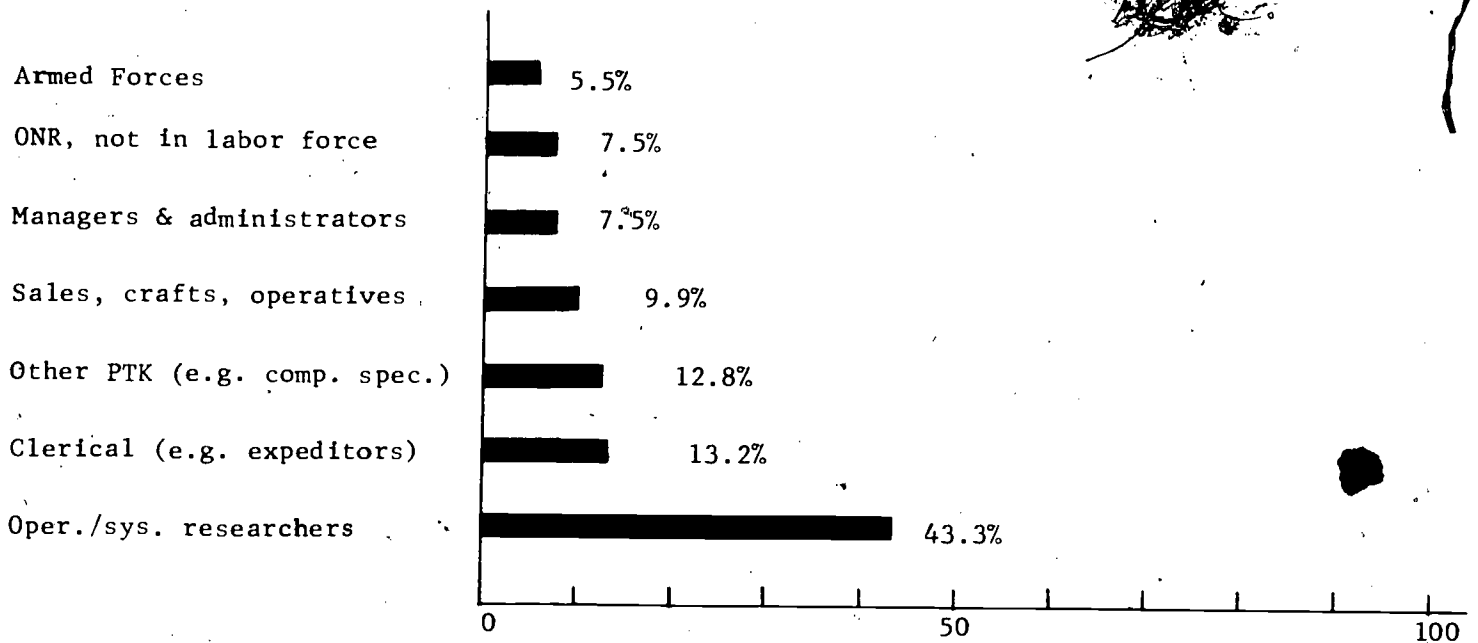
WHERE TO GET MORE INFORMATION

American Marketing Association
230 North Michigan Avenue
Chicago, Illinois 60601

American Federation of Information
Processing Societies
210 Summit Avenue
Montvale, New Jersey 07645

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

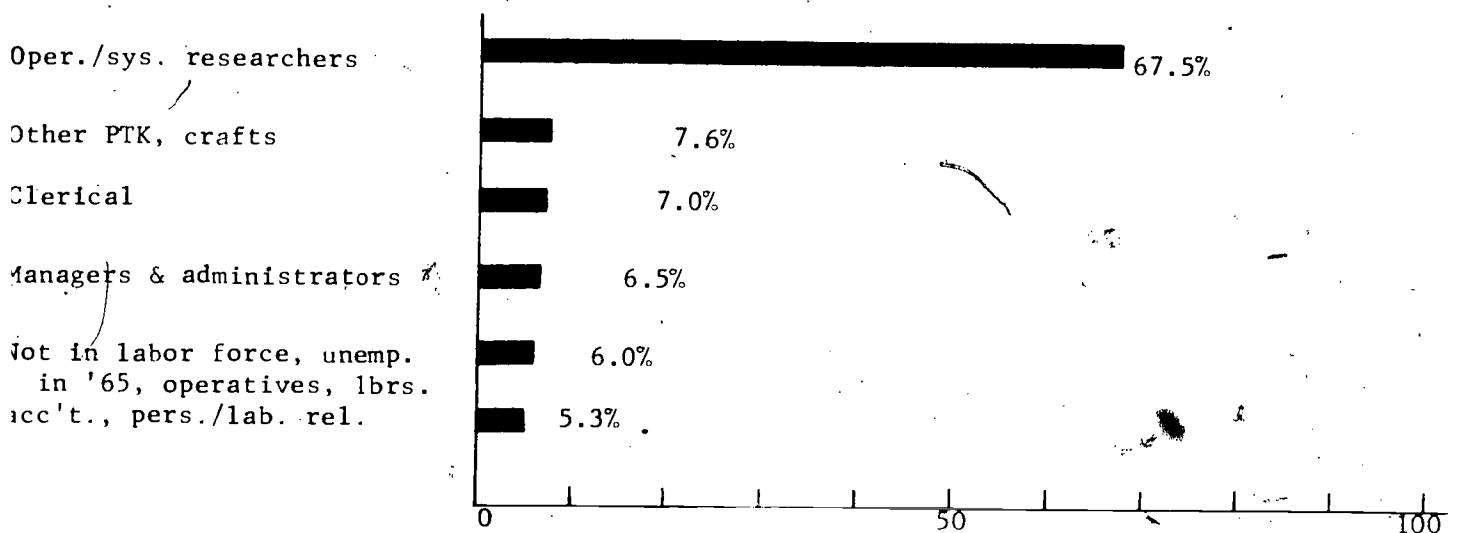
What 1970 Operations and Systems Researchers and Workers Were Doing in 1965



Operations & Systems Researchers & Workers in 1970 = 4,754

Over half of these 1970 researchers and workers were doing something else five years earlier. Almost one-fourth of the new entrants held clerical positions, some working as production controllers or stock clerks. Nearly 25% more were other professionals or technicians, some employed as computer specialists or engineers. Three-fourths of the 1965 researchers still worked in a professional occupation in 1970.

What 1965 Operations and Systems Researchers and Workers Were Doing in 1965



Operations & Systems Researchers & Workers in 1965 =

Some job titles classified under this heading:

- | | |
|--------------------------|--------------------|
| Business-systems analyst | Methods analyst |
| Clerical technician | Production planner |
| Logistics planner | Standards analyst |

PERSONNEL AND LABOR RELATIONS WORKERS

D.O.T. #
166.268

What does a personnel and labor relations worker do? A personnel and labor relations worker tries to match personal qualifications of workers to job requirements. He or she may also plan programs, do research, and/or provide counseling.

TO GET THE JOB

You should be able to do:

Communicate well with others verbally and in writing
Analyze information and take appropriate action
Organize activities

You should prefer to:

Work with people
Put people at ease and work with their problems

You should be physically able to:

Sit or stand for long periods of time

ON THE JOB

A personnel worker's duties vary according to the kind of firm in which the worker is employed. His or her duties to some extent depend upon the needs and goals of the firm. Usually the personnel worker is involved in interviewing and reviewing new applicants for positions within the firm. He or she may be responsible for the training program and orientation of new employees to the firm. Listening to employee grievances and explaining company policies are other aspects of the personnel worker's duties. He or she may have the responsibility of recommending employees for promotion or firing them.

THINGS TO THINK ABOUT

Advantages:

Regular hours with possible exception of high recruiting periods
Possibility of advancement to personnel director
Pleasant working conditions

Disadvantages:

May have to change jobs several times before finding the type of position you prefer.
Some aspects of the position (e.g., firing employees, handling grievances) may not be pleasant.

PREPARATION AND TRAINING

A college education with a major in business administration, psychology, or sociology is recommended.

For some jobs specialized training is necessary. Accounting backgrounds are useful for positions concerned with wages, pensions, and employee benefits.

Some personnel workers are promoted to that position from other positions with the firm.

A civil service exam is necessary for government positions.

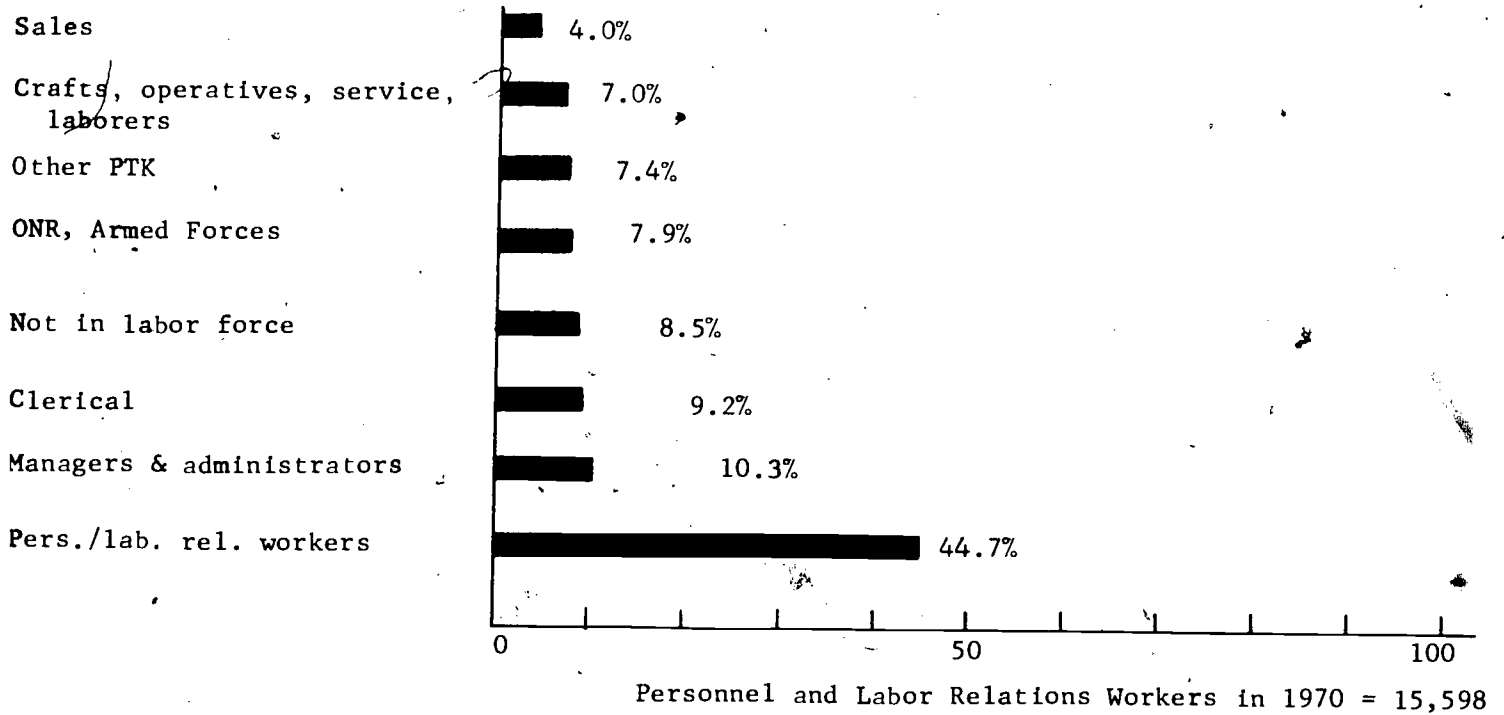
WHERE TO GET MORE INFORMATION

American Society for Personnel Administration
52 East Bridge Street
Berea, Ohio 44017

Public Personnel Association
1313 East 60th Street
Chicago, Illinois 60637

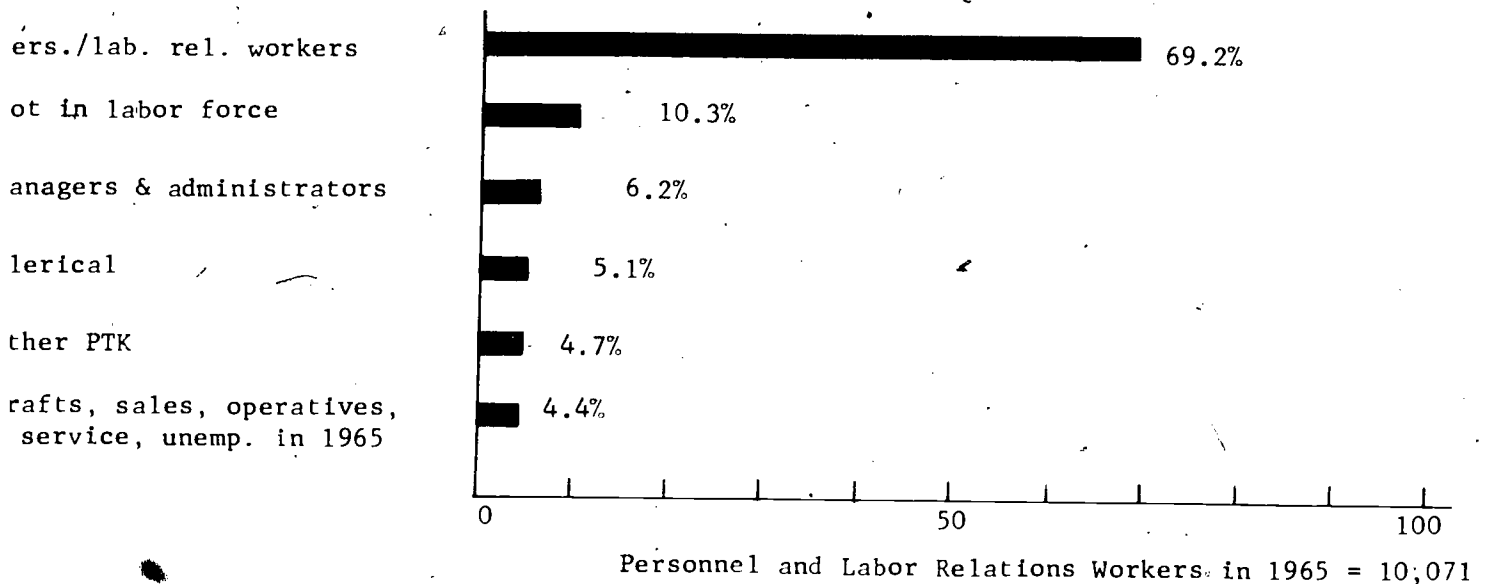
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Personnel and Labor Relations Workers Were Doing in 1965



The new 1970 personnel workers were doing many other things five years earlier. About 15% were probably in college (not in the labor force). Another third were employed in clerical or administrative positions. Nearly 25% of the 1965 personnel workers remained in professional occupations.

What 1965 Personnel and Labor Relations Workers Were Doing in 1970



Some job titles classified under this heading:

- Arbitrator
- Employment counselor
- Interviewer
- Job analyst
- Placement specialist
- Wage-and-salary administrator

CHIROPRACTORS

D.O.T. # 079.108

What does a chiropractor do? A chiropractor treats patients primarily by manipulating parts of the body, particularly the spinal column.

TO GET THE JOB

You should be able to:

- Handle responsibility
- Understand the principles of anatomy, physiology, and biochemistry
- Work independently and with detail

You should prefer to:

- Work with people
- Be understanding and helpful to people with problems

You should be physically able to:

- Use your hands with agility - but strength not necessary
- Stand or sit for long periods of time

ON THE JOB

Chiropractors emphasize the importance of the nervous system to the person's health. If there is interference with the nervous system, normal functions are impaired and disease resistance is lowered. The spinal column, as the central passage to the brain, is the focus of chiropractic treatment. Thus chiropractors use X-rays to locate the source of the person's difficulties. Water, light, and heat treatments as well as prescribed diets, exercise, and rest are all techniques used by chiropractors. As a system of healing, chiropractic does not include the use of drugs or surgery.

THINGS TO THINK ABOUT

Advantages:

- Good working conditions
- May operate own clinic

Disadvantages:

- May require evening and weekend office hours
- May require long periods of standing or walking

PREPARATION AND TRAINING

Most chiropractic colleges require two years of college work before entrance.

Chiropractic colleges usually offer four years of training.

Forty-eight states (excluding Louisiana and Mississippi) have licensing procedures, which include education requirements and passing of a state exam.

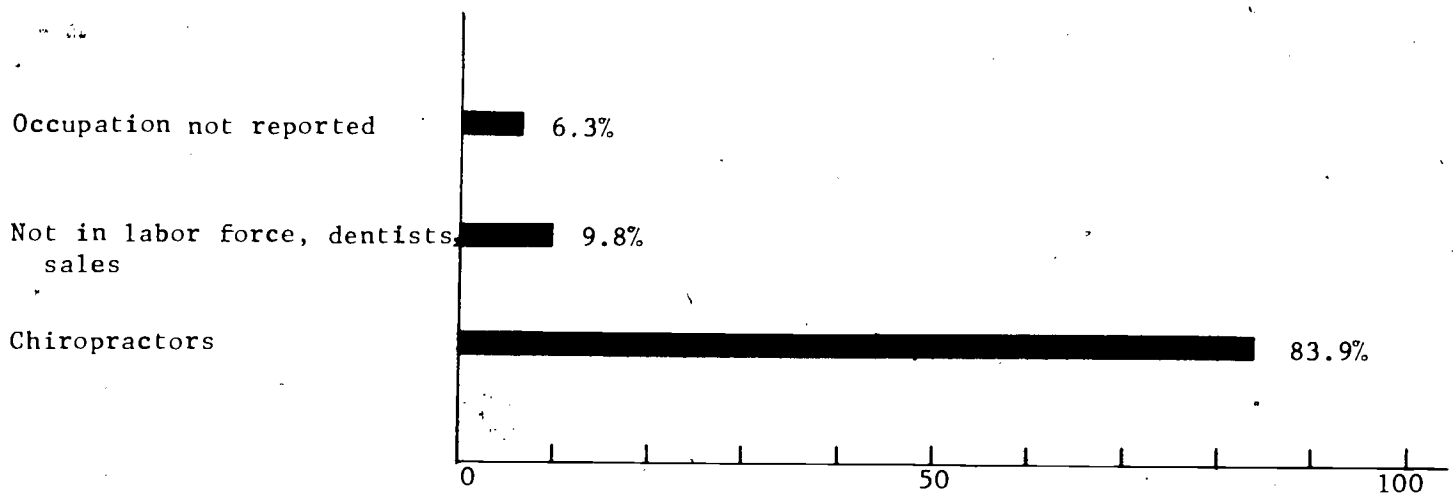
WHERE TO GET MORE INFORMATION

American Chiropractic Association
2200 Grand Avenue
Des Moines, Iowa 50312

International Chiropractors Association
741 Brady Street
Davenport, Iowa 52808

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

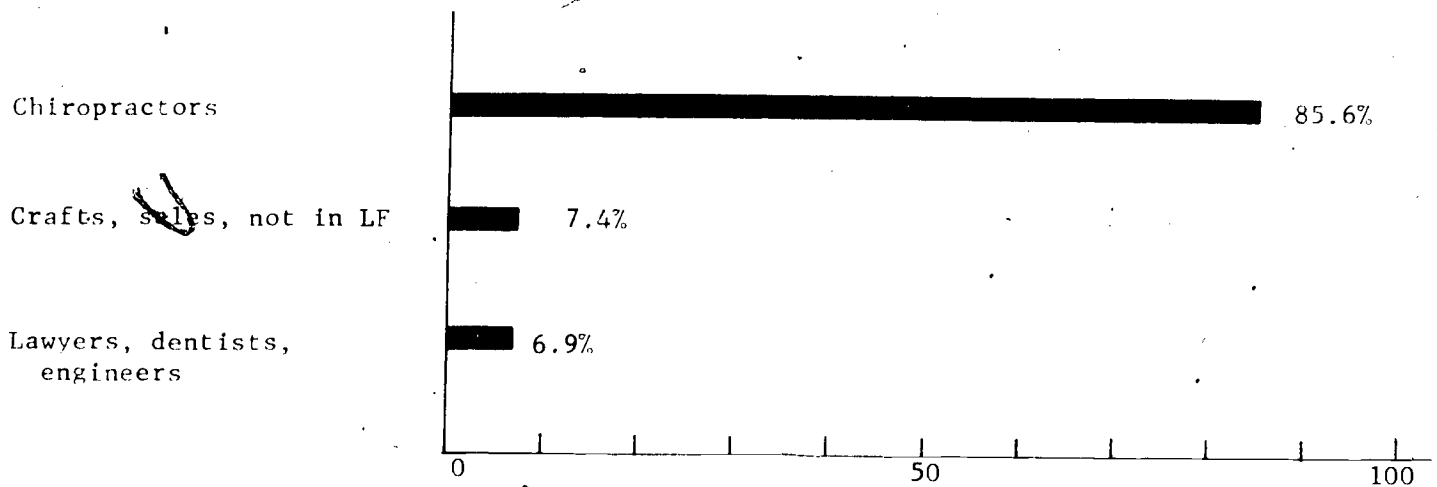
What 1970 Chiropractors Were Doing in 1965



Chiropractors in 1970 = 795

Almost 85% of the 1970 chiropractors were already practicing in Pennsylvania five years earlier. Nearly 60% of the new entrants were doing one of three things in 1965: some were probably in school training for the occupation (not in the labor force); another group were dentists; the third segment were working in sales. Over 90% of the 1965 chiropractors remained in a professional occupation in 1970.

What 1965 Chiropractors Were Doing in 1970



Chiropractors in 1965 = 779

Job titles classified under this heading:

chiropractor
 Doctor of chiropractic

DENTISTS

D.O.T. # 072.108

What does a dentist do? A dentist treats teeth and surrounding tissue abnormalities.

TO GET THE JOB

You should be able to:

- Accurately judge space and shape
- Get along well with others
- Exhibit scientific ability

You should prefer to:

- Work with all kinds of people
- Help others utilize good health programs

You should be physically able to:

- Have good visual memory
- Exhibit finger dexterity
- Stand on your feet for long periods

ON THE JOB

Most dentists are general practitioners although there are areas of specialization such as orthodontics, periodontics (treating the gums), oral surgery, and oral pathology. Dentists provide patients with many types of dental care. They clean teeth, extract teeth, treat diseases, fill cavities, and teach the patient good health care. Some time may be devoted to laboratory work or research. A dentist can open a private practice or work with others in the field.

THINGS TO THINK ABOUT

Advantages:

- Satisfaction of helping others
- Opportunity, as a rule, to set own working pace
- Public respect

Disadvantages:

- Cost of training and equipment
- Income is not steady on a month-to-month basis
- Possible strain from standing for long periods

PREPARATION AND TRAINING

A license is required to practice dentistry. In order to qualify for that a candidate must attend college for a minimum of two years, then complete an approved program in a school of dentistry and finally pass a written exam.

Specific requirements for the specialist and general practitioner differ in many states.

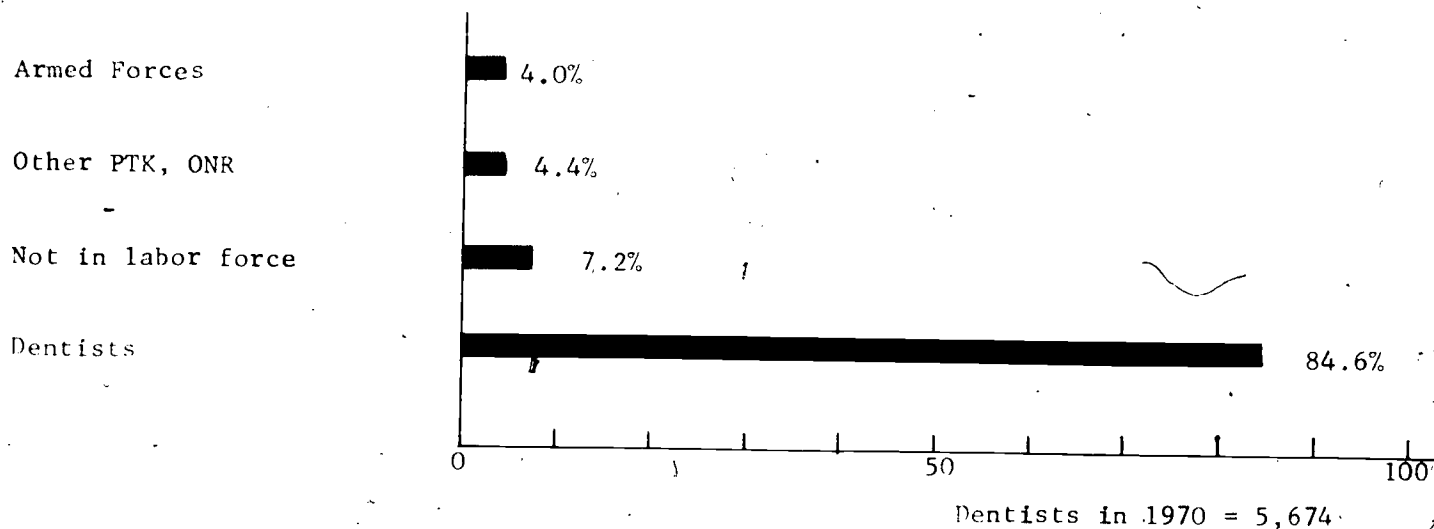
WHERE TO GET MORE INFORMATION

American Dental Association
Council on Dental Education
211 East Chicago Avenue
Chicago, Illinois 60611

American Association of Dental Schools
1625 Massachusetts Avenue, N.W.
Washington, D.C. 20036

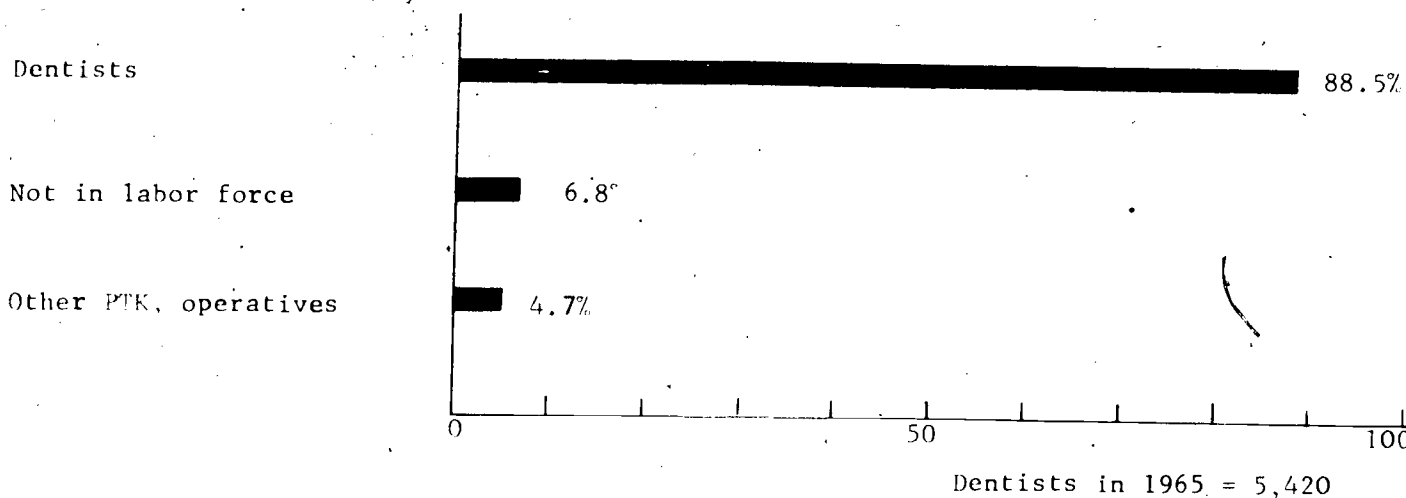
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Dentists Were Doing in 1965



Almost 85% of the dentists practicing in Pennsylvania in 1970 were already working in that field five years earlier. Nearly half of the new entrants were probably in college or dental school, preparing for the occupation (not in the labor force). Another group -- about 25% -- were perhaps becoming trained as dentists while serving in the Armed Forces. Most of those leaving the profession between 1965 and 1970 became other doctors, technicians, teachers or engineers.

What 1965 Dentists Were Doing in 1970



Some job titles classified under this heading:

- Dental surgeon
- Endodontist
- Oral Surgeon
- Orthodontist
- Periodontist
- Prosthodontist

OPTOMETRISTS

D.O.T. # 079.108

What does an optometrist do? An optometrist examines and determines the conditions of one's eyes and prescribes treatment to correct vision without the use of drugs or surgery.

TO GET THE JOB

You should be able to:

- Understand mechanical concepts
- Do college work in math, biology, and chemistry

You should prefer to:

- Work well with people
- Set own working hours

You should be physically able to:

- Coordinate hand and eye movements
- See well
- Stand for long periods of time

ON THE JOB

Optometrists examine people's eyes to determine vision weaknesses, diseases, or other abnormal conditions. They prescribe lenses for glasses or contact lenses. They may prescribe corrective eye exercises, but do not use drugs or surgery in their treatment. Some optometrists specialize in working with children or the aged, in prescribing contact lenses, or in helping the partially sighted. A few optometrists do research in hospitals or eye clinics; others teach in schools of optometry.

THINGS TO THINK ABOUT

Advantages:

- Good working conditions
- Can set up own office hours
- Seldom faced with emergency work
- Can advance by specializing in one aspect of optometry

Disadvantages:

- Entrance requirements are becoming more difficult
- Expensive to start own private practice

PREPARATION AND TRAINING

- Six years of college is the minimum requirement.
- A license is required in all 50 states.
- Graduation from an accredited school or program of optometry is necessary to take the exam.

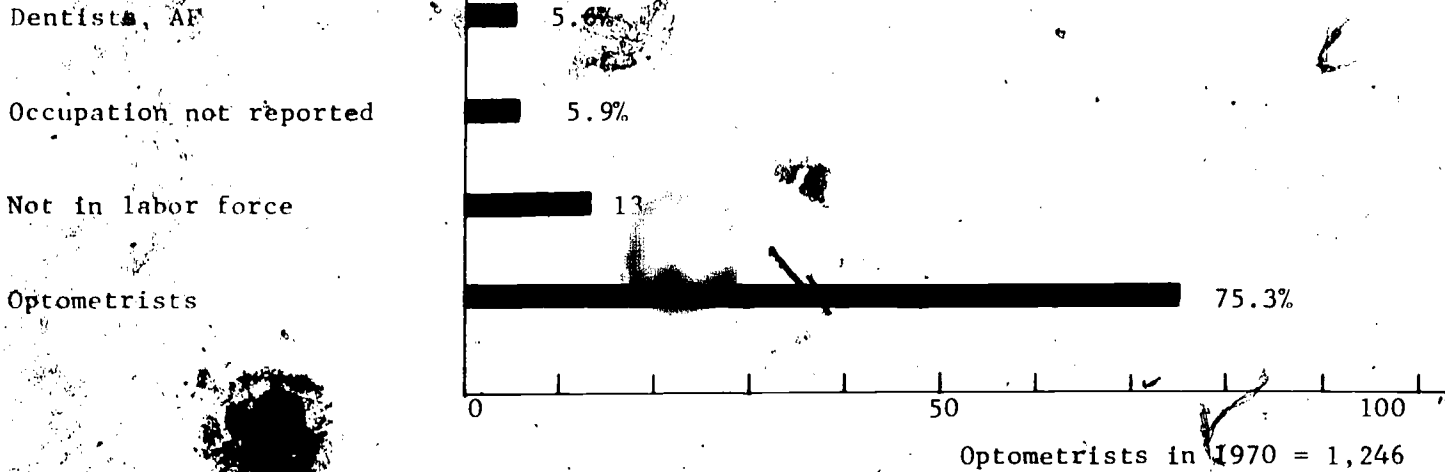
WHERE TO GET MORE INFORMATION

American Optometric Association
7000 Chippewa Street
St. Louis, Missouri 63119

The National Health Council
1740 Broadway
New York, New York 10019

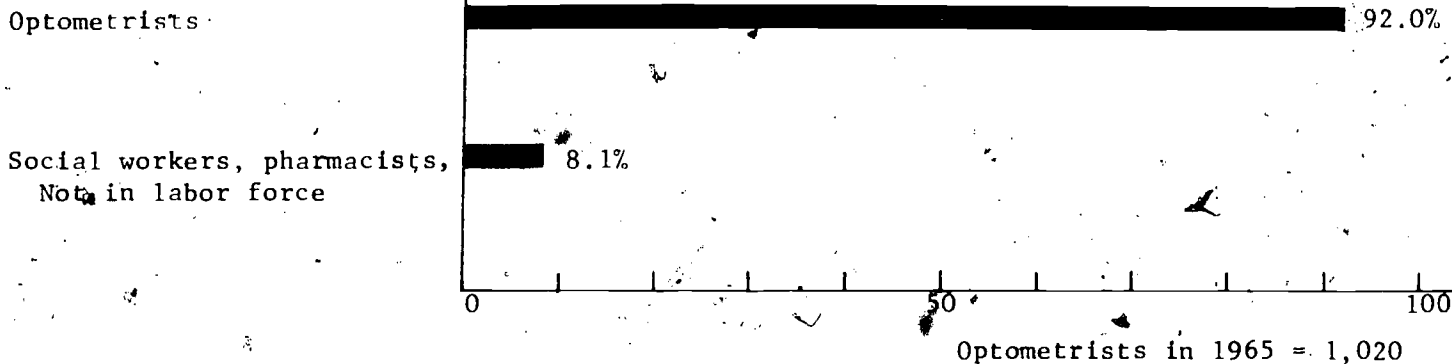
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Optometrists Were Doing in 1965



Three-fourths of the 1970 optometrists were already employed in that field in 1965. Over half of the new entrants were probably in college five years earlier (not in the labor force). Another fourth did not report their occupation in 1965. Over 90% of the 1965 optometrists remained in the occupation in 1970. The rest returned, became disabled, entered social work or became pharmacists five years later.

What 1965 Optometrists Were Doing in 1970



Job titles classified under this heading:

- Doctor of optometry
- Optologist
- Optometrist

PHARMACISTS

D.O.T. # 074.181

What do pharmacists do? Pharmacists dispense drugs prescribed by a physician, and they advise physicians on the use and selection of drugs.

TO GET THE JOB

You should be able to:

- Use good judgment
- Be accurate and follow instructions
- Assume a role as supervisor

You should prefer to:

- Work well with others
- Study science
- Serve the interests of the community

You should be physically able to:

- Have good vision and hearing
- Have an excellent use of the senses
- Stand for long periods
- Have good eye-hand coordination and manual dexterity

ON THE JOB

A pharmacist must understand the uses and effects of drugs, as well as know how to test their purity and strength. Being able to follow directions accurately is a crucial requirement in order that customers receive the right prescriptions. The pharmacist is responsible for buying and selling other medicine and health aids. This person should be careful to buy only pure drugs and know how to store and use them properly. A pharmacist employed in a community pharmacy supplies and advises customers on the use of many medicines, and generally oversees the operation of the store. He or she must keep accurate records and work well with others.

THINGS TO THINK ABOUT

Advantages:

- Pleasant working conditions
- Steady employment

Disadvantages:

- Possible allergic reaction to some chemical substances
- Irregular working schedule
- Confining work

PREPARATION AND TRAINING

A minimum of five years of study at an accredited pharmacy school is required. The candidate must complete an internship under supervision and pass a written examination given by the state in order to be licensed. A pharmacist must have a license to practice.

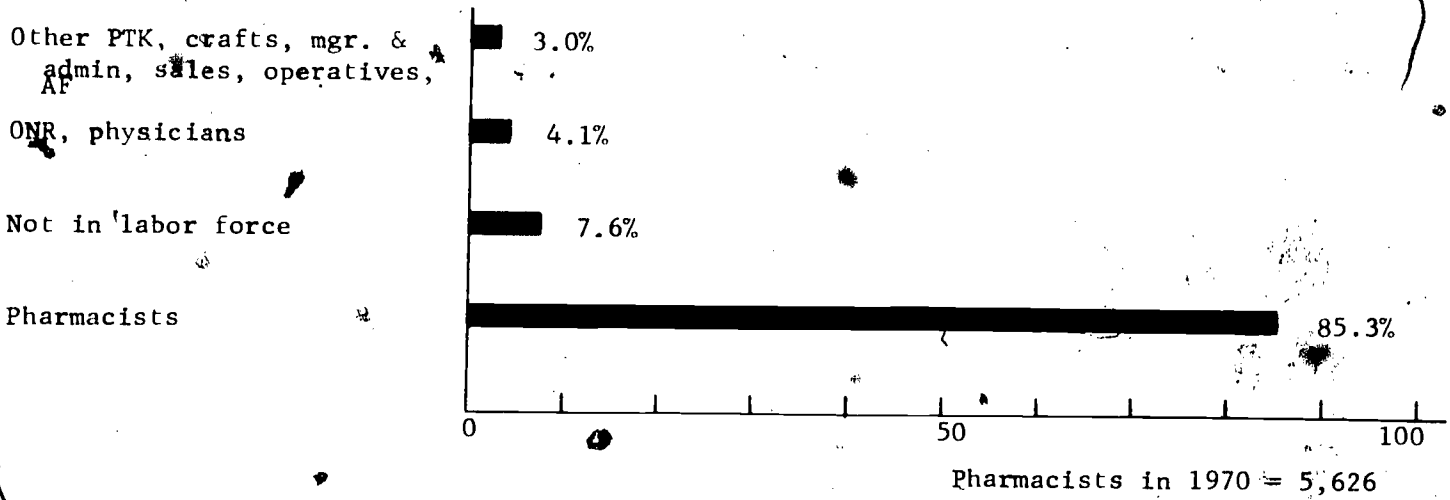
WHERE TO GET MORE INFORMATION

American Pharmaceutical Association
2215 Constitution Avenue, N.W.
Washington, D.C. 20037

American Council on Pharmaceutical Education
77 West Washington Avenue
Washington, D.C. 20034

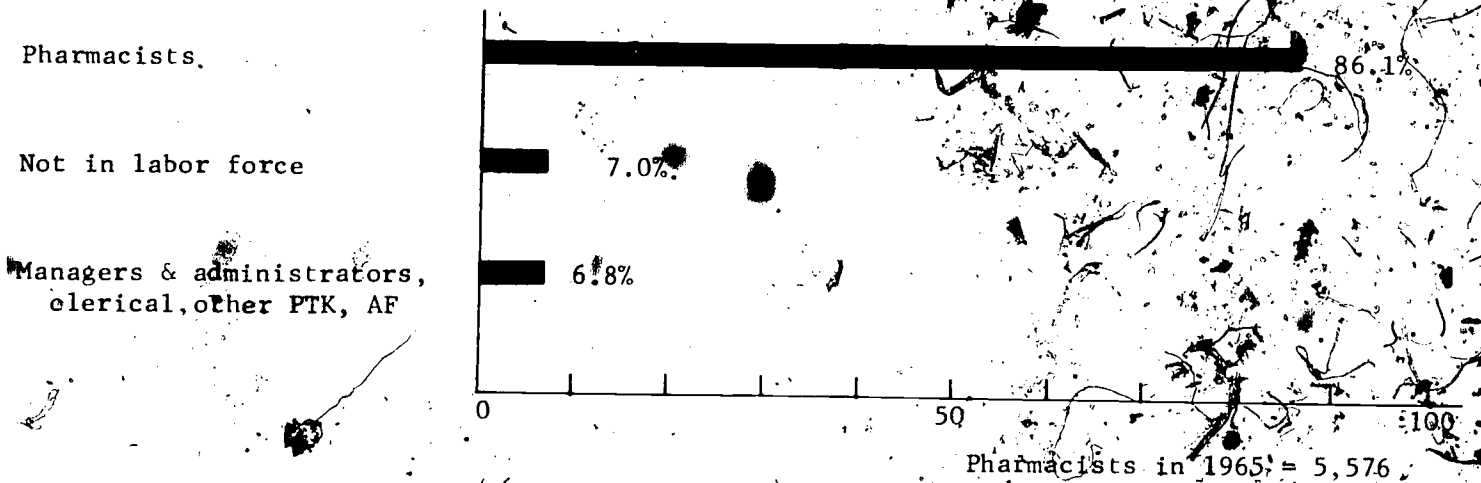
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Pharmacists Were Doing in 1965



Only 82% of all the 1970 pharmacists were doing something else five years earlier. Half of those new entrants were probably in college (not in the labor force) in 1965. Another 25% did not report their occupations or were physicians. Over 85% of the 1965 pharmacists remained in the profession in 1970. Those that did not retire or become disabled moved into administrative, clerical or other professional positions; a few entered military service.

What 1965 Pharmacists Were Doing in 1970



Some job titles classified under this heading:

- Apothecary
- Druggist
- Industrial pharmacist
- Pharmaceutical Inspector
- Prescriptionist
- Registered pharmacist

PHYSICIANS, MEDICAL AND OSTEOPATHIC

D.O.T. #s
070.101 and 070.108

What does a physician do? A physician diagnoses diseases and prescribes treatment. He or she prescribes surgery, drugs, diet, exercise, and rest. What does an osteopathic physician do? A osteopathic physician was once mainly concerned with problems of the muscles and bones, but now is also engaged in family or general practice.

TO GET THE JOB

You should be able to:

Maintain emotional stability
Understand principles of biology, chemistry, anatomy

You should prefer to:

Work with and for people
Work patiently and with detail

You should be physically able to:

See and hear well
* Coordinate eye and hand movements

ON THE JOB

The physician may work in private practice or on a hospital staff. They diagnose illnesses and prescribe treatments. Most physicians have their own private practice, however, group practices are becoming more popular. Specialization in one of the fields of medicine, i.e., neurosurgery, obstetrics, pediatrics, is possible. The specialization of family practice is becoming more popular.

THINGS TO THINK ABOUT

Advantages:

Specialists may set own hours
Job satisfaction in helping others

Disadvantages:

Irregular working hours, especially in emergencies
Long training period
Expensive training
Must keep up with advancements in medicine

PREPARATION AND TRAINING

A license which requires graduation from an approved medical school and passing an exam, is necessary in all 50 states.

To get into medical school 3-4 years of college with a strong background in some academic area is necessary. Other important factors are recommendations, personal interview and score on the Medical College Admissions Test. Most medical schools have a 4 year post-college degree program (Some have recently changed to a 3-year program) and require one-year hospital internship.

Specialists must pass a specialty exam and have longer periods of internship or residency in a hospital.

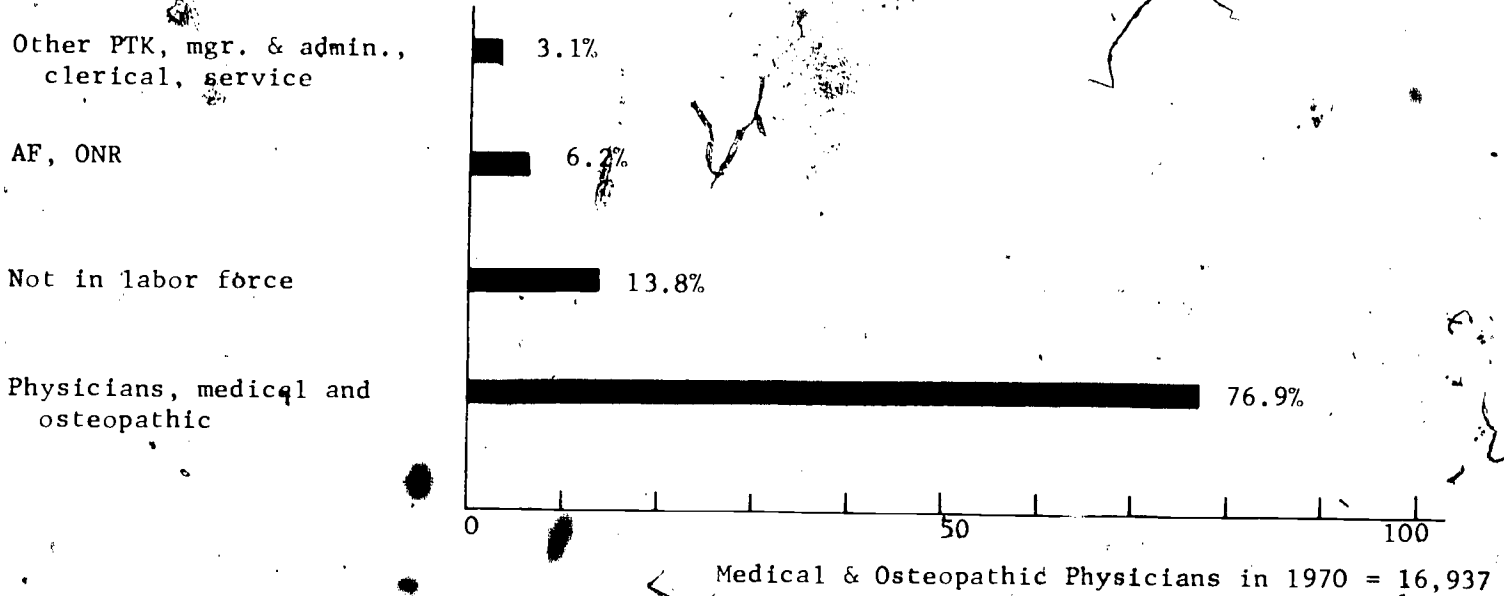
WHERE TO GET MORE INFORMATION

American Osteopathic Association
212 East Ohio Street
Chicago, Illinois 60611

Council on Medical Education
American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

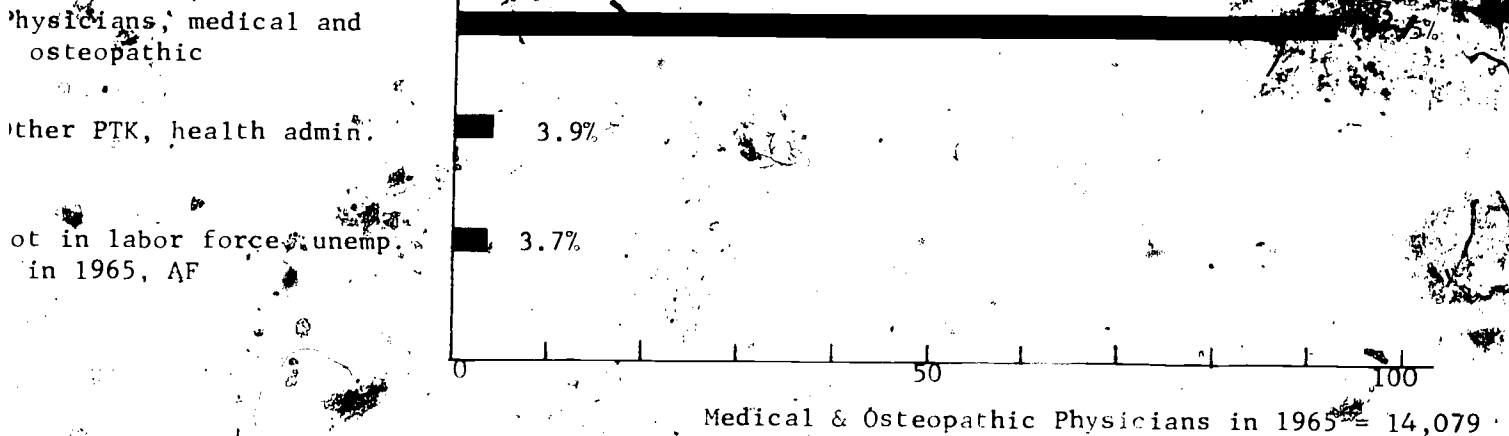
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Medical and Osteopathic Physicians Were Doing in 1965



Over three-fourths of the 1970 physicians were already practicing in Pennsylvania in 1965. Over half of the new entrants were probably in college or medical school (not in the labor force) five years earlier. Another 25% were serving in the Armed Forces or did not report their occupations in 1965. Over 95% of the 1965 physicians remained in that occupation in 1970 or moved into related professional areas such as nursing, teaching or health administration.

What 1965 Medical and Osteopathic Physicians Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|----------------------|-----------------|--------------|
| Anesthesiologist | Internist | Psychiatrist |
| Cardiologist | Neurologist | Radiologist |
| General practitioner | Ophthalmologist | Resident |
| Gynecologist | Pediatrician | Surgeon |

PODIATRISTS

D.O.T. # 079.108

What does a podiatrist do? A podiatrist diagnoses and prescribes treatment for diseases and ailments of the feet.

TO GET THE JOB

You should be able to:

- Communicate well with others
- Have a broad knowledge of the sciences, particularly biology
- Have good business judgment

You should prefer to:

- Work in a hospital or office setting
- Get along well with others
- Help others maintain good health

You should be physically able to:

- Maintain good health
- See and hear well
- Work with your hands

ON THE JOB

Podiatrists diagnose and treat minor ailments of the feet. They may use X-rays in their work. A majority of their work concerns callouses, corns, bunions and skin disorders. Podiatrists with more training may prescribe braces or special footwear to correct foot malformation. They may also treat bone growths and disfigurements. Some podiatrists may specialize in surgery*that is performed on the feet.

THINGS TO THINK ABOUT

Advantages:

- May set up own hours
- Patients are seen only by appointment usually in your office
- Good working conditions

Disadvantages:

- The work may be a physical strain
- Long and expensive period of training
- Great initial expense in setting up private practice

PREPARATION AND TRAINING

- At least 2 years of college is necessary with courses in biology, chemistry, English, physics, and math.
- After 2 years of college, 4 years of podiatric school is necessary.
- A license is required in all states. To get one you must graduate from a podiatric college and pass a state board exam. Michigan, New Jersey, Rhode Island also require a 1 year internship after graduation.

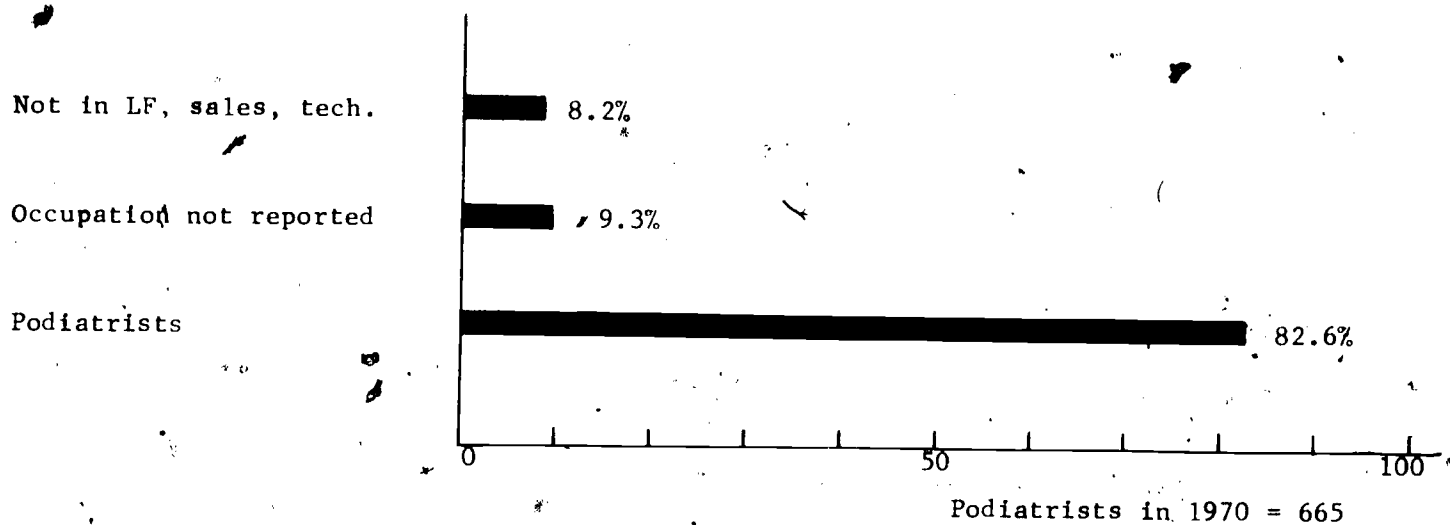
WHERE TO GET MORE INFORMATION

American Podiatry Association
3301 - 16th Street, N.W.
Washington, D.C. 20010

American Association of Colleges of Podiatric Medicine
20 Chevy Chase Circle, N.W.
Washington, D.C. 20015

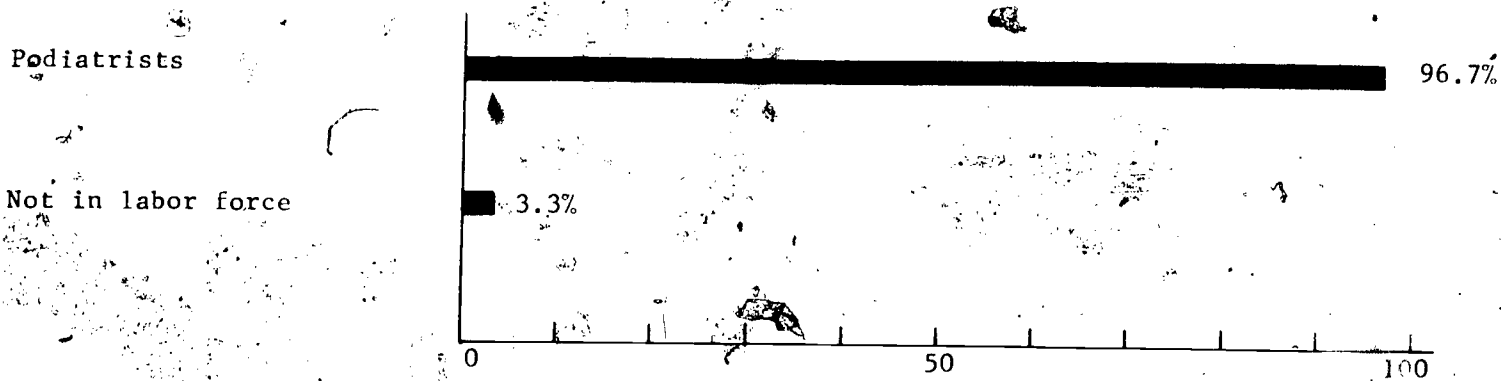
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Podiatrists Were Doing in 1965



Over 80% of the 1970 podiatrists in Pennsylvania were already working in their field in 1965. Half of the new entrants (62 people) did not report what they were doing five years earlier. The rest were probably in school (not in the labor force) in 1965 or were working in sales or technical occupations. All of the podiatrists working in Pennsylvania in 1965, either remained in that field in 1970 or left the work force.

What 1965 Podiatrists Were Doing in 1970



Some job titles classified under this heading:

Chiropodist
Foot doctor
Foot orthopedist

Foot specialist
Podiatric surgeon
Pododermatologist

VETERINARIANS

D.O.T. # 073.081 through .281

What does a veterinarian do? A veterinarian studies, diagnoses, and treats animals, through surgery or other medical techniques.

TO GET THE JOB

You should be able to:

Understand the principles of biology, chemistry, physics and zoology
Learn from observations, touch and hearing

You should prefer to:

Work with animals
Work without supervision

You should be physically able to:

Maintain health and stamina
See and hear well

ON THE JOB

Veterinarians may work in a wide variety of settings such as farms, zoos, slaughter houses or dairies. They may have a private practice with pets and small animals. All of these involve diagnosing and treating animals. Veterinarians also immunize animals to help prevent disease. Most of the veterinarian's information is gained from observation of the animal but he or she may also use X-rays and other medical tools to supplement that information. Some diagnoses may require surgery.

THINGS TO THINK ABOUT

Advantages:

Advancement to own private practice
May set up own office hours
Usually pleasant working conditions, dependent on job setting

Disadvantages:

May work long hours in an emergency case or epidemic
Expensive to set up own practice
Difficult to be accepted into veterinary program, which is long and expensive.

PREPARATION AND TRAINING

At least two years of college is required prior to entering the four-year veterinary medicine program.

Many students obtain a bachelor's degree before veterinary school.

A license is required

After completing the D.V.M. (Doctor of Veterinary Medicine) a state exam must be passed in order to be licensed.

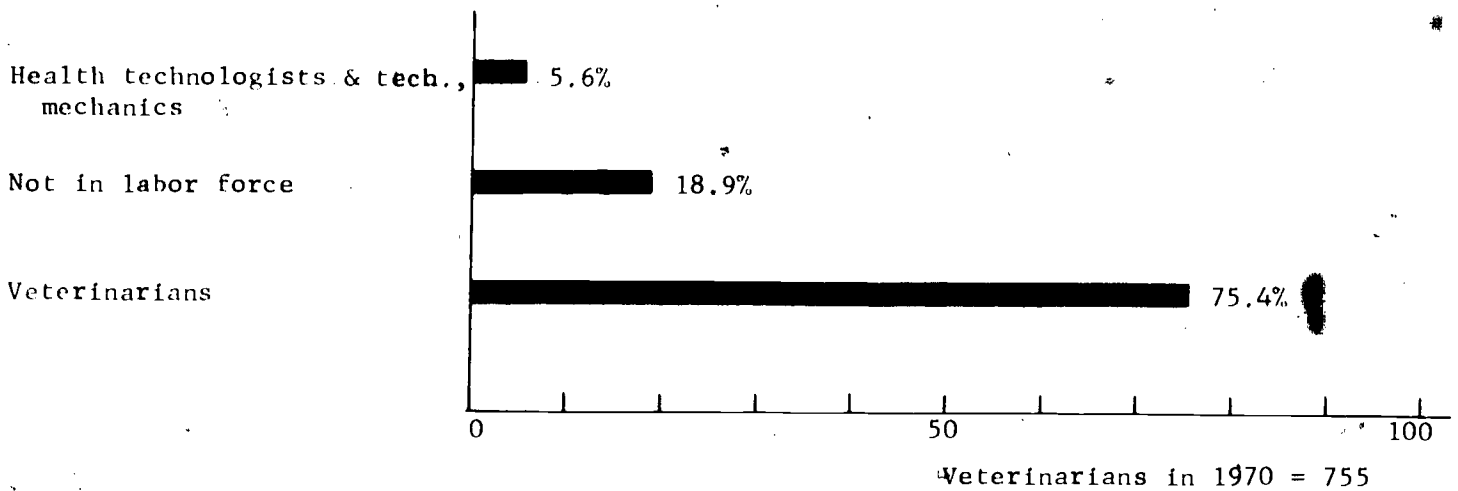
WHERE TO GET MORE INFORMATION

American Veterinary Medical Association
600 South Michigan Avenue
Chicago, Illinois 60605

Agricultural Research Service
U.S. Department of Agriculture
Washington, D.C. 20250

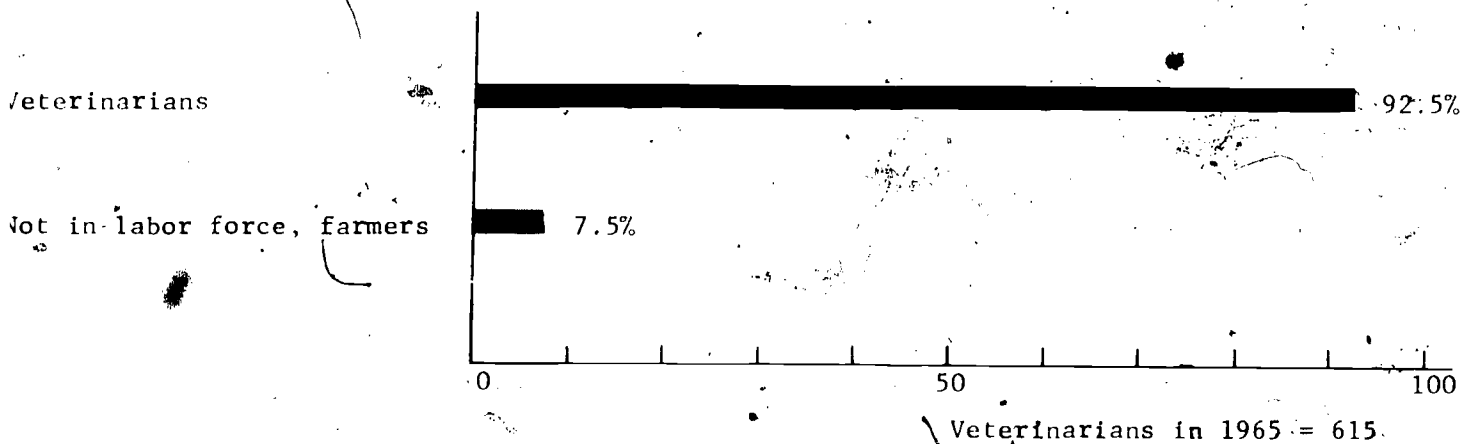
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Veterinarians Were Doing In 1965



Three-fourths of the veterinarians working in Pennsylvania in 1970 were already in the field in 1965. Practically 75% of those entering the profession between 1965 and 1970 were probably in college or schools of veterinary medicine (not in the labor force). The rest were working in health professions or as mechanics. Over 90% of the 1965 veterinarians were still practicing in 1970.

What 1965 Veterinarians Were Doing in 1970



Some job titles classified under this heading:

- Animal surgeon
- Horse doctor
- Poultry pathologist
- Public-health veterinarian
- Veterinary inspector
- Veterinary toxicologist

DIETITIANS

D.O.T. # 077.168

What do dietitians do? Dietitians plan meals for groups or individuals that assure the proper nutritional value. They also supervise workers and purchase supplies.

TO GET THE JOB

You should be able to:

Understand principles of chemistry, physiology, and bacteriology
Have an aptitude for management and economics

You should prefer to:

Work with people of all kinds
Organize activities
Work with detail

You should be physically able to:

Maintain good health
Lift moderately heavy objects

ON THE JOB

Dietitians plan nutritious meals for groups or individuals. They may work in a variety of job settings such as food processing plants, hospitals, schools or clinics. The job setting, particularly the size of the institution, will greatly effect your duties on the job. In a hospital or clinic you may work as part of a team with physicians to help the client gain better health. Individual patients and entire families may need instruction or advice on their diets. In large institutions administrative dietitians budget for and purchase food, equipment, and supplies; enforce sanitary and safety regulations; prepare records and reports; and supervise the planning, preparation, and service of meals.

THINGS TO THINK ABOUT

Advantages:

Advancement to director or administrator
Clean, sanitary, working conditions
Usually regular working hours

Disadvantages:

Irregular working hours in commercial settings
A lot of individual responsibility

PREPARATION AND TRAINING

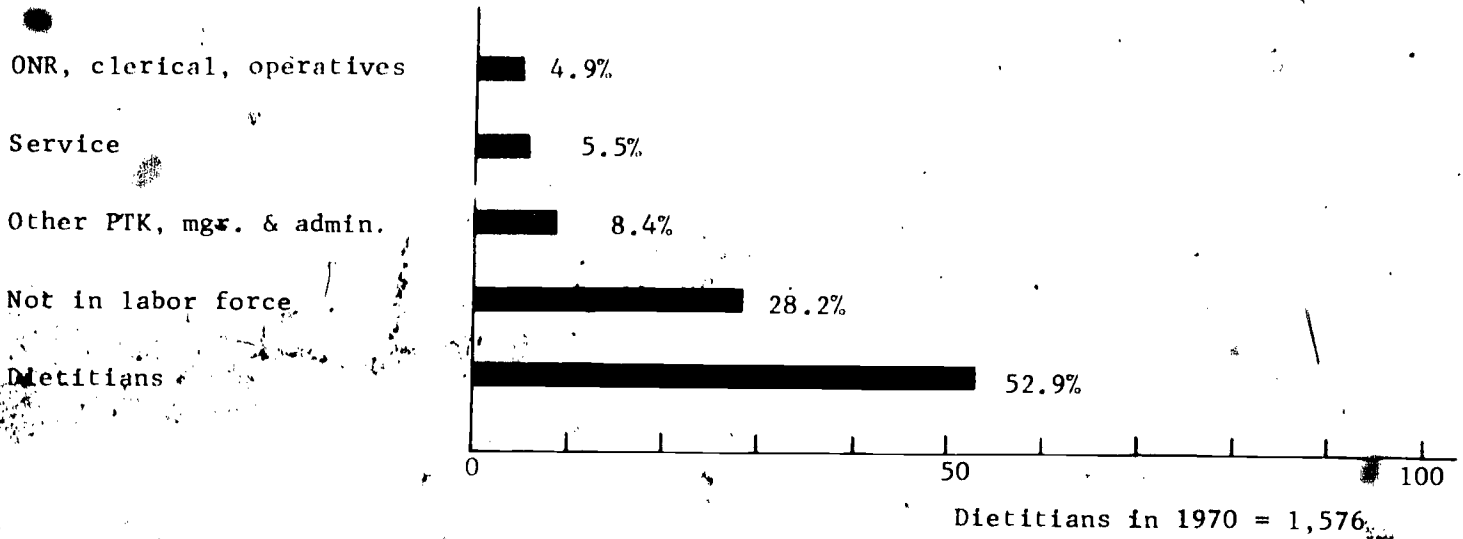
A bachelor's degree with a major in foods and nutrition or institutional management.
For professional recognition graduation from an accredited institution and an approved internship or 2 years of experience is recommended.

WHERE TO GET MORE INFORMATION

The American Dietetic Association
620 North Michigan Avenue
Chicago, Illinois 60611

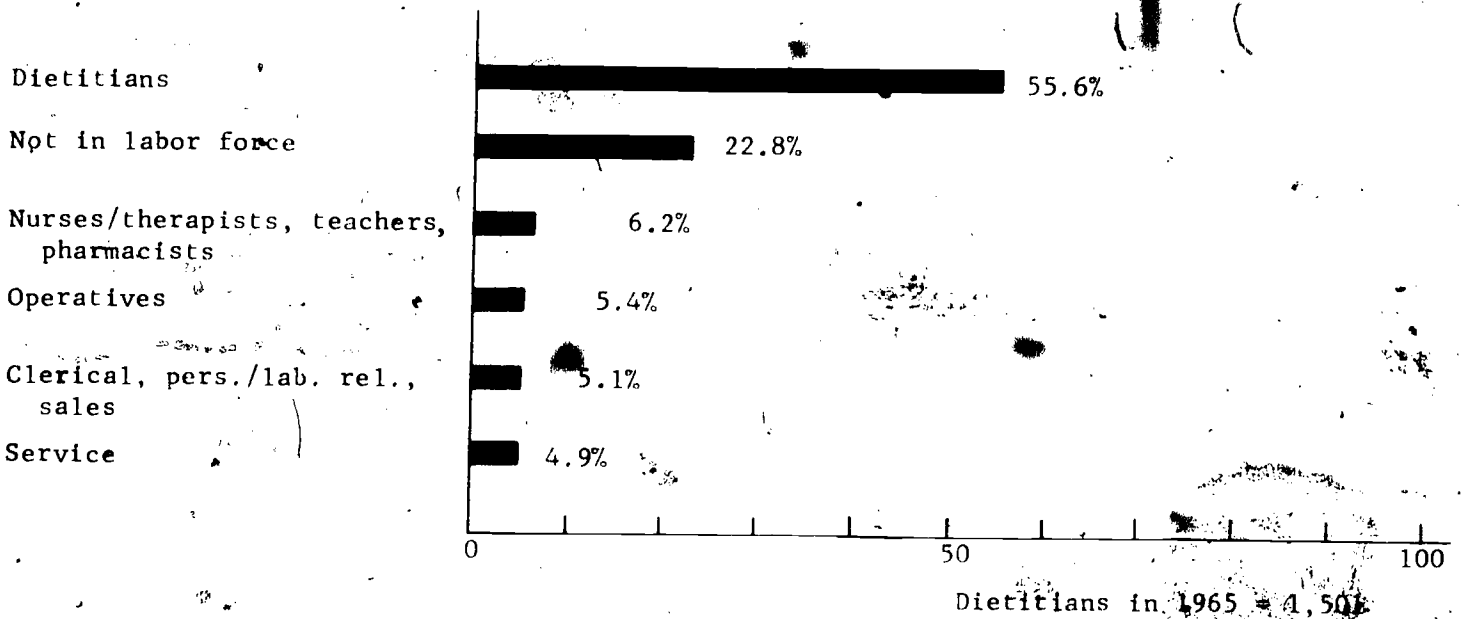
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Dietitians Were Doing In 1965



Close to half of the 1970 dietitians were doing something else five years earlier. Over 50% of the new entrants were probably in college (not in the labor force) in 1965. Another 18% were working in other professional or managerial positions. Slightly more than half of the 1965 dietitians remained in the field in 1970. The percentage that left the work force was as large as the combined percentage of all those who moved into other occupations.

What 1965 Dietitians Were Doing in 1970



Some job titles classified under this heading:

- Diet therapist
- Food adviser
- Nutritionist

REGISTERED NURSES

D.O.T. # 075.378

What does a registered nurse do? A registered nurse cares for the sick and injured using his or her knowledge, skill, and training in the health profession.

TO GET THE JOB

You should be able to:

Understand biology, chemistry, physics and mathematics
Speak well and communicate with others
Think clearly and quickly in an emergency

You should prefer to:

Work with people of all ages
Pay attention to detail

You should be physically able to:

Maintain good health
See and hear well
Stand or walk for long periods of time
Coordinate eye and hand movements

ON THE JOB

Most registered nurses work in hospitals, but some work for nursing homes, government agencies, or in doctor's offices. Nurses may take temperatures, change dressings, administer prescribed medication, and confer with members of the medical staff. Nurses may specialize in pediatric nursing and work with children and premature infants, or anesthesiology and administer anesthesia prior to surgery, psychiatric nursing which requires special training to care for mentally and emotionally disturbed patients.

THINGS TO THINK ABOUT

Advantages:

Forty hour work week
Clean, well-lighted, temperate working conditions
Advancement to head nurse, supervisor, or director of nursing

Disadvantages:

Sometimes must work weekends and holidays
Contact with diseases and illnesses
Exposure to chemicals and bad odors
Frequently see others suffering

PREPARATION AND TRAINING

Must be at least 18 years of age and have a high school diploma
Follow one of three educational programs to qualify for the state board exams:
1) two-year associate degree in nursing from a junior college
2) a three-year course of study at a hospital granting a diploma in nursing
3) a four or five-year course in an accredited college leading to a bachelor's of science in nursing. This approach is becoming more preferred.
After following one of the programs above, you must pass a state board examination before becoming a registered nurse.

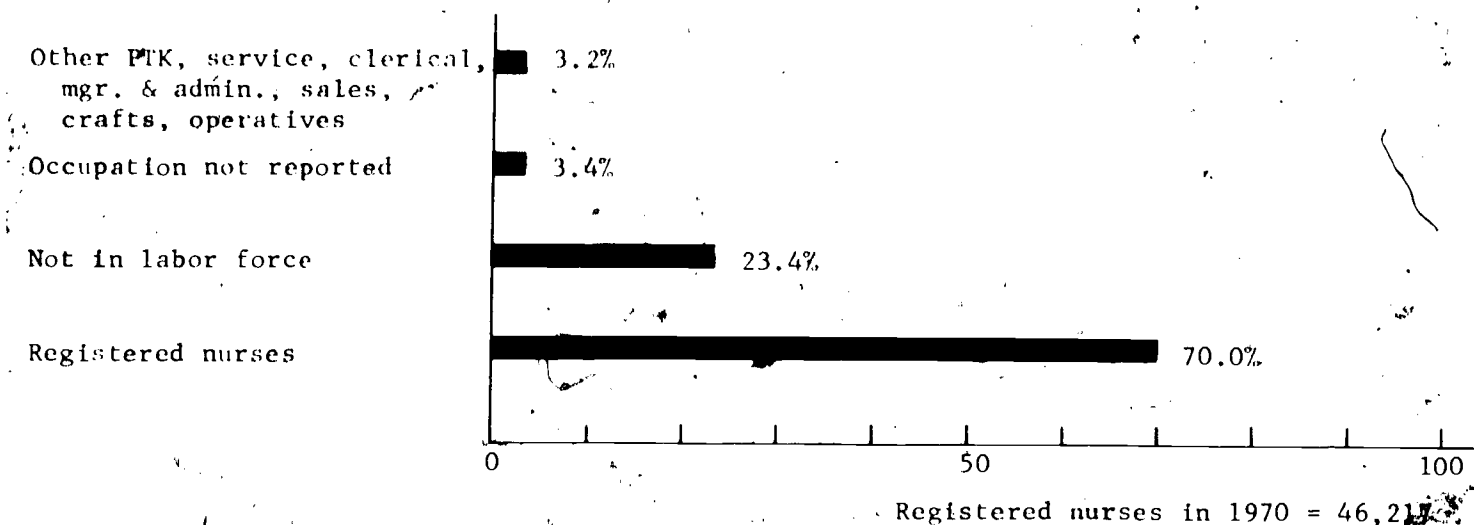
WHERE TO GET MORE INFORMATION

Horizons Unlimited
Program Services Department
American Medical Association
535 N. Dearborn Street
Chicago, Illinois 60610

ANA - NLN Committee on Nursing Careers
American Nurses Association
10 Columbus Circle
New York, New York 10019

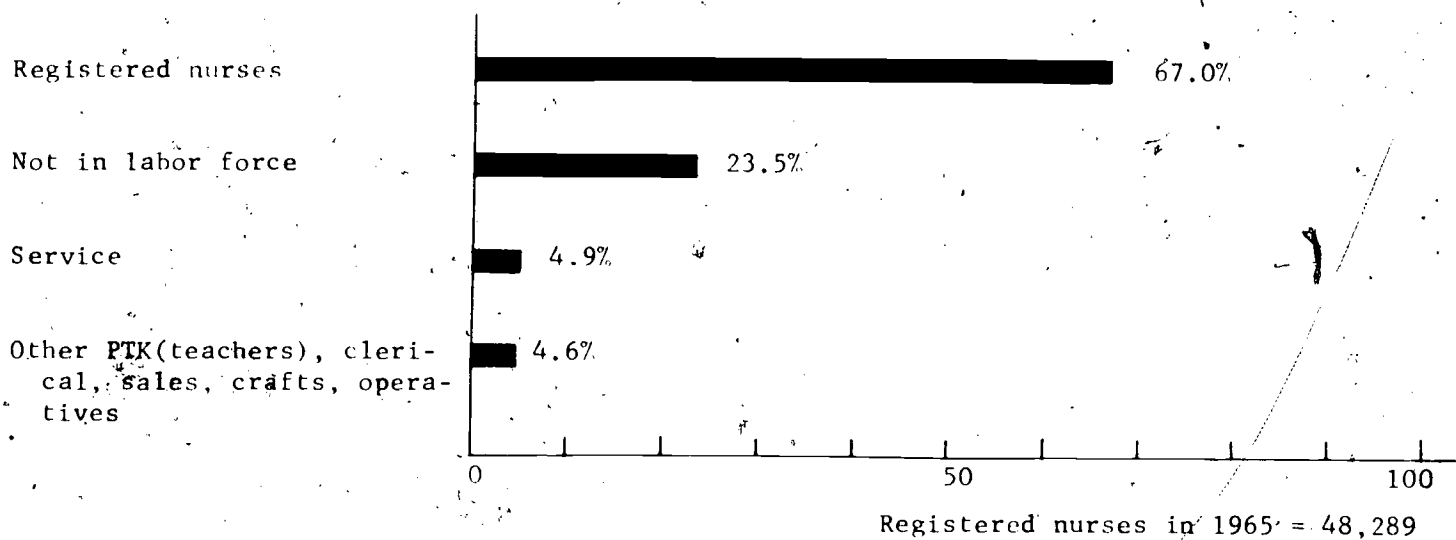
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Registered Nurses Were Doing in 1965



Over one-third of the 1970 registered nurses employed in Pennsylvania were already working in that profession in 1965. More than three-fourths of the new entrants in 1970 were probably in college or schools of nursing five years earlier. Two-thirds of the 1965 registered nurses remained in that occupation five years later. Over 11,000 of the 1965 nurses, most of whom were women, had left the work force by 1970.

What 1965 Registered Nurses Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|------------------|---------------------|-------------------|
| Anesthetist | Public health nurse | Psychiatric nurse |
| Floor supervisor | School nurse | Scrub nurse |
| Geriatric nurse | Surgical supervisor | |

THERAPISTS

D.O.T. # 079.128 and 079.378

What does a therapist do? A therapist works closely with individuals to help them correct, or adapt to, their handicap. A therapist works mainly with the physically disabled.

TO GET THE JOB

You should be able to:

- Establish and maintain effective personal relationships
- Have patience and tact when dealing with individuals
- Be resourceful in devising new activities

You should prefer to:

- Work with all kinds of people
- Work with disabled individuals
- Do work involving the subjects of anatomy, physiology, and biology

You should be physically able to:

- Maintain good health and physical stamina
- Work well with their hands

ON THE JOB

Physical therapists work with individuals to help them overcome muscle, nerve, and bone injuries or diseases. They also perform and interpret tests to measure the patient's progress. Therapists usually demonstrate exercises and help the patient go through the exercises. They may also use heat, light and cold treatments. Occupational therapists help the mentally and physically disabled develop skills they can use to get a job. Therapists can teach creative skills, i.e., painting and wood-working, to the patients to help develop skills and coordination.

THINGS TO THINK ABOUT

Advantages:

- Good working conditions in a hospital or clinic
- Regular 40 hour week
- Not usually required to work evenings
- May advance to supervisor or instructor

Disadvantages:

- Must be emotionally capable of working with people who do not have a good chance of recovery.
- May have to understand and cope with the patient's psychological adjustment to a disability.

PREPARATION AND TRAINING

- Must have a high school diploma.
- A physical therapist must have a license in all states.
- To get a license you must have a degree from a certified school of physical therapy, and pass a state board examination.

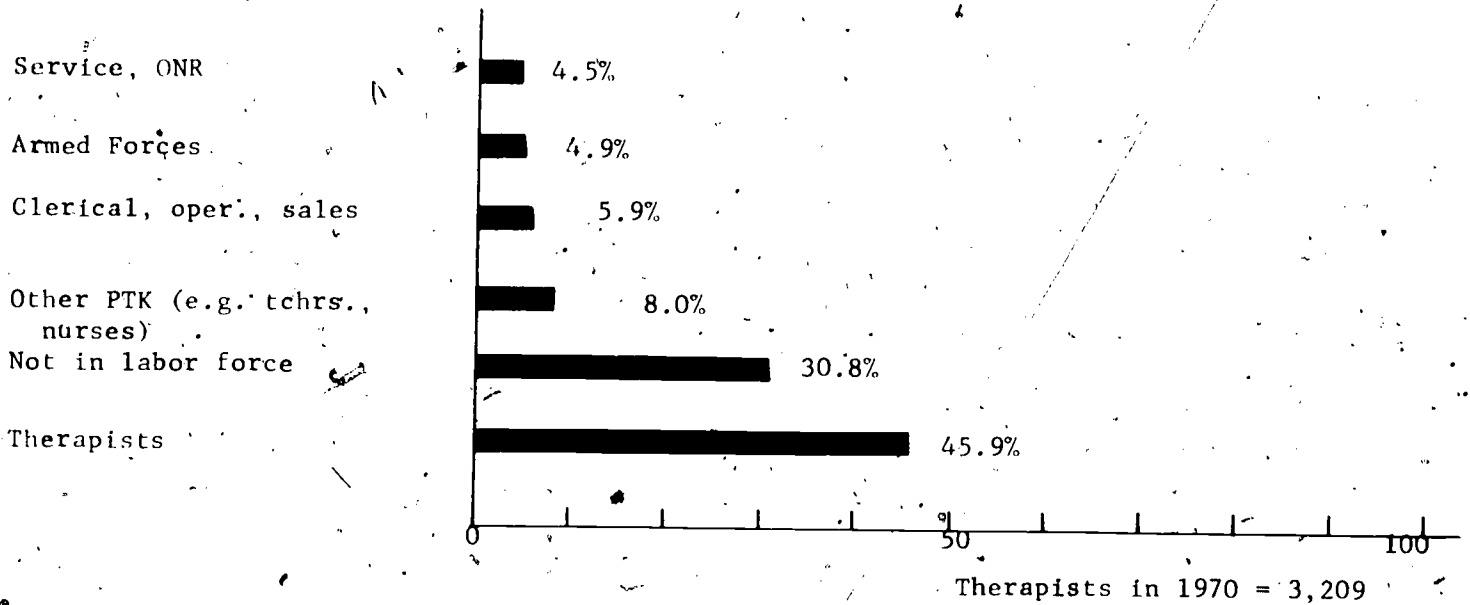
WHERE TO GET MORE INFORMATION

American Physical Therapy Association
1740 Broadway
New York, New York 10019

The Surgeon General
Department of the Army
Washington, D.C. 20350

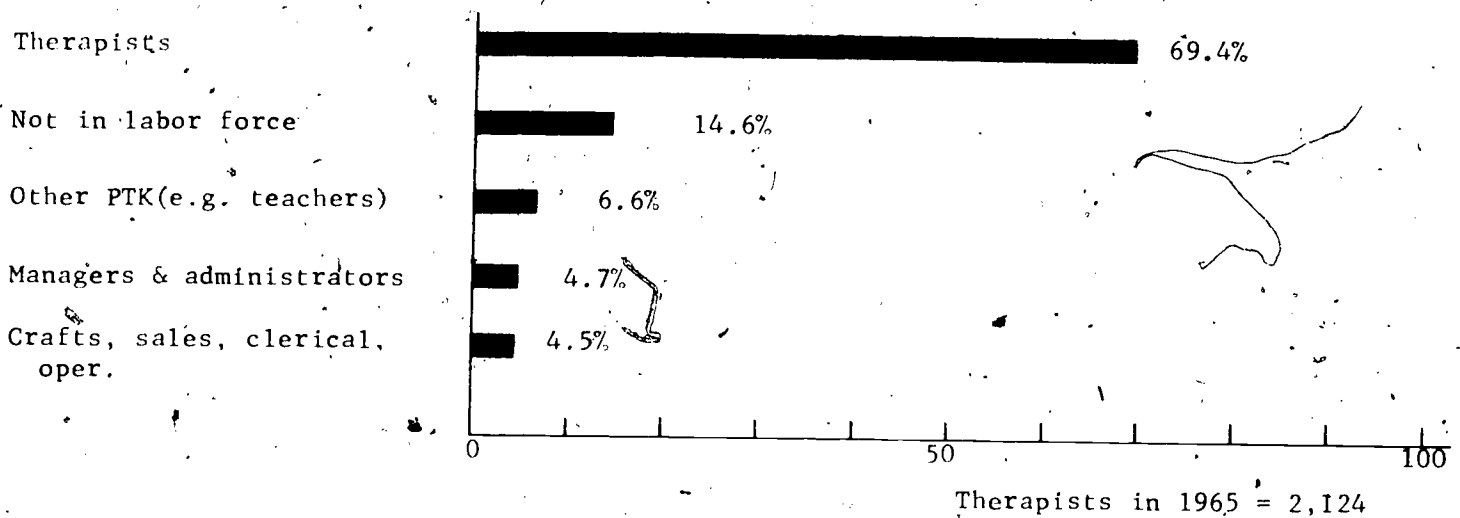
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Therapists Were Doing in 1965



More than half of the 1970 therapists were doing something else five years earlier. About 55% of the new entrants were probably training for the profession in 1965 (not in the labor force). Another 15% were employed in other professions, such as teaching or nursing. Three-fourths of the 1965 therapists remained in that occupation or moved into another profession by 1970.

What 1965 Therapists Were Doing in 1970



Some job titles classified under this heading:

- Hydro therapist
- Musical therapist
- Occupational therapist
- Physical therapist
- Rehabilitation Counselor
- Speech therapist

CLINICAL LABORATORY TECHNOLOGISTS AND TECHNICIANS

D.O.T. #'s 078.168 & 079.381

What do clinical laboratory technologists and technicians do? Clinical laboratory technologists and technicians perform laboratory tests to aid physicians in detecting, diagnosing, and treating diseases.

TO GET THE JOB

You should be able to:

- Do advanced work in the biological and chemical sciences
- Use a microscope and prepare slides
- Work under pressure

You should prefer to:

- Work independently and as part of a team
- Do accurate, detailed work

You should be physically able to:

- See well and discriminate between colors
- Sit or stand for long periods of time
- Have good manual dexterity

ON THE JOB

Clinical laboratory technologists usually work in a hospital or clinical setting. Technologists may do analyses of urine, blood, tissues, and body cells, as well as do laboratory work preparing slides and using microscopes. Sometimes medical technologists also work directly with the patients, as in the collection of blood samples. They must be sure that all laboratory equipment is in correct working order and repair any damaged equipment. They may take cardiograms and perform similar routine operations.

THINGS TO THINK ABOUT

Advantages:

- Well-lighted working conditions
- Advancement to supervisory positions
- Usually a 40 hour week

Disadvantages:

- May occasionally have to work evenings or weekends
- Danger in handling some equipment and in working with certain diseases
- Unpleasant odors from chemicals and samples

PREPARATION AND TRAINING

A bachelor's degree is required, with at least 3 years of chemistry, biology, and math plus 12 months of work in a school of medical technology. Students graduating from A.M.A. approved programs who pass an exam qualifying them for listing with the Registry of Medical Technologists receive preference for work in large hospitals.

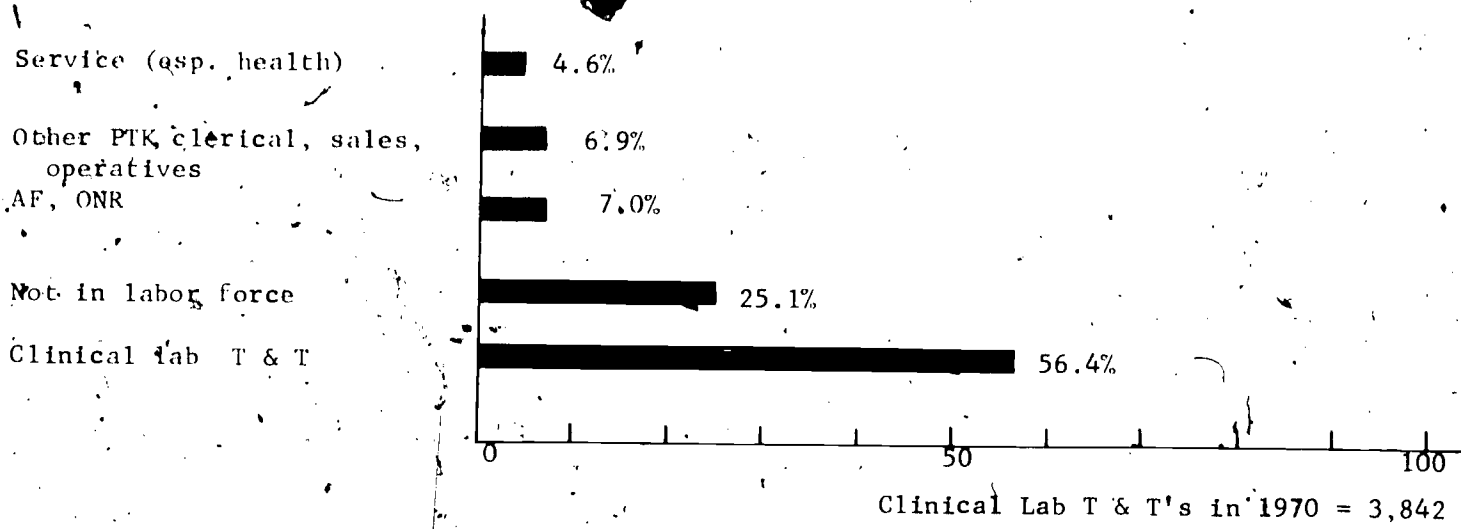
A license is required in some states including Pennsylvania.

WHERE TO GET MORE INFORMATION

Registry of Medical Technologists of the American Society of Clinical Pathologists P.O. Box 2544 Muncie, Indiana 47302	American Society of Medical Technologists Suite 1600 Hermann Professional Building Houston, Texas 77025
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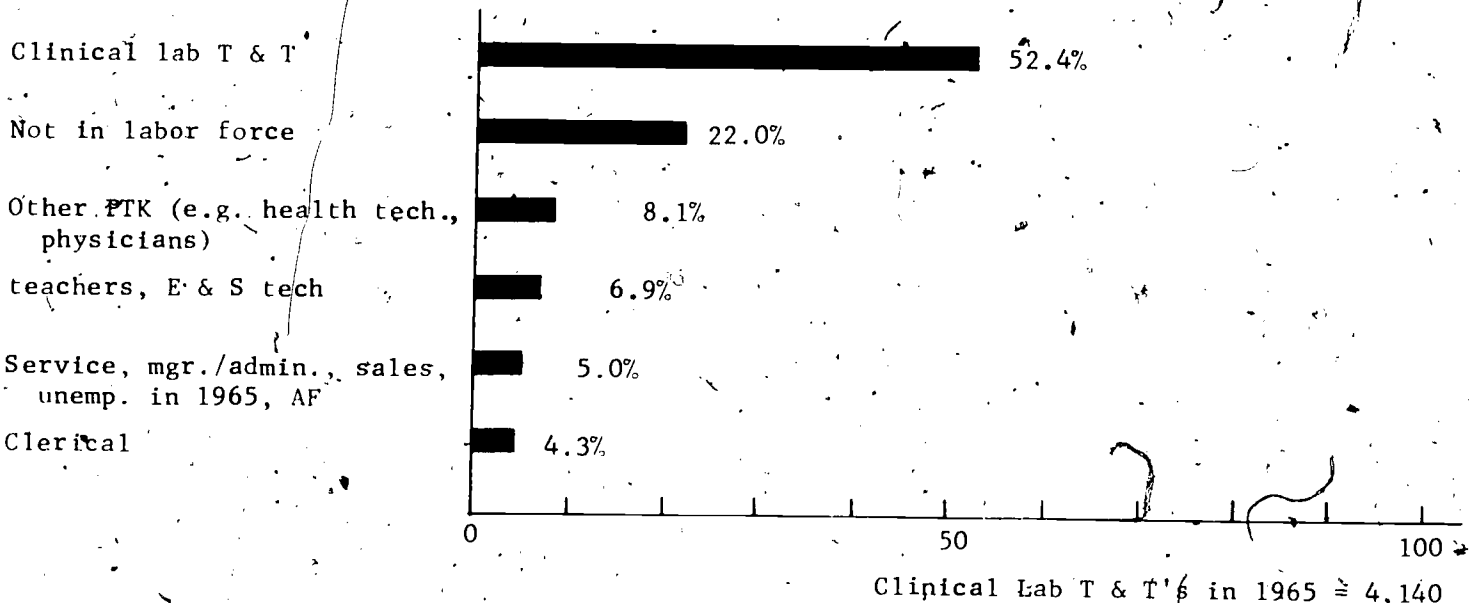
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Clinical Laboratory Technologists and Technicians Were Doing in 1965



Over half of the 1970 technologists and technicians were already employed in the field five years earlier. Close to 60% of the new entrants were probably receiving training for the occupation in 1965 (not in the labor force). Slightly more than two-thirds of the 1965 laboratory workers remained in the field or entered another professional or technical occupation five years later. Over 900 (mostly women) were no longer in the work force in 1970.

What 1965 Clinical Laboratory Technologists and Technicians Were Doing in 1970



Some job titles classified under this heading:

- Blood typer
- Chemistry technologist
- Laboratory supervisor
- Medical technologist
- Serology technician
- Tissue technician

DENTAL HYGIENISTS

D.O.T. # 078.368

What does a dental hygienist do? A dental hygienist removes deposits from teeth, applies medications to control decay and generally assists dentists in their work.

TO GET THE JOB

You should be able to:

Put patients at ease
Understand courses in the basic sciences, dental sciences, and liberal arts

You should prefer to:

Work with people of all ages
Work as part of a team

You should be physically able to:

Stand for periods of time
Have good vision, and manual dexterity
Maintain good health

ON THE JOB

Dental hygienists may clean teeth, apply fluoride treatments and assist the dentist as he or she works. They take dental histories, prepare tests for the dentist to interpret, and chart conditions of the teeth. Hygienists may be responsible for sterilizing equipment, developing and taking X-rays, keeping up dental records, and instructing patients in dental care. Some dental hygienists may work in school systems and develop classroom and assembly programs on oral health. They may also examine children's teeth, and assist dentists in determining the dental treatment.

THINGS TO THINK ABOUT

Advantages:

Regular 40 hour week
Clean, well-lit offices

Disadvantages:

Occasional night hours and usually Saturday work
Some danger if safety regulations are not adhered to when using X-rays

PREPARATION AND TRAINING

A license is necessary.

To get a license you must graduate from an accredited dental hygiene school and pass both a written and clinical examination.

Most of the schools offer 2 year certificate or associate degree programs, but some award 4 year bachelor's degrees.

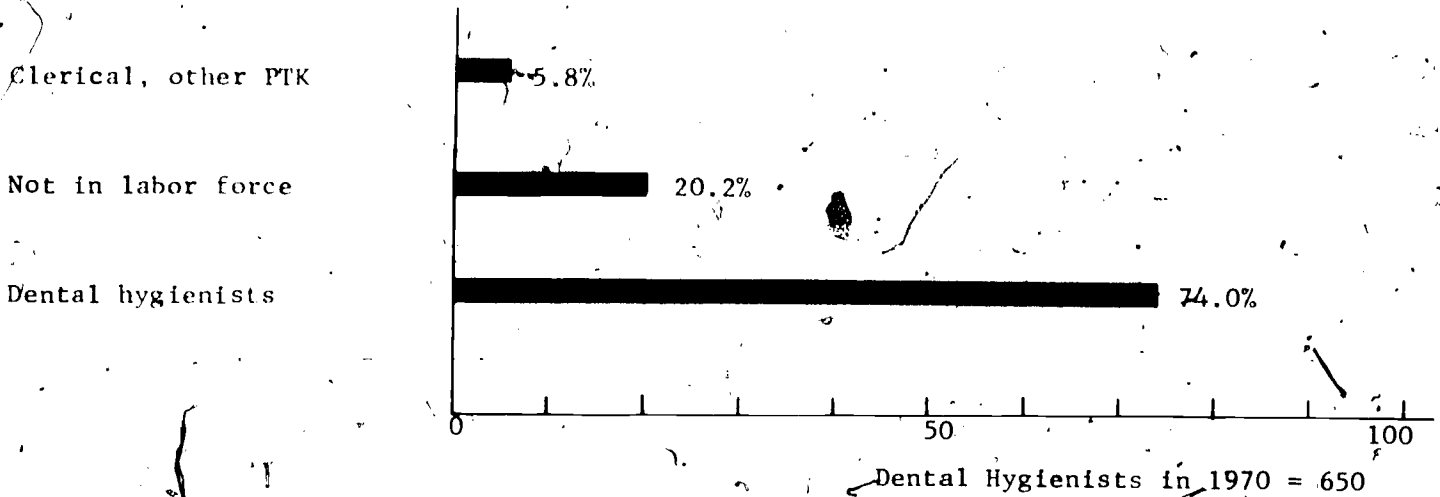
WHERE TO GET MORE INFORMATION

Division of Educational Services
American Hygienists Association
211 East Chicago Avenue
Chicago, Illinois 60611

Division of Dental Health
Public Health Service
U.S. Department of Health, Education, and Welfare
Washington, D.C. 20201

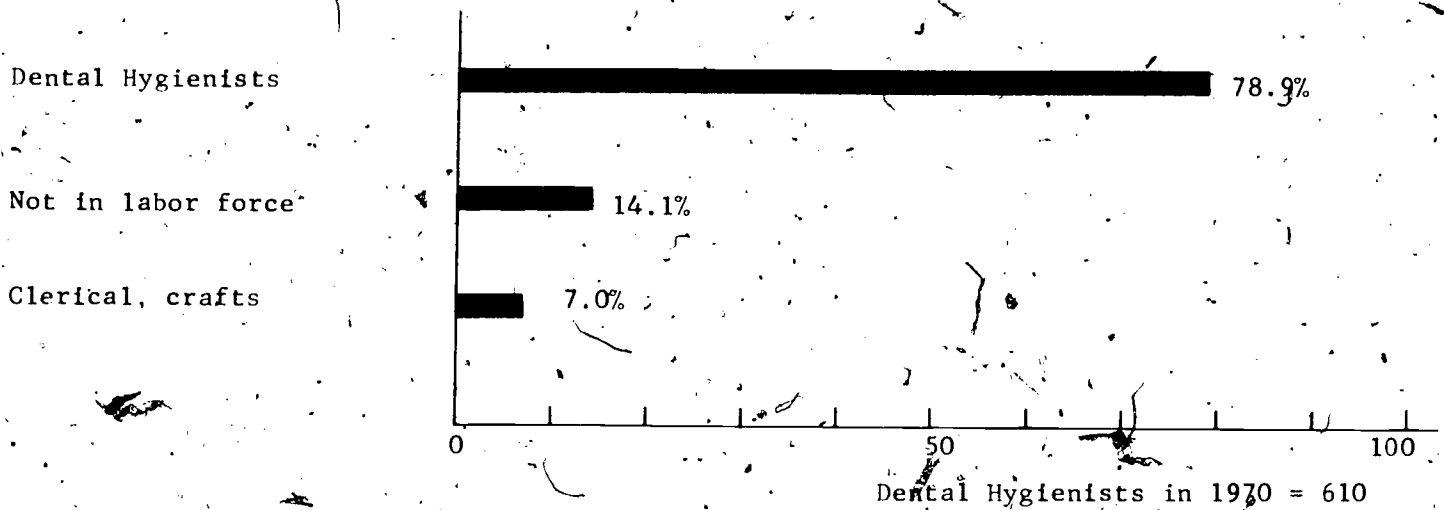
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Dental Hygienists Were Doing in 1965



Three-fourths of the 1970 dental hygienists were already working in the field five years earlier. Practically 50% of the new entrants were probably preparing for the occupation in 1965 (not in the labor force). More than 75% of the 1965 dental hygienists remained in the field in 1970. Two-thirds of those who moved out of the occupation (mostly women) left the work force.

What 1965 Dental Hygienists Were Doing in 1965



Job titles classified under this heading:

- Dental hygienist
- Oral hygienist

HEALTH RECORD TECHNOLOGISTS AND TECHNICIANS

D.O.T. # 249.388

What do health record technologists, and technicians do? Health record technologists and technicians compile, record and file all of the medical reports and vital information that help to treat a patient's problem.

TO GET THE JOB

You should be able to:

- Do accurate work
- Pay attention to detail
- Understand biological and medical terms
- Do secretarial work

You should prefer to:

- Work as part of a team
- Do work related to collecting and filing information

You should be physically able to:

- See well
- Manipulate your fingers and hands well
- Sit or stand for periods of time

ON THE JOB

The health record technologist and technician collects and compiles vital information about a patient from various sources in the hospital or clinic. The dietary, laboratory, X-ray, and nursing departments are among those sources. A team of technicians gathers the data and then works to compile and maintain the information. Technicians may transfer the information to medical codes for cross-indexing records. They may also prepare records for microfilming, supervise record clerks, and otherwise assist the medical staff in research or special studies.

THINGS TO THINK ABOUT

Advantages:

- Regular 40-hour week
- Pleasant working conditions
- Advancement to supervisory positions in larger hospitals

Disadvantages:

- Work may become routine
- Must keep up to date in new techniques of records keeping

PREPARATION AND TRAINING

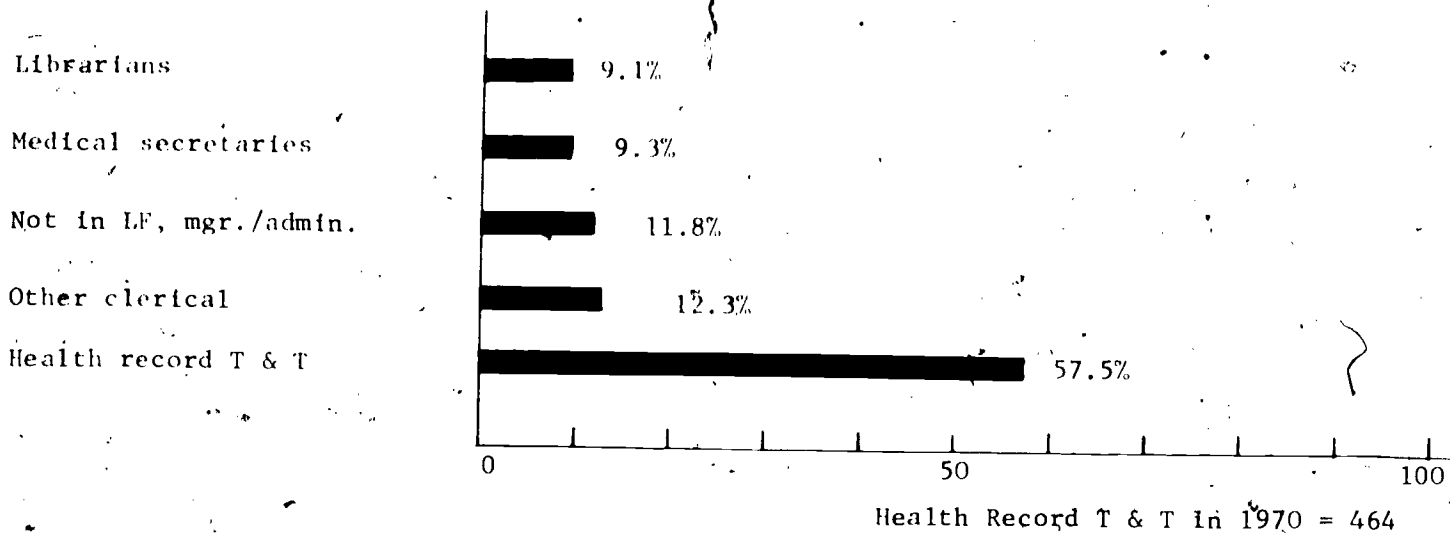
The college and hospital-based programs are preferred, both of which include 10-month certificate programs and 2-year associate degree programs. High school graduate with secretarial skills can start as clerks. Passing an exam and being certified as an Accredited Record Technician (ART) can lead to promotions and more responsible positions.

WHERE TO GET MORE INFORMATION

American Medical Record Association
John Hancock Center,
Suite 1850
875 North Michigan Avenue
Chicago, Illinois 60611

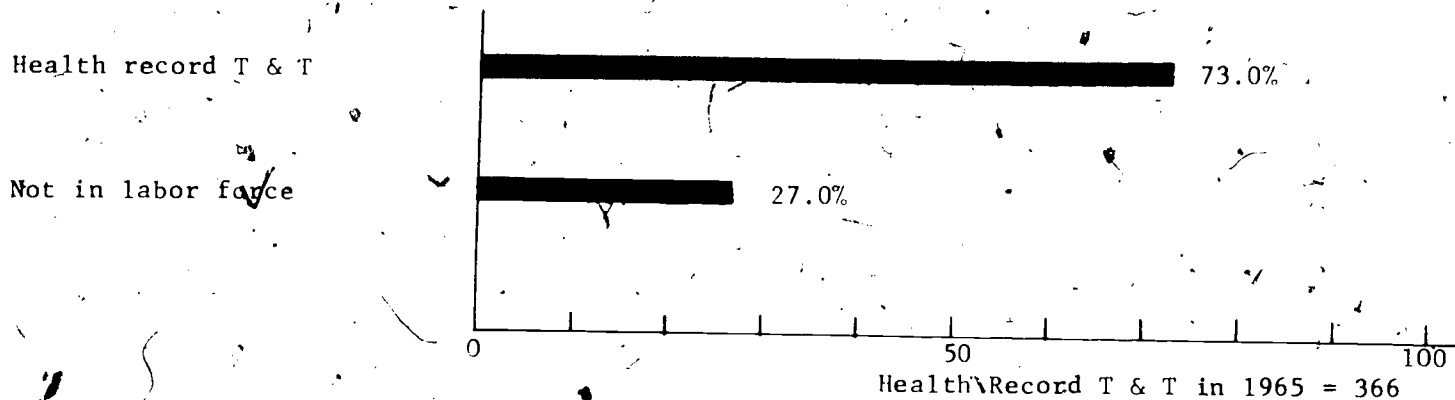
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Health Record Technologists and Technicians Were Doing in 1965



Nearly 60% of the 1970 technologists were already working in the field five years earlier. Half of the new entrants were previously employed as medical secretaries or in other clerical positions. Another fifth were librarians in 1965. Almost 75% of the 1965 technologists were still employed in the occupation by 1970. The rest (all women) retired, either permanently or temporarily, from the work force.

What 1970 Health Record Technologists and Technicians Were Doing in 1970



Some job titles classified under this heading:

- Library historian
- Medical librarian
- Medical record technologist

RADIOLOGIC TECHNOLOGISTS AND TECHNICIANS

D.O.T. #'s 078.168 & 078.368

What do radiological technologists and technicians do? Radiological technologists and technicians use X-ray equipment and chemical preparations to take pictures of internal body parts.

TO GET THE JOB

You should be able to:

- Do course work in anatomy, physiology and physics
- Understand medical ethics and X-ray therapy
- Maintain technical medical equipment

You should prefer to:

- Work with individual patients
- Work as part of a medical team

You should be physically able to:

- Maintain good health and stamina
- Stand or sit for periods of time

ON THE JOB

Radiological technologists and technicians use X-ray equipment to take pictures of internal parts of the body. They may prepare chemical mixtures to improve the visibility of the X-ray. They use devices to protect themselves against radiation. Some technologists do therapy work treating patients with doses of radiation to promote healing in certain medical histories, such as cancer. Other technologists work in nuclear medicine using isotopes to treat and diagnose diseases.

THINGS TO THINK ABOUT

Advantages:

- Comfortable work setting
- Usually regular working hours (40 hours)

Disadvantages:

- Occasionally may be "on call" for emergencies or weekends
- Potential hazard from radiation

PREPARATION AND TRAINING

- A high school diploma is needed to start.
- Minimum requirement is a 24 month training program offered by hospitals, medical schools, and colleges and community colleges approved by the AMA.
- A few schools have 3-4 year programs and offer a bachelor's degree.
- After completing the program from an approved school and passing a written exam you may gain the title of Registered Technologist (ARRT). Advancement is easier as a Registered Technologist.

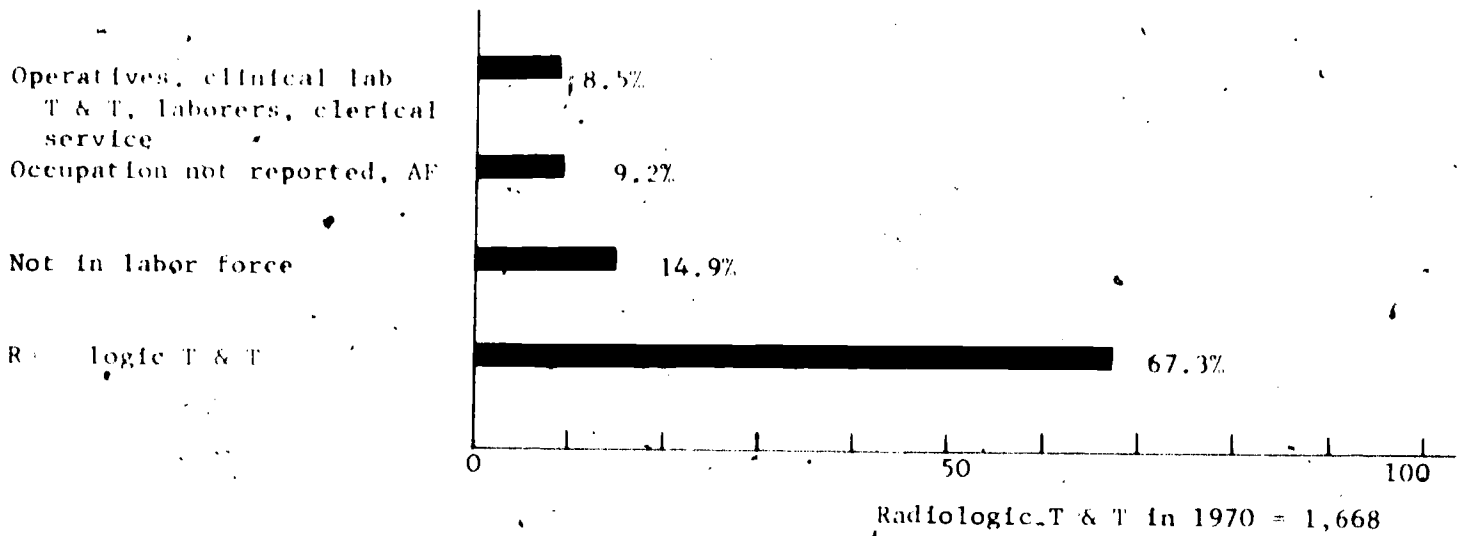
WHERE TO GET MORE INFORMATION

The American Society of Radiological Technologists
645 N. Michigan Avenue
Chicago, Illinois 60611

The American Registry of Radiologic Technologists
2600 Wayzata Boulevard
Minneapolis, Minnesota 55405

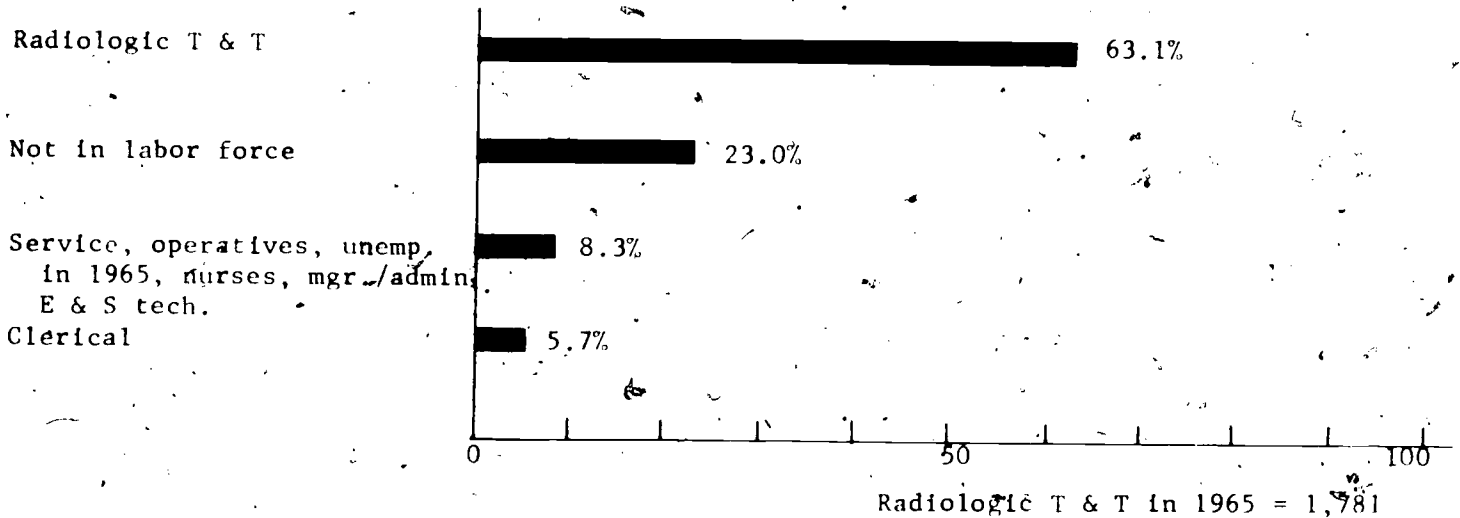
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Radiologic Technologists and Technicians Were Doing in 1965



Two-thirds of the 1970 technologists were already employed in the field five years earlier. Almost half of the new entrants were probably in school in 1965 (not in the labor force). The rest were working in many different occupations. Slightly less than two-thirds of the 1965 technologists remained in equivalent positions five years later. Over 400 (all women) had left the work force, either permanently or temporarily.

What 1965 Radiologic Technologists and Technicians Were Doing in 1970



Some job titles classified under this heading:

- Isotope technician
- Nuclear-medical technician
- Radiation-therapy technician
- Radiographer
- Skiagrapher
- X-ray operator

HEALTH TECHNOLOGISTS AND TECHNICIANS

D.O.T. # 079,368

What do health technologists and technicians do? These individuals keep medical records and/or operate technical machines.

TO GET THE JOB

You should be able to:

- Give and understand verbal directions
- Understand medical terminology
- Do some recording, filing and typing

You should prefer to:

- Work with people
- Work as part of a team
- Do thorough and accurate work

You should be physically able to:

- Maintain good health
- Coordinate finger and hand movements

ON THE JOB

The people in these professions have been trained to gather information and/or administer tests to allow physicians and optometrists more time for other duties. Optometric assistants give preliminary eye exams and instruct patients in eye care and exercises. Electrocardiographic technicians monitor a patient's heart beat using an EKG machine. Electroencephalographic (EEG) technicians use a machine to monitor a patient's electrical brain waves. Other medical assistants work in doctor's offices and in hospitals.

THINGS TO THINK ABOUT

Advantages:

- Good working conditions
- Technicians have regular 40 hour week
- Relatively short training program

Disadvantages:

- Medical assistants usually work some evenings and weekends
- Usually little chance for advancement

PREPARATION AND TRAINING

High school diploma is minimum requirement.

Technicians are usually trained on the job, in apprenticeship programs ranging from 3-12 months. As equipment becomes more sophisticated more programs may be associated with colleges and medical schools.

EEG technicians (with 1 year training and 1 year experience) with a passing test score may become registered (R.EEG.T.)

Medical assistants may get an associate degree or be trained on the job.

Those with a high school diploma, 3 years experience, and a passing test score can be certified (C.M.A.) Associate degree holders need only one year of experience for certification.

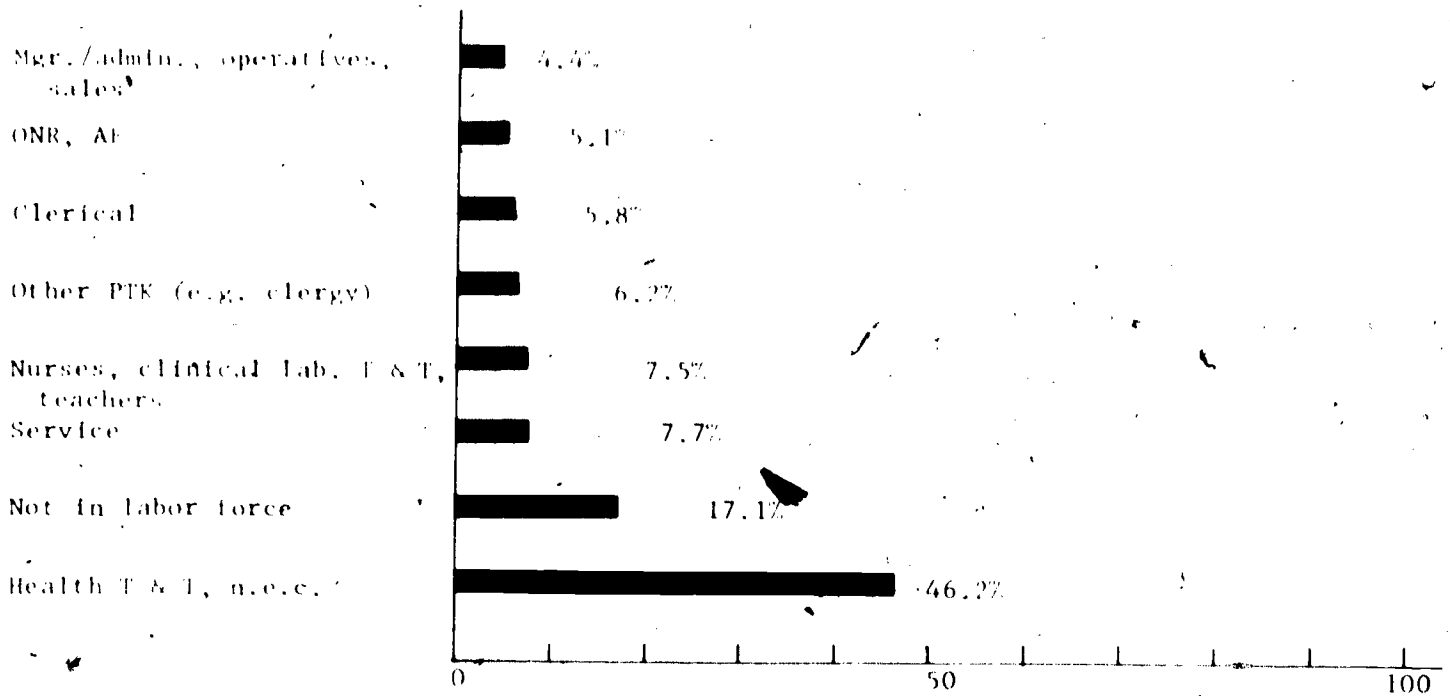
WHERE TO GET MORE INFORMATION

American Hospital Association
840 North Lake Shore Drive
Chicago, Illinois 60611

American Association of Medical Assistants
One East Wacker Drive
Suite 1510
Chicago, Illinois 60611

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

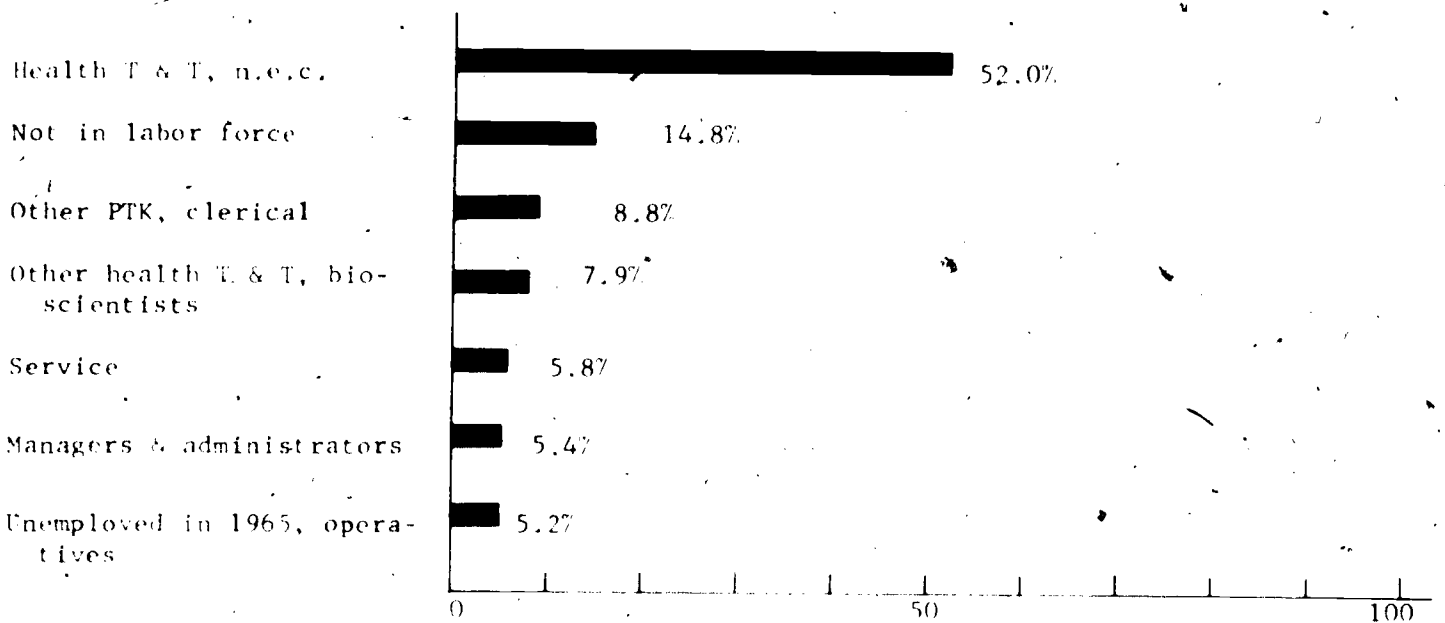
What 1970 Health Technologists and Technicians Were Doing in 1965



Health Technologists & Technicians in 1970 = 2,162

Those health workers already employed in 1965 and those probably in school preparing for health occupations (not in the labor force) together made up over 60% of the 1970 technologists. Over half of the 1965 technologists remained in the profession in 1970, but almost 15% (mostly women) left the labor force during that period.

What 1965 Health Technologists and Technicians Were Doing in 1970



Health Technologists & Technicians in 1965 = 1,922

Some job titles classified under this heading:

Anesthetic assistant
Brace maker
Cardiographer

Encephalographer
Health Sanitarian
Ophthalmic technician

Orthotist
Prosthetist

CLERGY

D.O.T. # 120.108

What does a member of the clergy do? A member of the clergy can be a minister, a priest, or rabbi who leads his or her congregation in worship services and provides spiritual guidance.

TO GET THE JOB

You should be able to:

- Speak clearly and effectively
- Be sensitive to people and their problems
- Maintain emotional maturity
- Organize and administer activities

You should prefer to:

- Work with people
- Stand up for your beliefs and convictions
- Interact courteously with all types of people.

You should be physically able to:

- Maintain good physical and mental health
- Speak audibly

ON THE JOB

Members of the clergy deliver and prepare sermons and perform religious rituals. They regularly perform religious services, marriages, baptisms or bar-mitzvahs, visit people who are ill and are responsible for administering the duties of the congregation. They may become involved in community and recreational activities. A member may teach at schools affiliated with their denomination. In large congregations members of the clergy may have one or more assistants to help them in their work for the church, to aid in the greater administrative responsibilities and additional educational programs. Some are involved with writing or editing religious and lay publications.

THINGS TO THINK ABOUT

Advantages:

- Flexible working hours
- General independence in work
- Members of the clergy are in great demand

Disadvantages:

- Irregular working hours
- May work with individuals with severe problems

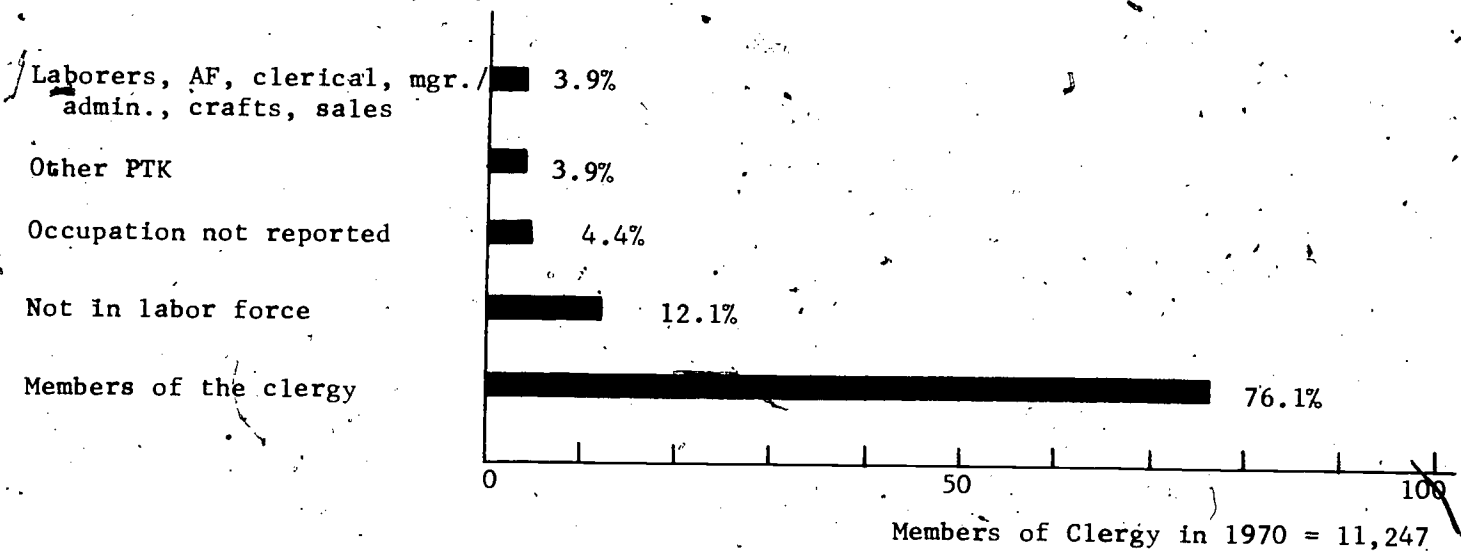
PREPARATION AND TRAINING

A four year college degree is almost always required. Protestants require three additional years of study in a seminary. Catholics and Jewish clergy are required to have 8-12 years of further study. History, philosophy, English, and religion courses are studied. Majors in psychology, counseling, and sociology are becoming more important.

WHERE TO GET MORE INFORMATION

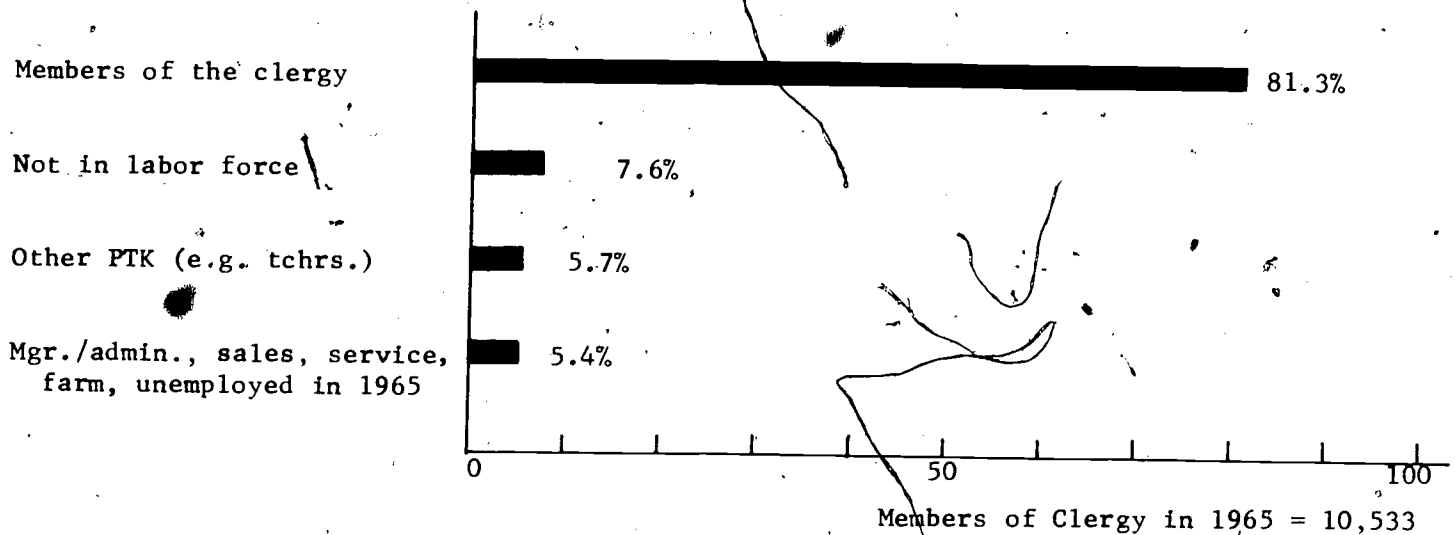
A good source of information is your local minister, priest or rabbi. Write to the appropriate denominational office. Contact individual theological schools or seminaries.

What 1970 Members of the Clergy Were Doing in 1965



Over three-fourths of the 1970 clergy members were already ministering five years earlier. Half of the new entrants were probably in school in 1965 (not in the labor force). Another 16% were employed in other professions such as religious workers, engineers or teachers. More than 85% of the 1965 members of the clergy remained in that or another profession in 1970. Less than 8% left the work force.

What 1965 Members of the Clergy Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|----------|----------|----------|
| Bishop | Minister | Rabbi |
| Chaplain | Pastor | Reverend |
| Curate | Priest | Vicar |

RELIGIOUS WORKERS

D.O.T. # 249.368

What does a religious worker do? A religious worker supplements and complements the work of the clergy by providing educational, musical, administrative and/or medical services.

TO GET THE JOB

You should be able to:

Work in a variety of areas
Understand and express religious ideologies

You should prefer to:

Work with people
Be dedicated to religious values

You should be physically able to:

Be alert
Use your mind and body

ON THE JOB

The religious worker must be sensitive to and have respect for all people. This person must be accepting of individual differences and must be aware of the socio-cultural background of an area. As a religious worker, a person must be dedicated to religious values and must strongly believe in the kind of work required by the job. A religious worker might be employed as a director of religious activity. Such a director plans and supervises adult and youth activities. Missionaries work throughout the world to assist underdeveloped areas. The music director provides training for choral groups. Those with communications skills might find employment working on religious publications.

PREPARATION AND TRAINING

Active participation in youth activities within a religious denomination provides valuable experience.
A college degree is usually helpful in obtaining a church-related job, especially if it is in a professional area.
Many theological seminaries provide courses for the individual interested in religious work.

THINGS TO THINK ABOUT

Advantages:

Emotional and spiritual satisfaction
Requires a great deal of dedication and physical stamina

Disadvantages:

Responsibilities are vast
Dedication to a cause is necessary
Pay is not high
Irregular work schedule

WHERE TO GET MORE INFORMATION

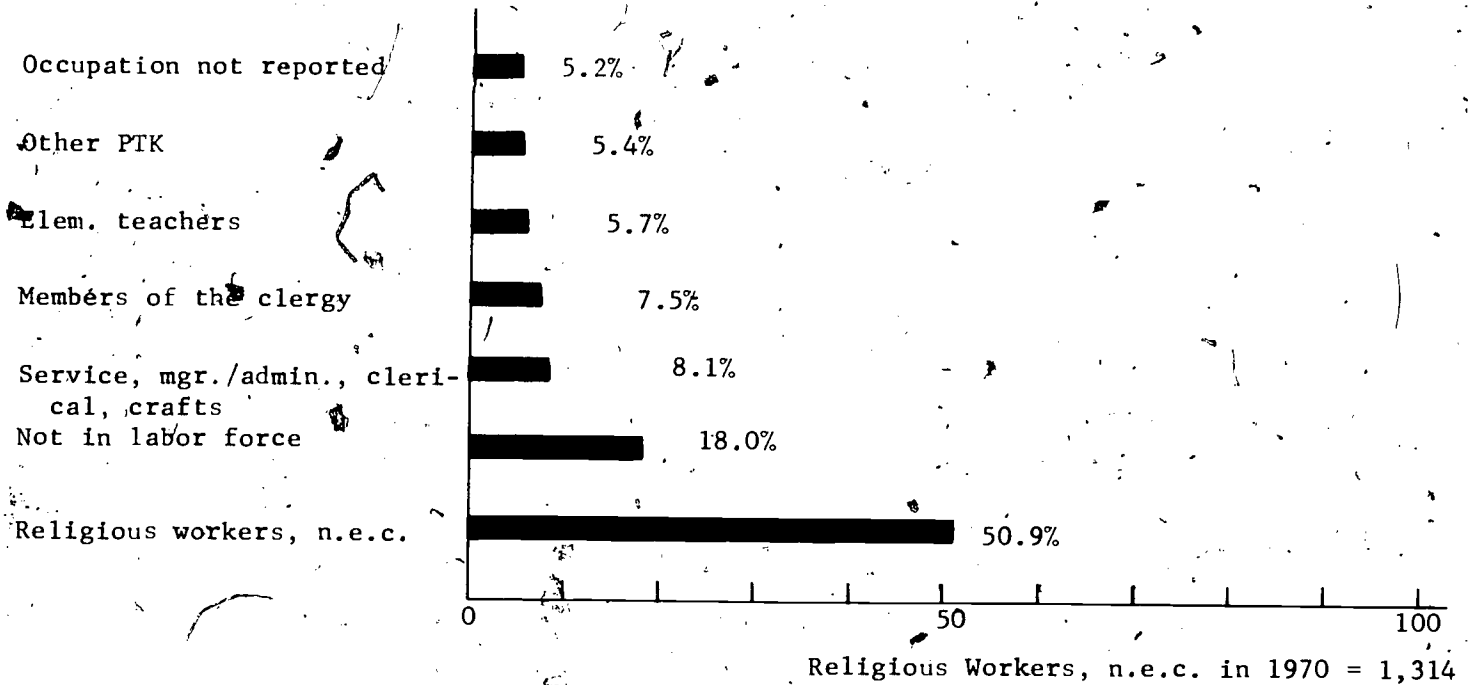
National Council of Churches of Christ
Department of Ministry
475 Riverside Drive
New York, New York 10025

B'nai B'rith Vocational Service
1640 Rhode Island Avenue, N.W.
Washington, D.C. 20036

Ask your local minister, priest or rabbi

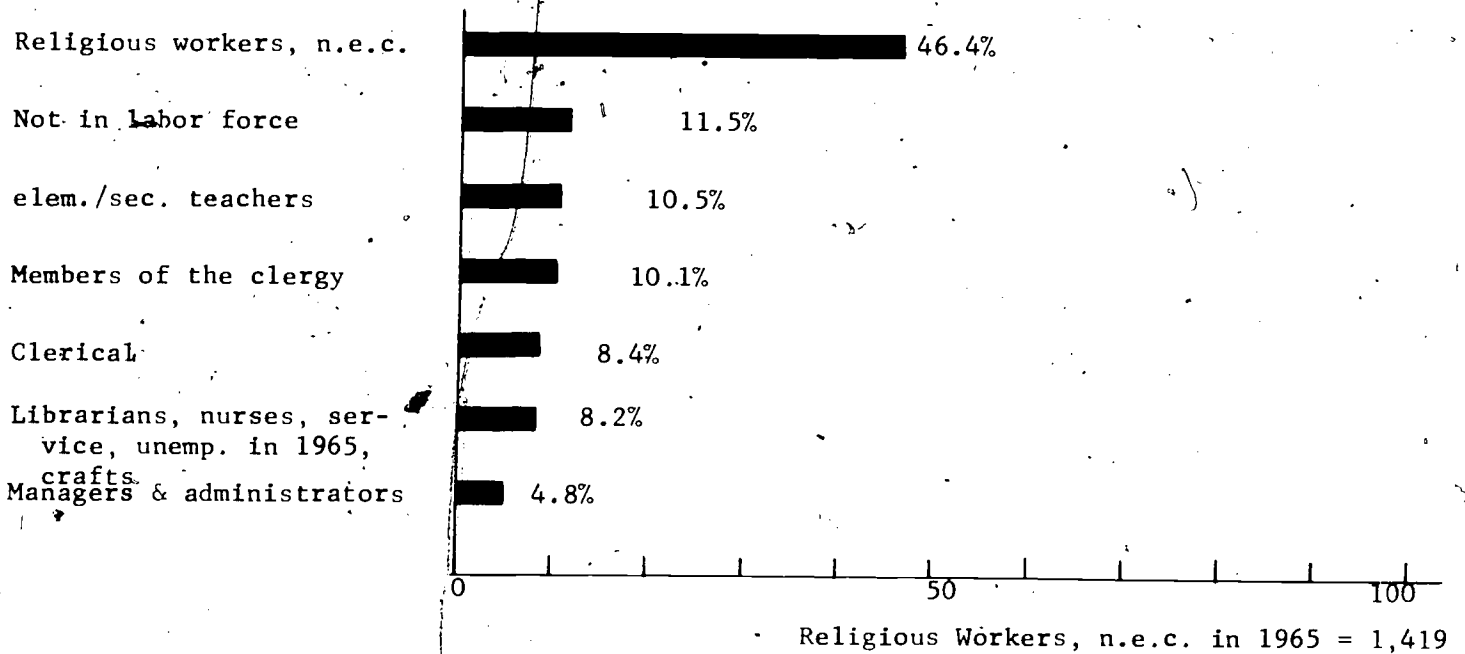
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Religious Workers Were Doing in 1965



More than one-third of the 1970 religious workers were probably training in a church-related school five years earlier (not in the labor force). Another fourth were previously teachers or members of the clergy. Over two-thirds of the 1965 religious workers stayed in a professional occupation in 1970.

What 1965 Religious Workers Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|-----------|---------------|-----------|
| Brother | Elder | Prior |
| Catechist | Gospel worker | Sacristan |
| Deaconers | Missionary | Sister |

ECONOMISTS

D.O.T. # 050. 088

What do economists do? Economists study problems associated with land, raw materials and manpower resources. They analyze the relationship between the supply and demand of goods and services.

TO GET THE JOB

You should be able to:

Understand and use the principles of math and statistics
Reason abstractly
Express ideas verbally and in writing

You should prefer to:

Be accurate and objective
Analyze and interpret data

You should be physically able to:

Hear and speak reasonably well

ON THE JOB

The work of an economist concerns itself primarily with some aspect of the supply and demand of goods and services, and the way these goods are produced, traded, and consumed. Economists may be teachers in colleges and universities, employed by the government, or work for a business or industry. They gather data, use statistical analyses to interpret the data, and draw up reports for their employers' use. The reports present plans which aid in the solution of economic problems that occur. Economists advise industries on government agencies on marketing methods and fiscal problems. They may specialize in branches of the science such as agriculture, finance, labor, industrial, or international economics.

THINGS TO THINK ABOUT

Advantages:

Advancement to supervisor or to researcher with preparation
Pleasant working conditions

Disadvantages:

Need for graduate school level training for continued advancement
Necessary to keep up to date on news and do much reading in the field

PREPARATION AND TRAINING

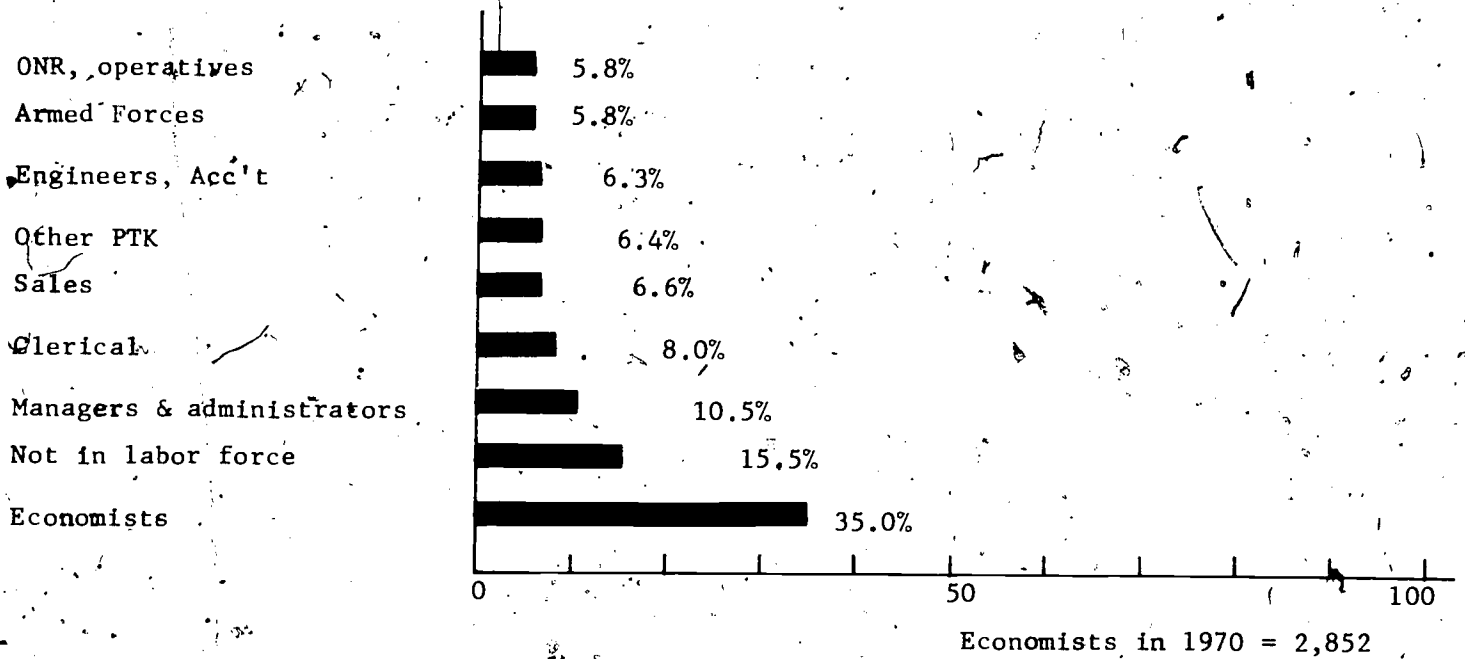
- Bachelor's degree is the minimum requirement.
- Master's or doctoral degree for college teaching and for supervisory positions in government or industry.
- Passing score on the Civil Service exam is necessary for government work.

WHERE TO GET MORE INFORMATION

American Economic Association, Inc.
Northwestern University
629 Noyes Street
Evanston, Illinois 60201

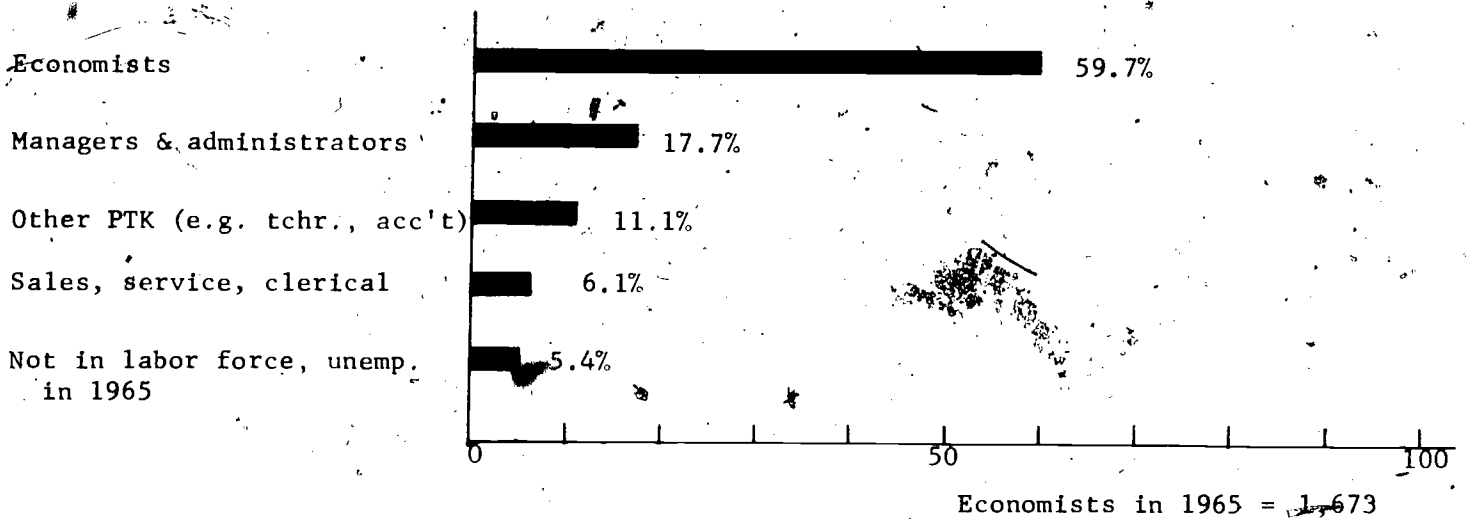
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Economists Were Doing in 1965



Only one-third of the 1970 economists were already employed in the field in 1965. More than one-fifth of the new entrants were probably in school five years earlier. Close to 30% previously worked in clerical or administrative positions. Seventy per cent of the 1965 economists remained in the same or other professions in 1970.

What 1965 Economists Were Doing in 1970



Some job titles classified under this heading:

- | | |
|-------------------|----------------------|
| Business analyst | Marketing consultant |
| Economic adviser | Sales analyst |
| Financial analyst | Trade economist |

PSYCHOLOGISTS

D.O.T. # 045.088

What do psychologists do? Psychologists may work in a variety of settings, but all are attempting to understand people, their behavior, and their needs.

TO GET THE JOB

You should be able to:

Understand the math necessary for statistics

Communicate well verbally and in writing

Understand the scientific method

Tolerate frustration, be emotionally stable and persistent

You should prefer to:

Work with all kinds of people

Work alone or as part of a team

Read professional literature in the field

You should be physically able to:

Hear and speak well

ON THE JOB

Psychologists may work in schools where they help devise the curriculum, test children individually for class placement, help children with learning disabilities, and consult with parents, teachers, and children. Industrial psychologists try to find ways of increasing production or sales and maintain worker morale. Educational psychologists focus primarily on studying how people learn, and developing tests to measure ability, interests, or personality. Experimental psychologists conduct experiments concerning animal and human behavior and the effects of different variables on behavior.

THINGS TO THINK ABOUT

Advantages:

Promotion to director or administrator

Good working conditions

Disadvantages:

Long and difficult training program

Continued study and reading

PREPARATION AND TRAINING

The Ph.D. degree is recommended for a career. The bachelor's degree does not qualify you for work as a psychologist.

Psychologists in private practice usually need a license.

School psychologists must have at least a master's degree to meet Pennsylvania certification requirements.

Clinical and industrial psychologists need to have a Ph.D., experience, and a passing grade on an exam given by the American Board of Examiners in

Professional Psychology, in order to practice.

WHERE TO GET MORE INFORMATION

American Psychological Association

1200 - 17th Street, N.W.

Washington, D.C. 20036

National Institute of Mental Health

Bethesda, Maryland 20014

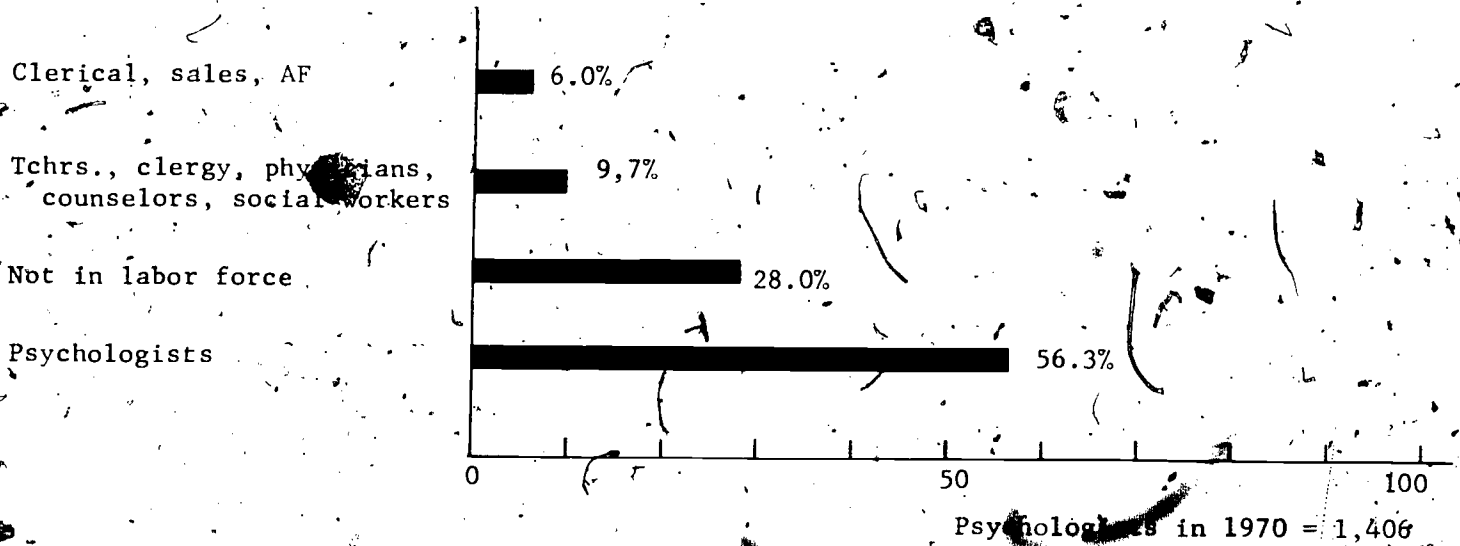
American Personnel and Guidance Association

1607 New Hampshire Avenue, N.W.

Washington, D.C. 20009

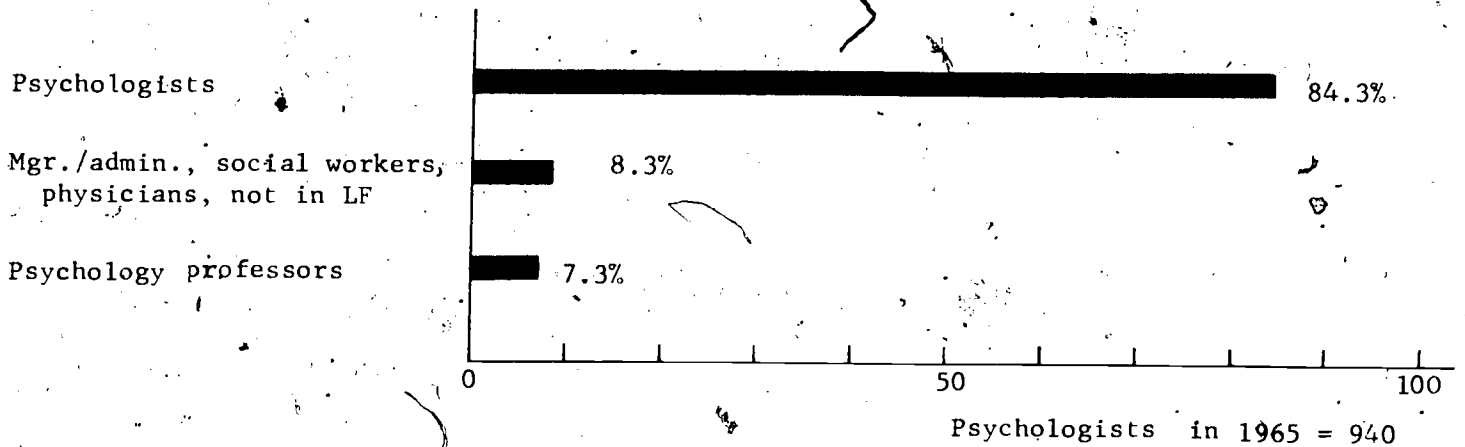
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Psychologists Were Doing in 1965



Over half of the 1970 psychologists were already employed in Pennsylvania five years earlier. More than 60% of the new entrants were probably in college in 1965 (not in the labor force). About 20% more were working in other professional occupations. More than 90% of the 1965 psychologists remained in that occupation or entered the related/teaching field.

What 1965 Psychologists Were Doing in 1970



Some job titles classified under this heading:

- Child psychologist
- Counseling psychologist
- Industrial psychologist
- Psychometrist
- Psychotherapist
- Social psychologist

URBAN AND REGIONAL PLANNERS

D.O.T. # 199.168

What do urban and regional planners do? Urban and regional planners are in charge of, or assist in, planning the locations of new buildings or the development or redevelopment of a city or metropolitan area.

TO GET THE JOB

You should be able to:

- Draw, sketch, and understand spatial relationships.
- Work independently yet cooperate with others
- Be sensitive to the needs and demands of the community

You should prefer to:

- Work mostly indoors
- Do detailed work
- Work with many different kinds of people

You should be physically able to:

- See well
- Manipulate objects with your hands.

ON THE JOB

Urban and regional planners become familiar with the existing roads, buildings, and facilities of the city. They assess the business, industrial, and public needs of the city and its people. With that information they try to regulate the specific use of land for buildings and roads. Urban and regional planners are concerned with the usefulness and beauty of their plans for education, business, recreation and residential use. They meet with local authorities and planning specialists to determine the best recommendations for the use of land and physical facilities. They may recommend appropriate government measures.

THINGS TO THINK ABOUT

Advantages:

- Advancement from assistant to director
- Usually set own working hours
- Good working conditions

Disadvantages:

- May occasionally have to work long hours while projects are completed
- May have to discuss plans with citizen groups to gain their acceptance of project

PREPARATION AND TRAINING

Bachelor's degree with a major in architecture, civil engineering, or public administration is the minimum requirement for government agencies. Master's degree is almost essential; an internship is part of the requirement. Civil service exam is necessary for most positions.

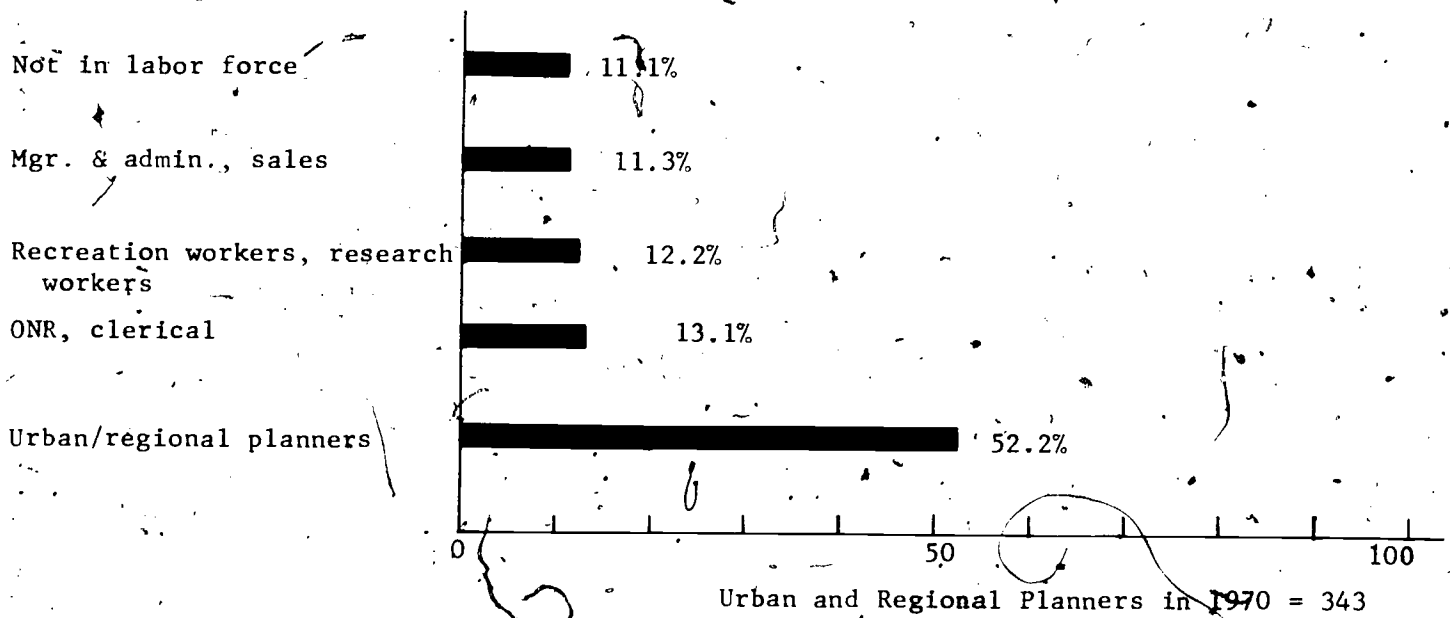
WHERE TO GET MORE INFORMATION

American Institute of Planners
917 - 15th Street, N.W.
Washington, D.C. 20005

American Society of Planning Officials
1313 East 60th Street
Chicago, Illinois 60637

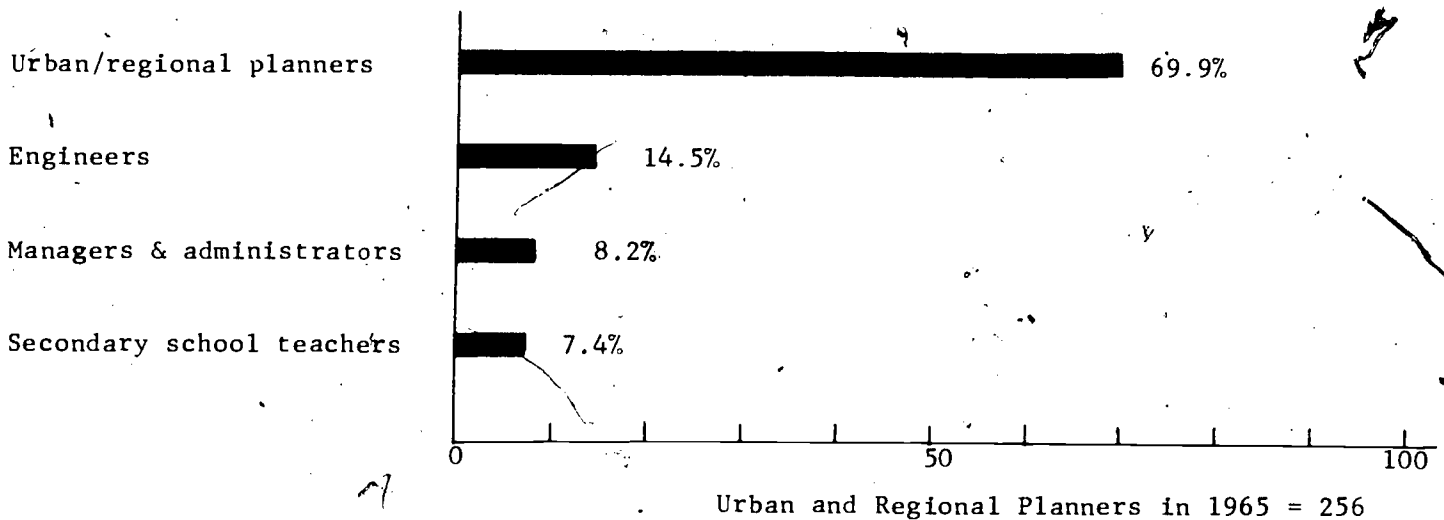
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION.

What 1970 Urban and Regional Planners Were Doing in 1965



About half of the 1970 planners were already working in the field five years earlier. One-fourth of the new entrants were employed in recreation or research areas in 1965. Nearly 25% more were probably in college (not in the labor force). Over 90% of the 1965 planners remained in that occupation in 1970 or became engineers or teachers.

What 1965 Urban and Regional Planners Were Doing in 1970



Some job titles classified under this heading:

- City planner
- Director of planning
- Traffic expert

SOCIAL WORKERS

D.O.T. # 195.108

What do social workers do? Social workers use individual case work, group work, or community organization to prevent or alleviate social problems such as inadequate housing and recreation, poverty, and unemployment.

TO GET THE JOB

You should be able to:

- Organize and coordinate activities
- Work easily with all types of people
- Be emotionally mature and stable
- Be sensitive and objective

You should prefer to:

- Work with people
- Work as an individual and/or as part of a team
- Handle responsibility

You should be physically able to:

- Operate a car
- Speak clearly
- Hear well

ON THE JOB

Social workers may work in schools, as probation officers, in juvenile court, in prisons, with employment agencies, or in local and state governments. In all cases their goal is to help the individuals with whom they are working to adjust, adapt and/or improve their situations. Social workers write up reports of their interviews and meetings. They work with people of all ages, providing counseling and social services to strengthen personal relationships. They also advise clients on the use of financial assistance.

THINGS TO THINK ABOUT

Advantages:

Advancement to supervisory positions with advanced degrees

Disadvantages:

- Many work only part-time
- Work usually requires evening and weekend work
- May work in locations with a high crime rate

PREPARATION AND TRAINING

Minimum requirement is a bachelor's degree in social welfare or social work. A master's degree in social work (M.S.W.) is becoming increasingly important. That requires two years of specialized study and supervised field instruction.

WHERE TO GET MORE INFORMATION

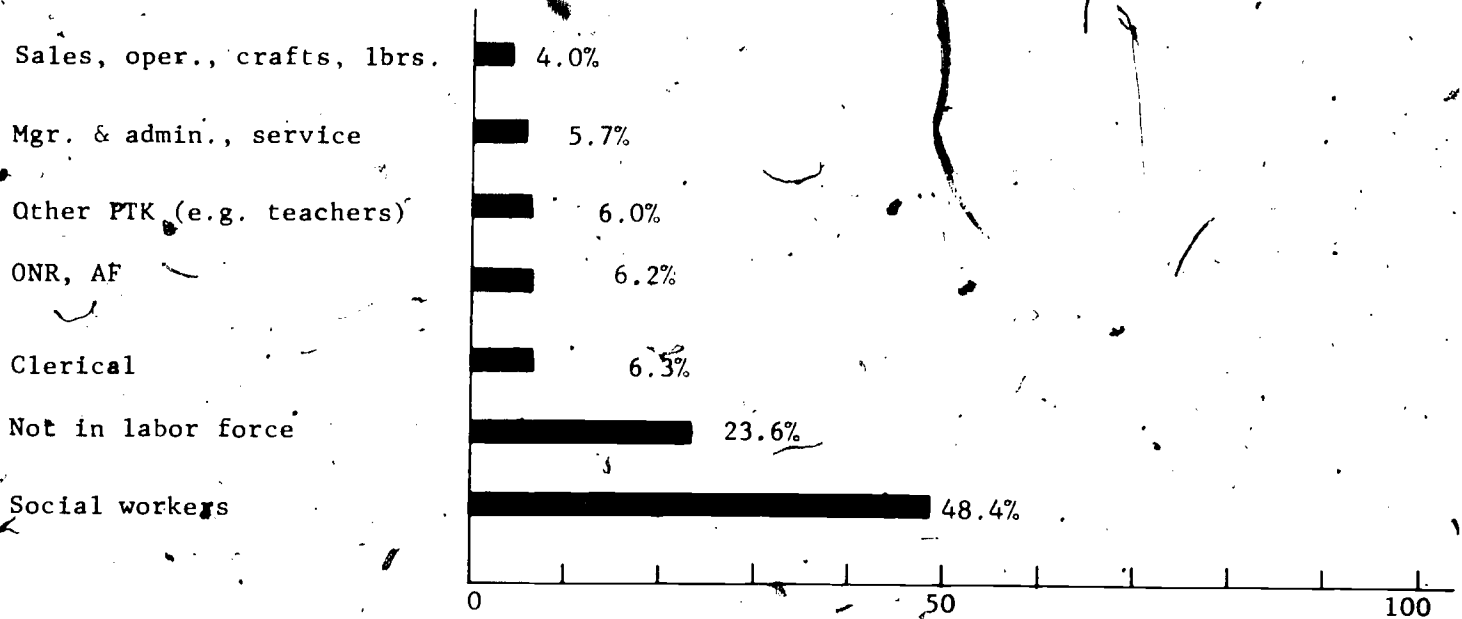
National Association of Social Workers
15th and H Street, N.W.
600 Southern Building
Washington, D.C. 20005

The Executive Secretary
Central Board of U.S. Civil Service
Examiners
Veterans Administration
Washington, D.C. 20421

National Commission for Social Work Careers
2 Park Avenue
New York, New York 10016

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

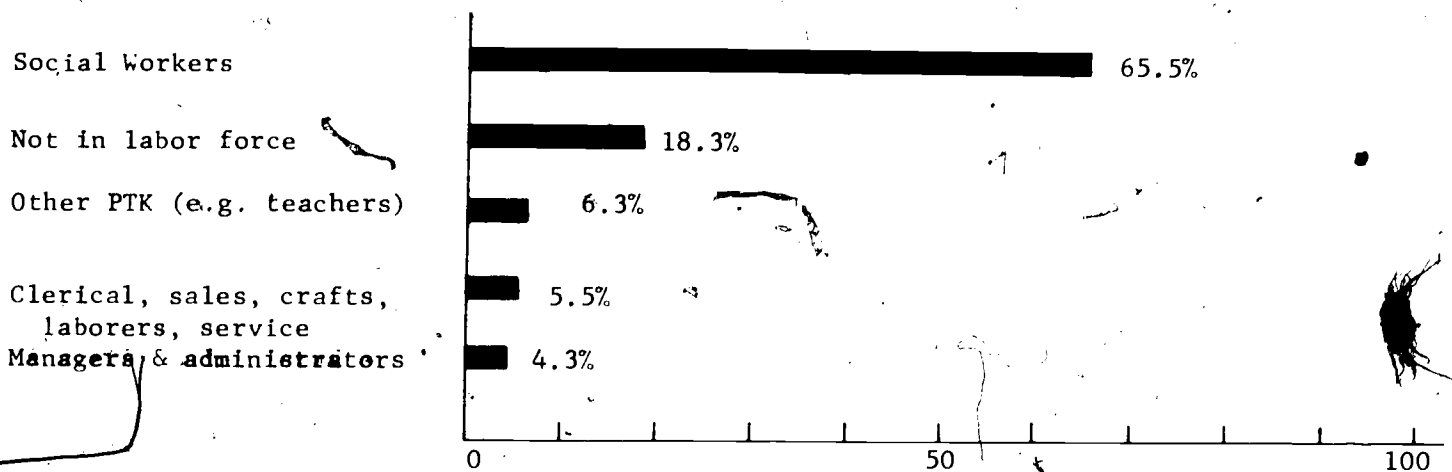
What 1970 Social Workers Were Doing in 1965



• Social Workers in 1970 = 9,190

About half the 1970 social workers in Pennsylvania were doing something else five years earlier. Almost 50% of the new entrants were probably in college in 1965 (not in the labor force). Nearly 25% more were working in clerical or other professional positions. Two-thirds of the 1965 social workers remained in the field in 1970.

What 1965 Social Workers Were Doing in 1970



Social Workers in 1965 = 6,796

Some job titles classified under this heading:

- | | |
|------------------|----------------------|
| Case worker | Parole officer |
| Field supervisor | Settlement worker |
| Home visitor | Welfare investigator |

RECREATION WORKERS

D.O.T. # 195.228 & 187.118

What do recreation workers do? Recreation workers help individuals and groups to use their leisure time constructively for physical, social, and personal benefit.

TO GET THE JOB

You should be able to:

- Motivate and organize people
- Be creative and resourceful
- Accept responsibility

You should prefer to:

- Work with other people, but have sole responsibility
- Be constantly active

You should be physically able to:

- Maintain good all-around health
- See, hear, and speak well
- Participate in a variety of sports

ON THE JOB

Recreation workers may work indoors or outdoors. At local playgrounds and recreation centers they organize team sports and instruct in arts and crafts. They may work with social workers to provide activities for the young and aged. Industrial recreation workers organize bowling, basketball, and other sports leagues; as well as picnics and holiday celebrations. Therapeutic recreation workers direct activities in hospitals or homes for the sick and handicapped.

THINGS TO THINK ABOUT

Advantages:

- Doing work which keeps you physically fit
- Room and board is offered with some live-in positions
- Advancement with advanced degree and experience
- Usually spend time outdoors when weather permits

Disadvantages:

- Usually will work evenings or weekends
- Responsibility for health and welfare of people

PREPARATION AND TRAINING

Minimum requirement for a camp leader is a high school diploma. Bachelor's degree in social science, recreation, or physical education, along with part-time experience is generally required. Higher positions in direction or administration generally request more advanced coursework. Experience in part-time employment is very important.

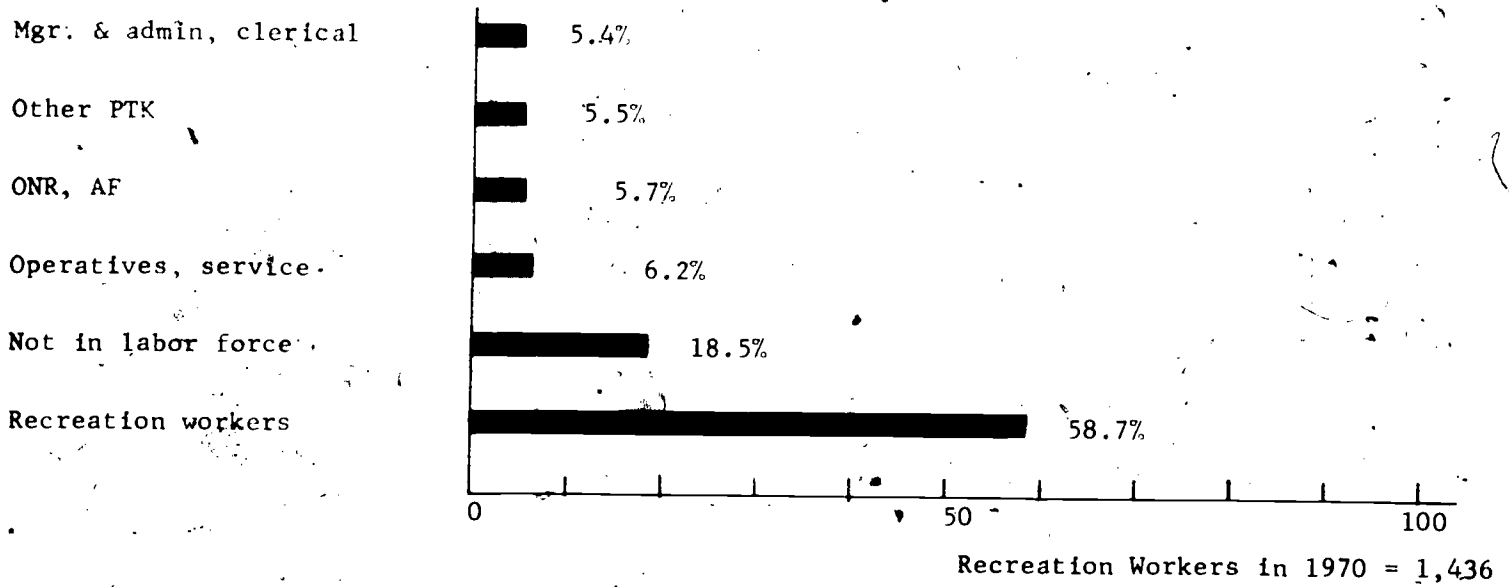
WHERE TO GET MORE INFORMATION

National Industrial Recreation Association
20 North Wacker Drive
Chicago, Illinois 60606

National Recreation and Parks
Association
1601 North Kent Street
Arlington, Virginia 22209

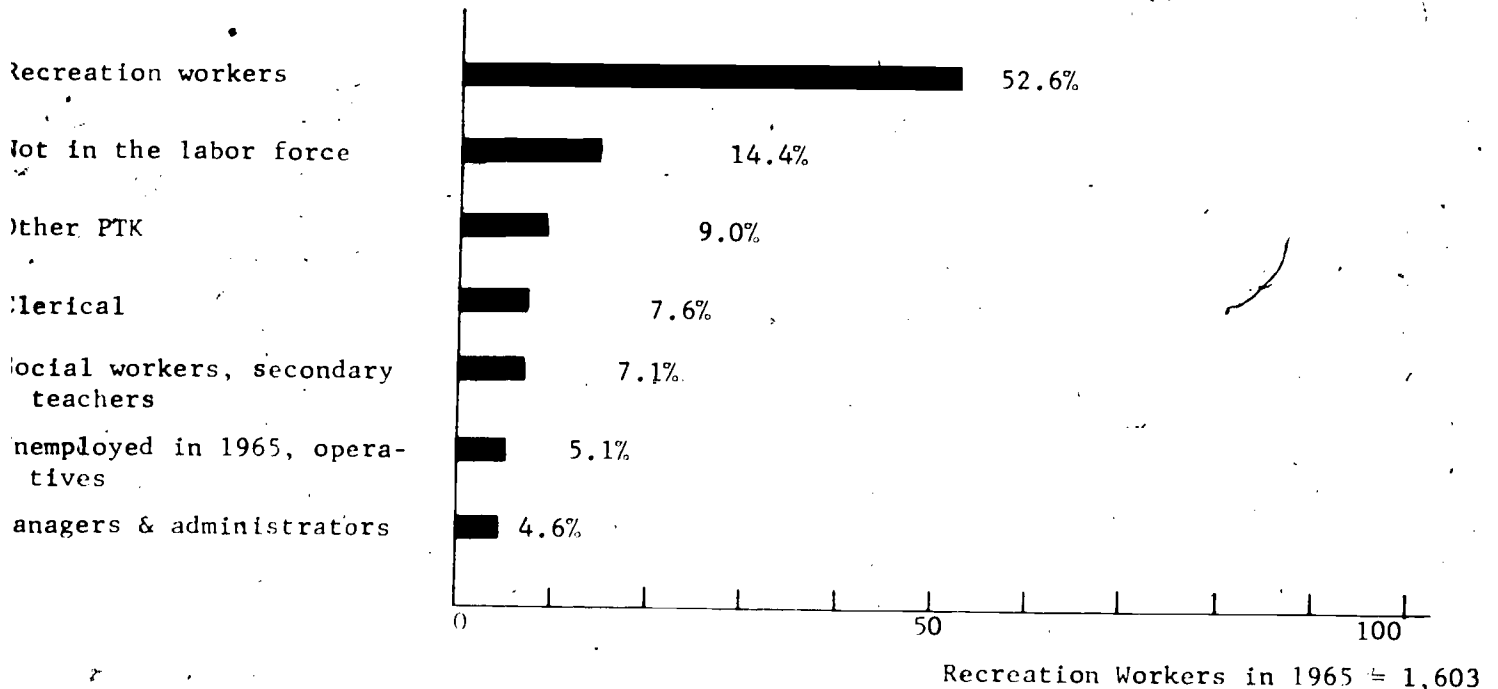
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Recreation Workers Were Doing in 1965



About 40% of the 1970 recreation workers were doing something else five years earlier. Close to half of the new entrants were probably in college in 1965 (not in the labor force). More than three-fourths of the 1965 recreation workers remained in that occupation or moved into another professional field by 1970.

What 1965 Recreation Workers Were Doing in 1970



Some job titles classified under this heading:

- | | |
|---------------------|-------------------|
| Activities director | Playground worker |
| Camp counselor | Recreation leader |
| Field scout | Teen counselor |

COLLEGE AND UNIVERSITY PROFESSORS

D.O.T. # 090.228

What do professors do? Professors in colleges and universities conduct classes for undergraduate and/or graduate students.

TO GET THE JOB

You should be able to:

Do advanced work in a specialized area in which you will teach
Communicate ideas verbally and in writing

You should prefer to:

Work alone or with others
Keep current with the literature in your area of interest

You should be physically able to:

Maintain good health and stamina
Speak clearly

ON THE JOB

College professors teach one or more subjects such as economics, law, medicine, psychology, etc., in a prescribed curriculum. They prepare lectures for classes, prepare outside reading lists, conduct class discussions, and otherwise promote the acquisition of knowledge. They construct, administer, and grade examinations or assign that work to an assistant. Professors may conduct their own research and prepare it for publication and/or direct students for advanced degrees in their research. Serving on academic committees and providing professional services to other organizations in business government, industry, or education are other duties of college and university professors.

THINGS TO THINK ABOUT

Advantages:

Advancement to full professor, department head, dean or perhaps even to college president
Usually, pleasant working conditions and comfortable atmosphere
Arrangement of own work schedule, except class time

Disadvantages:

May have office located in an old building without good lighting or air conditioning
Usually share secretarial services
May have to share an office

PREPARATION AND TRAINING

Minimum of a master's degree is the usual requirement, but a candidate for an advanced degree may have a teaching assistantship.

A doctoral degree is becoming more important.

Some experience in the field of specialty is an advantage.

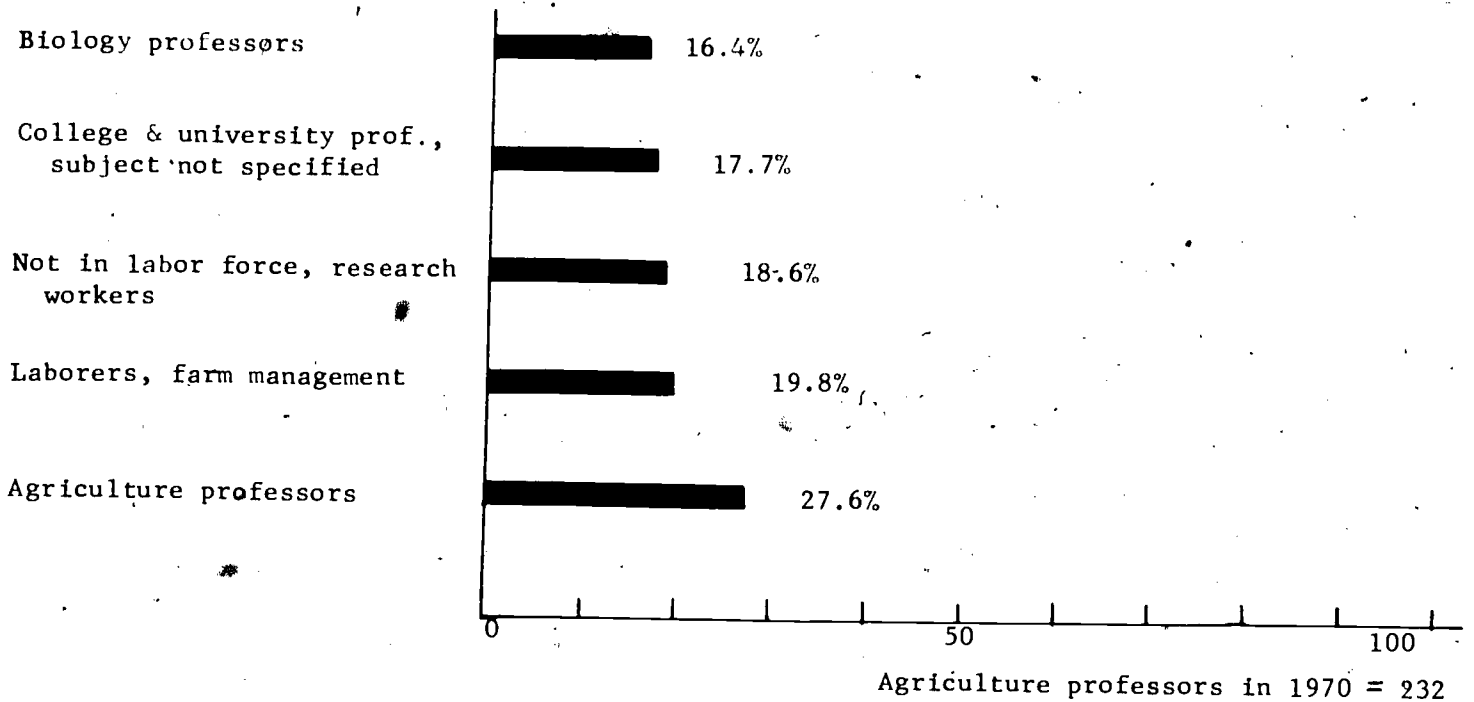
State certification is not necessary to teach at the college level, although certification may be required for two-year colleges.

WHERE TO GET MORE INFORMATION

American Association of University Professors One Dupont Circle, N.W. Washington, D.C. 20036	National Education Association 1201 - 16th Street, N.W. Washington, D.C. 20036
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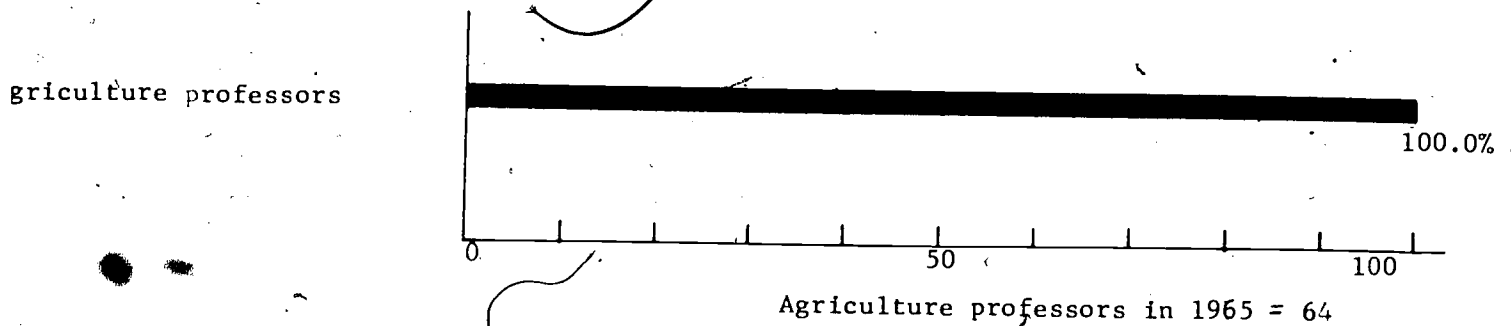
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Agriculture Professors Were Doing in 1965



Over 70% of the 1970 agriculture professors were doing something else five years earlier. Almost half of the new entrants were already college and university professors in 1965. More than 25% more had previously worked as laborers or farm managers. The rest were probably in college or graduate school (not in the labor force) or were employed as researchers. All of the 1965 agriculture professors remained in that occupation in 1970. The number of persons in the profession increased four times over the five-year period.

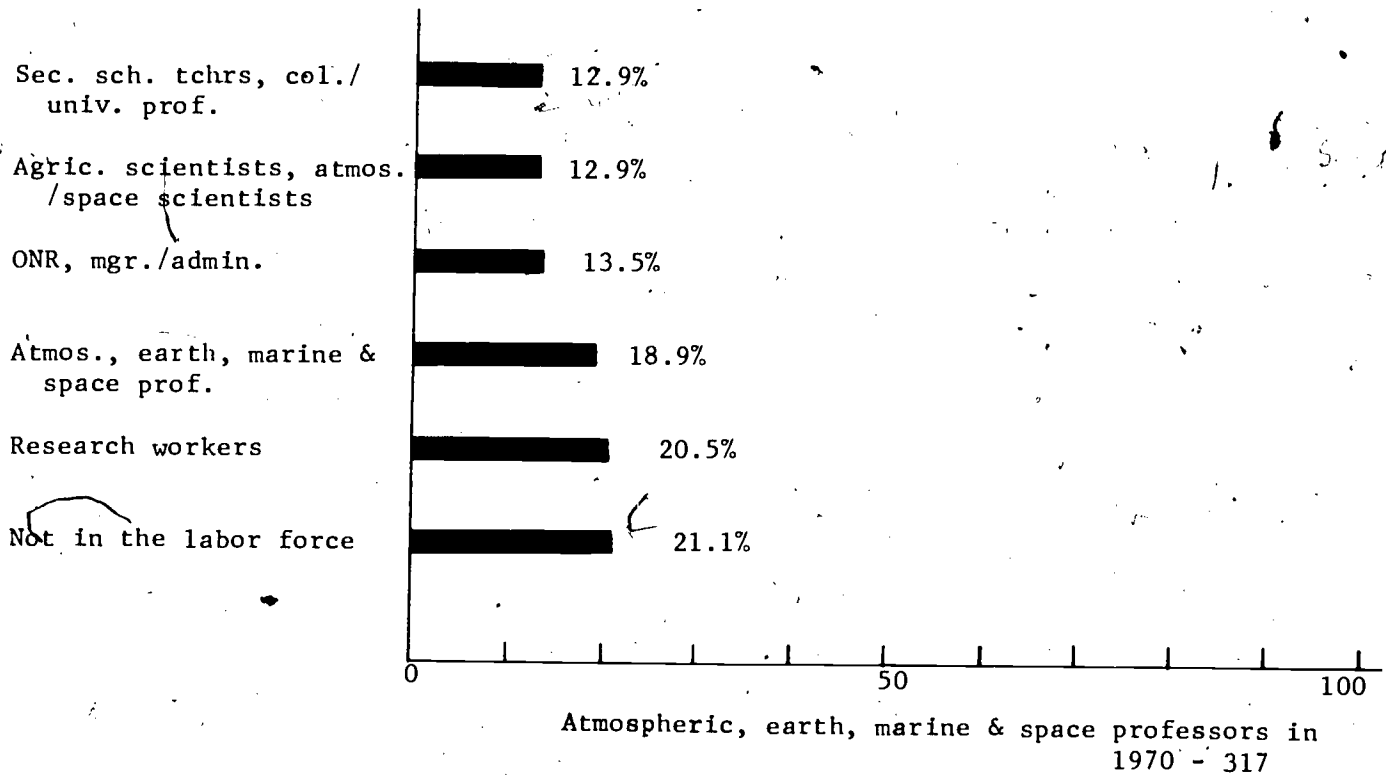
What 1965 Agriculture Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

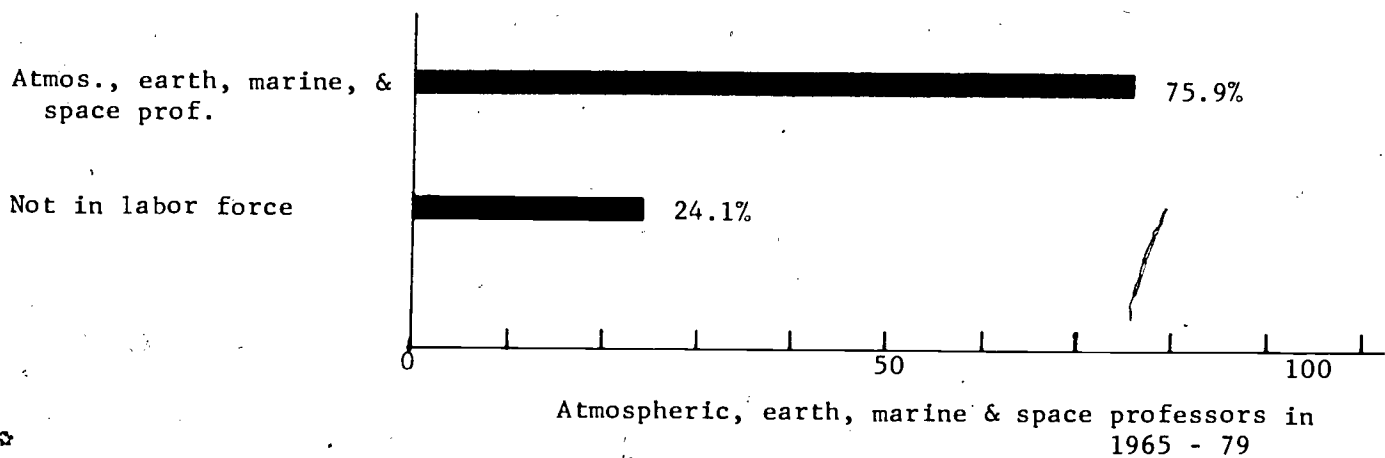
- Agronomy
- Dairy science
- Farm management
- Forestry
- Irrigation
- Soil conservation

What 1970 Atmospheric, Earth, Marine and Space Professors Were Doing in 1965



Less than 20% of these 1970 professors were already employed in that field five years earlier. Over 25% of the new entrants were probably in college or graduate school in 1965 (not in the labor force). Another 40% previously worked as researchers or scientists. More than 75% of the 1965 professors in the field remained in the same occupation in 1970. The number of persons in this category increased more than three times between 1965 and 1970.

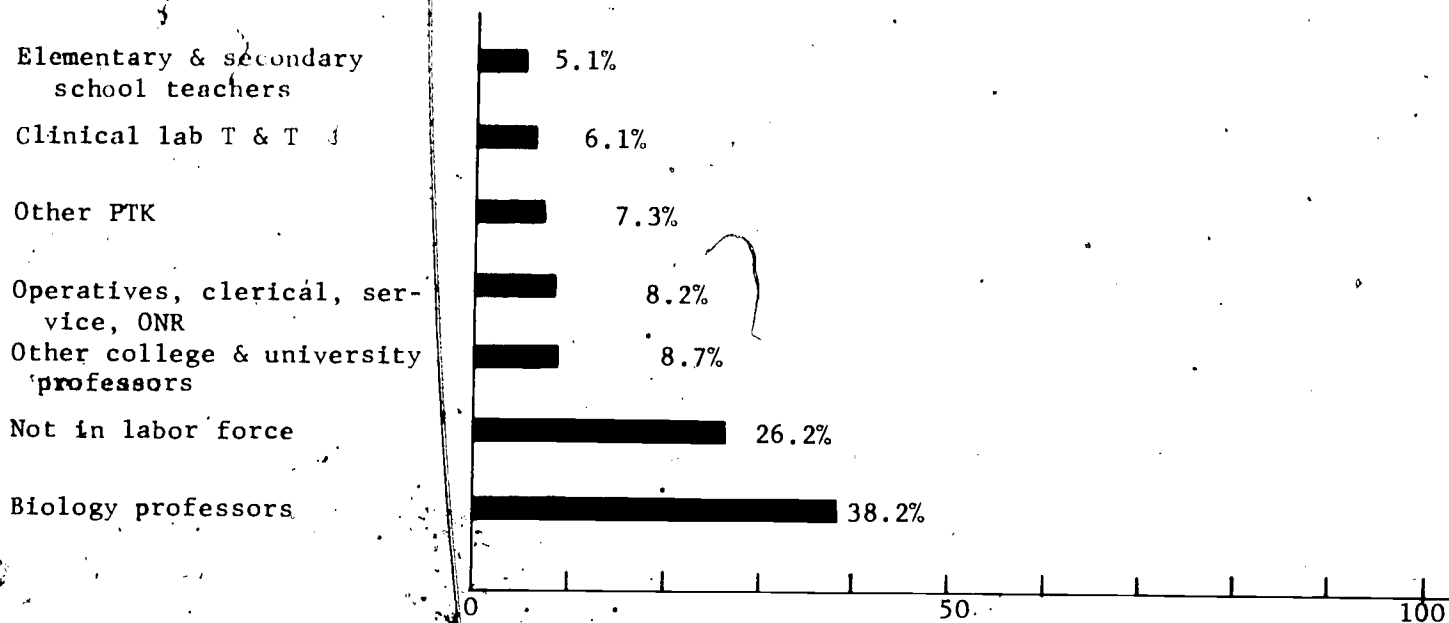
What 1965 Atmospheric, Earth, Marine and Space Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

- | | |
|-------------|---------------|
| Climatology | Meteorology |
| Geology | Oceanographer |
| Hydrography | Paleontology |

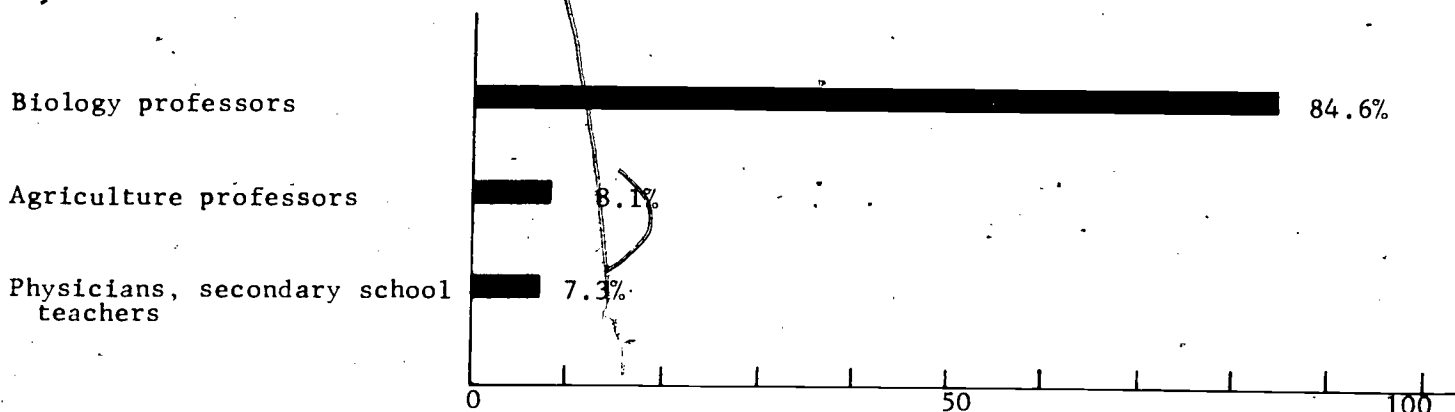
What 1970 Biology Professors Were Doing in 1965



Biology Professors in 1970 = 1,037

Over 60% of the 1970 biology professors were doing something else five years earlier. More than one-third were probably in college or graduate school in 1965 (not in the labor force). Another fifth were teaching in other subject areas or at different levels. All of the 1965 biology professors were employed in a professional occupation in 1970.

What 1965 Biology Professors Were Doing in 1970

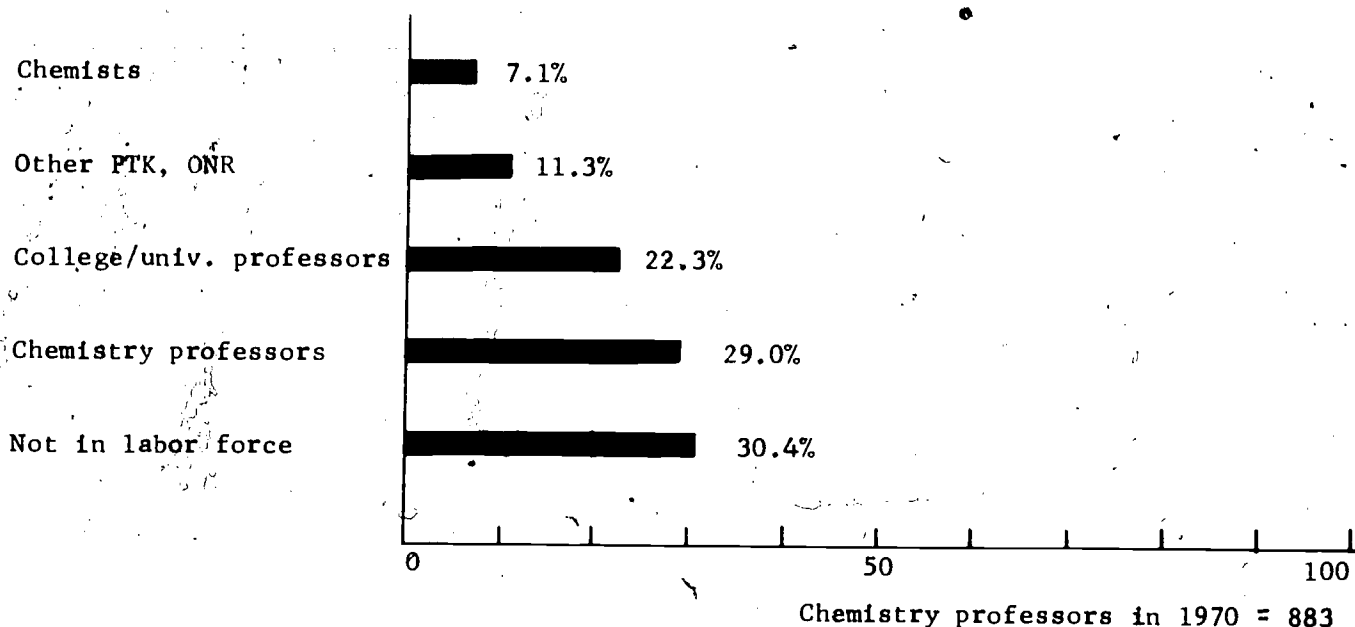


Biology Professors in 1965 = 468

Some job titles classified under this heading: (Professor of)

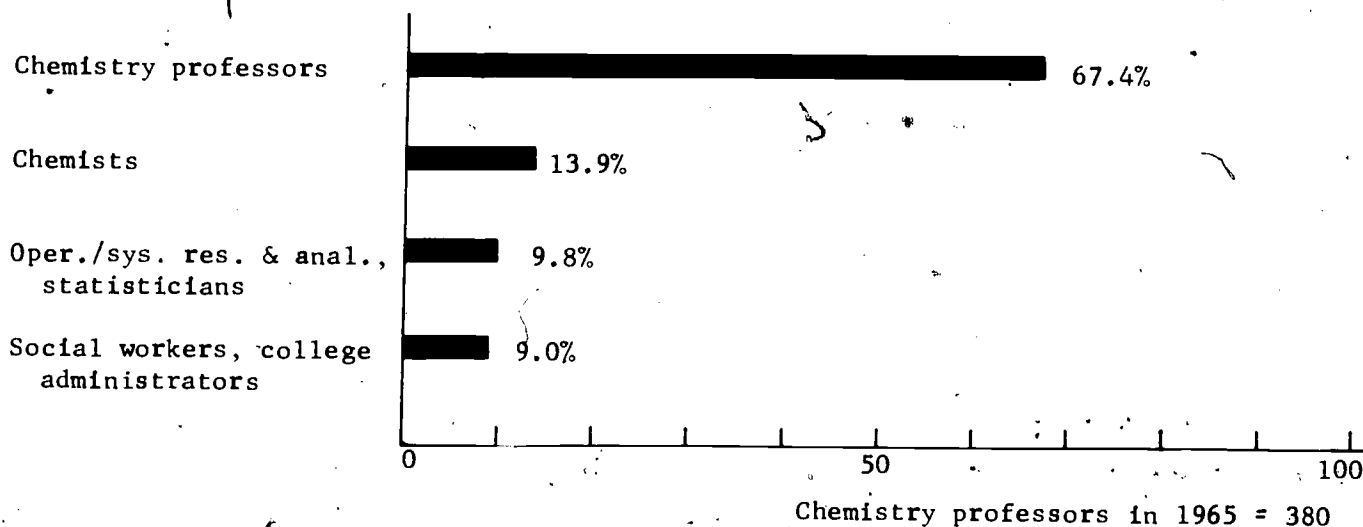
- Anatomy
- Cytology
- Histology
- Morphology
- Parasitology
- Virology

What 1970 Chemistry Professors Were Doing in 1965



More than 70% of the 1970 chemistry professors were doing something else in 1965. Over 40% of the new entrants were probably in college or graduate school five years earlier (not in the labor force). Another 40% previously were employed in other teaching professions or as chemists. Two-thirds of the 1965 chemistry professors remained in that occupation in 1970. More than one-third of those who left teaching became chemists.

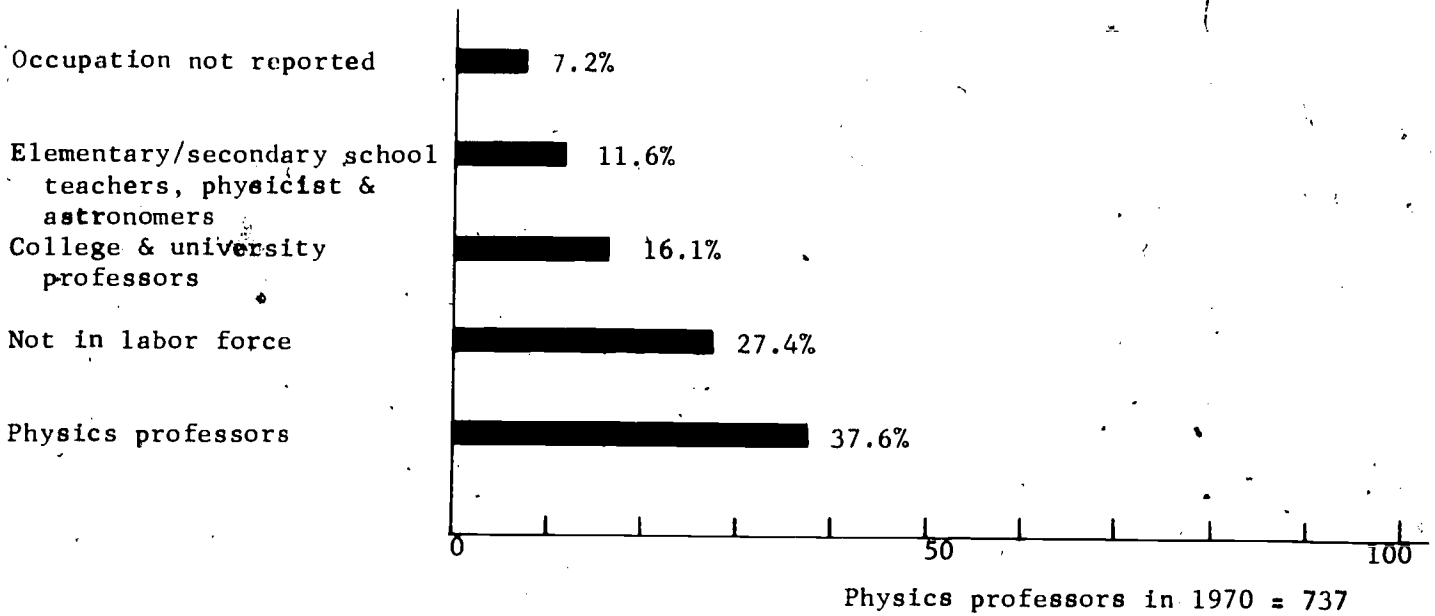
What 1965 Chemistry Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

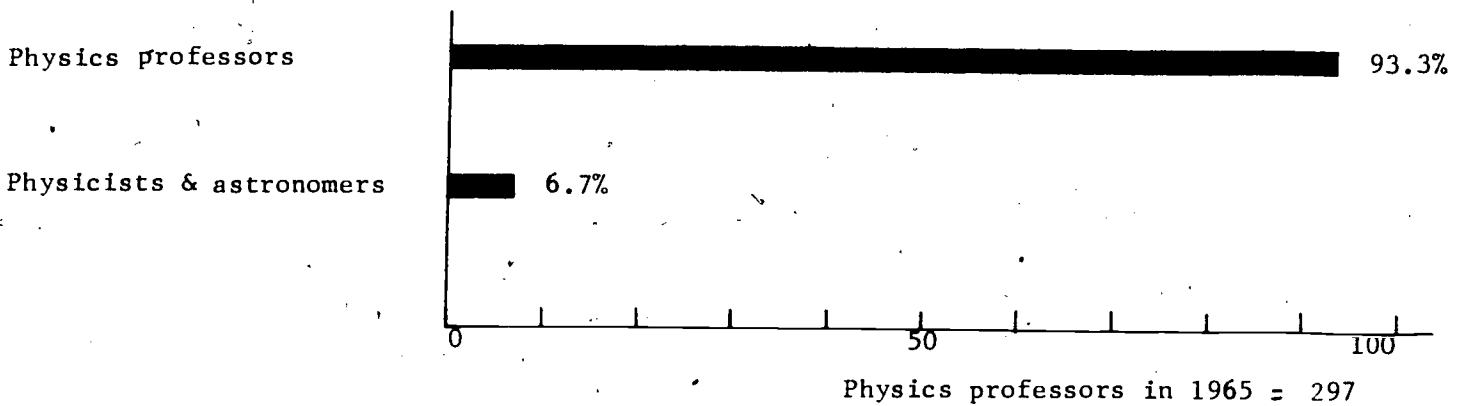
Biochemistry
 Food technology
 Industrial chemistry
 Organic chemistry
 Pharmacognosy
 Physical chemistry

What 1970 Physics Professors Were Doing in 1965



More than 60% of the 1970 physics professors were doing something else five years earlier. Over 40% of the new entrants were probably in college or graduate school in 1965. An equally large group were previously employed as teachers or scientists. All of the 1965 physics professors remained in the field in 1970 or took positions as physicists or astronomers.

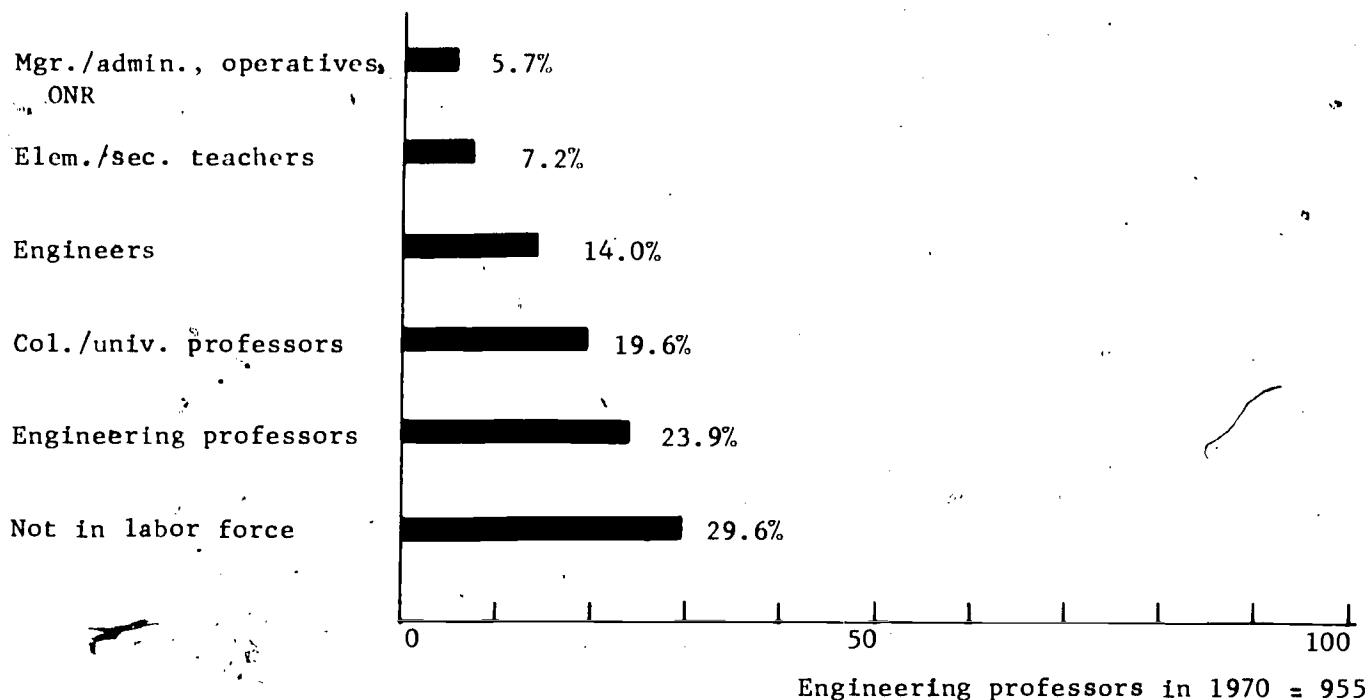
What 1965 Physics Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

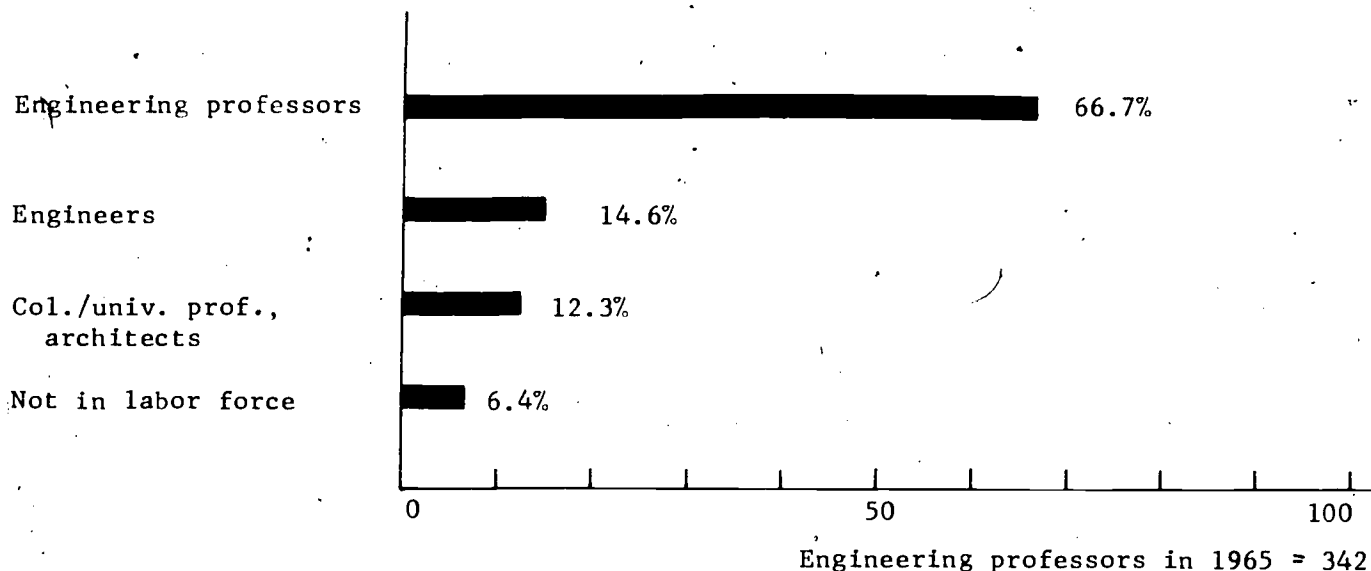
- Acoustics
- Aerodynamics
- Atomic physics
- Biophysics
- Medical physics
- Physical optics

What 1970 Engineering Professors Were Doing in 1965



Less than one-fourth of the 1970 engineering professors were already working in that field in 1965. Forty percent of the new entrants were probably in college or graduate school five years earlier (not in the labor force). More than one-third were teaching in another subject area in 1965. Over 80% of the 1965 engineering professors remained working in the engineering profession in 1970.

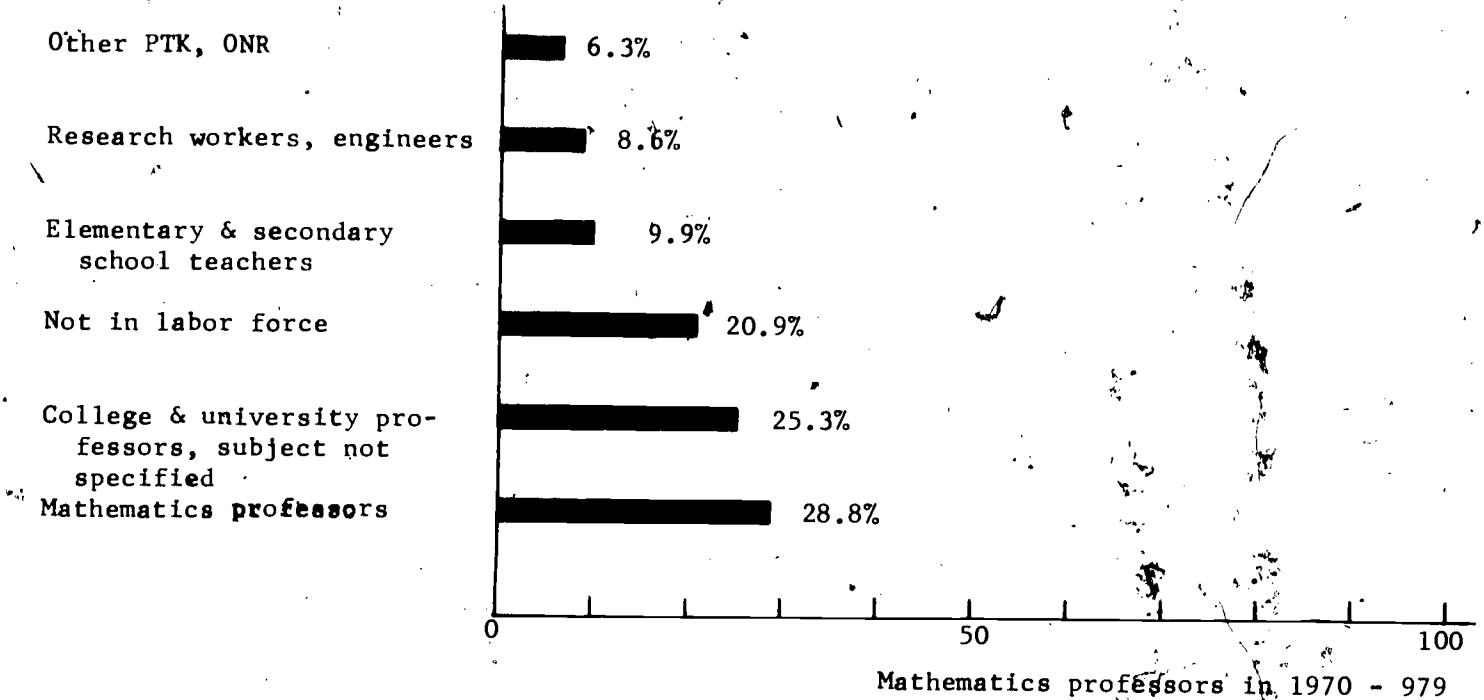
What 1965 Engineering Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

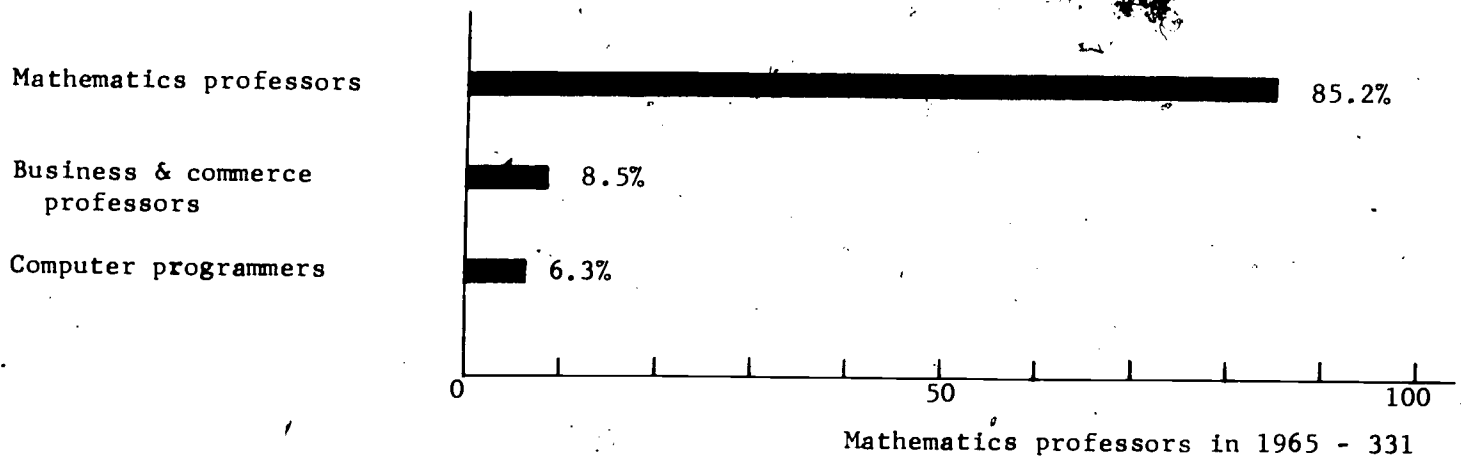
- | | | |
|------------------------|----------------------|------------------------|
| Aeronautics | Hydraulics | Radar engineering |
| Chemical engineering | Marine engineering | Sanitary engineering |
| Civil engineering | Metallurgy | Ship design |
| Geological engineering | Plastics engineering | Television engineering |

What 1970 Mathematics Professors Were Doing in 1965



More than 70% of the 1970 mathematics teachers were doing something else five years earlier. Half of the new entrants were already employed as teachers or professors in 1965. Over 30% were probably in college or graduate school (not in the labor force). Only 15% of the 1965 mathematics professors left that field by 1970. Over half of those who left the occupation remained professors.

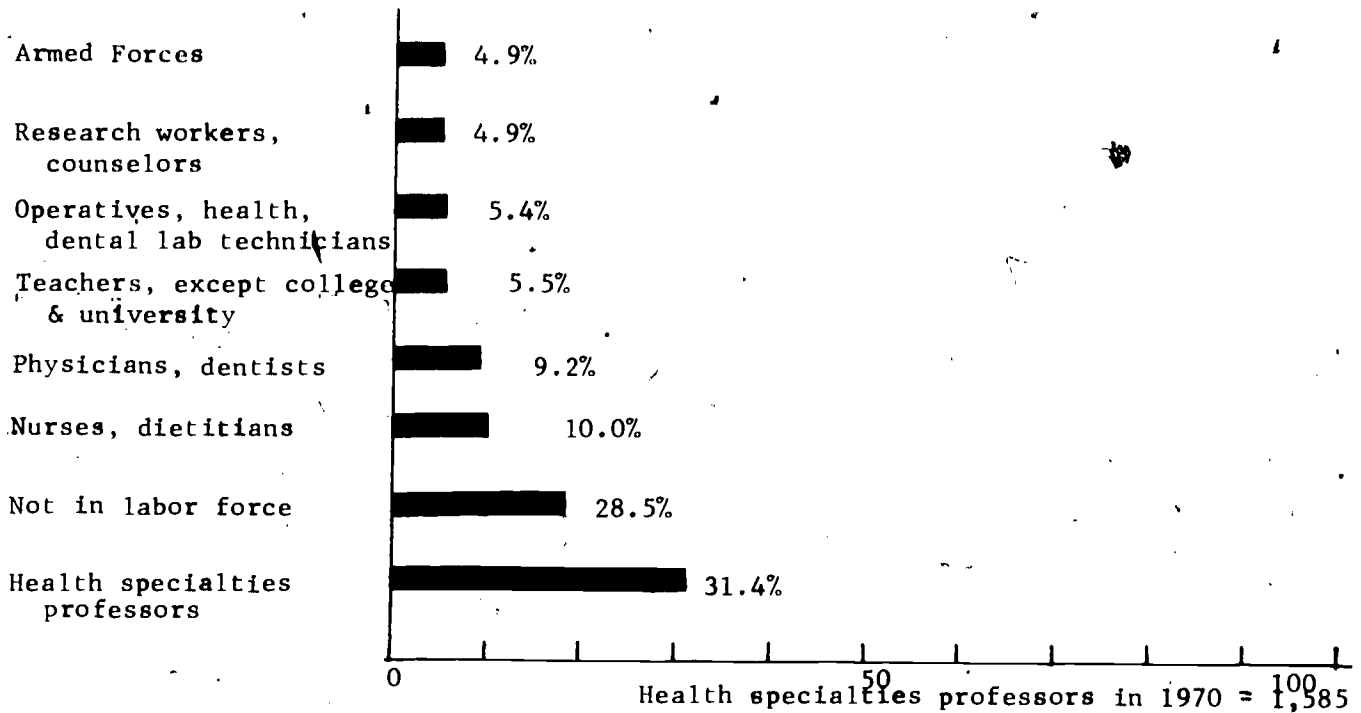
What 1965 Mathematics Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

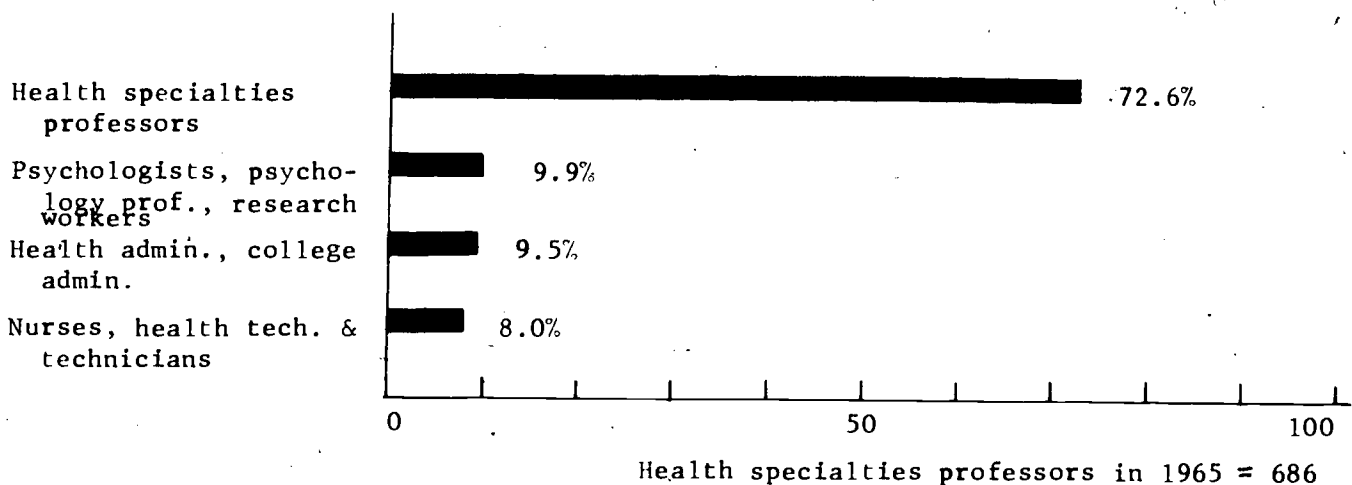
Algebra	Geometry
Calculus	Statistics
Computer science	Trigonometry

What 1970 Health Specialties Professors Were Doing in 1965



Over two-thirds of the 1970 health specialties professors were doing something else five years earlier. More than one-third of the new entrants were probably in college in 1965 (not in the labor force). Another fourth were already employed in the health profession. Over 80% of the 1965 professors remained in the field or entered administration by 1970.

What 1965 Health Specialties Professors Were Doing in 1970

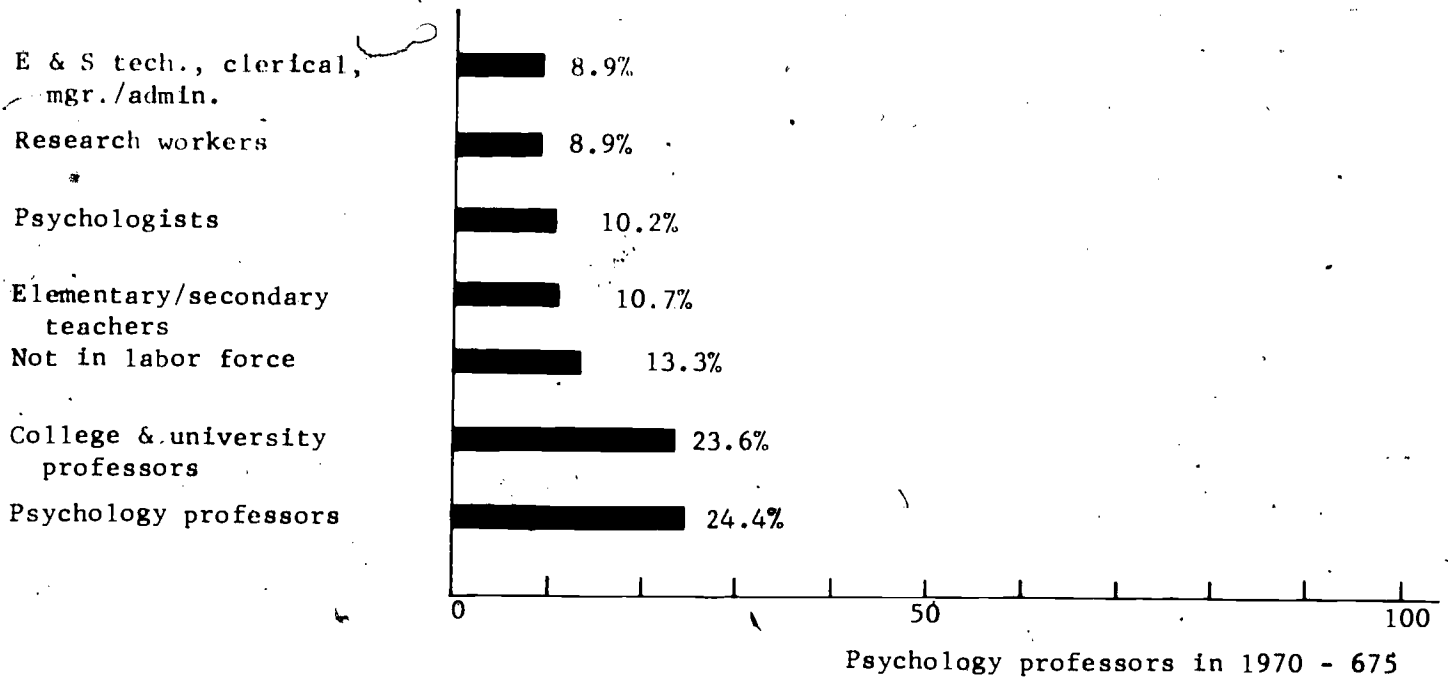


Some job titles classified under this heading:

Anesthesiology	Medicine	Psychiatry
Dental Hygiene	Nursing	Public health
Endocrinology	Optometry	Speech therapy
Health education	Pathology	Veterinary science

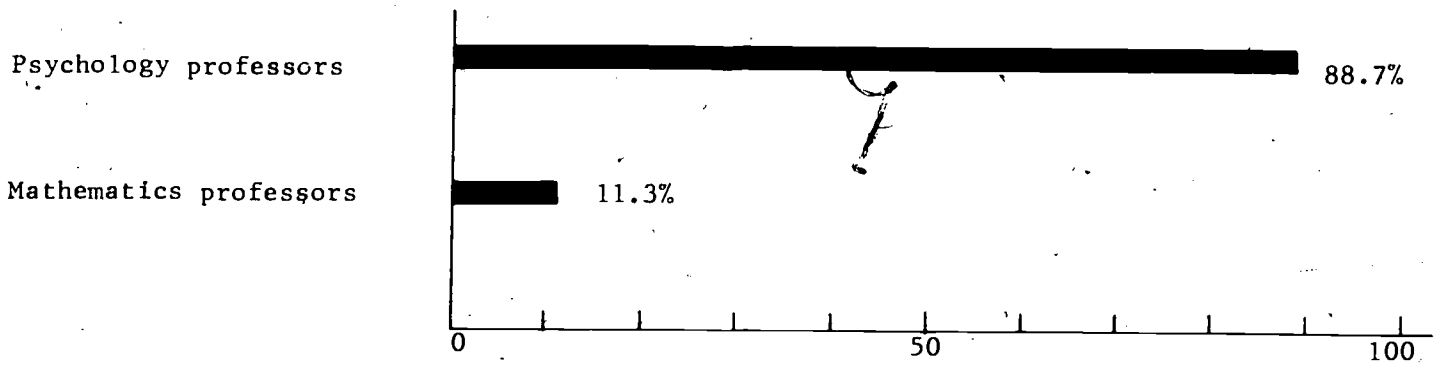
131

What 1970 Psychology Professors Were Doing In 1965



Three-fourths of the 1970 psychology professors in 1970 were doing something else five years earlier. Almost 45% of the new entrants were already in the teaching profession in 1965. Another one-fourth were psychologists or research workers. About 17% were probably in college or graduate school (not in the labor force). All of the 1965 psychology professors remained in the teaching profession in 1970, although some had moved into the field of teaching mathematics.

What 1965 Psychology Professors Were Doing in 1970

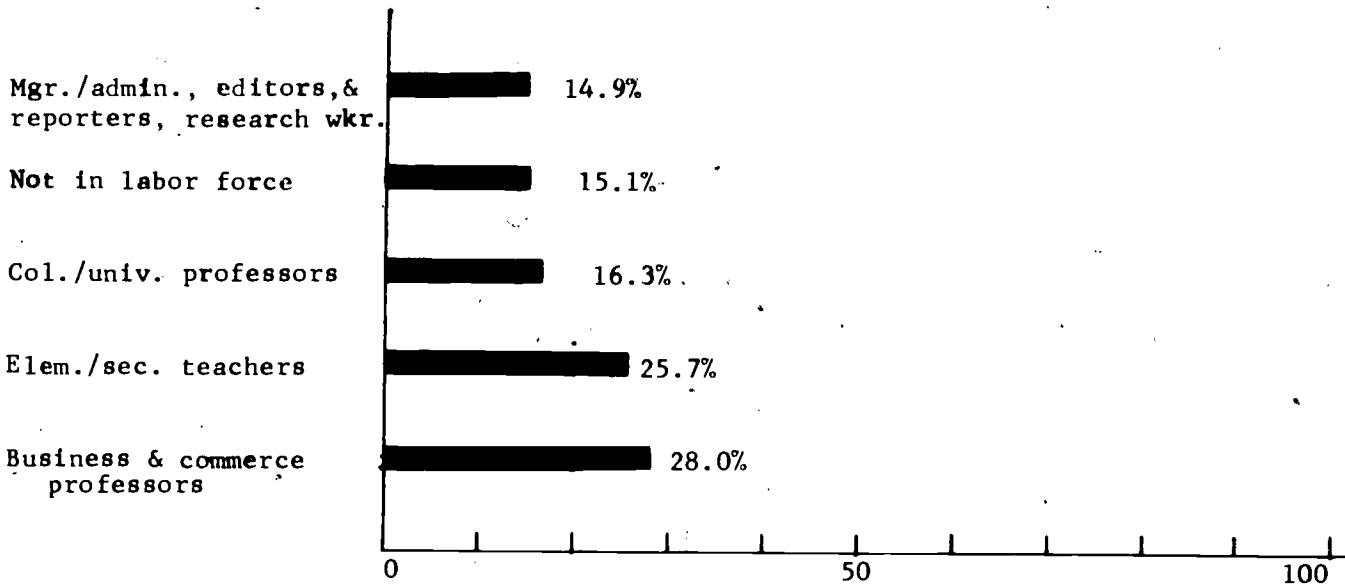


Psychology professors in 1965 - 186

Some job titles classified under this heading: (Professor of)

- | | |
|---------------------|---------------------|
| Abnormal psychology | Human relations |
| Child development | Mental measurements |
| Clinical psychology | Speech pathology |

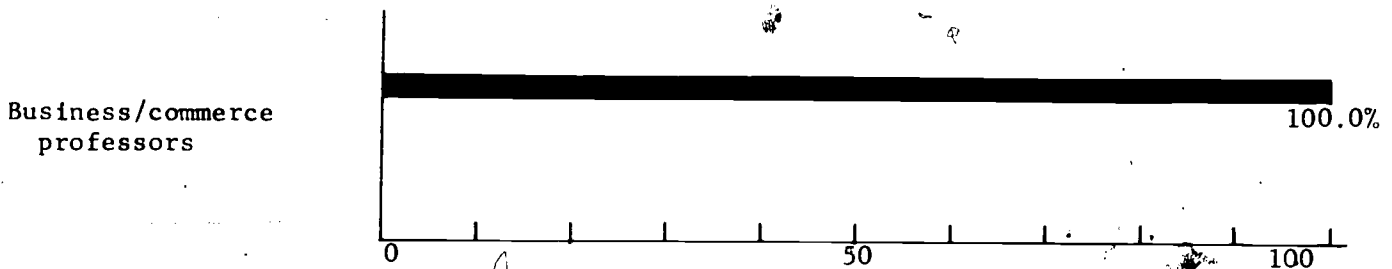
What 1970 Business and Commerce Professors Were Doing in 1965



Business and Commerce Professors in 1970 = 404

Almost 75% of the 1970 business and commerce professors were doing something else five years earlier. Nearly 60% of the new entrants were already in the teaching profession in 1965. About 20% were probably in college or graduate school (not in the labor force). Another fifth were employed as administrators, journalists or researchers. All of the 1965 business and commerce professors who continued to live in Pennsylvania five years later, remained in the same occupation in 1970.

What 1965 Business and Commerce Professors Were Doing in 1970

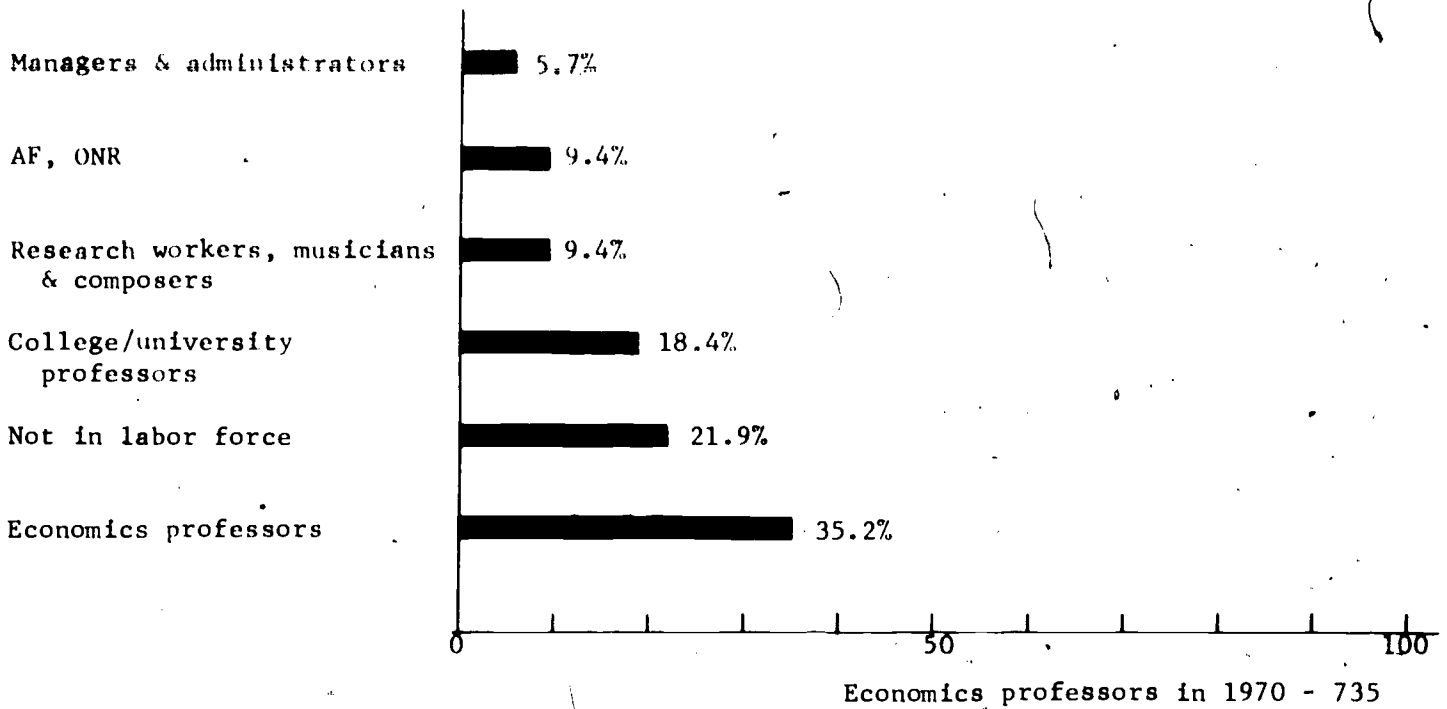


Business and Commerce professors in 1965 = 113

Some job titles classified under this heading: (Professor of)

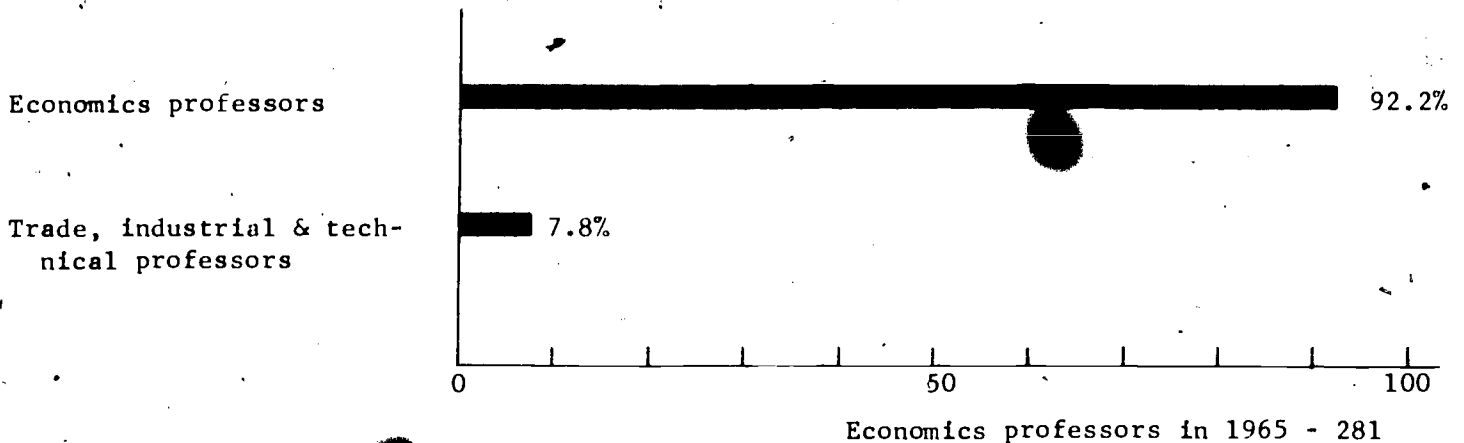
- Accounting
- Advertising
- Business law
- Business machines
- Industrial management
- Typing

What 1970 Economics Professors Were Doing In 1965



Almost two-thirds of the 1970 economics professors were doing something else five years earlier. One-third of the new entrants were probably in college or graduate school in 1965 (not in the labor force). Over 25% were already college professors teaching other subjects. About 23% were previously researchers, entertainers or administrators. Over 90% of the 1965 economics professors remained in that occupation in 1970. Those who left the occupation entered other teaching positions.

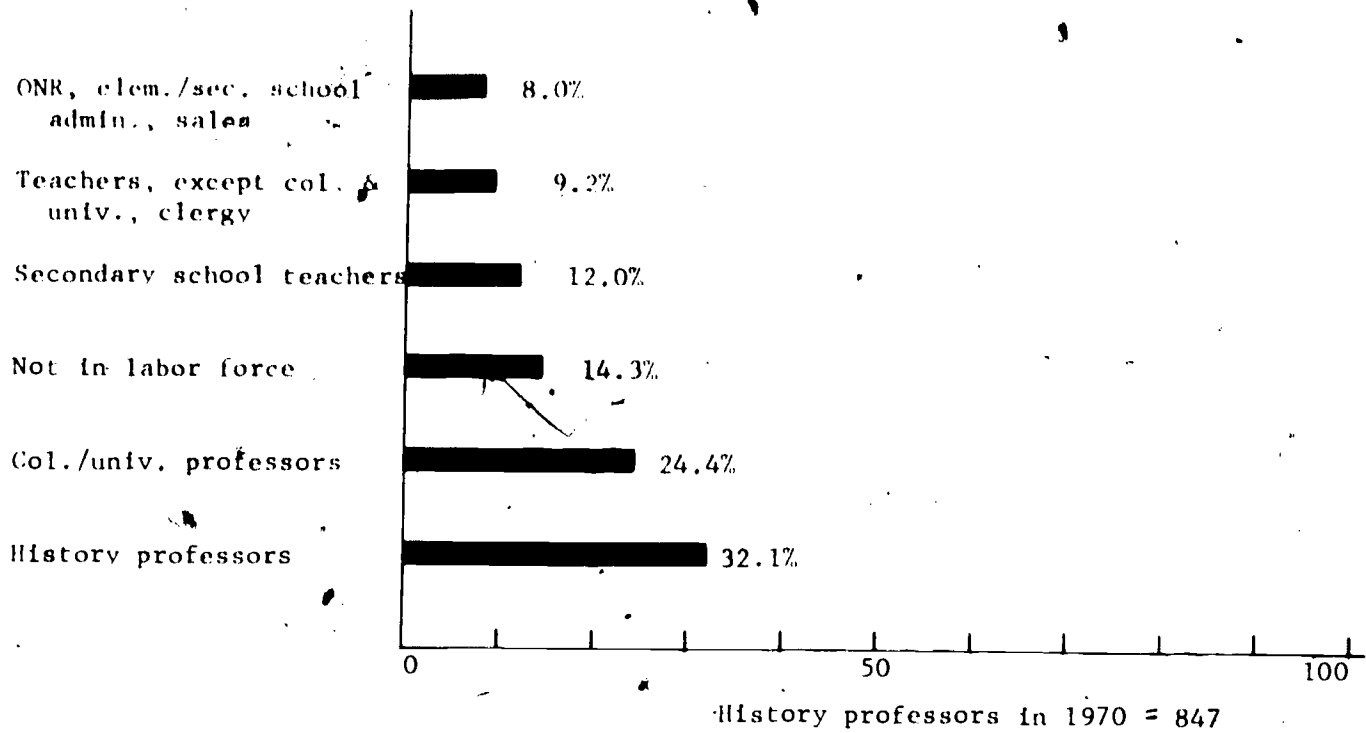
What 1965 Economics Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

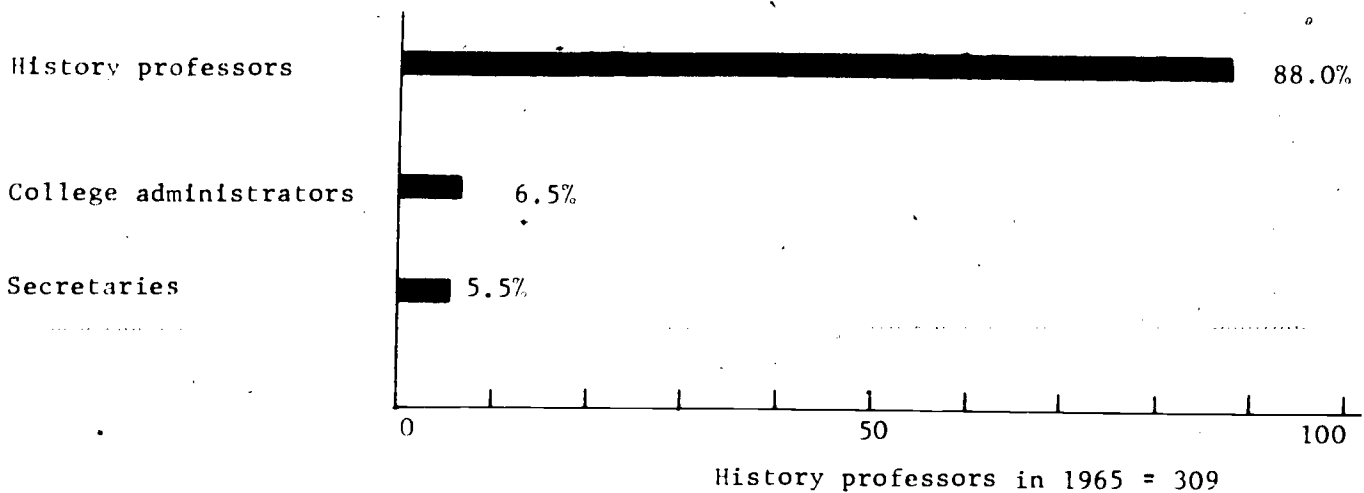
- Agricultural economics
- Banking
- Finance
- International trade
- Marketing
- Transportation economics

What 1970 History Professors Were Doing in 1965



More than two-thirds of the 1970 history professors were doing something else five years earlier. Close to 60% of the new entrants were already working in the teaching profession in 1965. Another fifth were probably in college or graduate school (not in the labor force). Over 90% of the 1965 history professors remained in teaching or administration in 1970.

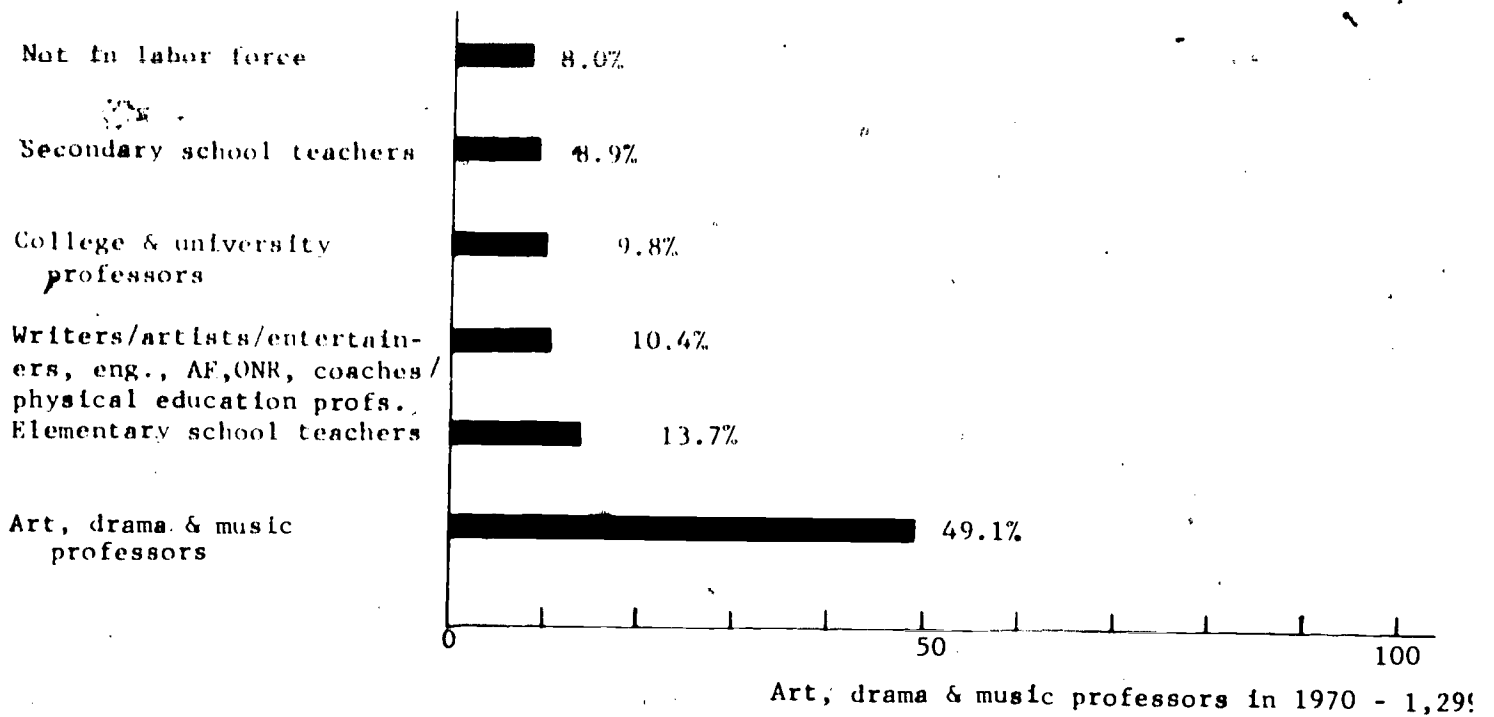
What 1965 History Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

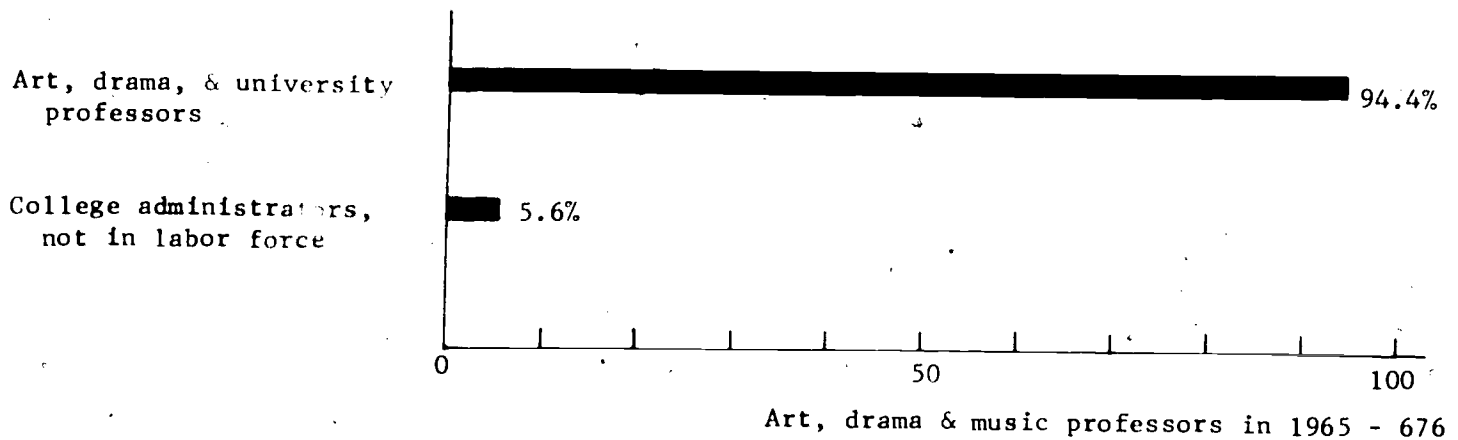
- Economic history
- Historiography
- History

What 1970 Art, Drama and Music Professors Were Doing in 1965



Half of these 1970 professors were doing something else five years earlier. One-fourth of the new entrants were elementary school teachers in 1965. Another 37% were previously teaching in high schools or colleges. About 15% were probably college students (not in the labor force). Close to 95% of the 1965 art, drama, and music professors remained in that occupation in 1970. A few became administrators or left the work force.

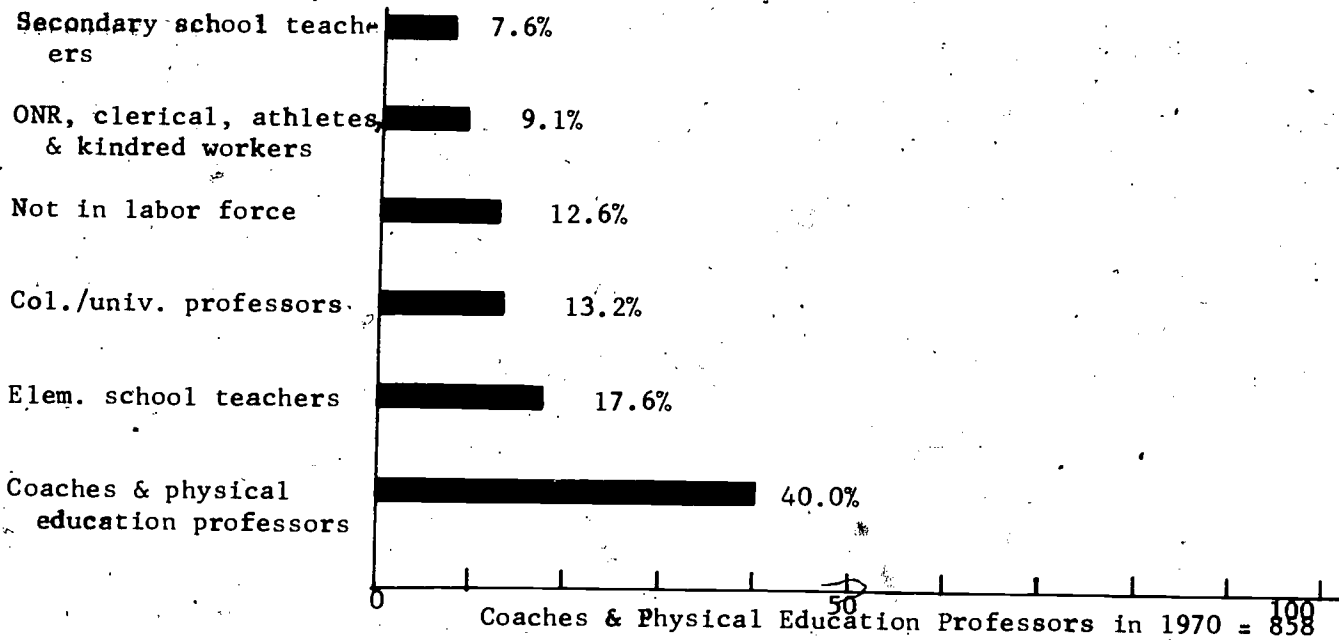
What 1965 Art, Drama and Music Professors Were Doing in 1970



Some job titles classified under this heading:

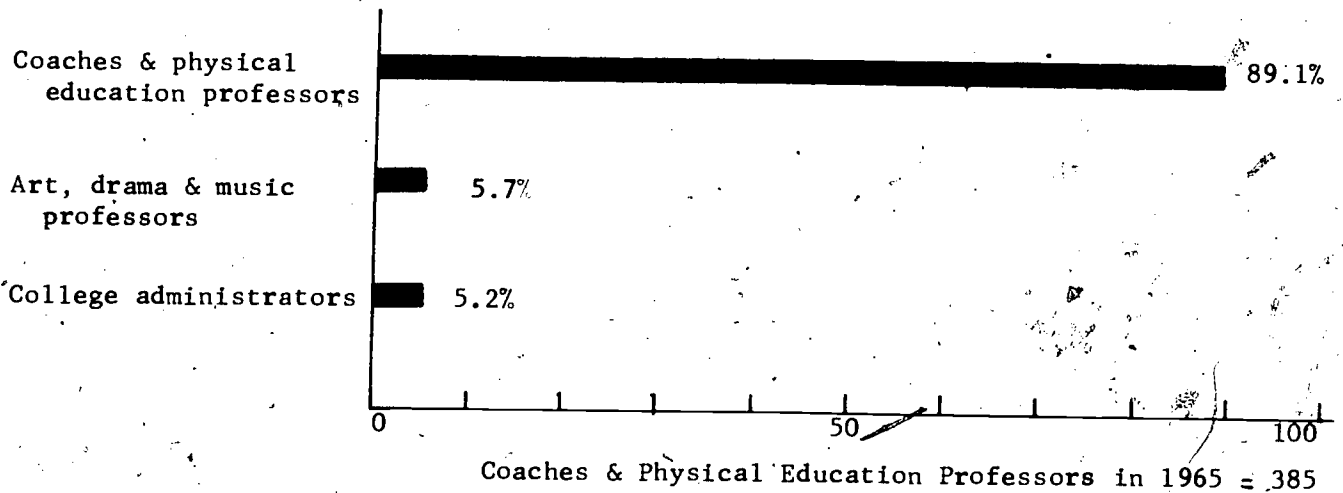
- Band director
- Choral professor
- Dramatic coach
- Fine arts professor
- Music supervisor
- Speech & drama professor

What 1970 Coaches and Physical Education Professors Were Doing in 1965



Sixty percent of the 1970 coaches were doing something else five years earlier. Nearly two-thirds of the new entrants were already working in the teaching profession in 1965. Another fifth were probably in college or graduate school (not in the labor force). All of the 1965 coaches and physical education professors were still employed in some capacity at colleges or universities in 1970.

What 1965 Coaches and Physical Education Professors Were Doing in 1970

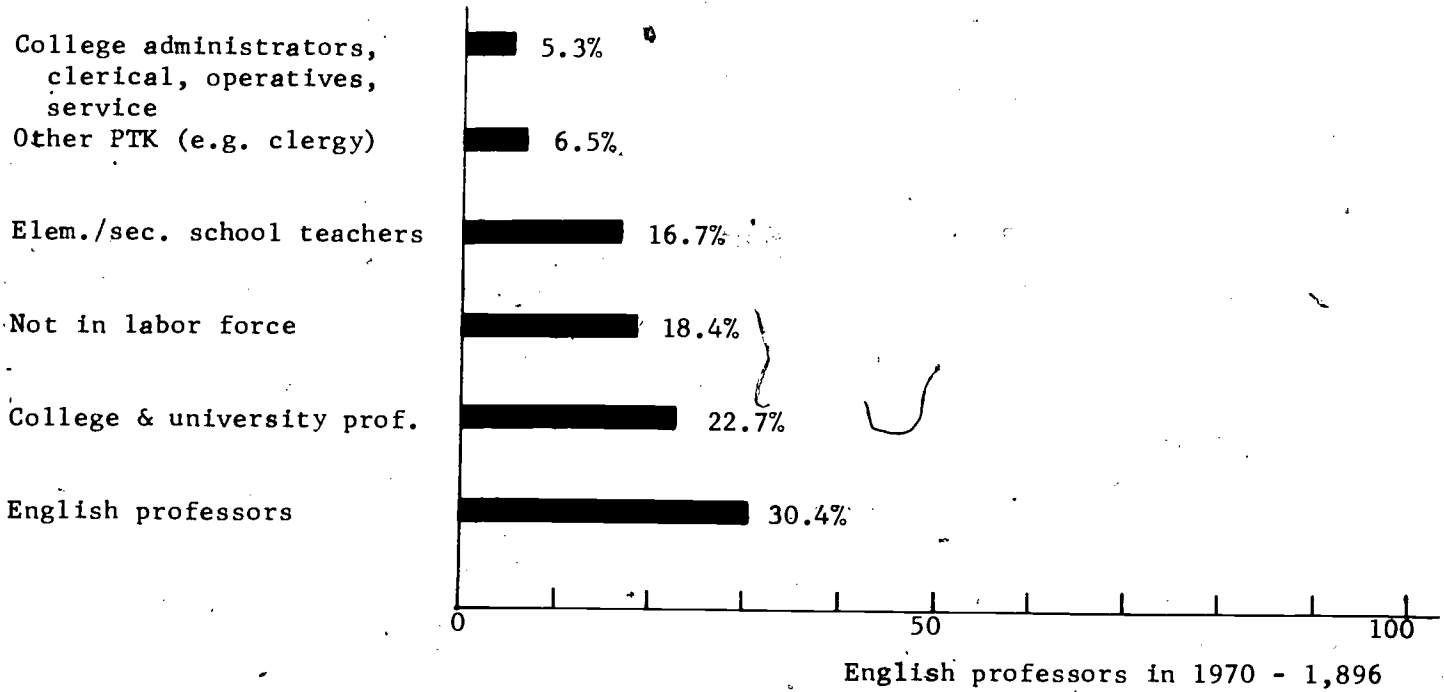


Some job titles classified under this heading:

Athletic coach
Baseball coach
Football coach

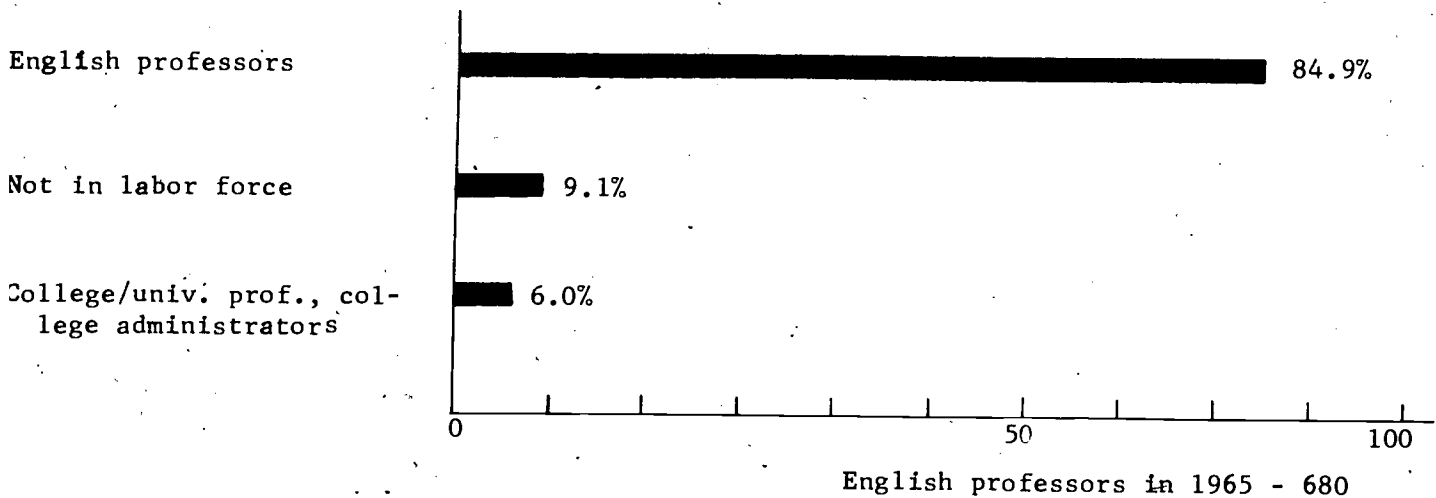
Gymnasium teacher
Swimming professor
Tennis coach

What 1970 English Professors Were Doing in 1965



Less than one-third of the 1970 English professors were already working in that occupation five years earlier. Over half of the new entrants were employed in the teaching profession in 1965. About 25% were probably in college or graduate school (not in the labor force). Over 90% of the 1965 English professors remained working in positions at colleges or universities in 1970. The rest left the work force.

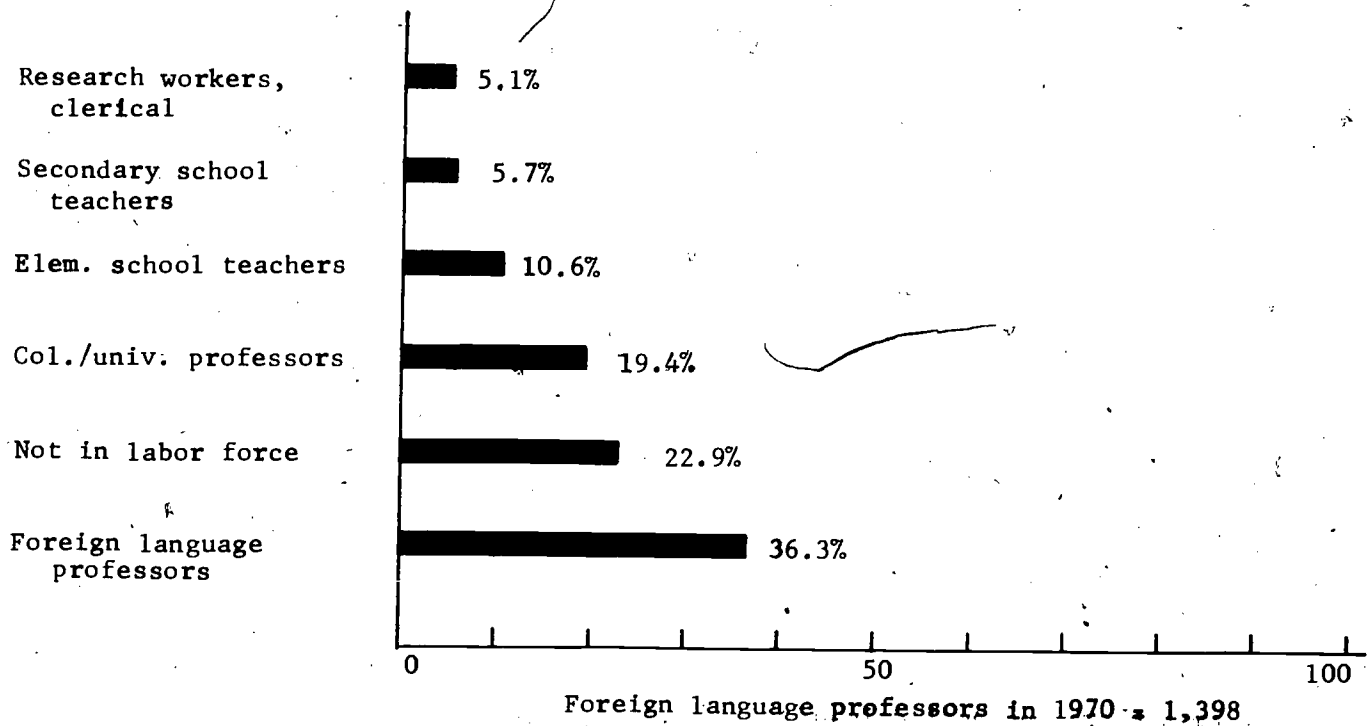
What 1965 English Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

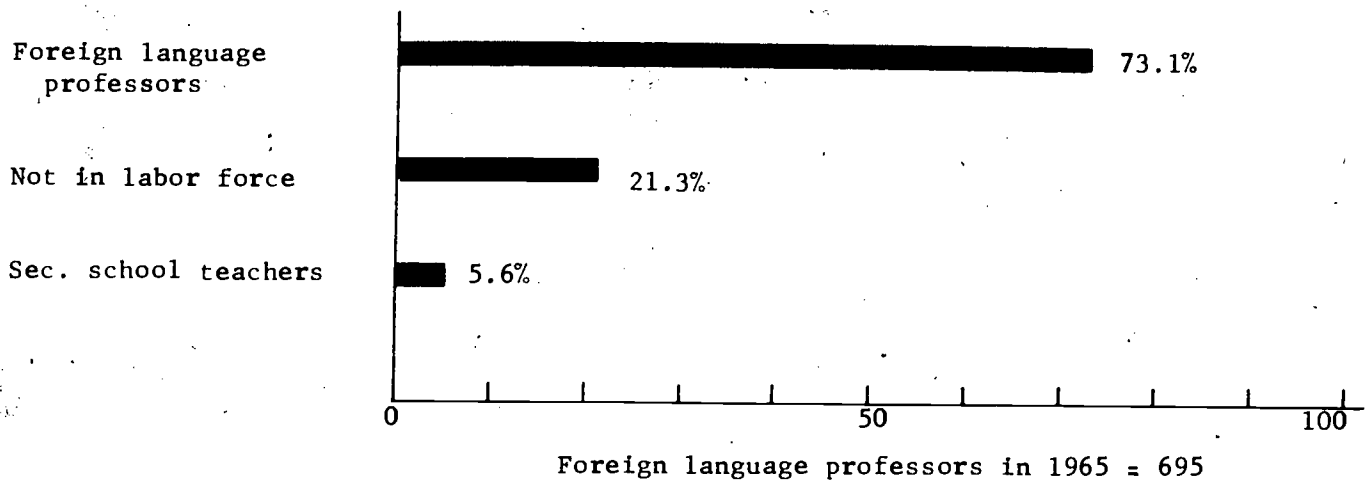
- Classics
- Composition
- Creative writing
- Etymology
- Journalism
- Literature

What 1970 Foreign Language Professors Were Doing in 1965



Over 60% of the 1970 foreign language professors were doing something else five years later. About one-third of the new entrants were probably in college or graduate school in 1965 (not in the labor force). More than half of them were already working in the teaching profession. Close to 80% of the 1965 foreign language professors remained employed as teachers in 1970.

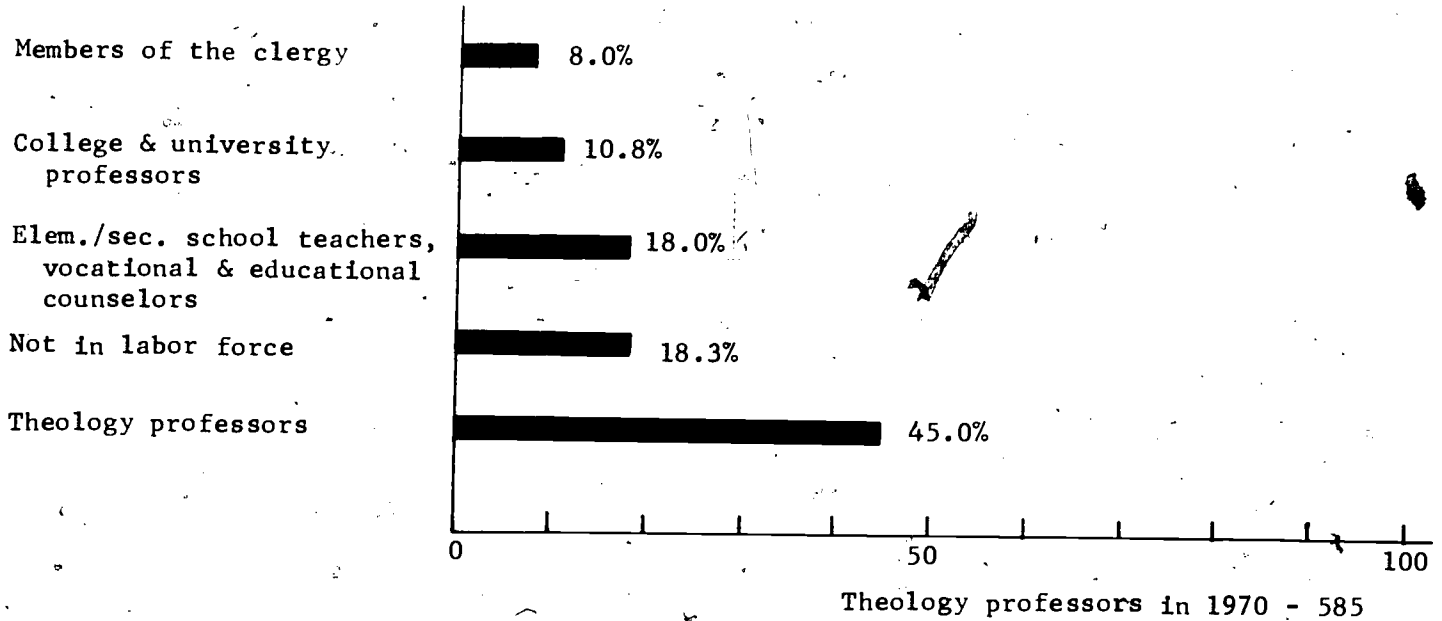
What 1965 Foreign Language Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

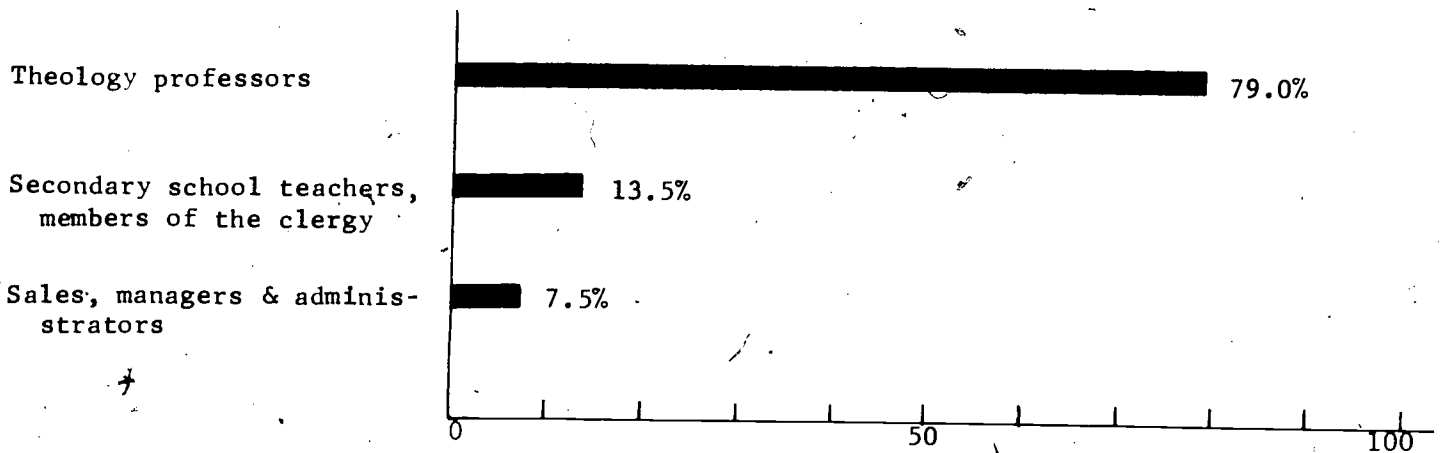
French Language German Spanish

What 1970 Theology Professors Were Doing in 1965



Over half of the 1970 theology professors were doing something else five years earlier. Almost one-third of the new entrants were probably in college or graduate school in 1965 (not in the labor force). Nearly half were previously employed in teaching or counseling professions. About 80% of the 1965 theology professors remained in that occupation in 1970. Two-thirds of those who moved into other occupations became teachers or members of the clergy.

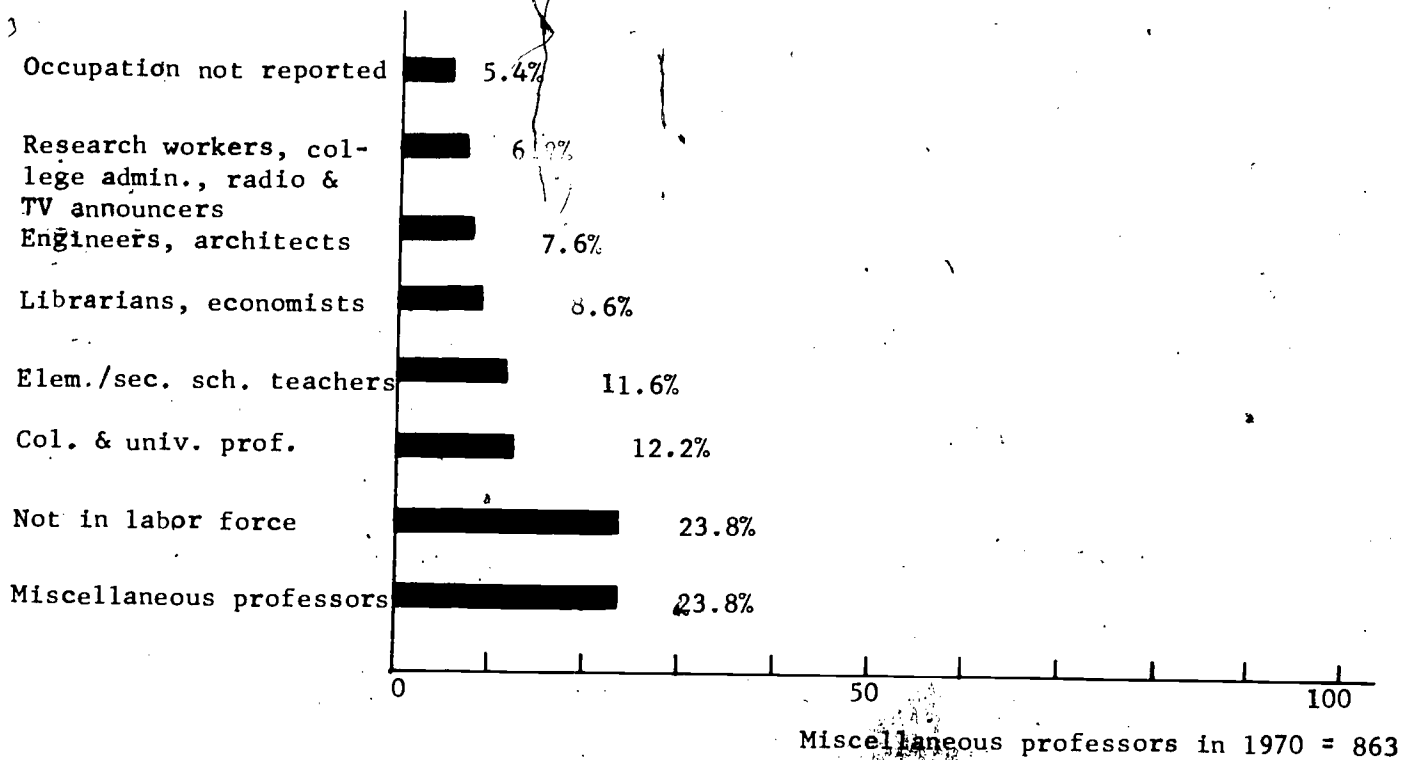
What 1965 Theology Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

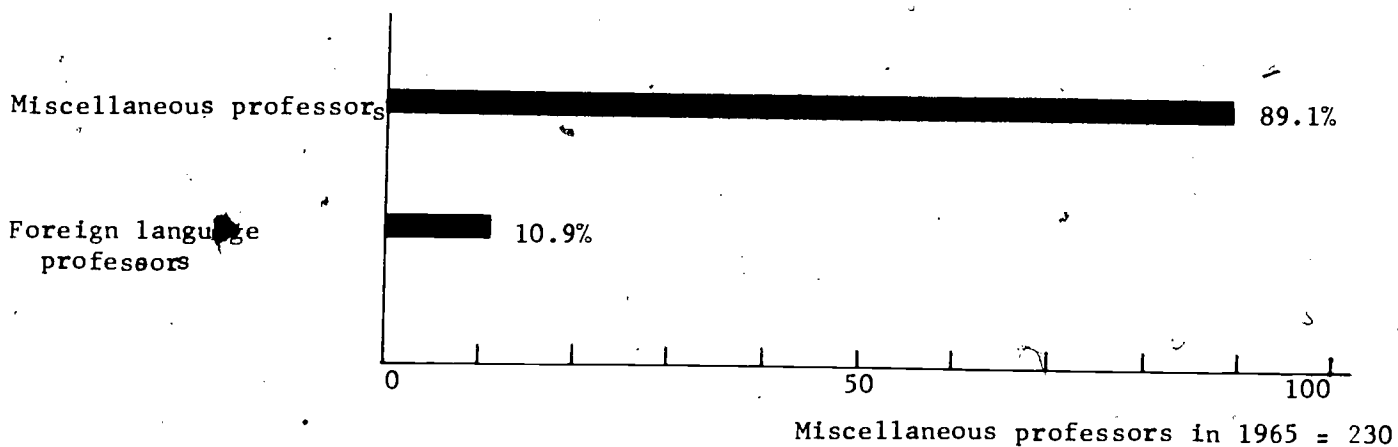
Church history Metaphysics
Divinity Religion

What 1970 Miscellaneous Professors Were Doing in 1965



An equal number (205) of these 1970 professors were either employed in teaching or were probably in college or graduate school (not in the labor force) five years earlier. Thirty percent of the new entrants were previously employed as teachers in other subject areas. Another group that size held positions in other professional or technical fields. Ninety percent of these 1965 professors remained in their occupation in 1970.

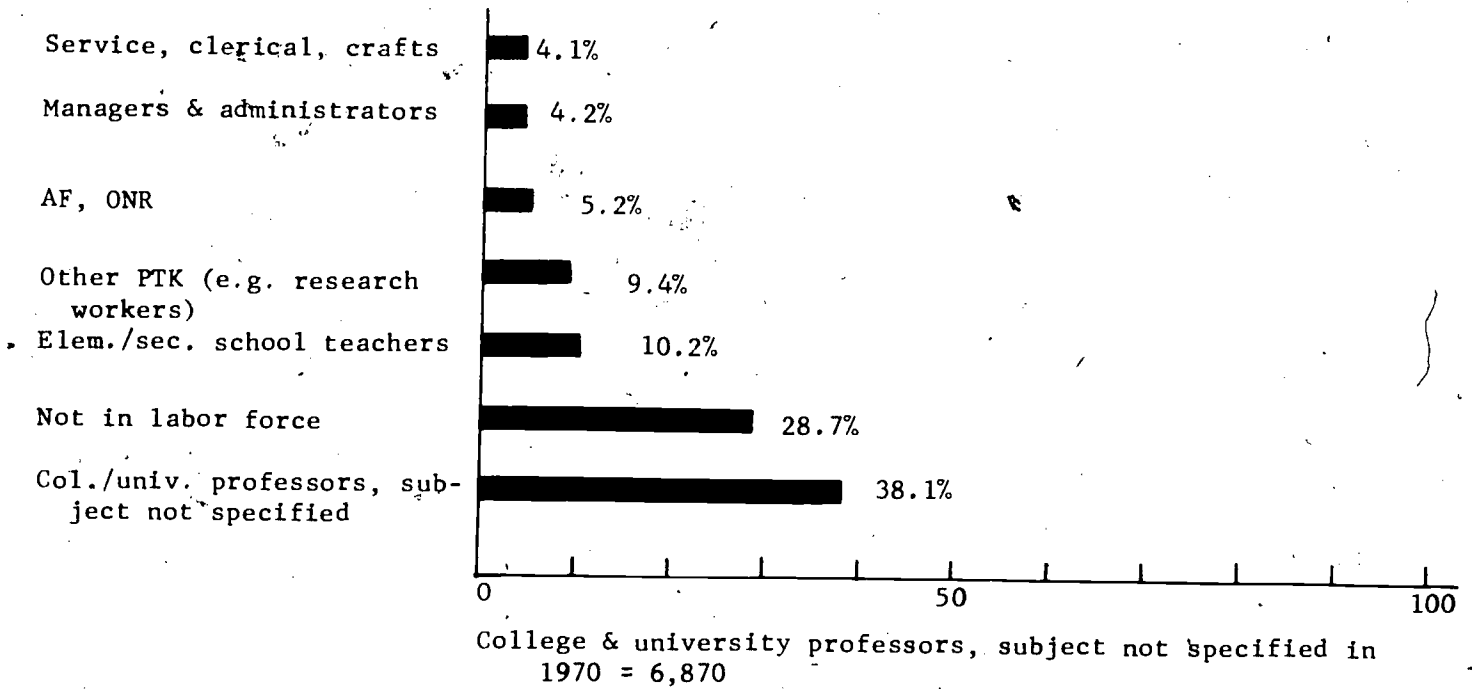
What 1965 Miscellaneous Professors Were Doing in 1970



Some job titles classified under this heading: (Professor of)

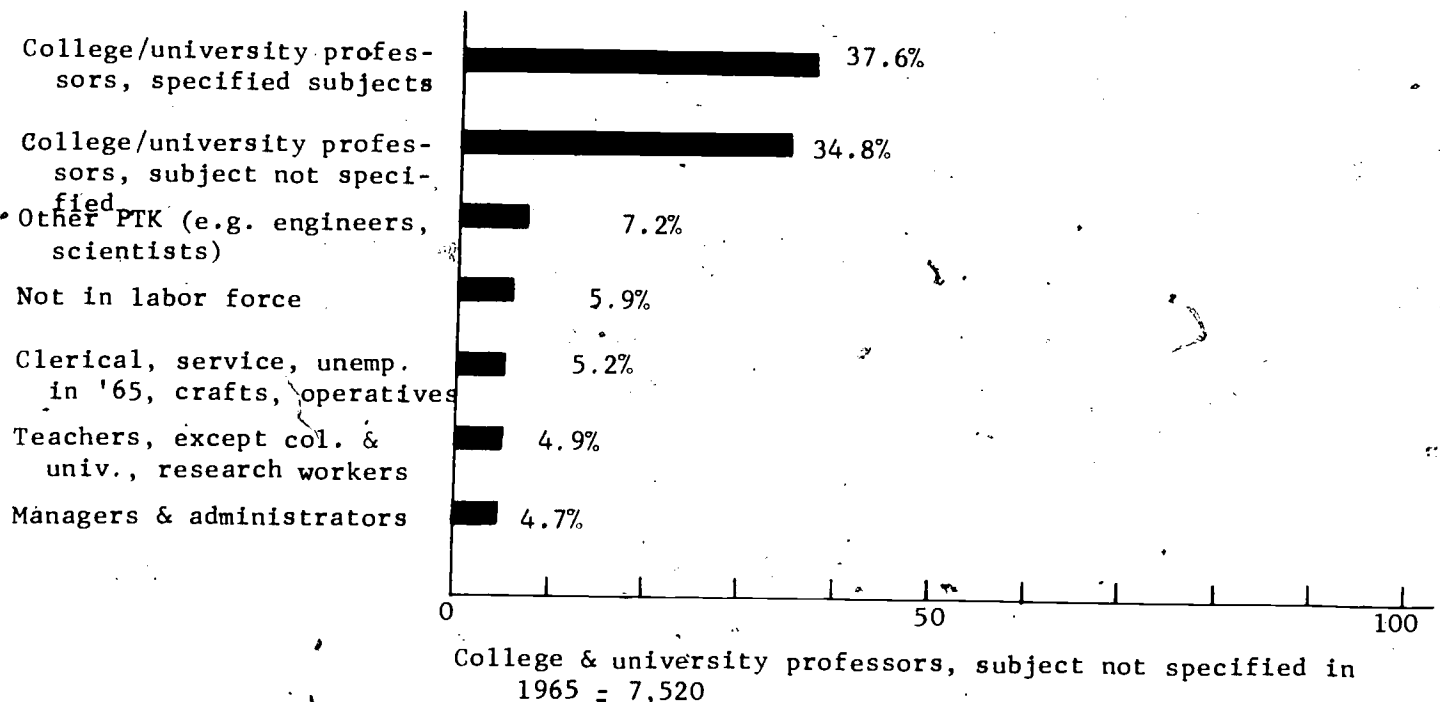
Architecture	Geography	Penology
City planning	Humanities	Philosophy
Clothing & textiles	Liberal arts	Public administration
Flight	Library science	Speech

What 1970 College and University Professors, Subject Not Specified, Were Doing in 1965



More than 60% of these 1970 professors were doing something else five years earlier. Over 40% of the new entrants were probably in college or graduate school in 1965 (not in the labor force). Another 16% were school teachers. Over 70% of the 1965 professors remained teaching in colleges and universities in 1970. Another 12% moved into other technical or professional occupations.

What 1965 College and University Professors, Subject Not Specified, Were Doing in 1970



Some job titles classified under this heading:

- Extension specialist
- Graduate assistant
- Teaching Fellow

ADULT EDUCATION TEACHERS

D.O.T. # 099.228

What do adult education teachers do? Adult education teachers instruct adults and youths, who are not attending school, in academic and nonacademic subjects.

TO GET THE JOB

You should be able to:

- Express ideas clearly when speaking
- Acquire a degree of knowledge or expertise in your subject area
- Conduct discussions
- Be patient with slow learners

You should prefer to:

- Work with people of all ages and of diverse backgrounds
- Keep up-to-date about new developments in teaching

You should be physically able to:

- Speak clearly
- Maintain good health

ON THE JOB

The adult education teacher may work in public or private schools or in different institutions and organizations. In all cases their main activity is instructing people in some specific area. The subject area may be school-related, such as history or English; but it could just as well be an extra-curricular topic such as ceramics, fly-tying, sports, music, or preparation for parenthood. The adult education teacher may test the students in achievement in the subject. He or she prepares outlines for the studies, assembles the material to be presented, and may teach through lectures, demonstrations, and/or class discussion methods.

THINGS TO THINK ABOUT

Advantages:

- Good working conditions
- Regular pay increases with experience and education

Disadvantages:

- Much of the work is in the evenings
- Additional preparation for classes is required outside of specified working time

PREPARATION AND TRAINING

- In most cases a bachelor's degree and state certification is needed.
- In some instances demonstration of special skills and abilities are all that is required, e.g., a particular language, craft, or sport.

WHERE TO GET MORE INFORMATION

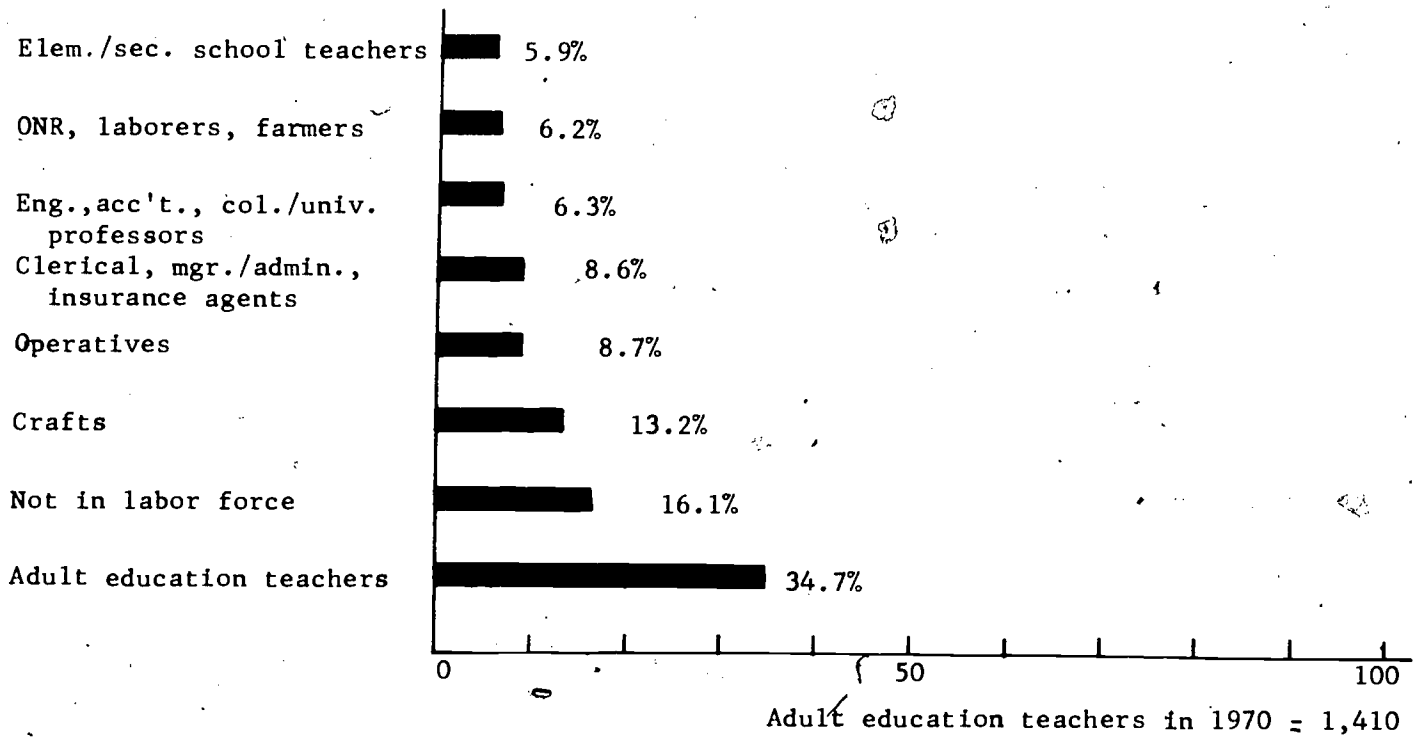
U.S. Department of Health, Education, and Welfare
Office of Education
Washington, D.C. 20202

American Federation of Teachers
1012 - 14th Street, N.W.
Washington, D.C. 20005

National Education Association
1201 - 16th Street, N.W.
Washington, D.C. 20036

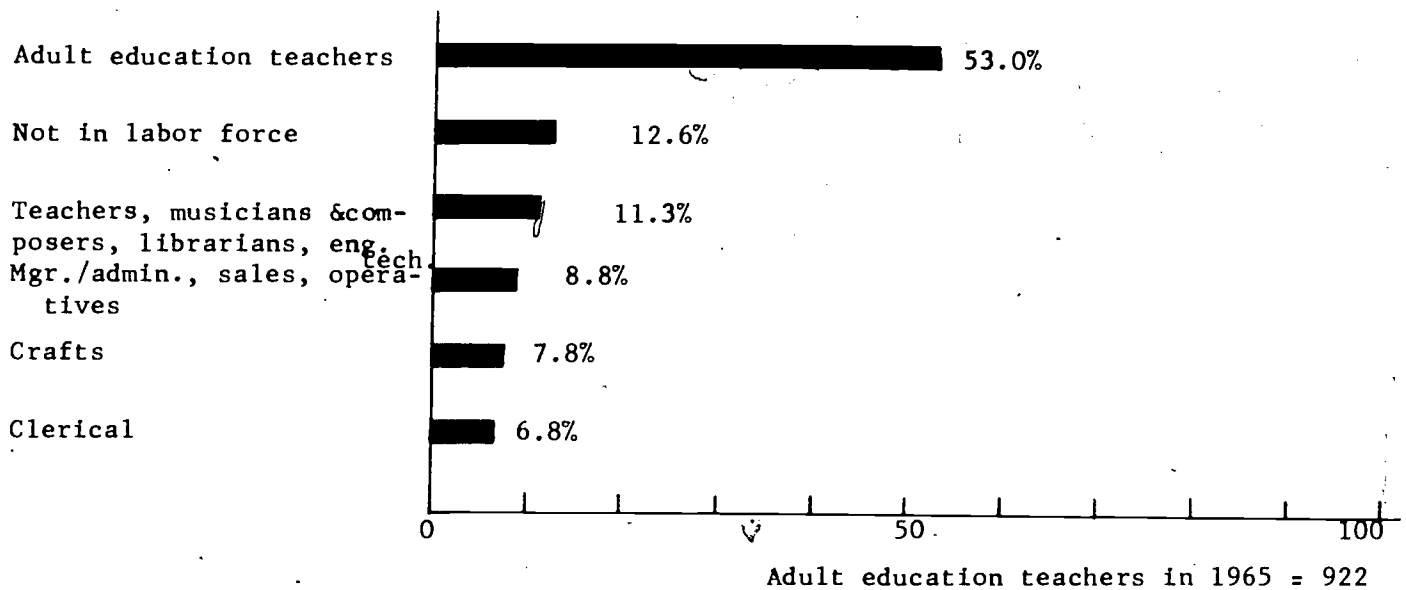
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Adult Education Teachers Were Doing in 1965



About two-thirds of the 1970 adult education teachers were doing something else five years earlier. Nearly one-fourth of the new entrants were probably in college in 1965 (not in the labor force). Another third of that group had previously worked as operatives or as craftworkers. Slightly over half of the 1965 teachers remained in that occupation in 1970. Those who left teaching became employed in a variety of fields, probably reflecting their area of expertise.

What 1965 Adult Education Teachers Were Doing in 1970



Some job titles classified under this heading: (Teacher of)

- | | | |
|------------------|----------------|--------------|
| Accounting | Home economics | Radio repair |
| Auto mechanics | Language | Safety |
| Computer science | Meat cutting | Typing |
| Health | Physics | Welding |

ELEMENTARY SCHOOL TEACHERS

D.O.T. # 092.228

What do elementary school teachers do? Elementary school teachers teach a variety of subjects to elementary school age children (6 to 12 years of age).

TO GET THE JOB

You should be able to:

- Express ideas clearly to children
- Be creative
- Plan programs of instruction in basic subject areas.

You should prefer to:

- Work with children
- Organize activities and games with groups of children

You should be physically able to:

- Maintain good health and physical stamina
- See, hear and speak well
- Have manual dexterity

ON THE JOB

Elementary school teachers instruct children in a variety of subject areas such as English, history, math, reading, basic science, musical activities, games, health, and general discipline. They are responsible for presenting the subject matter in an interesting way and evaluating each child's achievement. It is important for elementary teachers to be able to screen children with special problems, disabilities, and handicaps for early identification, treatment, and remediation.

THINGS TO THINK ABOUT

Advantages:

- Some teachers advance to principal, administrator, or other specialized positions with additional training.
- Pleasant work surroundings
- Summers off

Disadvantages:

- After class preparation
- Making reports and attending meetings
- Having responsibility for approximately 30 children

PREPARATION AND TRAINING

Minimum requirement is a bachelor's degree.
State certification involving four years of college and usually a student teaching experience is required.
Each state also usually sets aside a time period after certification in which the teacher must have the equivalent of a fifth year of education.
Several states also require a health certificate, and an oath of allegiance.

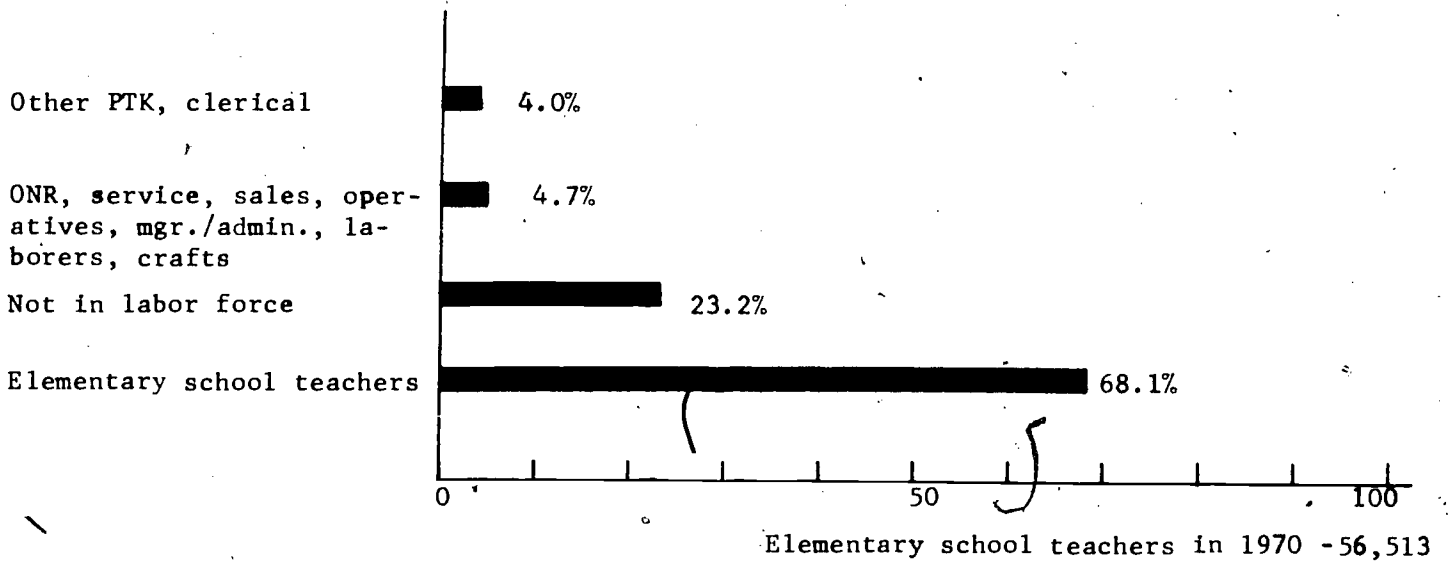
WHERE TO GET MORE INFORMATION

Pennsylvania State Education Association
400 Third Street
Harrisburg, Pennsylvania 17101

American Federation of Teachers
1012 - 14th Street, N.W.
Washington, D.C. 20005

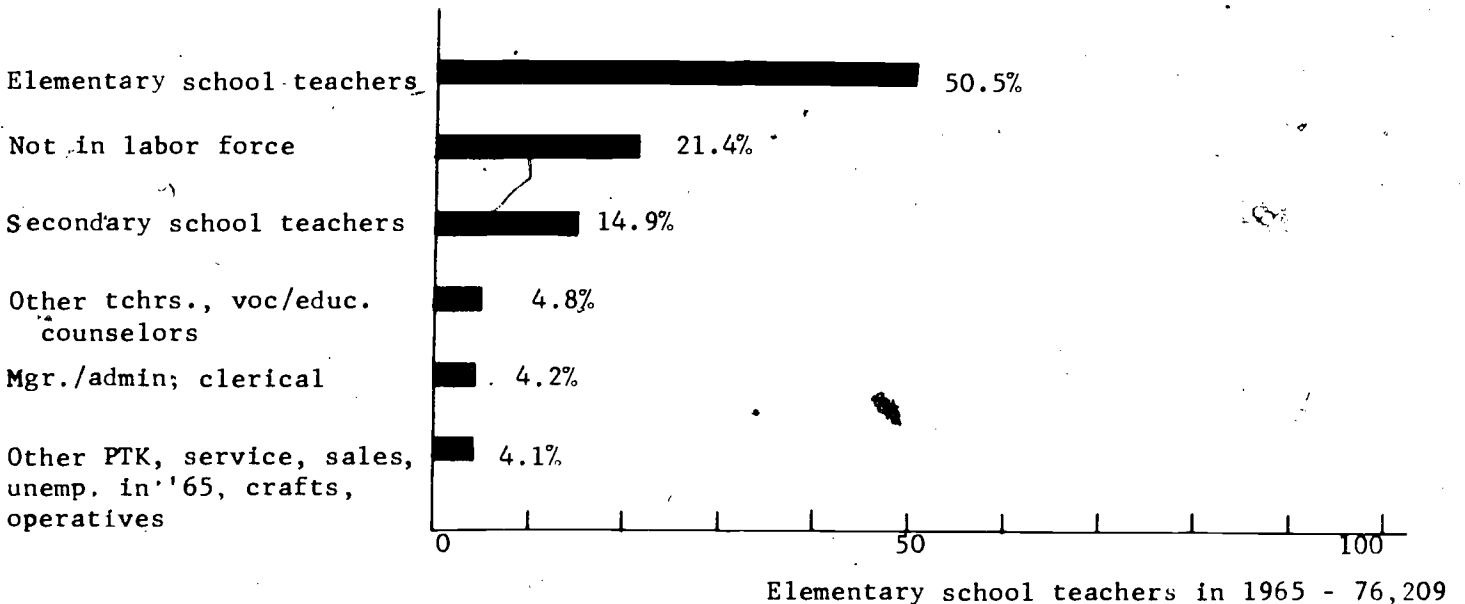
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Elementary School Teachers Were Doing in 1965



Two-thirds of the 1970 elementary school teachers were already employed in that field five years earlier. Almost three-fourths of the new entrants were probably in college in 1965 (not in the labor force). The rest were working in a variety of occupations (listed in the census data). Half of the 1965 elementary school teachers in Pennsylvania remained in that occupation in 1970. Almost 20% more moved into other teaching or counseling positions. Another fifth (mostly women) left the work force, either temporarily or permanently.

What 1965 Elementary School Teachers Were Doing in 1970



Some job titles classified under this heading:

- | | |
|------------------|---------------------------|
| Athletic coaches | Middle-school teacher |
| Band director | Resource teacher |
| Music supervisor | Special education teacher |

PREKINDERGARTEN AND KINDERGARTEN TEACHERS

D.O.T. #'s 092.228, & 359.878

What do prekindergarten and kindergarten teachers do? Prekindergarten and kindergarten teachers help prepare youngsters ages 3 to 6 for learning in a classroom situation. They are concerned with the emotional and social growth as well as the intellectual growth of the child.

TO GET THE JOB

You should be able to:

- Have some knowledge of many subjects
- Be creative and patient
- Understand the problems and needs of young children

You should prefer to:

- Work with young children
- Share a love of learning to inspire others

You should be physically able to:

- Maintain good health and physical stamina when exposed to many infections and childhood diseases
- Manipulate items with hands and fingers
- Respond to many demands of young, active children

ON THE JOB

Prekindergarten and kindergarten teachers work in a variety of settings. They may teach in a nursery school, headstart program, or a day care center with youngsters aged 2-6; or they may work in a kindergarten classroom located in a public or private school. In all cases these teachers try to help the children to gain the basic skills and vocabulary necessary for learning increasingly difficult tasks and subject matter. They are also concerned with the child's ability to socialize with others and the emotional stability of the child. They organize games, crafts, and learning tasks.

THINGS TO THINK ABOUT

Advantages:

- Pleasant working conditions
- Regular salary increases

Disadvantages:

- Exposure to infectious viruses and diseases
- Long periods of standing, walking, and bending

PREPARATION AND TRAINING

A bachelor's degree in early child education with student teaching is the minimum requirement. Certification is required in all states. The certificate becomes permanent after a few years of teaching experience and an additional year of education.

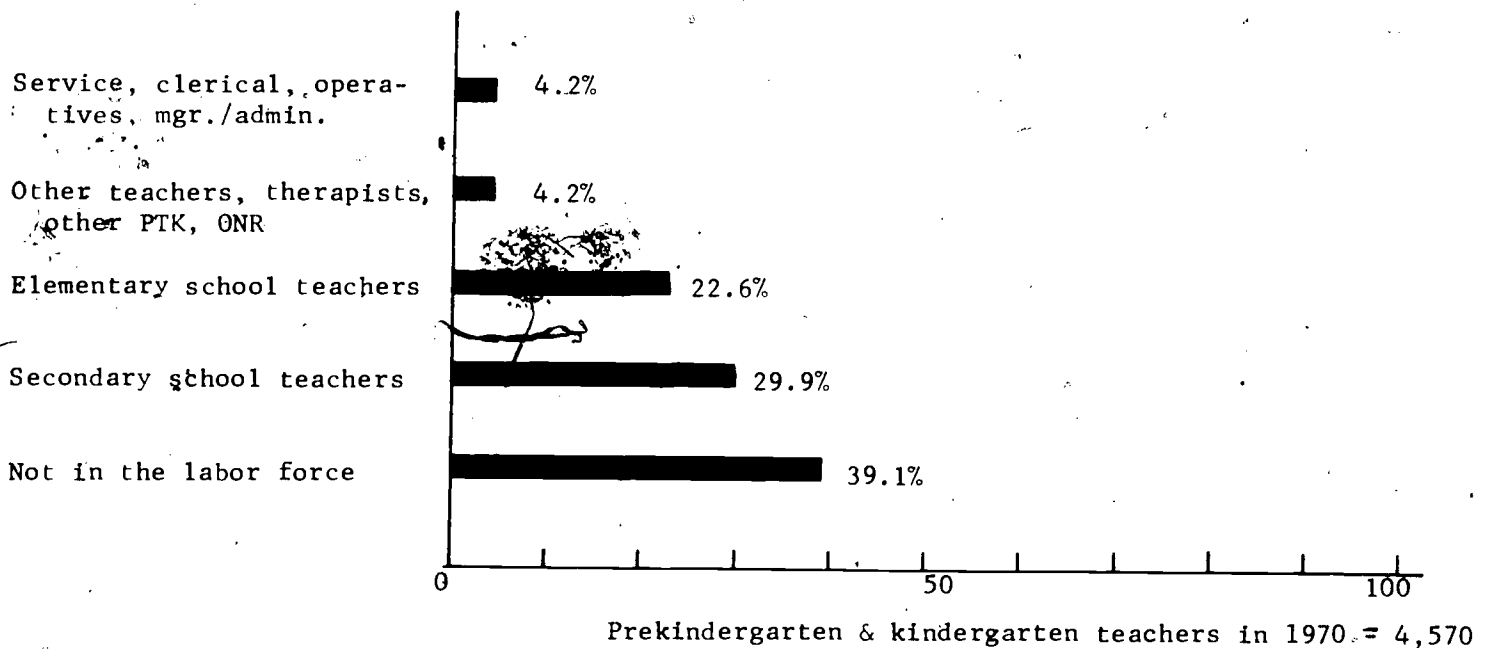
WHERE TO GET MORE INFORMATION

American Association of Elementary, Kindergarten-Nursery Education
1201 - 16th Street, N.W.
Washington, D.C. 20036

Pennsylvania State Education Association
400 North Third Street
Harrisburg, Pennsylvania 17101

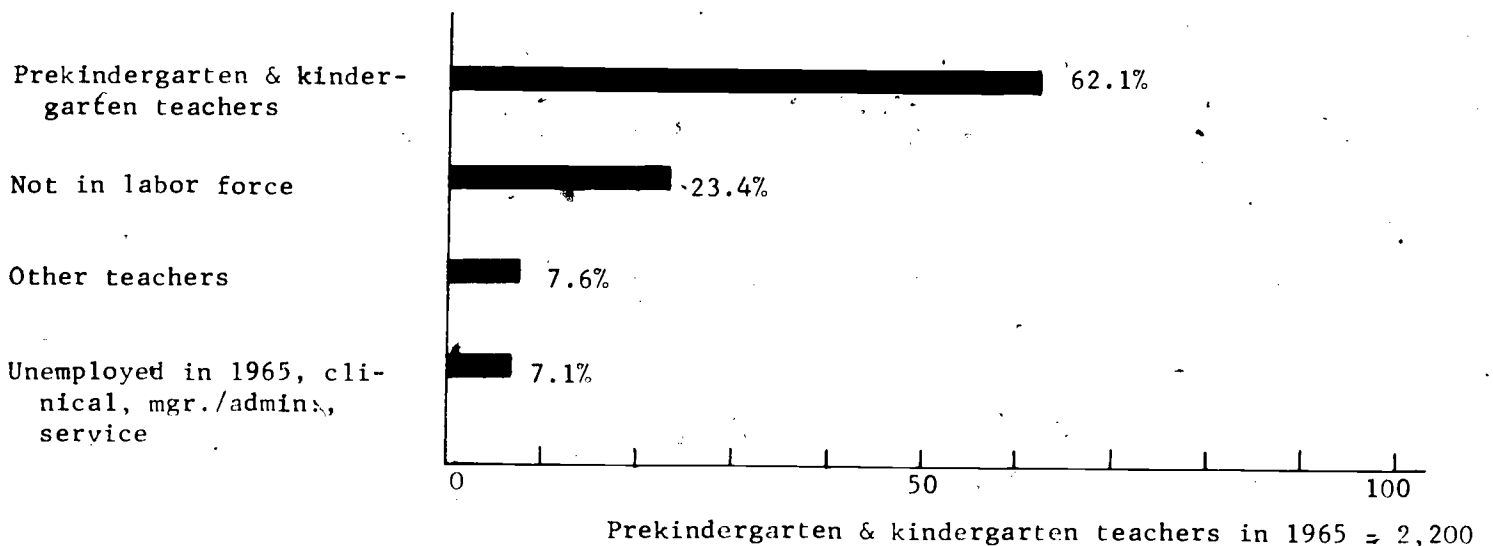
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Prekindergarten and Kindergarten Teachers Were Doing in 1965



All of the 1970 kindergarten teachers were doing something else five years earlier. Over 50% were previously employed as elementary or secondary school teachers. Another 40% were probably in college in 1965 (not in the labor force). However, close to two-thirds of the 1965 kindergarten teachers were still employed in that occupation in 1970. Almost 25% of the 1965 workers had left the work force (either temporarily or permanently) by 1970.

What 1965 Prekindergarten and Kindergarten Teachers Were Doing in 1970



Some job titles classified under this heading: (Teacher of)

- Day care
- Nursery school
- Head start
- Pre-school

SECONDARY SCHOOL TEACHERS

D.O.T. # 091.288

What does a secondary school teacher do? A secondary school teacher instructs high school students in one or two subject areas.

TO GET THE JOB

You should be able to:

- Communicate well with others
- Work well with all types of people
- Remain calm in excitable situations

You should prefer to:

- Work with young people
- Share your studies and experiences with others
- Keep up-to-date in studies and current events

You should be physically able to:

- Maintain good physical and mental health
- See, hear, and speak well
- Stand and walk for long periods of time

ON THE JOB

Secondary school teachers work with students in grade 7 through 12. They teach several classes a day in one or two subject areas. They instruct pupils through lectures, demonstrations and/or visual aids. Teachers must prepare study outlines, assign lessons and correct homework papers. In addition to class instruction, their duties include constructing tests, maintaining class records, writing reports, and perhaps being in charge of a homeroom.

THINGS TO THINK ABOUT

Advantages:

- Chance of advancement to principal (with additional education) or department head
- Additional pay for responsibility of a club or sport
- Regular pay increases with experience

Disadvantages:

- Preparation at night for classes
- Teachers must continually study to keep up with changes

PREPARATION AND TRAINING

Minimum requirement is a bachelor's degree. Each state requires certification. Temporary certification usually includes four years of a college curriculum and student teaching--after teaching for a specified period of time and gaining an additional year of course work, a permanent certificate is issued to the teacher.

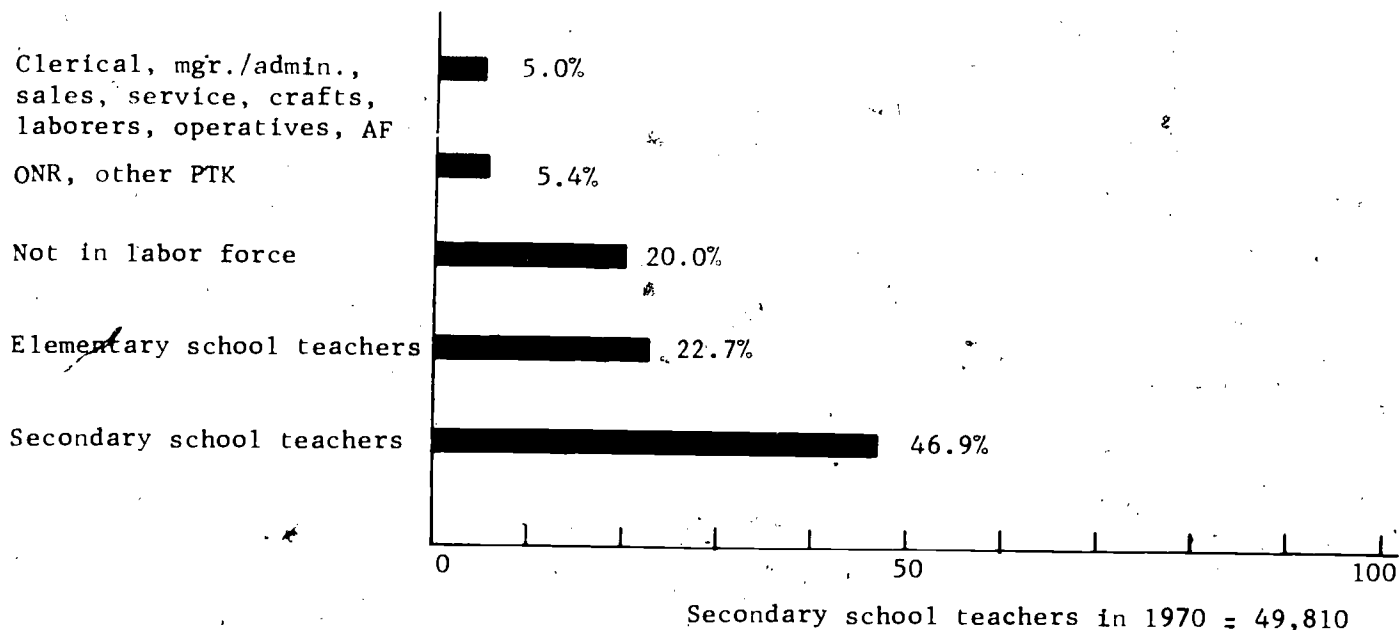
WHERE TO GET MORE INFORMATION

Pennsylvania State Education Association
400 North Third Street
Harrisburg, Pennsylvania 17101
American Federation of Teachers
1012 - 14th Street, N.W.
Washington, D.C. 20005

National Commission on Teacher Education
and Professional Standards
1201 - 16th Street, N.W.
Washington, D.C. 20036

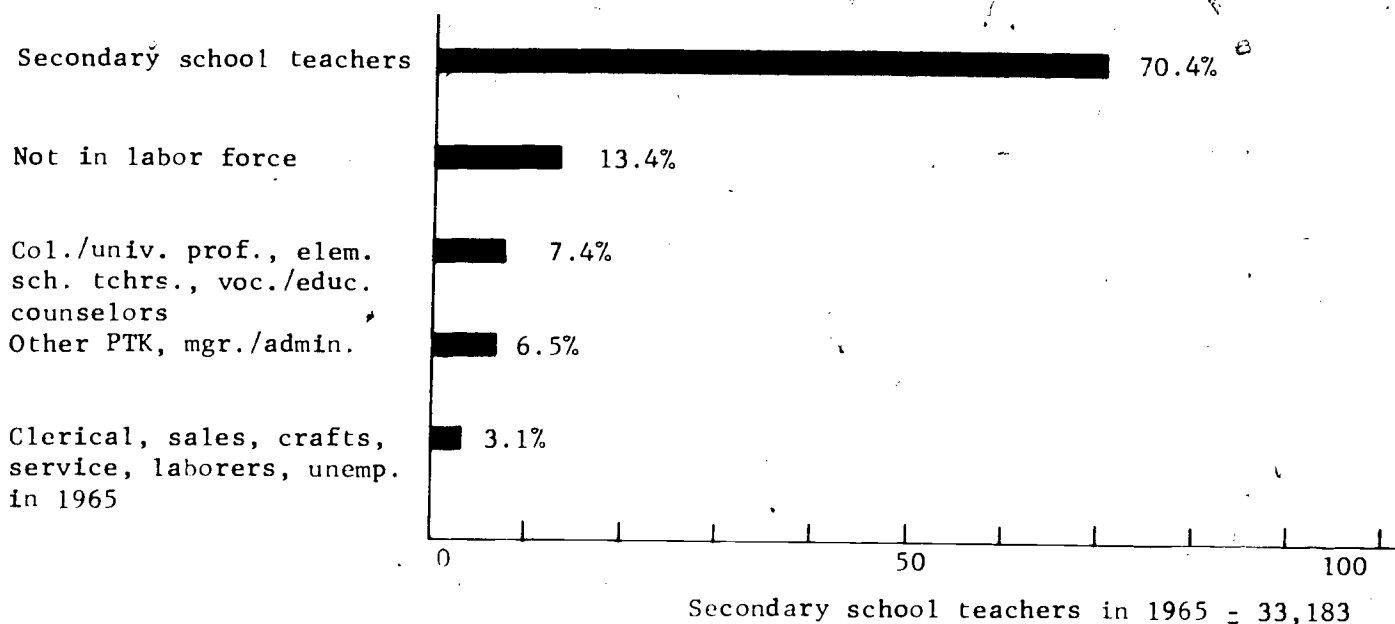
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Secondary School Teachers Were Doing in 1965



Over half of the 1970 secondary school teachers were doing something else five years earlier. More than 40% of the new entrants were previously teaching in elementary schools. Another 40% were probably in college in 1965 (not in the labor force). Close to 80% of the 1965 secondary school teachers were still employed as teachers or counselors in 1970. Over 10% (mostly women) had left the work force, either temporarily or permanently.

What 1965 Secondary School Teachers Were Doing in 1970



Some job titles classified under this heading:

- Band director
- Dramatic coach
- High school teacher
- Music supervisor
- Practice teacher
- Tennis coach

TEACHERS, EXCEPT COLLEGE AND UNIVERSITY

D.O.T. #'s 152.028
& 099.228

What do specialty teachers do? Specialty teachers instruct their students in specialized areas such as music, art, voice, dance, flight, or driving.

TO GET THE JOB

You should be able to:

- Communicate well
- Have creative talent and ability
- Be patient and tolerate frustration

You should prefer to:

- Work with people
- Work with detail

You should be physically able to:

- Remain in good health
- Perform the various skills required, e.g., dance, sing, or manipulate instruments

ON THE JOB

These teachers may work in a private or public school or institution, but many will have a studio of their own where they can instruct pupils. They may teach students in groups or give private lessons to individuals. When instructing the students, the teacher usually demonstrates a particular skill or technique to his or her pupils, observes their performance, gives a critique of the students' performance, and assigns further competencies or tasks for the pupils to perform.

THINGS TO THINK ABOUT

Advantages:

- Self-satisfaction in teaching others
- Good working conditions
- Opportunity for self-employment

Disadvantages:

- Irregular working hours
- Physically and mentally exhausting

PREPARATION AND TRAINING

No special education--in some cases all that is needed is the special ability to perform the task to a degree of excellence.

Training in a particular skill from an early age is advantageous.

To teach in a public school a college degree with teacher certification is necessary.

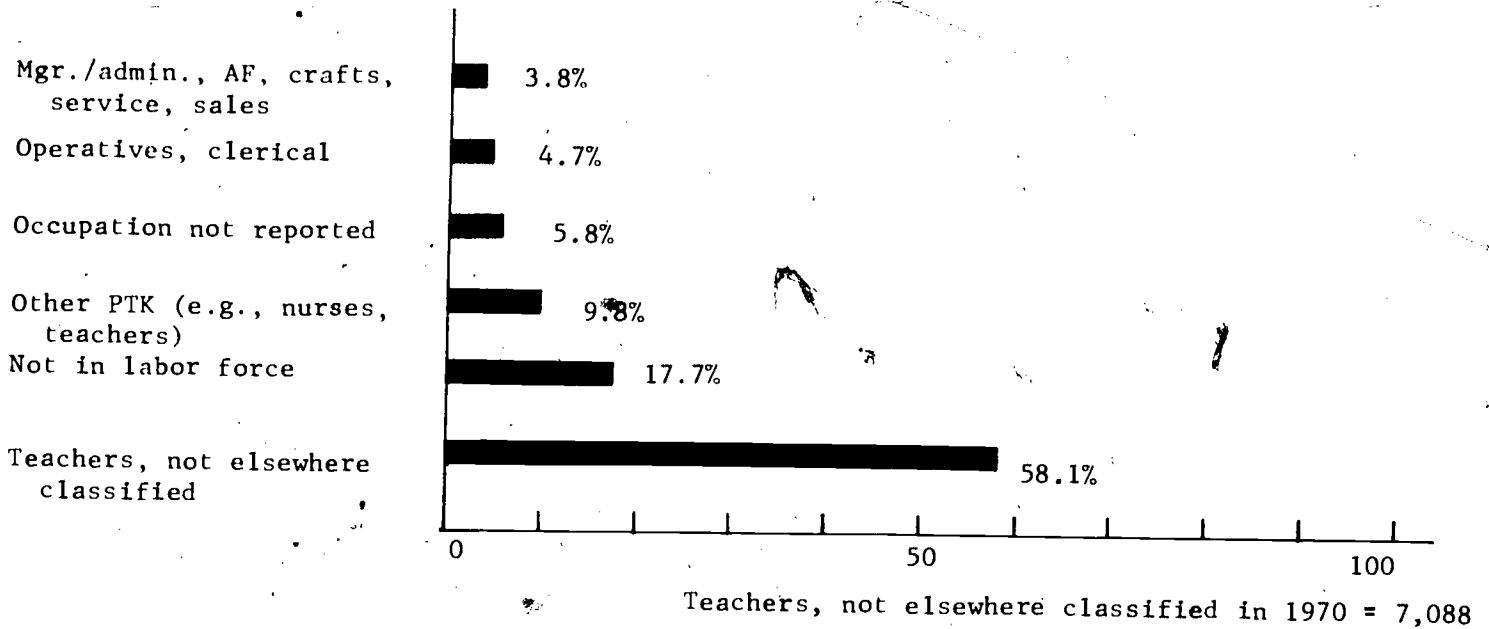
You should join a professional union.

WHERE TO GET MORE INFORMATION

The National Education Association
1201 - 16th Street, N.W.
Washington, D.C. 20036

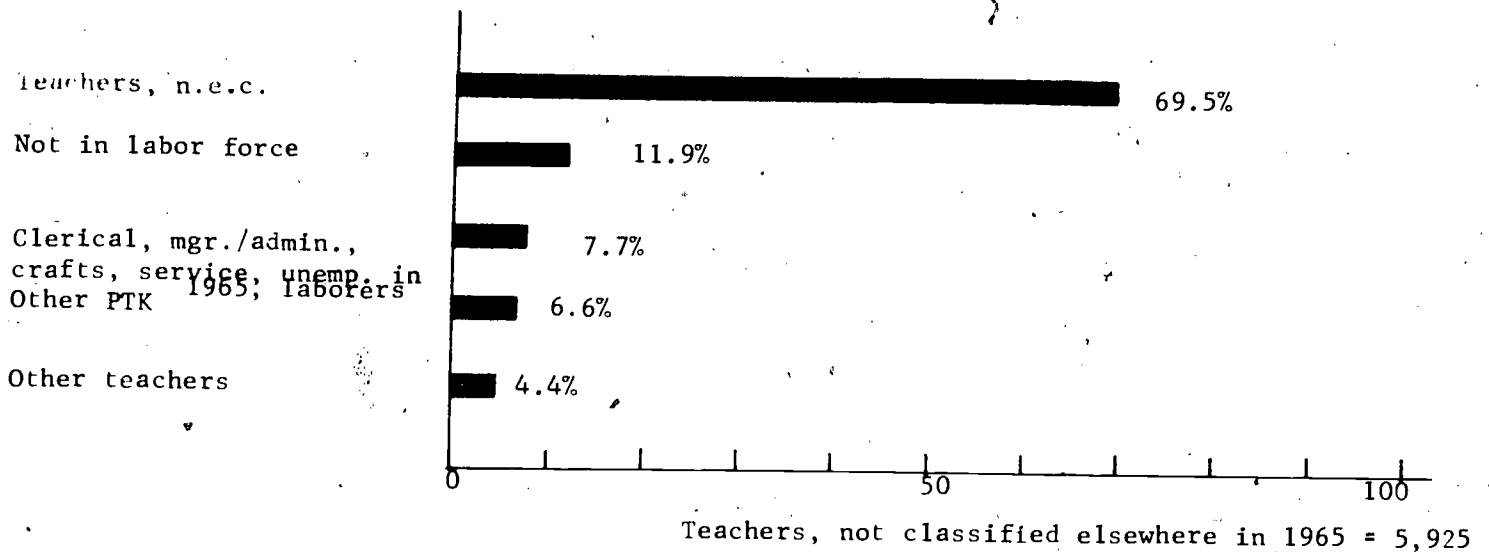
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Teachers, Not Elsewhere classified, Were Doing in 1965



Almost 60% of the 1970 teachers in this classification were already working in their profession five years earlier. Over 40% of the new entrants were probably training to become teachers in 1965 (not in the labor force). Nearly 25% more were employed in other professional or technical occupations. Seventy per cent of the 1965 teachers in this classification remained in the field in 1970. Another 11% moved into other professional technical positions

What 1965 Teachers, Not Elsewhere Classified, Were Doing in 1970



Some job titles classified under this heading: (teacher_of)

- | | | |
|------------------|---------------|----------|
| Dance director | Cooking | Knitting |
| Music supervisor | Flight | Modeling |
| Private tutor | Floral design | Piano |
| Braille | Weaving | |

AGRICULTURE AND BIOLOGICAL TECHNICIANS

D.O.T. #'s 422.181,
049.384 & 078.281

What do agriculture and biological technicians do? Agriculture and biological technicians are assistants to engineers and scientists. Their jobs are largely determined by their area of specialization.

TO GET THE JOB

You should be able to:

- Work with or without supervision
- Use many laboratory and measuring instruments
- Work with a variety of plants and crops
- Do accurate and careful record keeping
- Keep abreast of new advancements in the field

You should prefer to:

- Work out-of-doors
- Work as part of a team

You should be physically able to:

- Withstand changes in weather
- Coordinate finger, hand and arm movements
- See well and perceive color differences

ON THE JOB

Agriculture and biological technicians aid the important work done by agriculturalists and biologists. The technician has many responsibilities, which primarily involve supervision and direction of the experimental activities in the laboratory. The technician often collects specimens used for examination. In addition, the technician must collect, organize and prepare data to be used. He or she must be able to get along well with others and be prepared to give and take orders. An agriculture or biological technician may specialize in: crop technology, farm machinery, entomology, or bacteriology.

THINGS TO THINK ABOUT

Advantages:

- The self-satisfaction of having contributed to society
- Different areas of specialization available

Disadvantages:

- Varied working conditions
- Long work hours during certain seasons

PREPARATION AND TRAINING

- A high school education followed by a two-year technical program and work experience are required.
- You are required to attend a four year college or university and major in some area of biological science.
- In some instances, you are required to obtain a master's degree

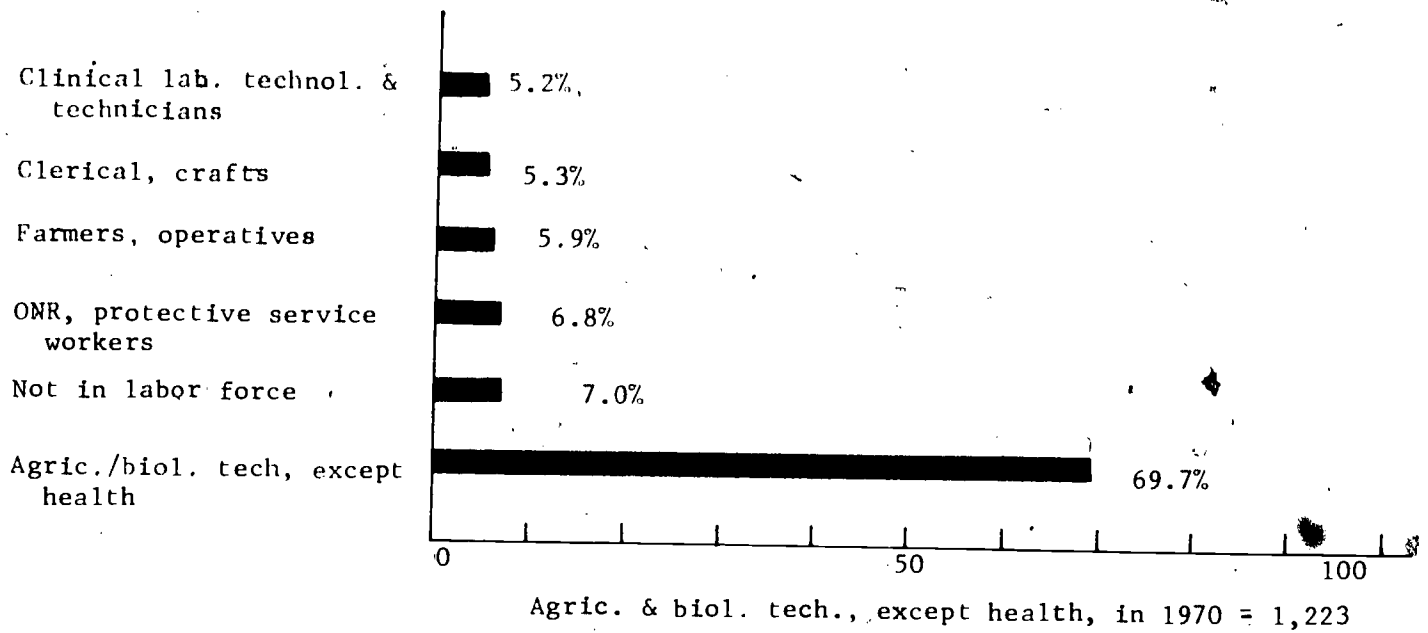
WHERE TO GET MORE INFORMATION

U.S. Department of Agriculture
Washington, D.C. 20250

American Institute of Biological Sciences
3900 Wisconsin Avenue, N.W.
Washington, D.C. 20016

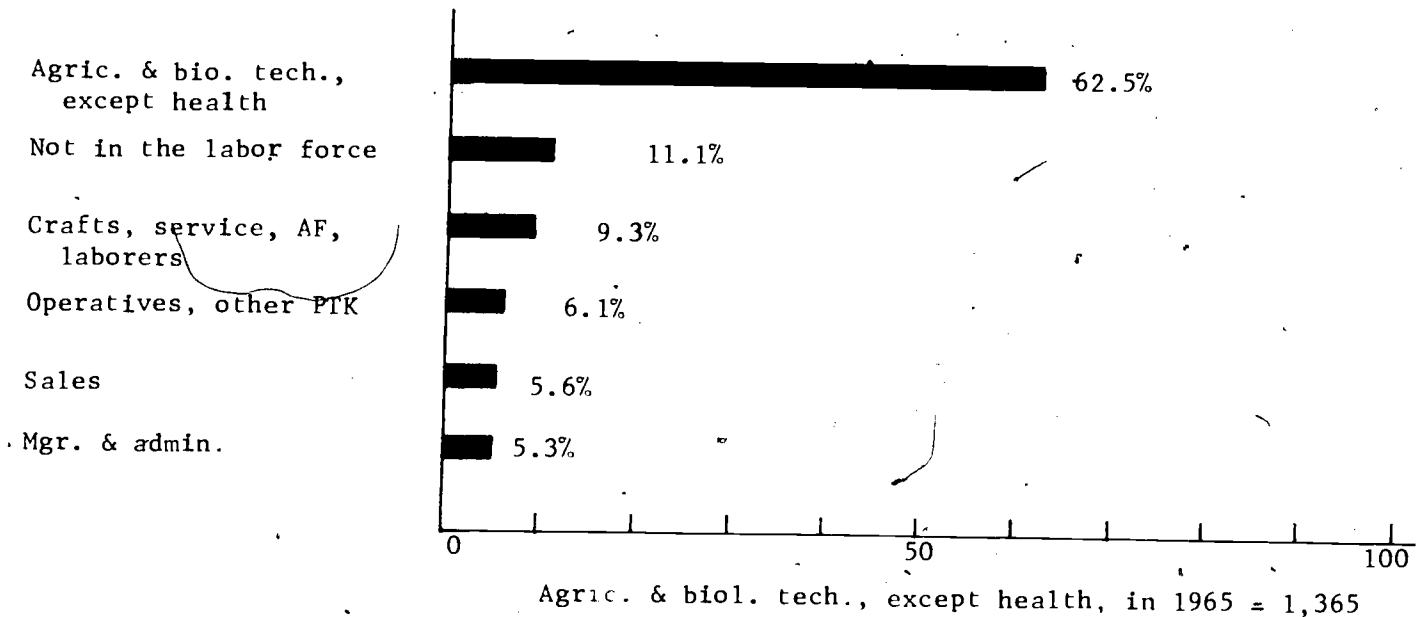
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Agricultural and Biological Technicians, Except health, Were Doing in 1965



Seventy percent of the 1970 agricultural and biological technicians were already working in that field five years earlier. Almost 25% of the new entrants were probably receiving formal training for the occupation in 1965 (not in the labor force). About 15% were previously employed in clinical laboratories. Less than two-thirds of the 1965 technicians remained in that occupation in 1970.

What 1965 Agricultural and Biological Technicians, Except Health, Were Doing in 1970



Some job titles classified under this heading:

- | | |
|--------------------|---------------------|
| Acidity tester | Laboratory sampler |
| Artificial breeder | Research technician |
| Biological aides | Seed specialist |
| Dairy tester | Wildlife technician |

CHEMICAL TECHNICIANS

D.O.T. # 003.181

What does a chemical technician do? A chemical technician assists chemists and chemical engineers in the research and development of chemical and related products and equipment.

TO GET THE JOB

You should be able to:

- Work with many laboratory and measuring instruments
- Understand chemical principles
- Tabulate and analyze results from experiments

You should prefer to:

- Work as part of a team
- Be accurate and detailed

You should be physically able to:

- Work under a variety of conditions.
- Coordinate finger and hand movements

ON THE JOB

A chemical technician is part of a team, is responsible for developing and testing chemicals. He or she measures reactions, analyzes experimental results and records the data, which will affect decisions about products and determine future research. As a chemical technician a person can become a specialist in such areas as food processing or pharmaceutical products.

THINGS TO THINK ABOUT

Advantages:

- Regular work hours
- Pleasant working conditions

Disadvantages:

- Work is often repetitious
- Job may include work with chemicals that might be harmful
- No individual recognition for achievement

PREPARATION AND TRAINING

Future chemical technicians can receive training at junior and community colleges, technical institutes, on-the-job training or four-year degree programs.

Major emphasis is on the development of basic scientific, mathematical, and technical concepts.

In addition, the technician must be able to do simple analyses independently in at least one specialized area.

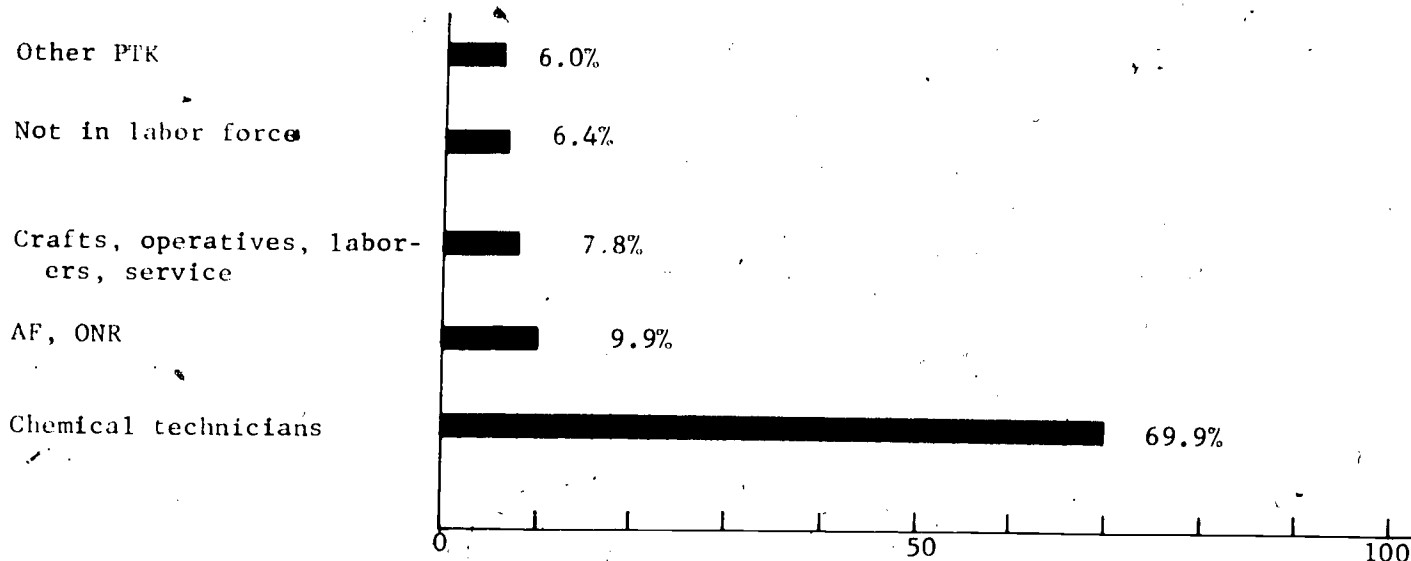
Often an apprenticeship of 2 to 5 years is required.

WHERE TO GET MORE INFORMATION

National Council of Technical Schools
1835 K Street, N.W.
Washington, D.C. 20006

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

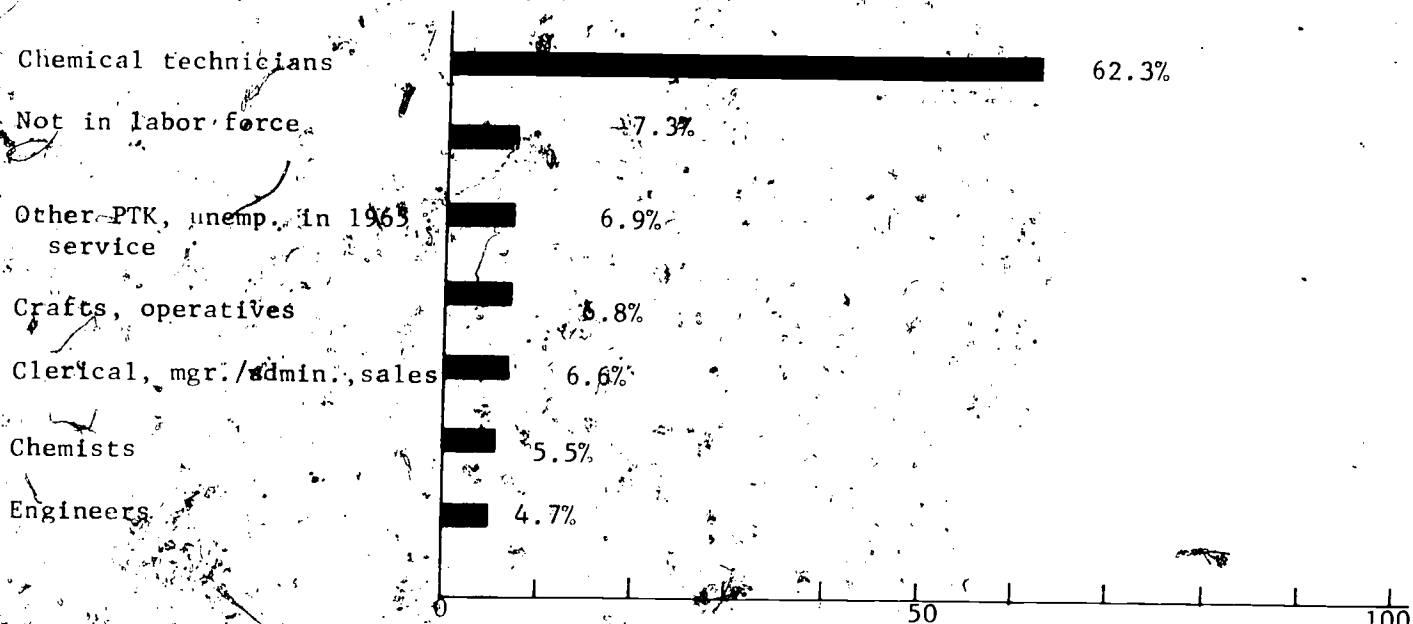
What 1970 Chemical Technicians Were Doing in 1965



Chemical technicians in 1970 = 2,595

Over two-thirds of the 1970 chemical technicians were already working in that field five years earlier. One-third of the new entrants were in the Armed Forces or did not report their occupation in 1965. About 20% had not yet entered the work force. More than 70% of the 1965 chemical technicians remained employed in that field in 1970 or became chemists or engineers.

What 1965 Chemical Technicians Were Doing in 1970



Chemical technicians in 1965 = 2,912

Some job titles classified under this heading:

Bench chemist
Bleach analyst
Color tester

Fiber analyst
Gas tester
Laboratory worker

Paint tester
Plastic technicians
Viscosity inspector

DRAFTING PERSONNEL

D.O.T. # 001.281

What do drafting personnel do? Persons who work in drafting occupations prepare detailed drawings that show the exact dimensions and specifications of an entire object and all of its parts.

TO GET THE JOB

You should be able to:

- Do detailed and accurate work
- Function as part of a team
- Draw free-hand

You should prefer to:

- Work with others
- Do mechanical and free-hand drawings
- Take courses in math, physical science, drawings and drafting

You should be physically able to:

- See well
- Coordinate eye-hand movements
- Sit in one position for long periods of time

ON THE JOB

The worker in a drafting occupation is part of a team and must be willing to work closely with others. He or she translates rough sketches into detailed drawings and also calculates the strength, quality, quantity and cost of materials. That worker uses a wide range of tools to solve technical problems. Persons in drafting occupations may specialize in areas such as mechanical, electrical, or architectural drafting. There are also different classifications of drafting personnel including: job captain, checker, detailer, and tracer.

THINGS TO THINK ABOUT

Advantages:

- Good working conditions
- Other opportunities are often available

Disadvantages:

- Having to be cooperative all the time
- Translating the work of others
- The close and detailed work required is often strenuous

PREPARATION AND TRAINING

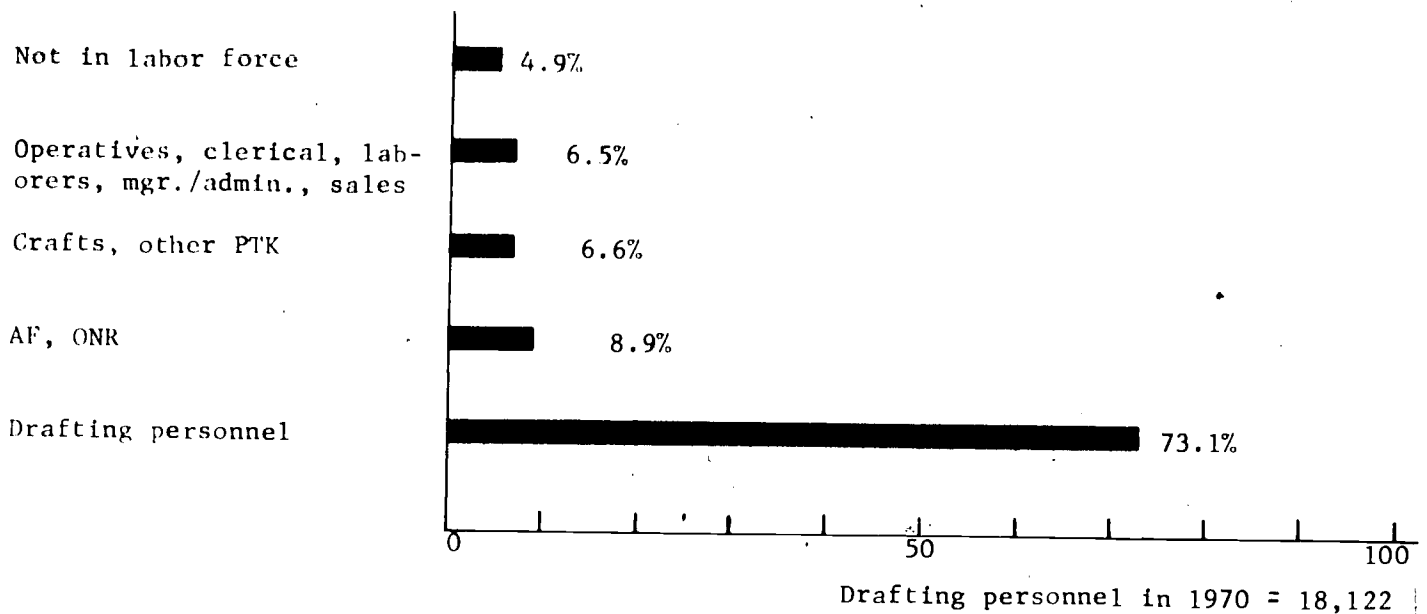
A high school diploma is essential. Coursework should include mathematics, science, drafting and shop. Post-secondary training at a technical institute or junior college is often required. Some people may qualify for on-the-job training, if it is combined with part-time schooling or an apprenticeship.

WHERE TO GET MORE INFORMATION

American Institute for Design and Drafting
3119 Price Road
Bartlesville, Oklahoma 74003

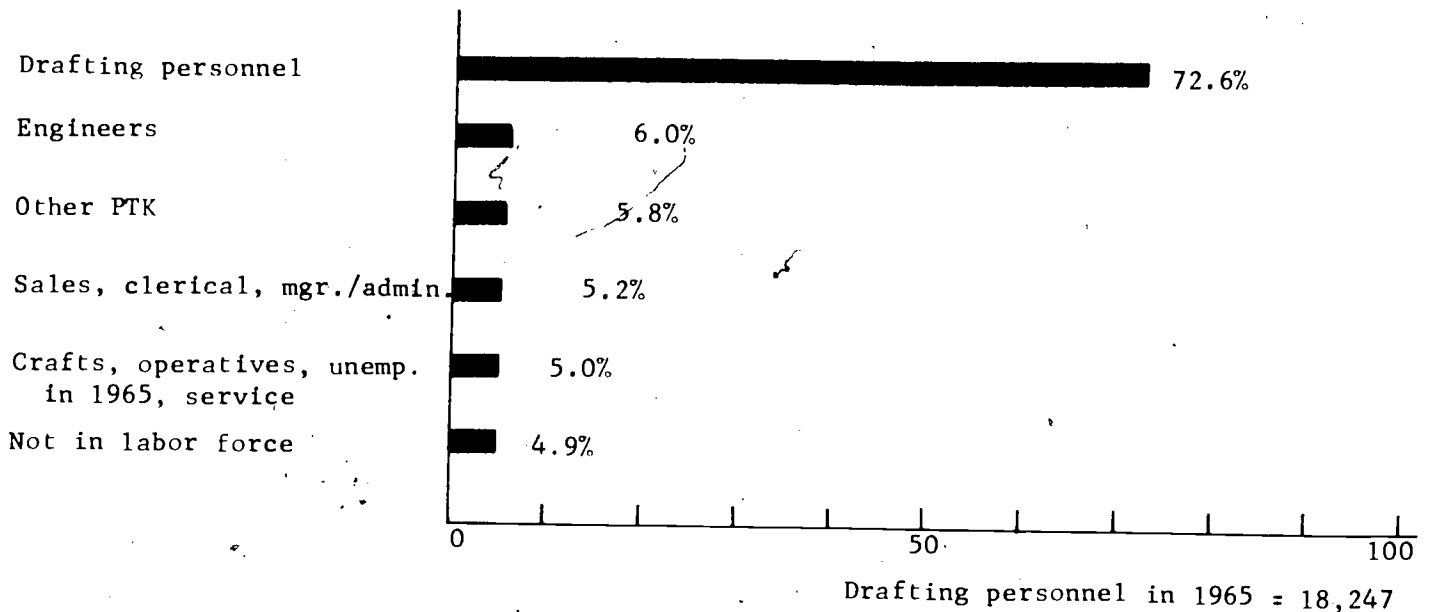
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Drafting Personnel Were Doing in 1965



Almost three-fourths of the 1970 drafting personnel in Pennsylvania were already employed in that occupation five years earlier. One-third of the new entrants were previously serving in the military or did not report their occupation. Over half of the new 1970 workers held jobs in other fields in 1965. Nearly 85% of the 1965 drafting personnel remained in that occupation or worked as engineers or other professionals in 1970.

What 1965 Drafting Personnel Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|-------------------|---------------------|------------------|
| Cartographer | Drafting engineer | Pattern grader |
| Design checker | Map maker | Photogrammetrist |
| Drafting detailer | Mechanical designer | Stereo-compiler |

ELECTRICAL AND ELECTRONIC ENGINEERING TECHNICIANS

D.O.T. # 003.181

What do electrical and electronic engineering technicians do? Electrical and electronic engineering technicians do research, develop, manufacture, and service various kinds of electronic equipment.

TO GET THE JOB

You should be able to:

- Prepare layouts and drawings
- Speak and write clearly and concisely
- Understand mechanical principles
- Analyze costs and uses of electronic equipment

You should prefer to:

- Work as part of a team
- Be accurate and detailed

You should be physically able to:

- Concentrate
- Work under various conditions
- Coordinate finger, hand and arm movements

ON THE JOB

Electrical and electronic engineering technicians are members of a team. They coordinate the efforts of other members, particularly the engineer and the skilled worker. These technicians are responsible for a variety of duties associated with electronics, including: manufacturing, sales, services, testing and researching of new equipment that has been developed. An electrical and electronic technician can become a specialist in such areas as automatic control devices or electronic amplifiers.

THINGS TO THINK ABOUT

Advantages:

- Pleasant working conditions
- Regular work schedule

Disadvantages:

- Must keep abreast of new developments in the field
- No individual recognition for achievement

PREPARATION AND TRAINING

Electrical and electronic engineering technicians can receive training at junior or community colleges, technical institutes, on-the-job training or four-year college degree programs.

Major emphasis is on the development of a good science, math, and technical background.

The technician must place particular emphasis on the field of specialization. An apprenticeship of 2 to 5 years is often required.

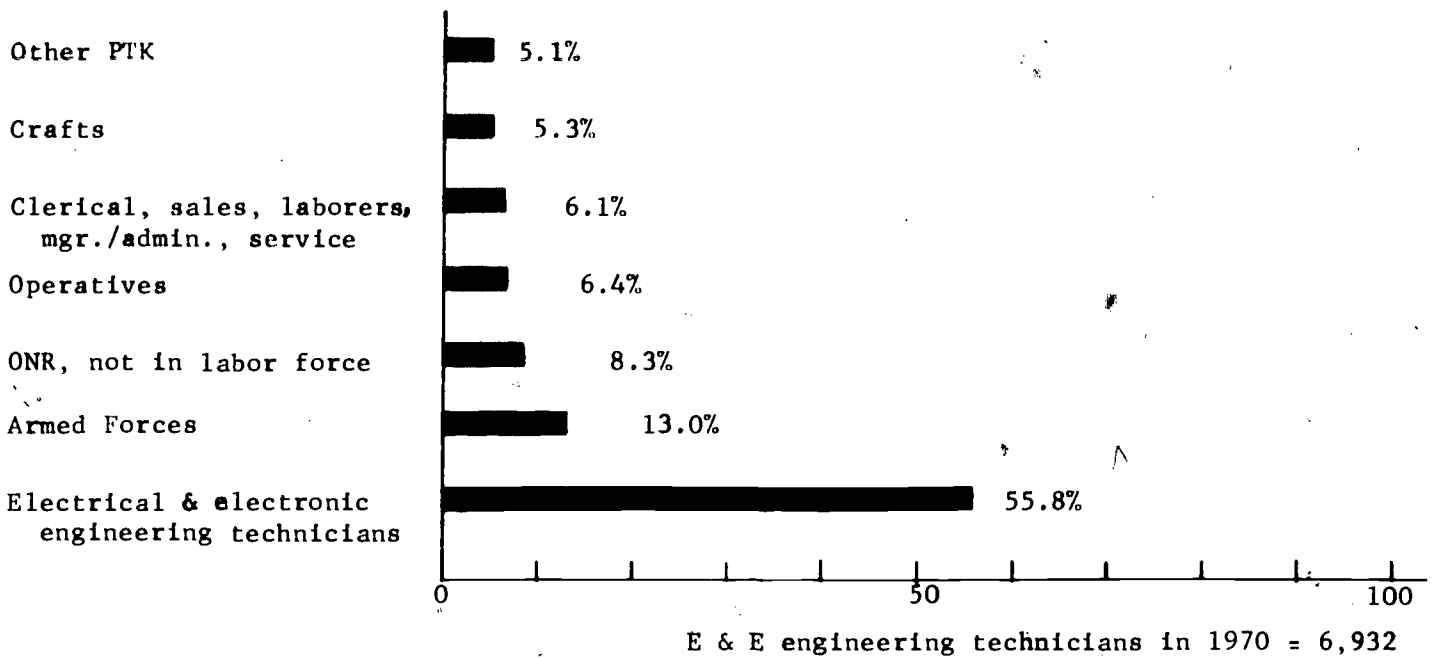
WHERE TO GET MORE INFORMATION

American Society of Certified Engineering Technicians
Box 40230
Everman, Texas 76140

U.S. Department of Health, Education, and Welfare
Office of Education
Division of Vocational and Technical Education
Washington, D.C. 20202

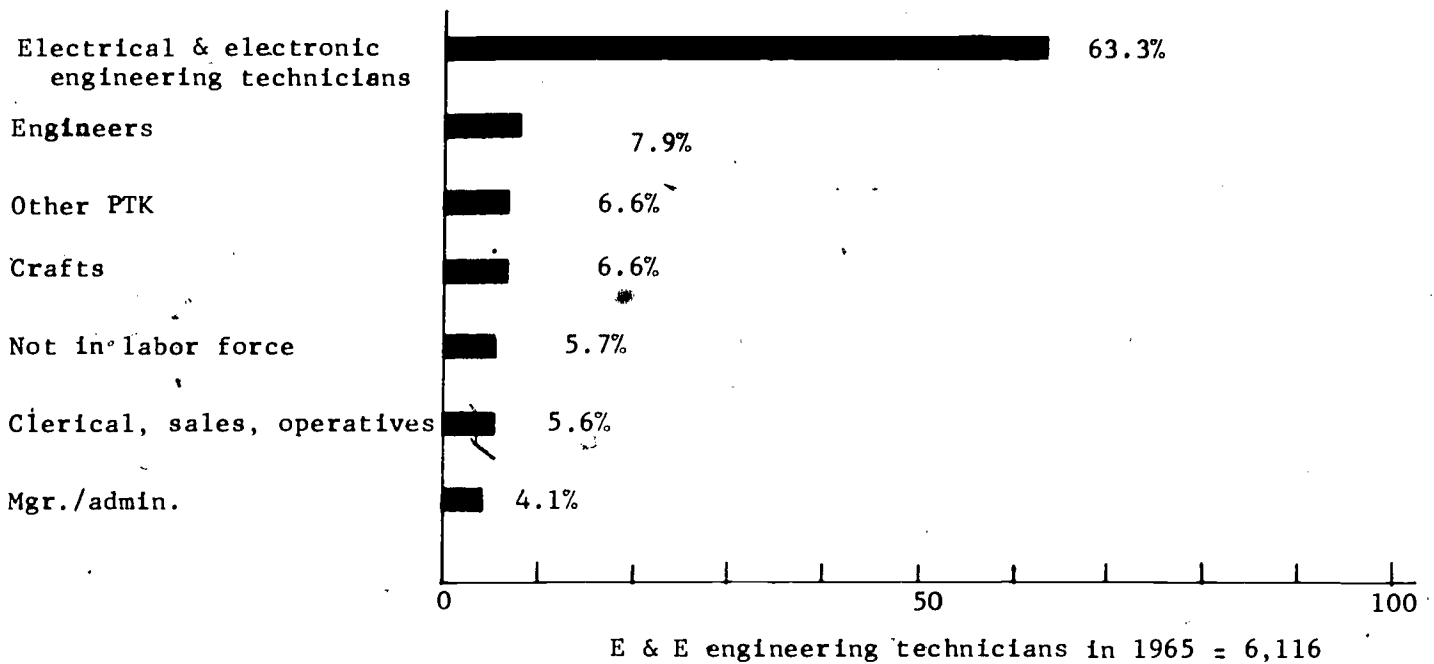
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Electrical and Electronic Engineering Technicians Were Doing in 1965



Over half of these 1970 technicians were already working in the field five years earlier. About 30% of the new entrants were serving in the military in 1965. Another fourth were previously employed as craftsmen or operatives. More than 70% of the 1965 technicians remained in that occupation or became engineers by 1970.

What 1965 Electrical and Electronic Engineering Technicians Were Doing in 1965



Some job titles classified under this heading:

Audio operator
 Camera engineer
 Computer technician
 Disc recordist

Microphone operator
 Recording engineer
 Sound editor

Stage director
 Television technician
 Transcription manager

INDUSTRIAL ENGINEERING TECHNICIANS

D.O.T. # 003.181

What do industrial engineering technicians do? Industrial engineering technicians assist industrial engineers by resolving problems of personnel, materials, and/or machines that produce goods and services.

TO GET THE JOB

You should be able to:

- Prepare layouts and drawings
- Speak and write clearly and concisely
- Understand mechanical principles
- Analyze costs and uses of personnel, materials, and machines

You should prefer to:

- Work as part of a team
- Be accurate and detailed

You should be physically able to:

- Concentrate
- Work under a variety of conditions
- Coordinate finger, hand and arm movements

ON THE JOB

The industrial engineering technician is one member of a three-person team who acts as the liaison between the other members. The technician is responsible for preparing layouts of equipment, planning the work flow, making statistical studies, and analyzing production costs. The technician also conducts time and motion studies to improve efficiency. As an industrial engineering technician, a person can become involved in personnel and industrial safety.

THINGS TO THINK ABOUT

Advantages:

- Pleasant working conditions
- Regular work schedule

Disadvantages:

- Work is often repetitious
- No individual recognition for achievement

PREPARATION AND TRAINING

Future industrial engineering technicians can receive training at junior and community colleges, technical institutes, on-the-job training, or four-year college degree programs.

Major emphasis is on developing a sound science, mathematical, and technical background

A technician is required to concentrate on a specialty within the field. Many times an apprenticeship of 2 to 5 years is required.

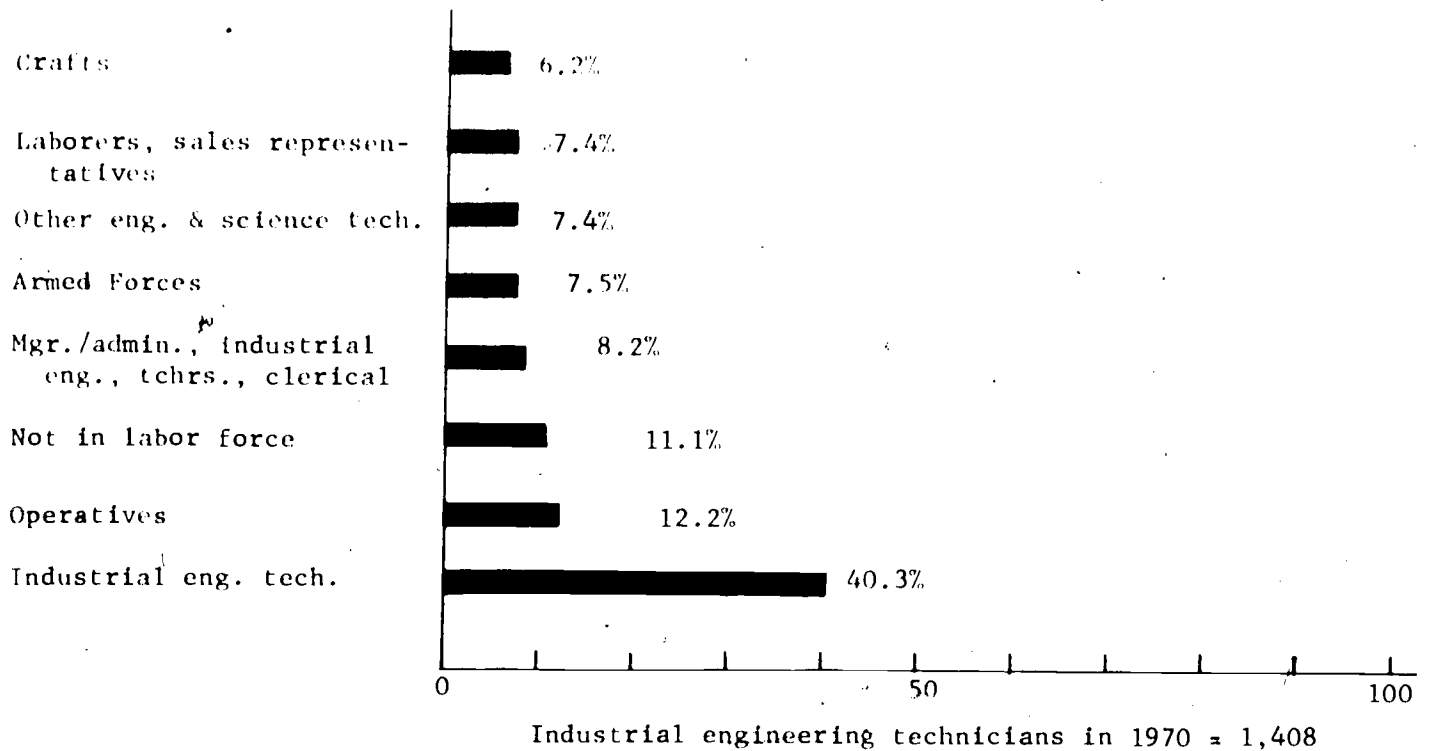
WHERE TO GET MORE INFORMATION

American Society of Certified Engineering Technician
Box 40230
Everman, Texas 67140

Engineers' Council for Professional Development
345 East 47th Street
New York, New York 10017

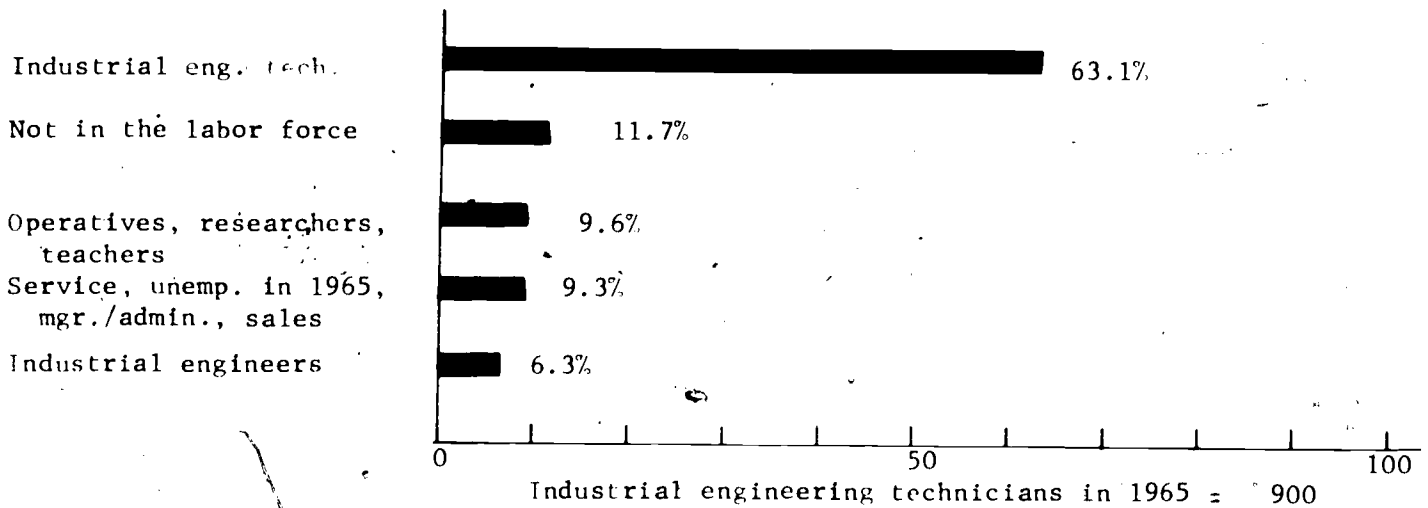
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Industrial Engineering Technicians Were Doing in 1965



Almost 60% of the 1970 technicians were doing something else five years earlier. One-fifth of the new entrants were working as operatives in 1965. Another group approximately that size were probably training for the occupation (not in the labor force). About 70% of the 1965 technicians remained in that field or became engineers by 1970.

What 1965 Industrial Engineering Technicians Were Doing in 1970



Some job titles classified under this heading:

- Air analyst
- Cellophane tester
- Hardners inspector
- Quality-control technician
- Time-study observer
- Tool specialist

MECHANICAL ENGINEERING TECHNICIANS

D.O.T. #
003.181

What do mechanical engineering technicians do? Mechanical engineering technicians assist engineers by planning and conducting tests on experimental machinery and evaluating its performance, durability, and efficiency.

TO GET THE JOB

You should be able to:

- Prepare layouts and drawings
- Speak and write clearly and concisely
- Understand mechanical principles
- Analyze costs and use of designs

You should prefer to:

- Work with numbers
- Work as part of a team
- Be accurate and detailed

You should be physically able to:

- Sit for long periods of time
- Concentrate

ON THE JOB

The mechanical engineering technician is part of a three person team consisting of the engineer, the technician, and the skilled worker. It is the technician who is the liaison between the engineer and skilled worker. The mechanical engineering technician is responsible for putting the engineer's design into use. Once this is completed, certain tests must be conducted involving the mechanical principles of tolerance, stress, strain, and friction. After making those tests the technician evaluates the design and makes recommendations to the engineer. As a mechanical engineering technician, a person can become involved in automotive technology, tool design, machine design, and production technology.

THINGS TO THINK ABOUT

Advantages:

- Regular work hours
- Pleasant working conditions

Disadvantages:

- Work is often repetitious
- No individual recognition for achievement

PREPARATION AND TRAINING

A variety of programs can qualify you as a mechanical engineering technician--junior and community colleges, technical institutes, on-the-job training, or four-year college degree programs, in science and math fields.

You must be able to do simple analyses independently in at least one specialty.

Often an apprenticeship of 2 to 5 years is required.

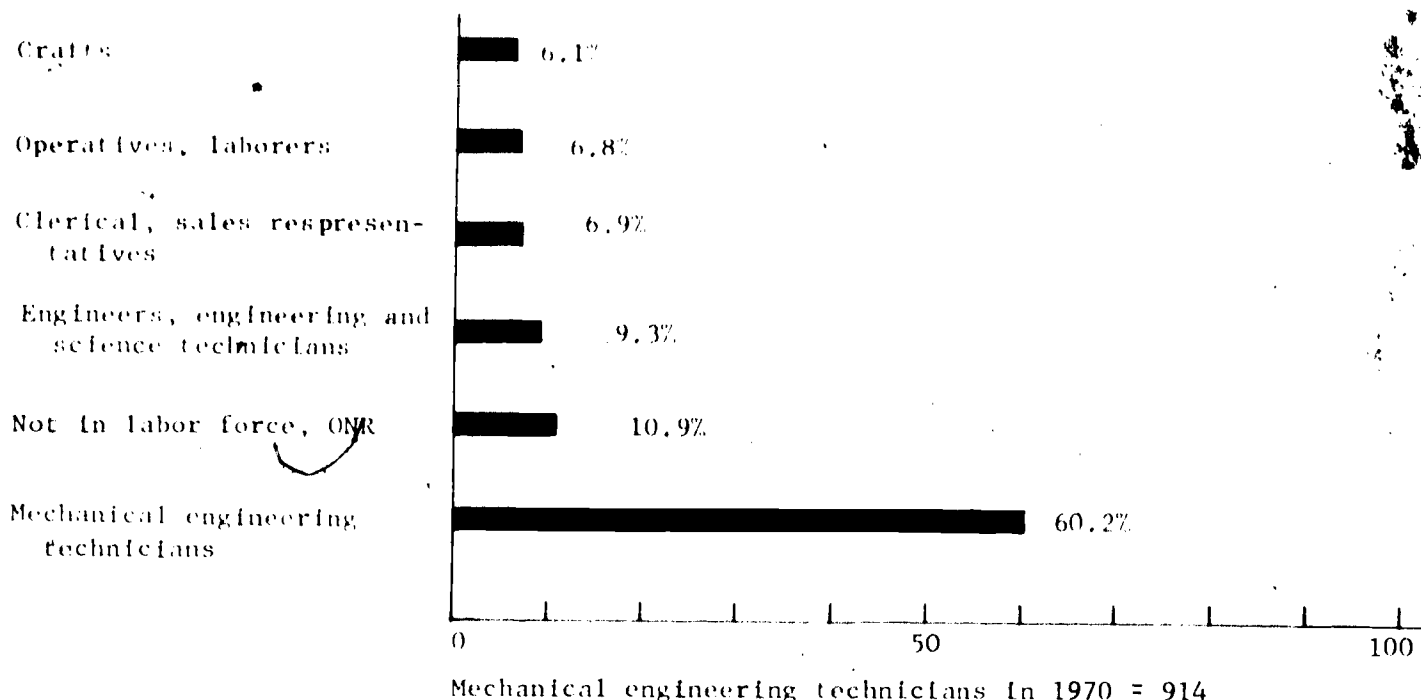
WHERE TO GET MORE INFORMATION

American Society of Certified
Engineering Technicians
Box 40230
Everman, Texas 76140

American Society for Engineering Education
Technical Institute Council
One Dupont Circle
Washington, D.C. 20036

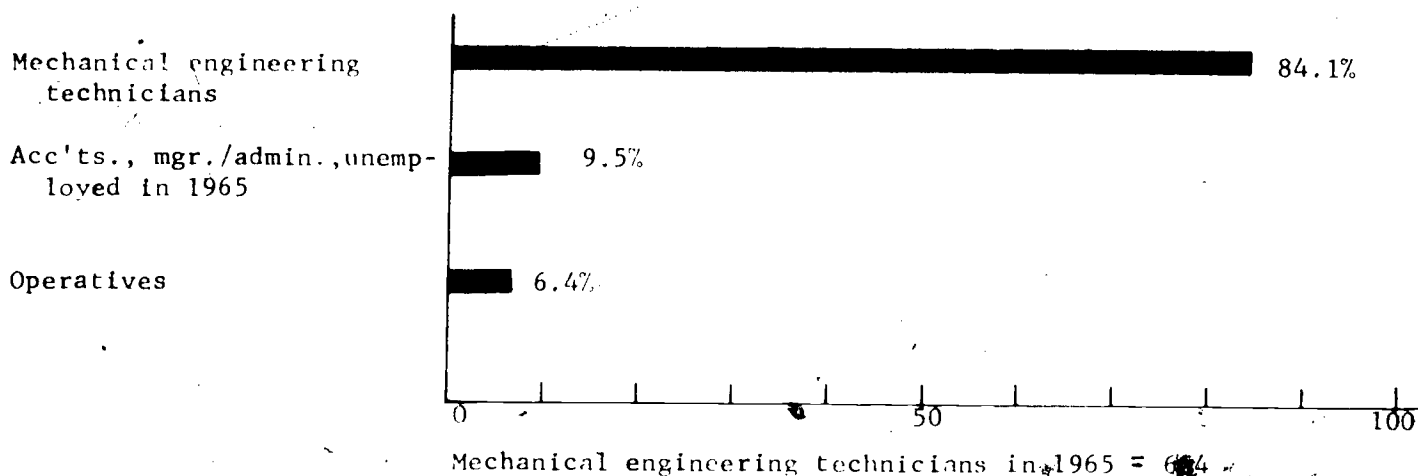
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Mechanical Engineering Technicians Were Doing In 1965



Over 60% of the 1970 technicians were already employed in that field five years earlier. Almost one-fourth of the new entrants previously worked as engineers or technicians. Another fourth were probably training for the occupation (not in the labor force) or did not report their type of work in 1965. More than 90% of the 1965 technicians remained in that field or became operatives by 1970.

What 1965 Mechanical Engineering Technicians Were Doing in 1970



Some job titles classified under this heading:

- | | |
|------------------------|---------------------|
| Aerographer | Motor tester |
| Chronograph operator | Research technician |
| Gyroscope technician | Rockwell operator |
| Material-stress tester | Steel tester |

SURVEYORS

D.O.T. # 018.188

What does a surveyor do? A surveyor makes a complete record of boundaries, land features, and other physical characteristics of a construction site.

TO GET THE JOB

You should be able to:

- Write neatly and legibly
- Be accurate
- Take a leadership position

You should prefer to:

- Work with numbers
- Do accurate work

You should be physically able to:

- Have good eyesight and hearing
- Be coordinated
- Work long hours, particularly during the summer months
- Stand for long periods of time
- Walk long distances and climb mountains
- Work out-of-doors
- Carry heavy equipment

ON THE JOB

A surveyor is responsible for coordinating and instructing the members of the field party (composed of 3 to 6 workers). Accurate and detailed work is a must. Responsibilities include: determining boundaries, locating natural and man-made features, and collecting and coordinating information. A surveyor may specialize in highways, land, or topography. Other duties included on these specializations are: preparation of maps, legal descriptions for deeds, determination of elevations and contours of an area, and indicating the location of surface features such as rivers and farms.

THINGS TO THINK ABOUT

Advantages:

- Five day week
- Physical activity

Disadvantages:

- Irregular hours during the summer months
- Strenuous and demanding

PREPARATION AND TRAINING

A high school diploma with an emphasis on math and drawing is the minimum requirement.

Post-secondary work at a junior college, technical or vocational institute is usually necessary. Combined with this should be an extensive on-the-job training program.

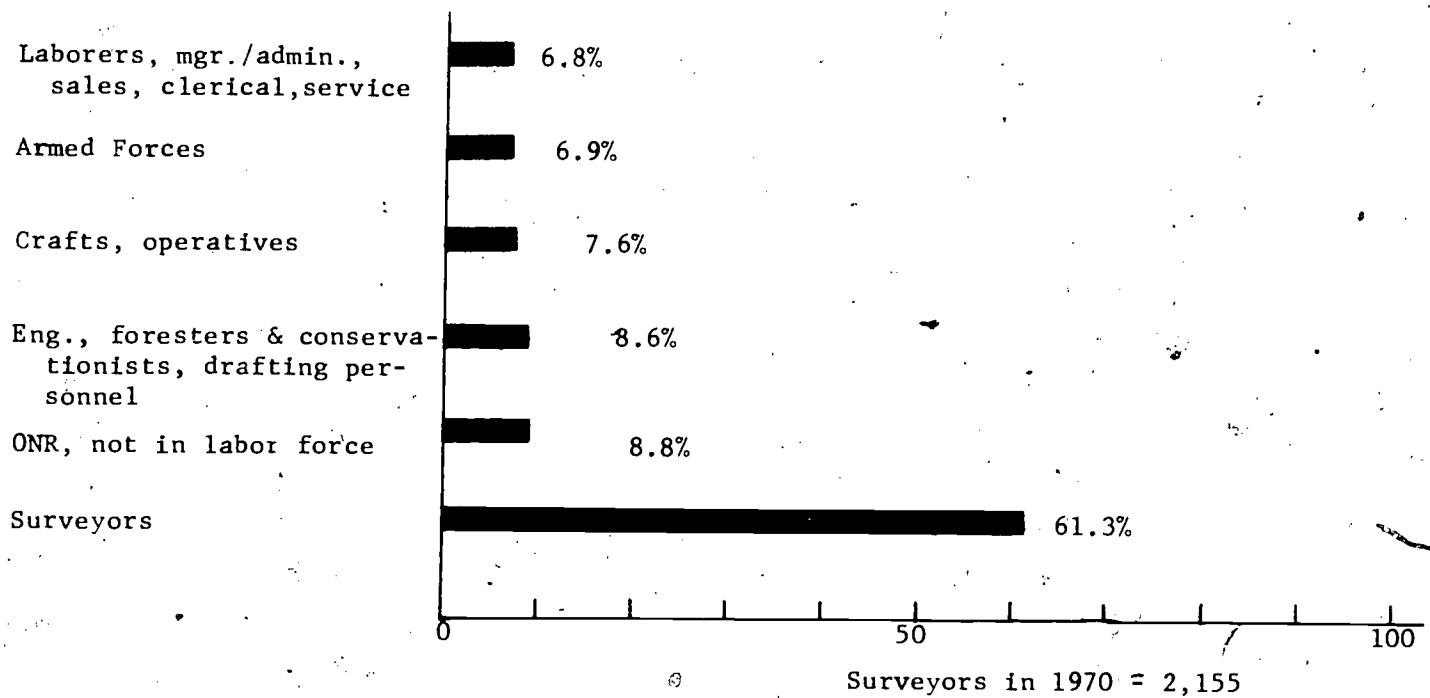
Licensing as a land surveyor is required in all 50 states. General requirements include 4 to 8 years experience and passing a written examination.

WHERE TO GET MORE INFORMATION

American Congress on Surveying and Mapping
Woodward Building
733 - 15th Street, N.W.
Washington, D.C. 20005

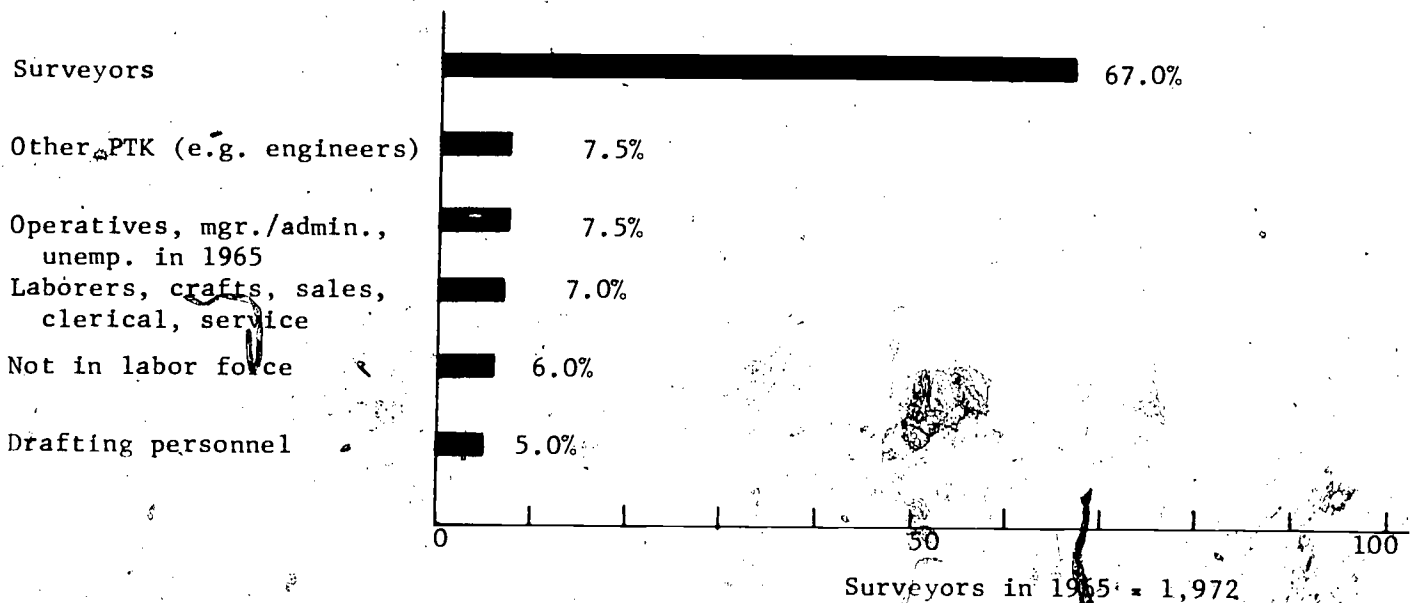
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Surveyors Were Doing in 1965



Over 60% of the 1970 surveyors were already employed in that field five years earlier. More than one-fifth of the new entrants previously worked in engineering, environmental or drafting positions. Two-thirds of the 1965 surveyors remained in that occupation in 1970.

What 1965 Surveyors Were Doing in 1970



Some job titles classified under this heading:

- | | |
|----------------------|-------------------|
| County surveyor | Mineral surveyor |
| Crew chief surveying | Railroad surveyor |
| Land surveyor | Speed setter |
| Mine surveyor | Topographer |

ENGINEERING AND SCIENCE TECHNICIANS

D.O.T. #'s
007.181, 199.384

What do engineering and science technicians do? Engineering and science technicians assist engineers and scientists in performing highly technical production operations such as research, design, sales, and service.

TO GET THE JOB

You should be able to:

- Work with or without supervision
- Work with many laboratory and measuring instruments
- Tabulate and analyze experimental results

You should prefer to:

- Work as part of a team
- Be accurate and detailed

You should be physically able to:

- Work under a variety of conditions
- Have good manual dexterity.

ON THE JOB

Engineering and science technicians are part of a three person team. Often the technician acts as a liaison person between the engineer and/or scientist and the skilled worker. The job includes a variety of responsibilities, so this person must be flexible and versatile. He or she is often required to carry out experiments, study ways to improve the efficiency of an operation, supervise skilled workers and be able to make decisions and changes without close supervision. Specialists may become light technicians, environmental engineering aides, gamma-ray operators, or well loggers.

THINGS TO THINK ABOUT

Advantages:

- Regular work hours
- Pleasant working conditions

Disadvantages:

- Work is often repetitious
- No individual recognition for achievement
- There are many responsibilities to others

PREPARATION AND TRAINING

A variety of programs can qualify a person as an engineering or science technician: junior and community colleges, vocational-technical institutes on-the-job training, correspondence school, and four-year college degree programs. Major emphasis is on the development of basic scientific, mathematical, and technical concepts.

To specialize, it is often required that simple analyses be performed in the specialized area.

An apprenticeship of 2-5 years may be required.

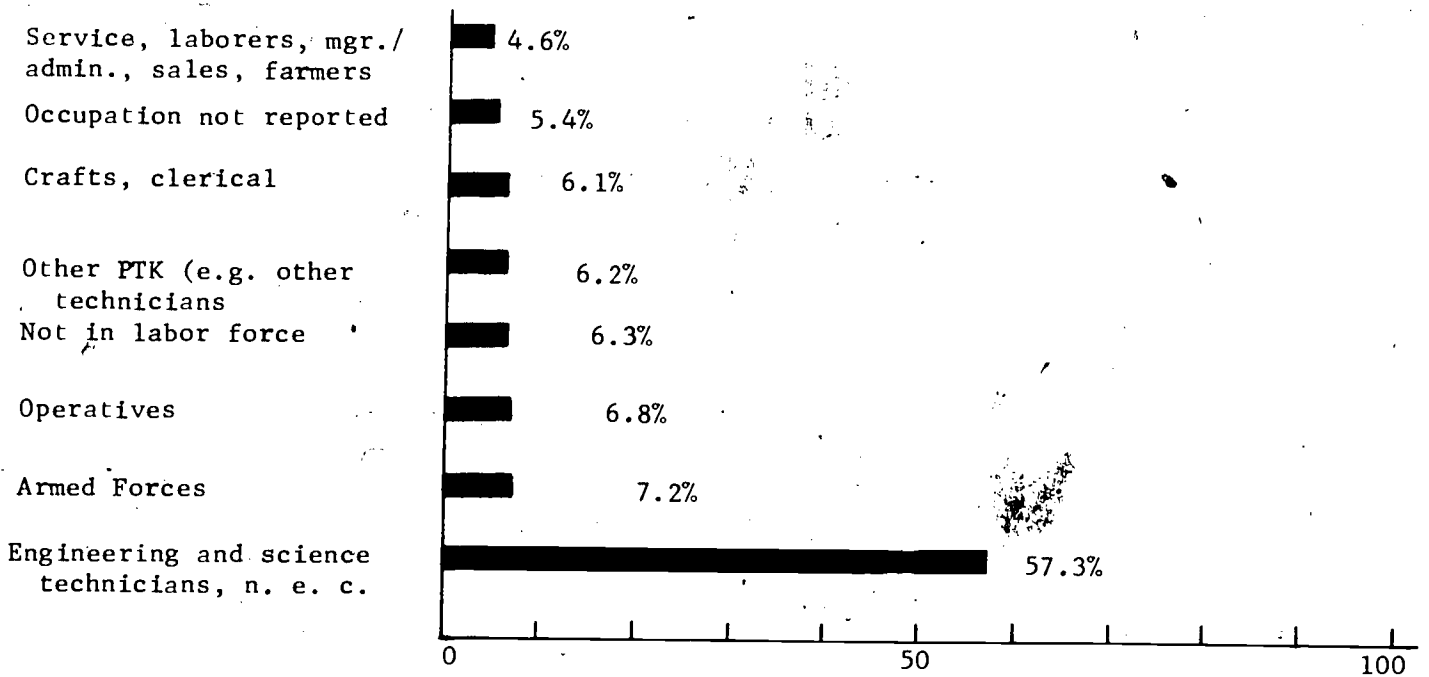
WHERE TO GET MORE INFORMATION

American Society for Engineering
Suite 400
1 Dupont Circle
Washington, D.C. 20036

Engineers Council for Professional
Development
345 East 44 Street
New York, New York 10017

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

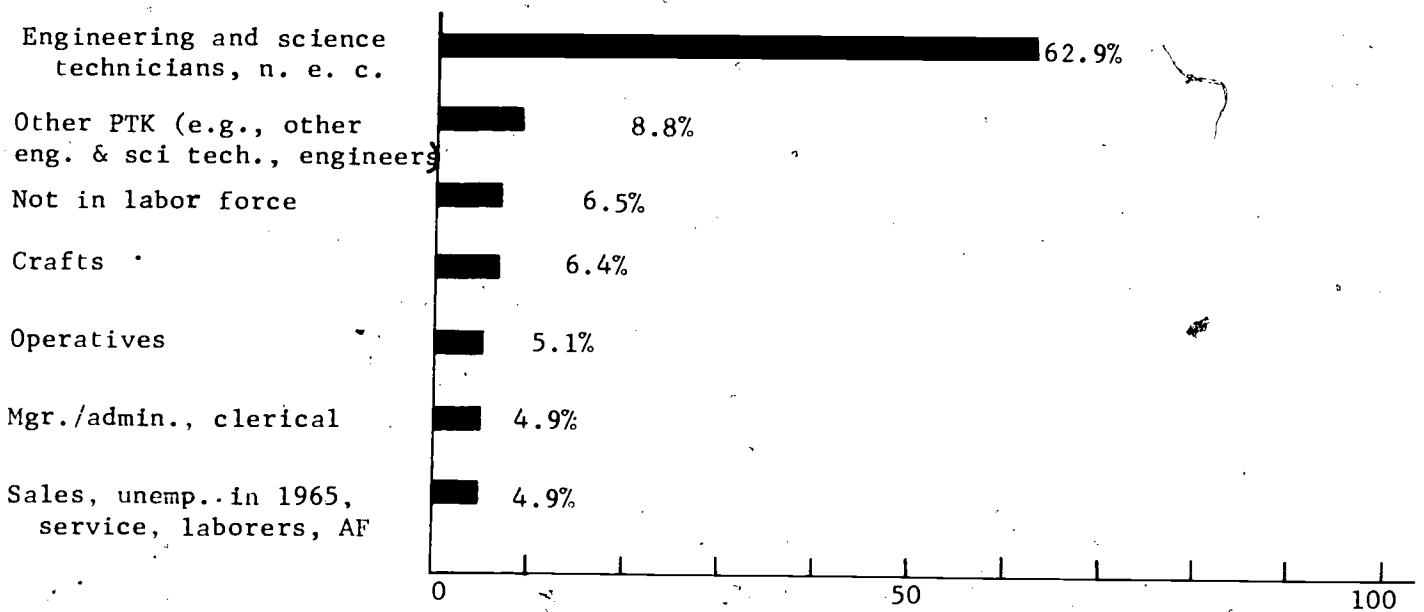
What 1970 Engineering and Science Technicians, not elsewhere classified, were doing in 1965



Eng. & sci. technicians in 1970 = 9,756

Nearly 60% of these 1970 technicians were already working in this field five years earlier. One-sixth of the new entrants were previously employed as operatives. Another group almost that large was probably training for the occupation (not in the labor force). Three-fourths of the 1965 technicians remained in the field or became other technicians, engineers or operatives by 1970.

What 1965 Engineering and Science Technicians, not elsewhere classified, were doing in 1970



Eng. & sci. technicians in 1965 = 8,896

Some job titles classified under this heading:

Ballistic expert
Cartographic aide
Cloth tester
Electrical logger
Engineering aide

Film color tester
Gamma-ray operator
Life-support technician
Lighting advisor
Pyrotechnist

Radiographer
Sand technician
Seismic interpreter
Sonoscope operator
Spectroscopist

AIRPLANE PILOTS

D.O.T. # 196.283

What does an airplane pilot do? An airplane pilot operates an aircraft to transport passengers and cargo and may perform other tasks such as crop dusting and inspecting power lines.

TO GET THE JOB

You should be able to:

- Exercise good judgment
- Make quick decisions under pressure
- Read and comprehend mechanical instruments

You should know that:

- A commercial airplane pilot's license is required
- Pilots must have a rating for the class of plane they fly (single engines, multiengines, Boeing 747, etc.)
- Pilots are employed by airlines, large corporations and governments

You should be physically able to:

- Have corrected vision of 20/20
- Have good hearing
- Have no physical handicaps that prevent quick reactions

ON THE JOB

The airplane pilot is in charge of the plane and supervises all other crew members. Extensive planning must be performed before the flight. The pilot must know the weather conditions to plan the route, speed, and altitude that will give a smooth ride. Before takeoff, the pilot checks the engines, controls and instruments to make sure everything is working properly. During the flight, the pilot steers the plane along each point of the flight plan, monitors the instruments of the plane, and reports the conditions to the ground control stations. After the plane has landed, the pilot completes flight records required by the company and the Federal Aviation Administration (FAA).

THINGS TO THINK ABOUT

Advantages:

- Pilots are among the highest wage earners in the U.S.
- As a rule, pilots and families are entitled to fly for free or at reduced rates

Disadvantages:

- Airline pilots may be away from home much of the time
- Work schedules are irregular
- Pilots work under constant stress and pressure

PREPARATION AND TRAINING

- Applicants for a copilot job must be between 20 and 35 years old.
- Most airlines require two years of college and prefer to have college graduates.
- To obtain an airline transport pilot license, an applicant must have a minimum of 1,500 hours of flight time.

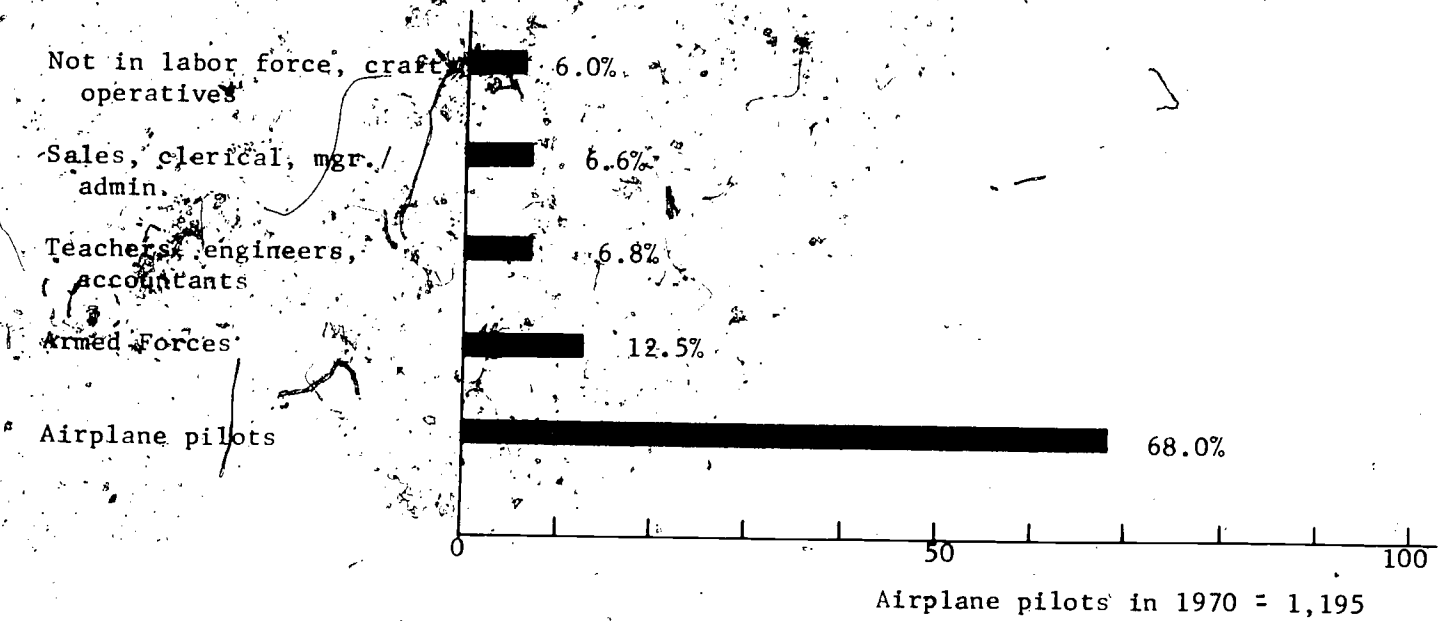
WHERE TO GET MORE INFORMATION

Airline Pilots Association
1625 Massachusetts Avenue, N.W.
Washington, D.C. 20036

169

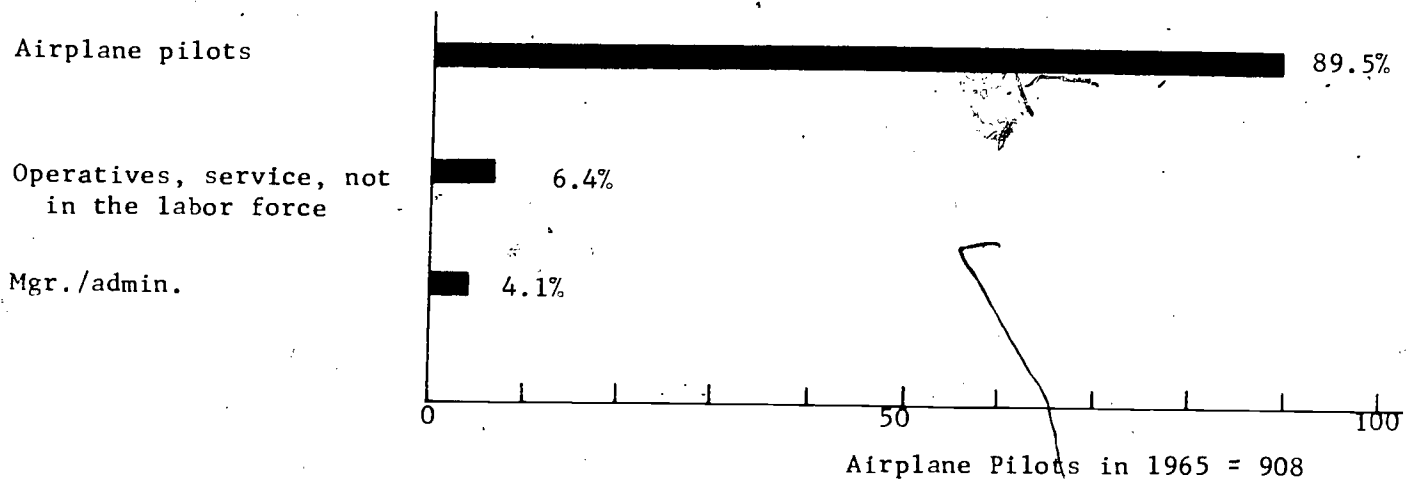
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Airplane Pilots Were Doing in 1965



Over two-thirds of the 1970 pilots were already in that occupation five years earlier. The largest group of the new entrants (38%) were in the Armed Forces in 1965; some were probably learning to fly planes. More than one-fifth previously worked as teachers, engineers or accountants. Ninety percent of the 1965 airplane pilots remained in that occupation in 1970. Another 4% moved into administrative or managerial positions.

What 1965 Airplane Pilots Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|--------------------|------------------|------------|
| Aerial-crop duster | Balloonist | Navigator |
| Airplane captain | Check pilot | Test pilot |
| Aviator | Flight inspector | |

AIR TRAFFIC CONTROLLERS

D.O.T. # 193.168

What does an air traffic controller do? An air traffic controller coordinates flights to prevent accidents and minimize delays in takeoffs and landings.

TO GET THE JOB

You should be able to:

- Operate calmly under stressful situations
- Use good judgment in making quick, accurate decisions

You should know that:

- Air traffic controllers are employees of the Federal Aviation Administration
- Air traffic control trainees are selected through the Federal Civil Service System
- You must pass a job performance exam twice a year

You should be physically able to:

- Speak clearly and precisely
- See well with vision correctable to 20/20
- Discriminate differences between colors
- Pass a rigid physical exam each year

ON THE JOB

Air traffic controllers work in the airport control tower. They must control the movements of aircraft both on the ground and in the air through the use of radio, telephone and radarscope. They are responsible for determining the altitude at which each plane within the area will fly. They also give information regarding weather, wind direction, and the relative position of other aircraft to the pilots. In addition, air traffic controllers instruct the pilots on the proper approaches and runways to be used, and are responsible for monitoring and controlling the lighting of airport runways. When necessary they make the decision to alert emergency personnel.

THINGS TO THINK ABOUT

Advantages:

- Very challenging work

Disadvantages:

- Work is performed under constant stress

PREPARATION AND TRAINING

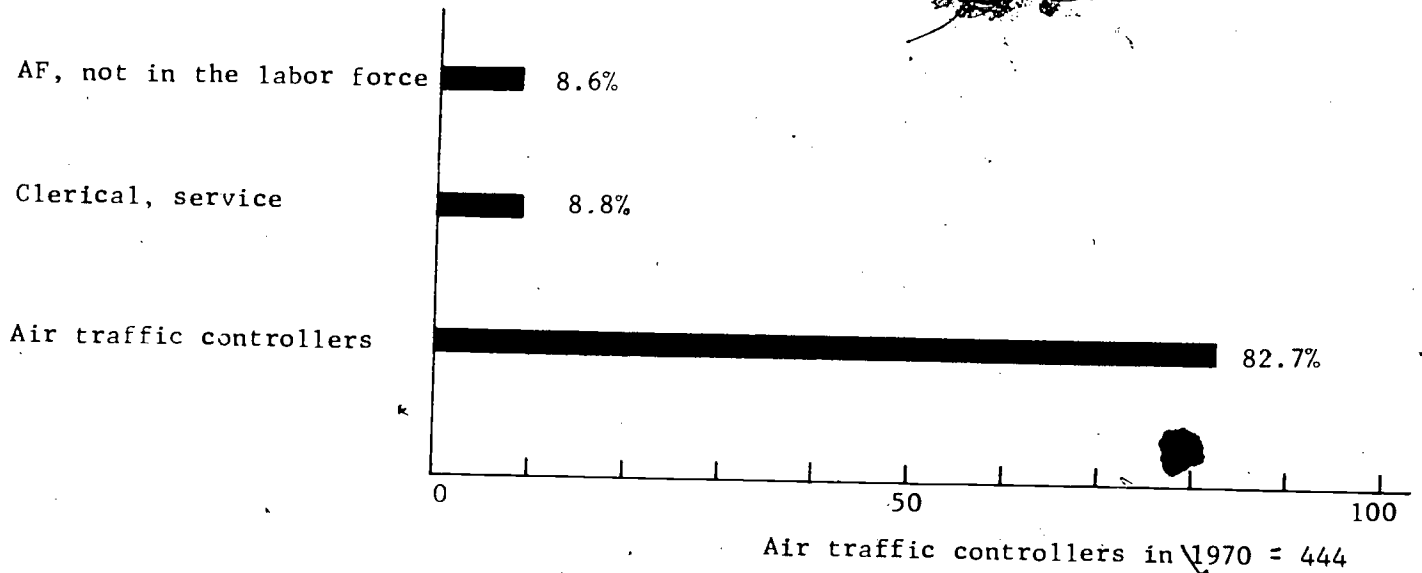
- Need experience in a related field (pilot, navigator or dispatcher)
- Preferably should have a bachelor's degree.
- Must take the Federal Civil Service Test.
- Takes two to three years on on-the-job training and formal training to become fully qualified controller.

WHERE TO GET MORE INFORMATION

Correspondence Inquiry Branch
MS - 126 Federal Aviation Agency
Washington, D.C. 20553

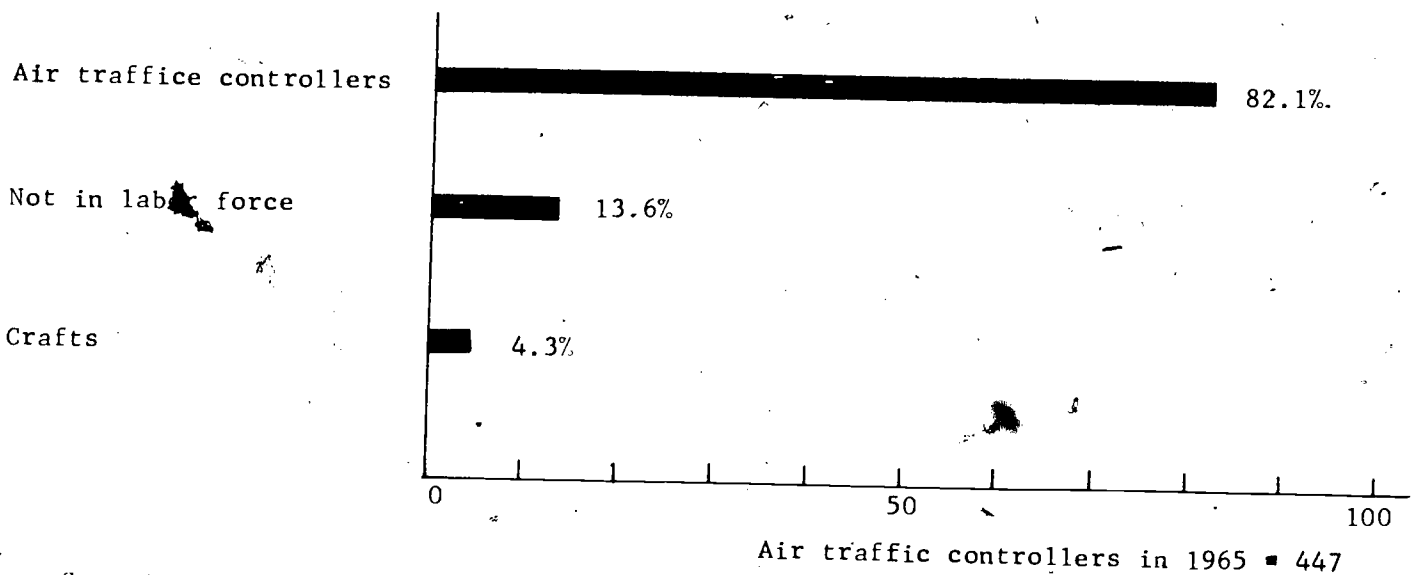
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Air Traffic Controllers Were Doing in 1965



Over 80% of the 1970 air traffic controllers were already working in that profession five years earlier. Half of the new entrants were working in clerical or service positions, perhaps training to become controllers on a part-time basis. The other half were either in the Armed Forces or probably in school (not in the labor force). More than 80% of the 1965 air traffic controllers remained in that occupation in 1970. Three-fourths of those who left the occupation retired from the work force, the rest became craftsmen.

What 1965 Air Traffic Controllers Were Doing in 1970



Some job titles classified under this heading:

- Air-route controller
- Aircraft communicator
- Dispatcher
- Flight-control specialist
- G.C.A. technician
- Signal-tower operator

RADIO OPERATORS

D.O.T. # 193.822

What does a radio operator do? A radio operator sends and transmits messages in our communication and transportation system. He or she aids personal, business, and political interests throughout the world through such jobs as dispatcher, radar operator and wireless telegrapher.

TO GET THE JOB

You should be able to:

- Have a memory for detail and accuracy
- Handle emergency situations
- Exercise good judgment
- Learn standard codes and signals

You should prefer to:

- Work in an isolated situation
- Study math, speech, science, and typing

You should be physically able to:

- Stay mentally alert
- Speak clearly, expressively, and distinctly
- Hear well
- Work while sitting for long periods of time

ON THE JOB

The radio operator may be employed in various communication systems. In general, these operators transmit and receive written or spoken messages. Sometimes these messages are in code. All in-coming and out-going messages are written down, or typed-up, and posted in a log. The log also contains the time at which the message was sent or received, and the person who initiated and received the message.

The radio operator serves and protects others through each transmission that is made. Often the operator is required to make quick and accurate decisions, so he or she must always be alert and remain emotionally detached from any situation that arises.

THINGS TO THINK ABOUT

Advantages:

- The skills gained are helpful in promotions
- Good working conditions with quiet surroundings

Disadvantages:

- Mental exhaustion often results from concentration and lack of physical movement.
- Some aspects seem routine and unimportant

PREPARATION AND TRAINING

- A high school diploma is essential for anyone entering the field.
- Special training in communication at a technical or vocational school is desirable, but on-the-job training may be possible.
- A license from the Federal Communications Commission is required.
- Experience (e.g., summer employment) is helpful

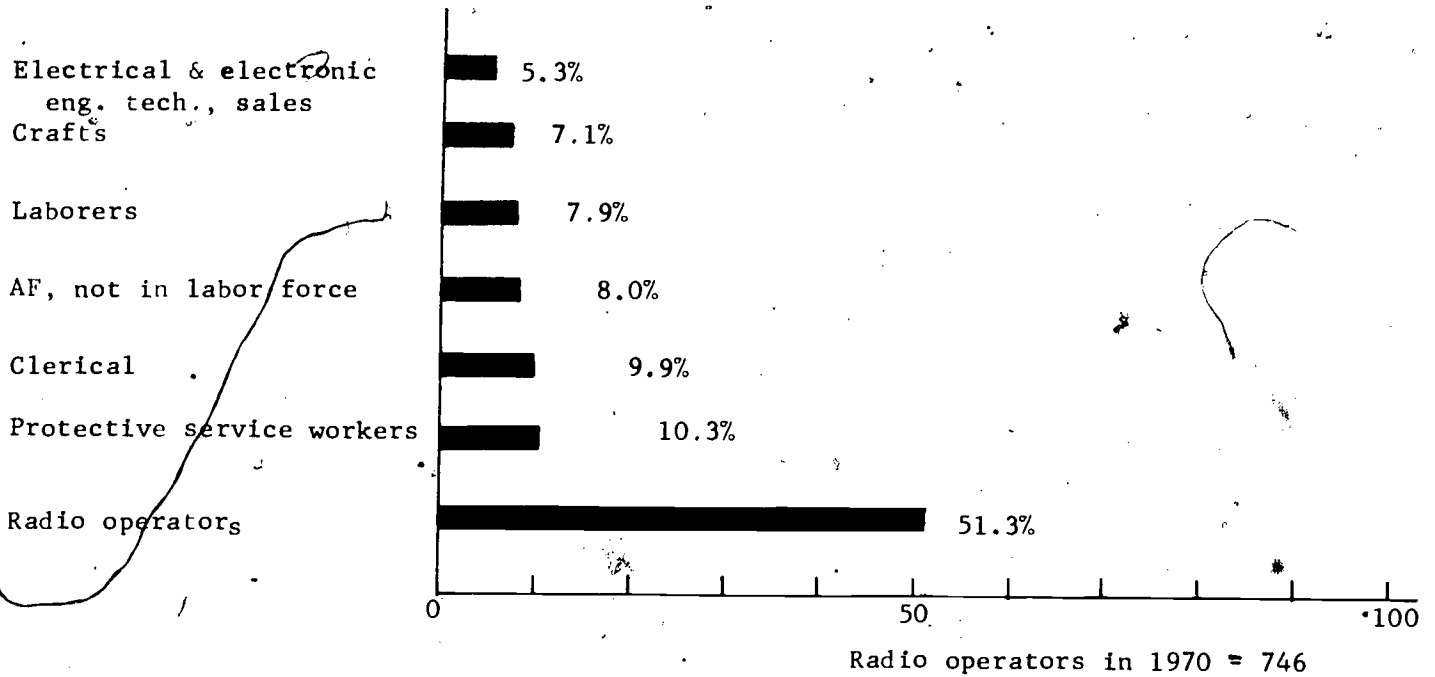
WHERE TO GET MORE INFORMATION

Personnel Operations Division FAA
800 Independence Avenue, S.W.
Washington, D.C. 20591

The National Association of Broadcast
Employers and Technicians
135 West 50th Street
New York, New York 10019

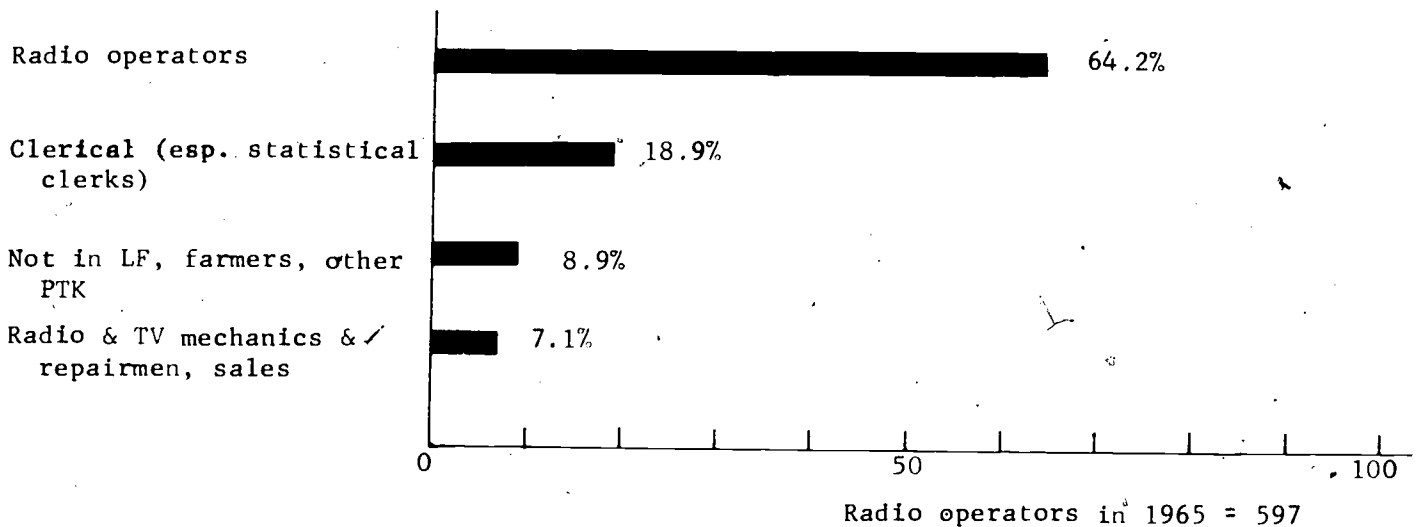
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Radio Operators Were Doing in 1965



About half of the 1970 radio operators were already working in that field five years earlier. Over one-fifth of the new entrants previously worked in protective service. Half of them were employed as clerical workers, laborers, or craftsmen in 1965. More than 80% of the 1965 radio operators remained in that occupation or became clerical workers by 1970.

What 1965 Radio Operators Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|--------------------|----------------------|-----------------------|
| Broadcast engineer | Radio dispatcher | Telecasting engineer |
| Nema operator | Radio telegrapher | Transmission operator |
| Wireless watcher | Wireless telegrapher | |

TECHNICIANS

D.O.T. #'s 194.281; 194.282; 957.282;
199.288

What does a technician do? A technician uses electronic equipment in recording, radio and television work and information analysis.

TO GET THE JOB

You should be able to:

- Acquire knowledge of and be able to use a variety of equipment
- Work with or without supervision
- Prepare reports
- Tabulate and analyze results

You should prefer to:

- Work as part of a team
- Be accurate and detailed

You should be physically able to:

- Work under a variety of conditions
- Manipulate objects with your hands

ON THE JOB

The technician is part of a team. Each person must use his or her specialty in conjunction with others in order to be functional. He or she is often required to set-up, test, and use a variety of equipment. For example, a broadcast technician might be responsible for lighting and/or sound instruments. He or she must test the instruments to be sure they are working, set them up, and prepare to make adjustments when the need arises. A handwriting expert may use many instruments to tabulate, analyze and verify findings.

THINGS TO THINK ABOUT

Advantages:

- Pleasant surroundings
- Regular work hours

Disadvantages:

- No recognition for achievement
- Work is often repetitious
- Evening and weekend work is sometimes scheduled
- Always responsible to others

PREPARATION AND TRAINING

A variety of programs can qualify a person as a technician: junior and community colleges, vocational technical institutes, on-the-job training, correspondence school, and/or four year college degree programs.

Major emphasis is on the development of basic mathematical, electronic and technical concepts.

Some fields of specialization require a license.

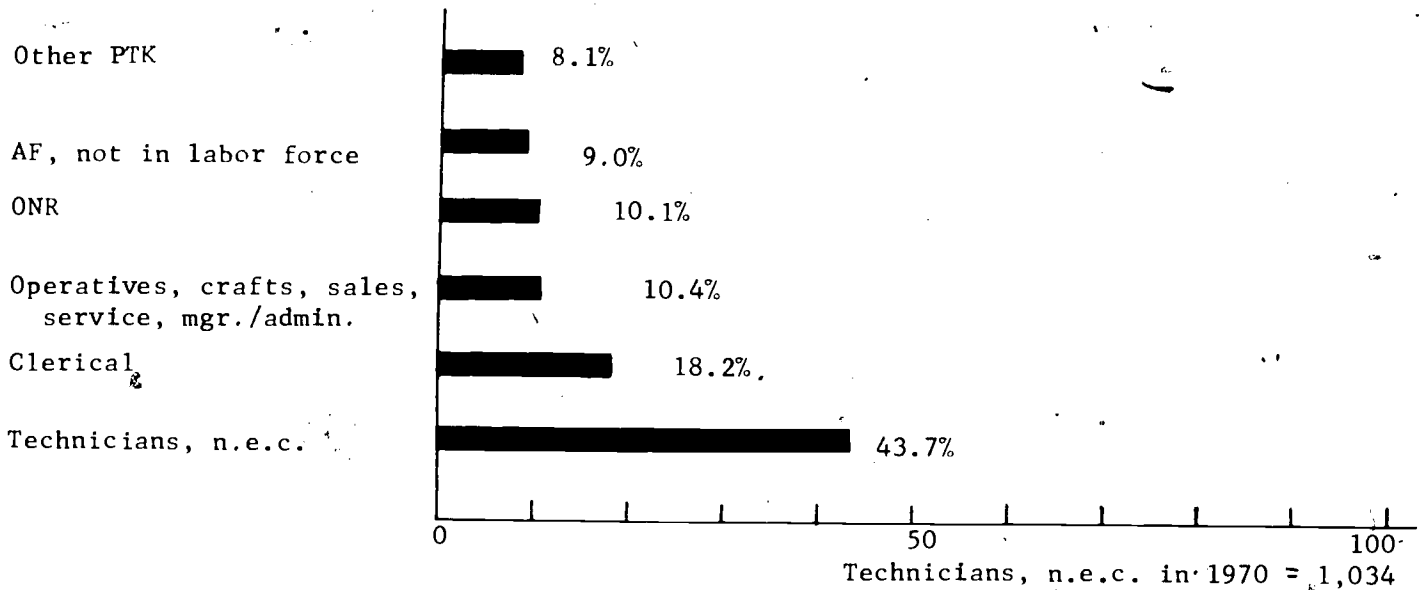
WHERE TO GET MORE INFORMATION

National Council of Technical Schools
1835 K Street, N.W. Room 907
Washington, D.C. 20006

National Association of Broadcasters
1771 N Street, N.W.
Washington, D.C. 20036

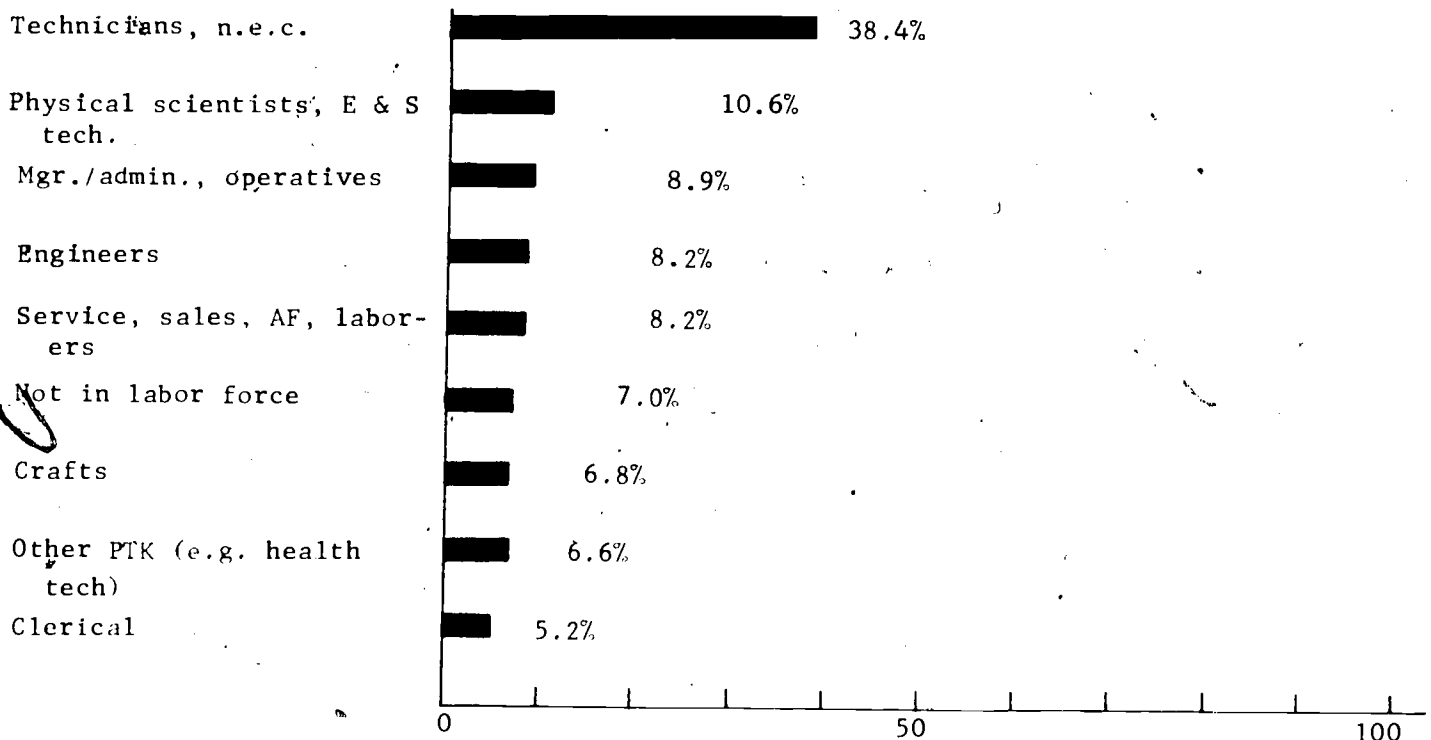
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Technicians, Not Elsewhere Classified, Were Doing in 1965



More than half of these 1970 technicians were doing something else five years earlier. One-third of the new entrants were previously employed in clerical positions. Another third worked in professional or technical fields or did not report their occupation in 1965. Over 60% of the 1965 technicians moved out of that classification by 1970. Almost 40% of that group moved into engineering, scientific or technical positions.

What 1965 Technicians, Not Elsewhere Classified, Were Doing in 1970



Some job titles classified under this heading: Technicians, n.e.c. in 1965 = 1,178

Camouflage specialist
Fingerprint expert
Handwriting expert

Lie-detector operator
Sound effects manager
Taxidermist

VOCATIONAL AND EDUCATIONAL COUNSELORS

D. O. T. # 045.108

What do vocational and educational counselors do? Vocational and educational counselors help individuals and groups plan for careers and life-styles which will be personally satisfying. Vocational and educational counselors also work with persons who have social and/or personal problems.

TO GET THE JOB

You should be able to:

- Exercise good judgment
- Develop good listening skills
- Get along well with others

You should prefer to:

- Help others make decisions, but not decide for them
- Be flexible and supportive
- Work with people and ideas

You should be physically able to:

- Work under pressure
- Work long hours
- Sit for periods of time

ON THE JOB

Vocational and educational counselors work with people of all ages. They are concerned with career choice and programming and they be willing to help a person with emotional, school, and/or social problems. Some professionals in the field work in employment agencies. They interview job seekers about employment-related facts, and then develop a vocational plan with each client. Other counselors work in career planning and placement centers. They help clients understand themselves and their opportunities by examining interests, abilities and goals; exploring career alternatives; and making and following through with a career choice. Counselors may use test results to help clients evaluate themselves, and may assemble career guidance materials in a resource center.

THINGS TO THINK ABOUT

Advantages:

- Pleasant working conditions
- Personal satisfaction

Disadvantages:

- Working with clients who may have difficult problems
- Having to take work home or working evenings
- Coordinating numerous agency services

PREPARATION AND TRAINING

A four year college degree is required at the undergraduate level, and often a graduate degree is also needed.

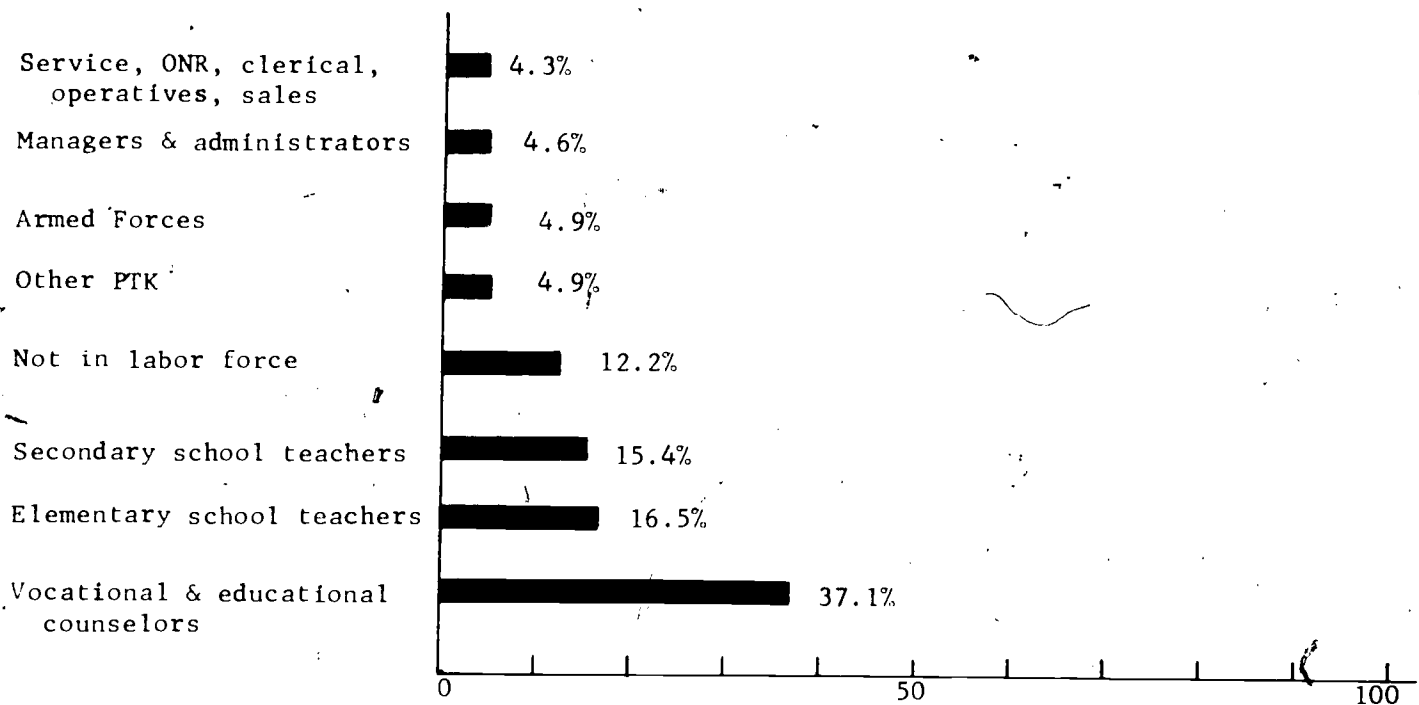
In some instances state certification or a written examination are additional requirements.

WHERE TO GET MORE INFORMATION

American Personnel and Guidance Association
1607 New Hampshire Avenue, N.W.
Washington, D.C. 20009

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

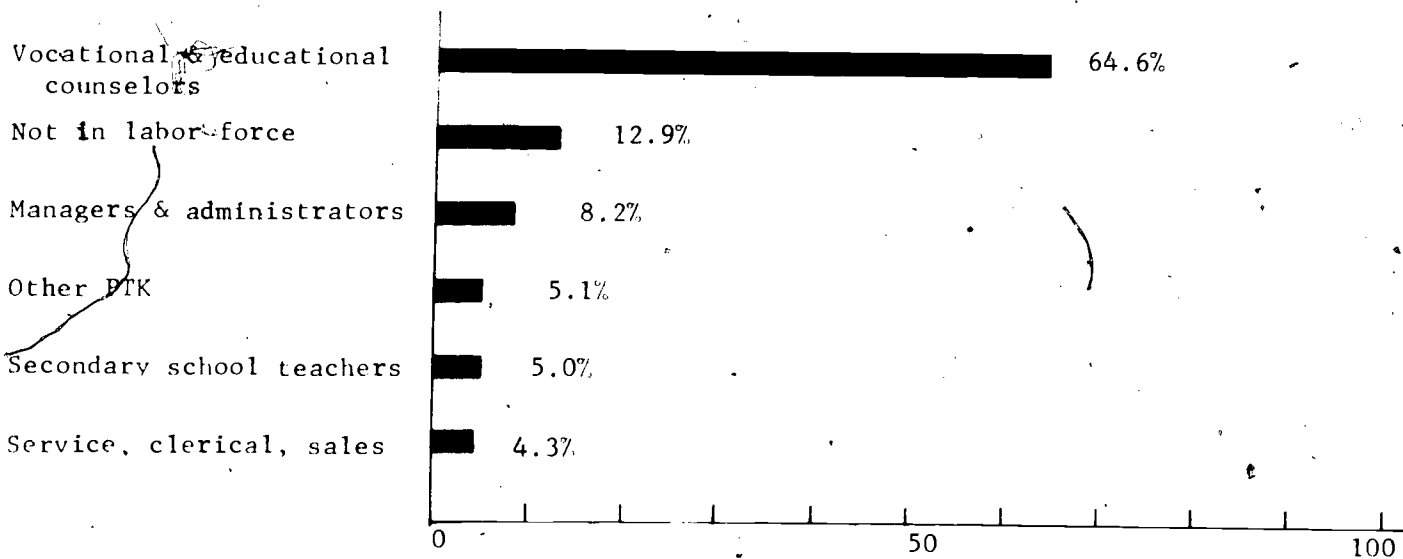
What 1970 Vocational and Educational Counselors Were Doing in 1965



Vocational & educational counselors in 1970 = 4,546

Over 60% of the 1970 counselors were doing something else five years earlier. Half of the new entrants were previously employed as school teachers. About 20% were probably in college in 1965 (not in the labor force). Almost two-thirds of the 1965 counselors remained working in that occupation in 1970. More than one-third of those who left the field became teachers or administrators.

What 1965 Vocational and Educational Counselors Were Doing in 1970



Vocational & educational counselors in 1965 = 2,610

Some job titles classified under this heading:

Admissions counselor
 Director of guidance
 Education consultant

Guidance counselor
 Resident-hall director
 Vocational adviser

ACTORS AND ACTRESSES

D.O.T. # 150.048

What do actors and actresses do? Actors or actresses play parts or roles in comic or dramatic productions on the stage, in motion pictures, or on television and radio.

TO GET THE JOB

You should be able to:

- Possess the necessary talent for performing
- Memorize great amounts of material
- Have a good speaking voice

You should prefer to:

- Perform in front of large groups
- Spend much of your time traveling

You should be physically able to:

- Work under varying physical conditions
- Work long, irregular hours

You should know that:

- The acting field is overcrowded now and is expected to be so for years to come.
- Making a living is considered to be difficult
- The right break at the right time is a necessity for recognition

ON THE JOB

Actors or actresses must first find available parts, which they think they can handle, in some upcoming productions. After reading and studying the parts, they must audition before the people in charge of the production. If selected for the parts, the actors and actresses must spend hundreds of hours in rehearsal and must memorize many lines and cues.

THINGS TO THINK ABOUT

Advantages:

- Recognition for a star performer
- Chance for travel and excitement
- Opportunity to perform before an audience and to receive its response

Disadvantages:

- The acting profession is a very uncertain venture for success seekers.
- The work is difficult and demanding.
- There are seldom any fringe benefits such as sick leave or paid vacations.

PREPARATION AND TRAINING

A college degree in liberal arts will probably become very important to those who hope to have an acting career. College attendance can provide experience through dramatic arts programs and theatrical performances. Formal training may also be obtained at special dramatic arts schools. A good way to enter acting is to start with local, hometown, or college productions and to gain as much experience as possible.

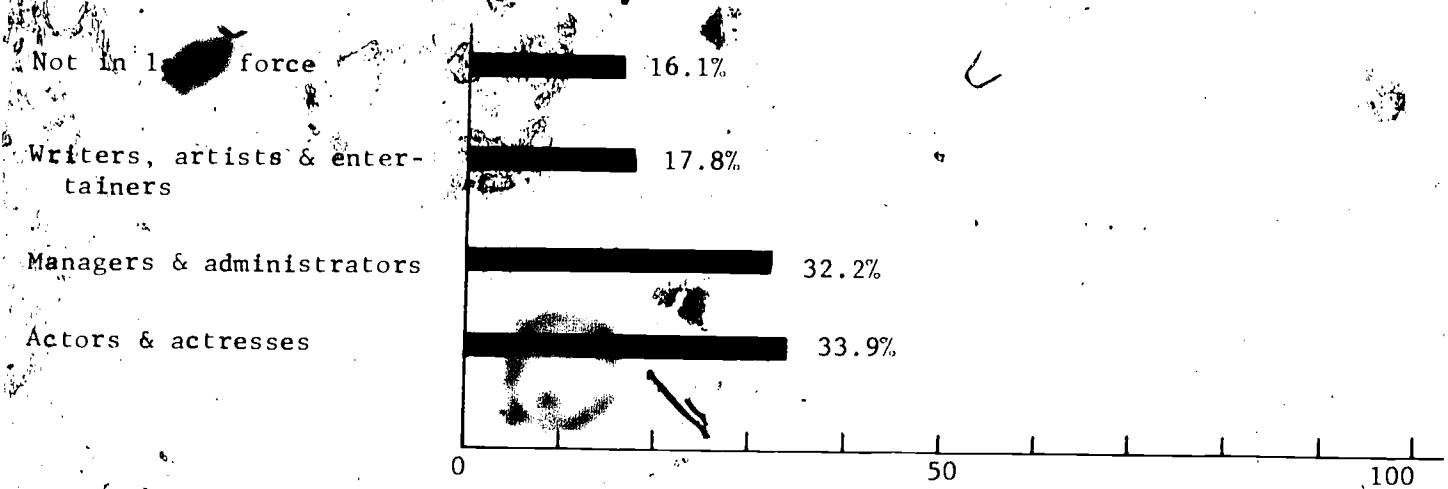
WHERE TO GET MORE INFORMATION

Actor's Equity Association
165 West 46th Street
New York, New York 10036

Screen Actors Guild
7750 Sunset Boulevard
Hollywood, California 90046

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

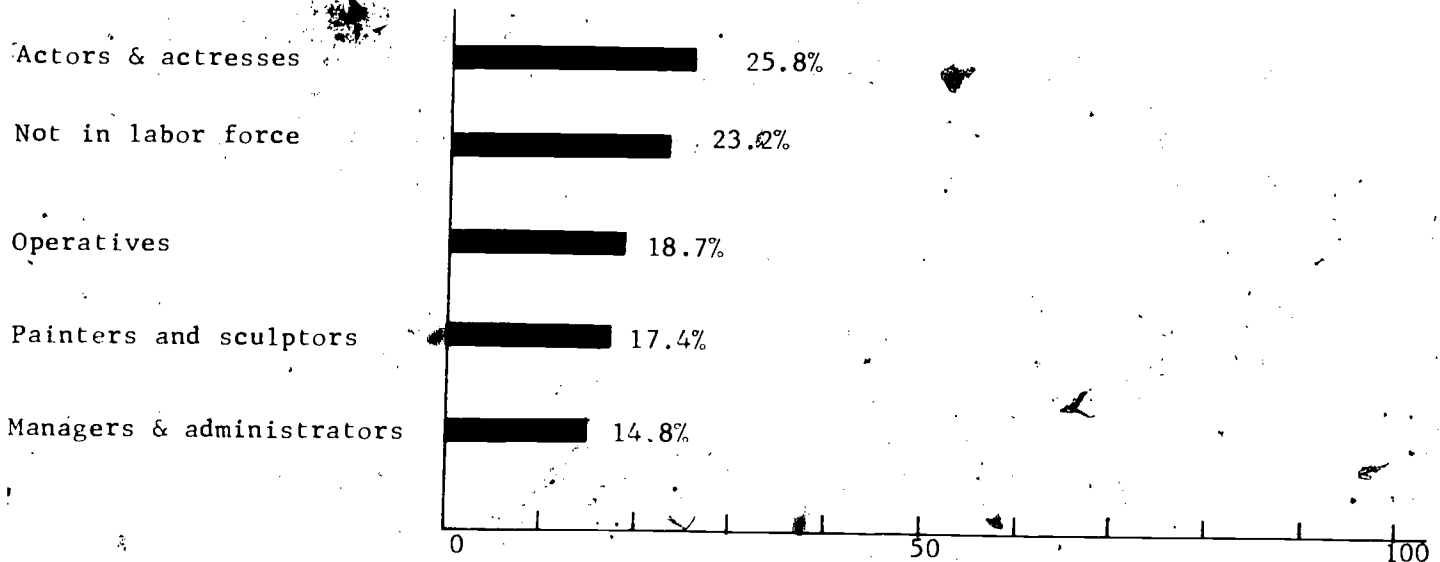
What 1970 Actors and Actresses Were Doing in 1965



Actors & actresses in 1970 = 118

Two-thirds of the 1970 actors and actresses were doing something else five years earlier. About half of the new entrants previously held managerial or administrative positions. The other half were probably in school or worked as writers, artists, or entertainers. Only one-fourth of the 1965 actors and actresses remained in the profession in 1970. Another third became administrators or artists.

What 1965 Actors and Actresses Were Doing in 1970



Actors & actresses in 1965 = 155

Some job titles classified under this heading:

Comic	Extra	Soubrette	Theatrical trouper
Dramatic reader	Impersonator	Stage manager	
Elocutionist	Monologist	Talent scout	

ATHLETES AND KINDRED WORKERS

D.O.T. # 53.348

What do athletes do? Athletes participate in competitive sports and athletic events.

TO GET THE JOB

You should be able to:

Follow directions, established procedures, and techniques exactly
Perform efficiently under stress or at unexpected moments

You should prefer to:

Practice a routine repeatedly until it is perfected
Be involved in physical activities

You should be physically able to:

Maintain excellent health, be agile and physically fit
Coordinate eye, hand and foot movements

ON THE JOB

Athletes compete in events that may require physical strength, agility, daring, and stamina. Professional athletes are those who are contracted to compete because of their athletic skills. When they enter sports events, entrance fees are charged to spectators and sometimes monetary prizes are awarded to the participants. Athletes train for their sport (e.g., baseball, football, gymnastics) by practicing and doing physical exercises. An athletic trainer (153.228) is a person who prescribes the exercises, diets, and physical therapies to strengthen muscles and improve an athlete's skill. The athletic coach (099.228) instructs groups at playgrounds, schools, and/or professional sports camps in the rules, regulations and routines of competitive sports. The coach may demonstrate the skill to be learned.

THINGS TO THINK ABOUT

Advantages:

Good health benefits
Chance of advancement to trainer, coach, scout
Possibility of high income for a period of time

Disadvantages:

Risk of serious physical injury in some cases
Irregular performances
Strict training routines and competition for positions
Condition of body may force early retirement

PREPARATION AND TRAINING

Requires 6 months to 2 years of training under a coach or trainer.
Early training in fundamentals may be learned by participating in organized sports while in school.
To become a professional usually requires a demonstration of skills before a coach. If selected you will undergo more training with the guidance and supervision of the coach and trainer.

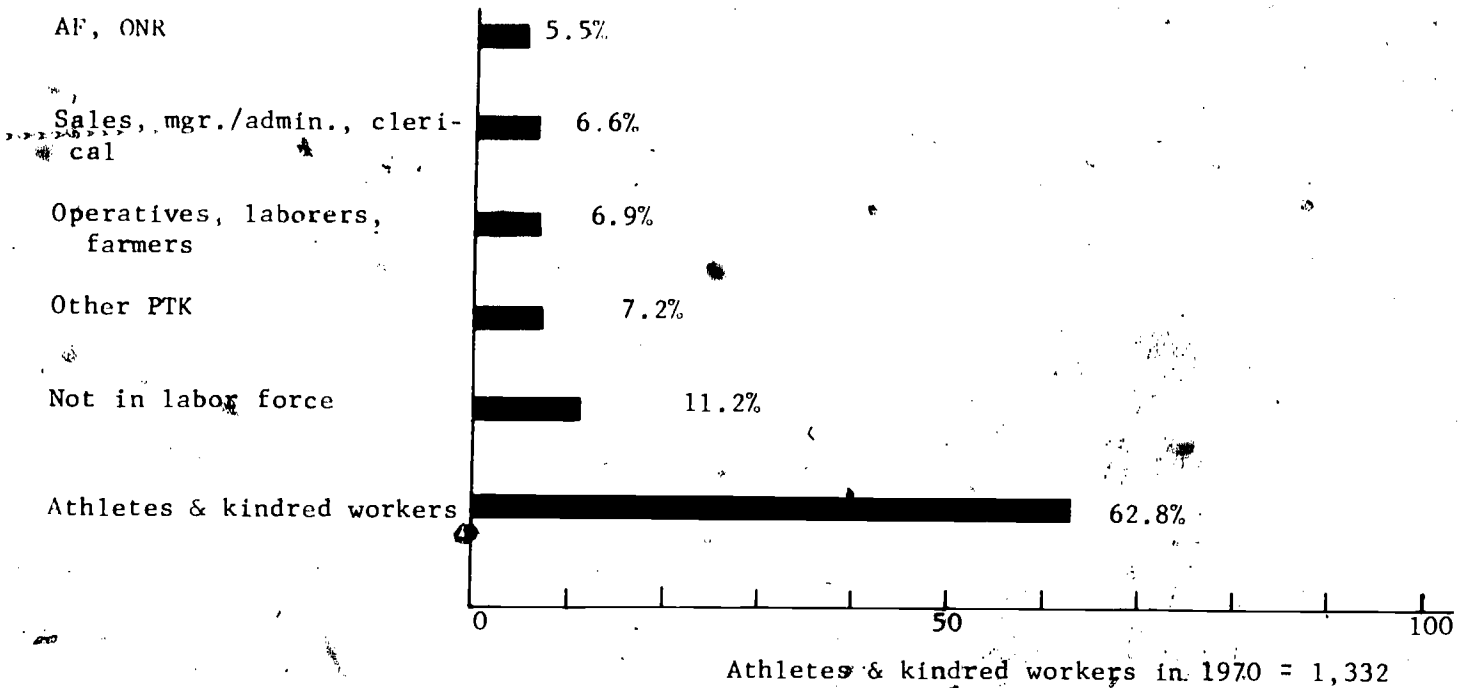
WHERE TO GET MORE INFORMATION

National Association of Professional Baseball Leagues
720 East Broad Street
Columbus, Ohio

Talk with your high school coaches and physical education teachers.

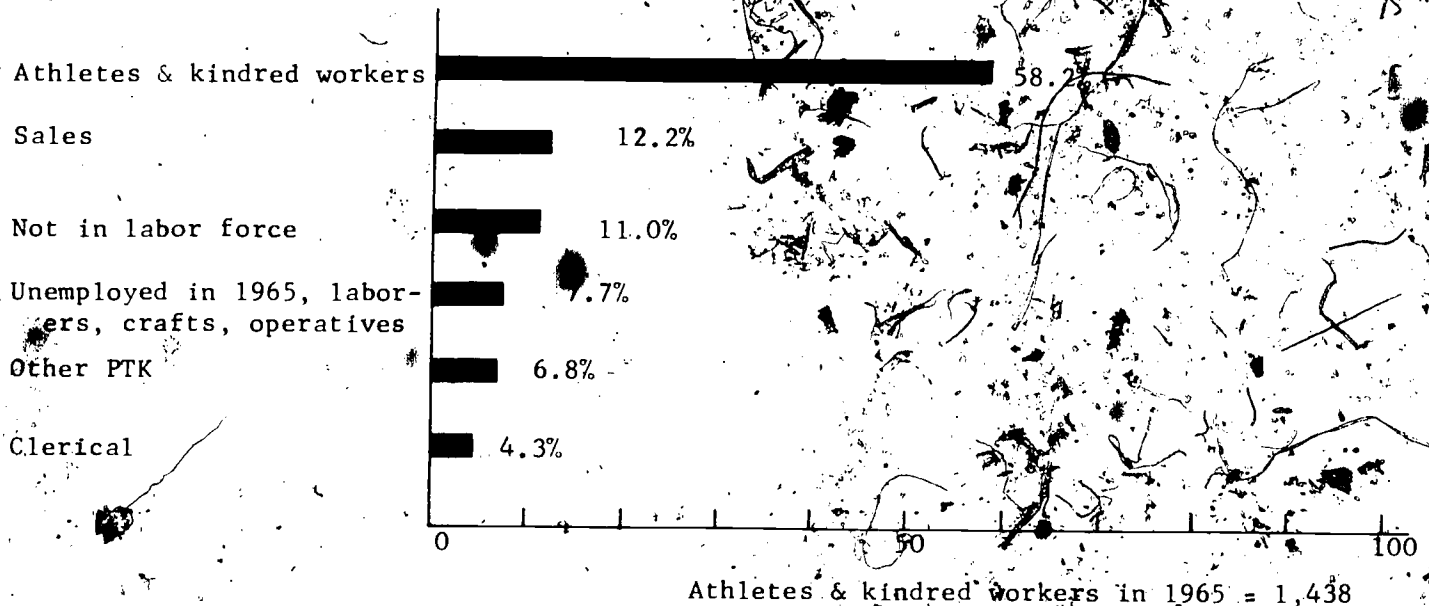
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Athletes and Kindred Workers Were Doing in 1965



Over 60% of the 1970 athletes were already working in that profession five years earlier. One-third of the new entrants were probably training to enter a particular sport (not in the labor force). The rest were employed in a variety of occupations in 1965. Close to 60% of the 1965 athletes remained in the field in 1970. About 30% of those who left that occupation became sales workers five years later.

What 1965 Athletes and Kindred Workers Were Doing in 1970



Some job titles classified under this heading:

- | | | | |
|------------------|---------------|---------------------|----------|
| Athletic trainer | Coach | Pugilist | Umpire |
| Ball player | Diver | Referee | Wrestler |
| Bicyclist | Horse trainer | Riding Master | |
| Boxer | Placing judge | Tennis professional | |

AUTHORS

D.O.T. # 131.088, 130.088

What does an author do? An author creates original literary works for publication.

TO GET THE JOB

You should be able to:

- Create and develop a literary work
- Present your ideas in an original, somewhat dramatic way

You should prefer to:

- Read books and magazines
- Participate in a variety of activities including dramatics, debates, workshops, and literary groups
- Express yourself in writing

You should be physically able to:

- Sit for long periods of time
- Coordinate finger and hand movements
- See well

ON THE JOB

An author creates books, poems, and/or other works of literature for publication and possible production. An author can specialize in a variety of areas. A playwright either reorganizes or creates materials for production on television, Broadway or the movies. A fiction writer creates novels or short stories for publication. Other specialized areas include: poetry, story writing, television writing, and writing lyrics. Authors must choose a theme, develop a plot and rewrite the story until it is in publishable form.

THINGS TO THINK ABOUT

Advantages:

- Prestige when recognition has been gained
- Self-satisfaction from creating work

Disadvantages:

- Difficulty in obtaining experience
- Difficulty in getting work published

PREPARATION AND TRAINING

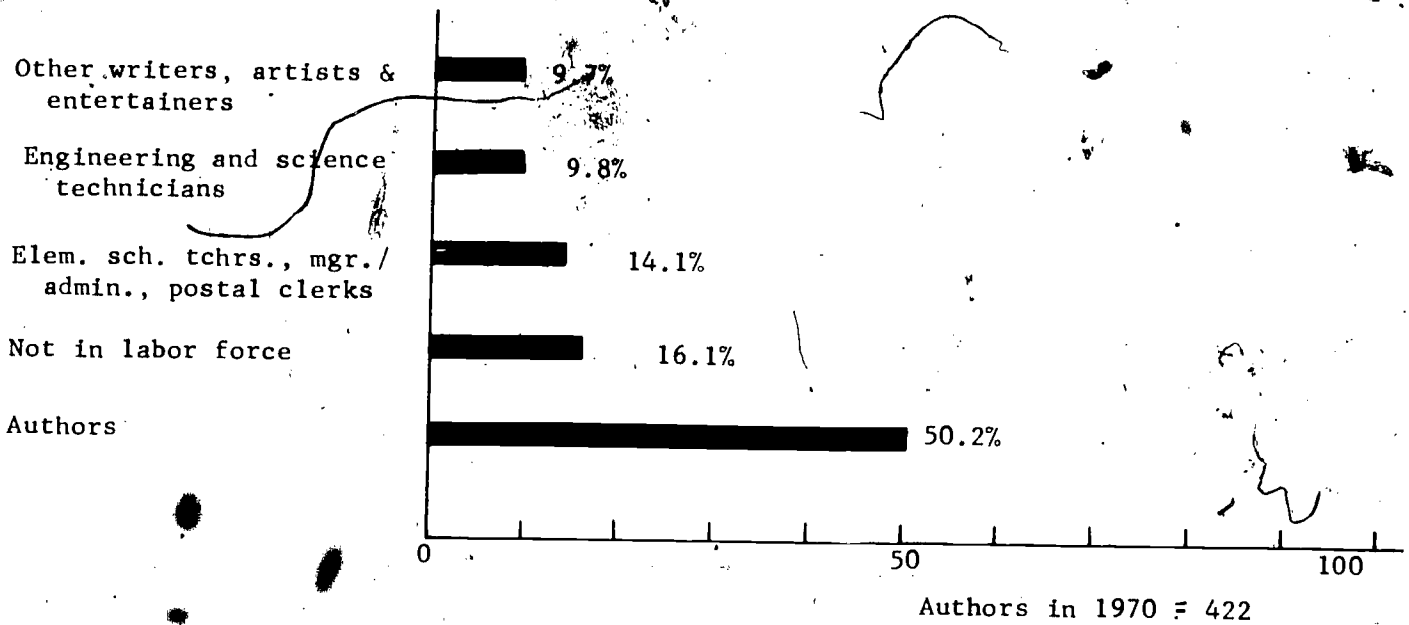
- A four-year college degree in liberal arts is helpful.
- Courses in English, writing, and contemporary literature or any other subject area in which you have a writing interest are useful background.
- Participation in such activities as dramatics, debate, and literary groups can prove to be invaluable experience.

WHERE TO GET MORE INFORMATION

General Artists Corporation
(offices in most major cities)

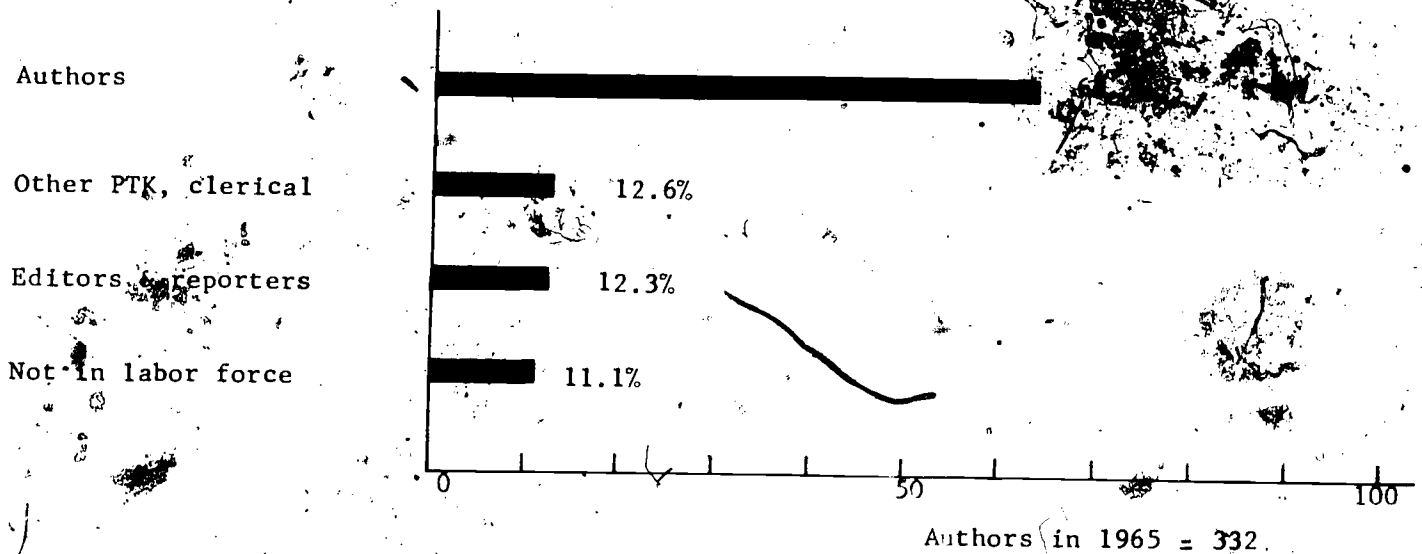
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Authors Were Doing in 1965



Half of the 1970 authors categorized themselves in other occupations five years earlier. One-third of the new entrants were not in the work force in 1965. About 20% were working as technicians or other writers, artists or entertainers. More than three-fourths of the 1965 authors remained in that profession or became editors or reporters by 1970. Eleven percent retired from the work force, either temporarily or permanently.

What 1965 Authors Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|----------------|---------------|-------------------|
| Biographer | Lexicographer | Playwright |
| Fiction writer | Librettist | Poet |
| Gag writer | Lyricist | Scientific writer |
| Humorist | Novelist | Speech writer |

DANCERS

D.O.T. # 151.028 and 151.048

What does a dancer do? A dancer works as a member of a troupe and specializes in an area such as ballet, folk, or modern dance.

TO GET THE JOB

You should be able to:

Work under strain and stress
Accept directions from dance instructor
Qualify as a professional dancer through serious training

You should prefer to:

Work alone or with a specialized group
Travel

You should be physically able to:

Work long and irregular hours
Maintain good health

ON THE JOB

The dancer's life is very rigorous and requires strong self-discipline. It is physically demanding and mentally exhausting. For a classical ballet performer, certain conventional positions are the basic movements. In modern dance, a dancer's movement appears much freer, but it is also very carefully choreographed.

THINGS TO THINK ABOUT

Advantages:

Recognition
A chance for travel and excitement

Disadvantages:

Good training is long and expensive requiring many years of private lessons.
Restructuring of social life
Very demanding physically and mentally
Must begin to study at an early age
Difficult to become well-known

PREPARATION AND TRAINING

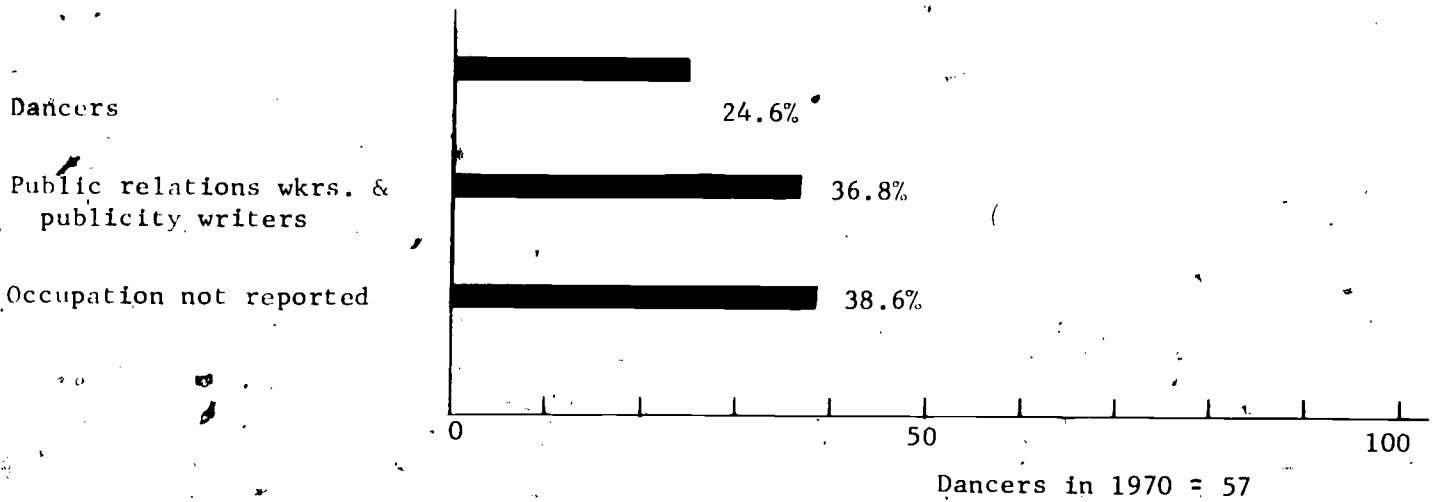
A dancing student's general education is usually minimal but it could be very advantageous to receive a college degree.
Training as a dancer usually begins before age 12 at a professional dancing school.
Dance lessons and practice requires much time and effort.
Usually the first professional audition occurs at age 17 or 18.
A dancer must belong to one of the professional unions.

WHERE TO GET MORE INFORMATION

National Educational Association
1201 - 16th Street, N.W.
Washington, D.C. 20036

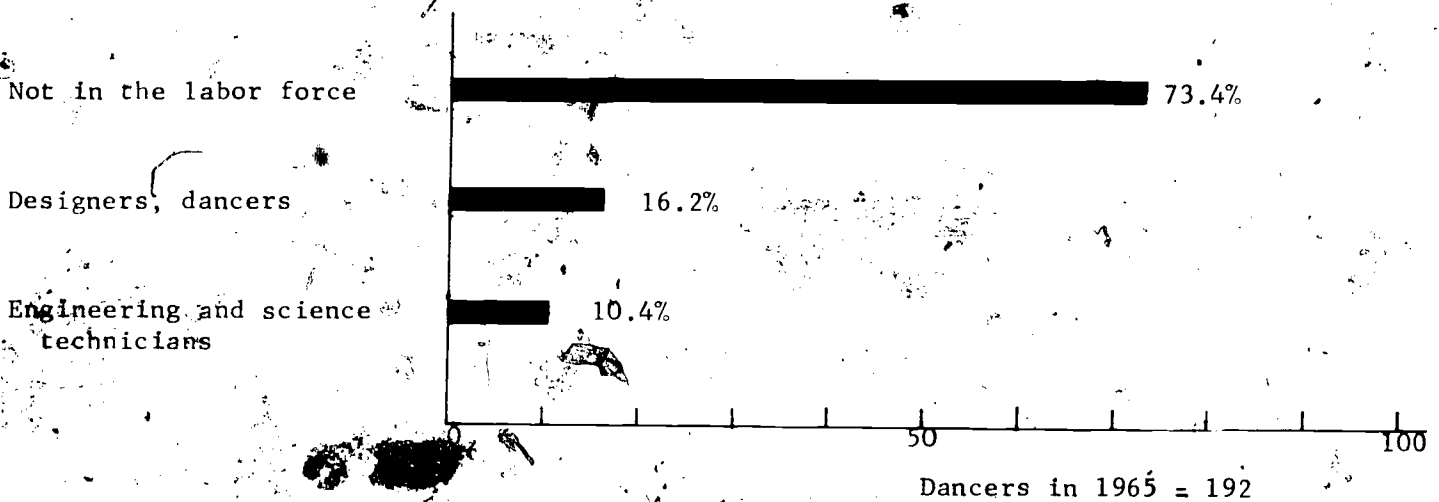
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Dancers Were Doing in 1965



Only fourteen of the 1970 dancers were already in the profession five years earlier. Almost 40% did not report their occupation in 1965. The rest previously worked in public relations or publicity. There were almost 200 professional dancers in Pennsylvania in 1965. By 1970 nearly three-fourths of them were no longer in the labor force. The profession is not becoming obsolete, but it is very subject to economic changes in the country.

What 1965 Dancers Were Doing in 1970



Some job titles classified under this heading:

- Ballet dancer
- Choreographer
- Precision dancer
- Soft-shoe dancer
- Square-dance caller
- Tap dancer

DESIGNERS

D.O.T. # 142.081 and 142.051

What do designers do? Designers communicate information about products or service through the use of designs which they hope will be attractive to customers.

TO GET THE JOB

You should be able to:

Draw, and use a variety of instruments
Design products that are safe, attractive, and useful

You should prefer to:

Work as part of a team or individually

You should be physically able to:

Coordinate eye and hand movements
See well
Have a good eye for color and texture

ON THE JOB

A designer improves the use and appearance of a product. Some designers are commercial artists, who develop artistic ideas for an advertising plan. A display artist specializes in designing and displaying exhibits for retail stores. The display artist creates attractive, eye-catching displays of merchandise using the fundamentals of art harmony, composition, and color. The display artist not only designs, but must also create many of the props used for a display theme. He or she must also construct the display theme. An interior designer plans and supervises the design of building interiors and furnishings. He or she may work in a design department within a large department store, or may operate independently and work on private homes or commercial buildings.

Other design occupations include: silver designers, millinery designers, industrial designers, and toy designers.

THINGS TO THINK ABOUT

Advantages:

Regular work schedule
Self-satisfaction at seeing completed work

Disadvantages:

Pressure to meet deadlines

PREPARATION AND TRAINING

Training and preparation varies for each design occupation. Usually 2 to 3 years at a technical or art school is required.

In some areas a four-year college degree is needed.

Many design occupations also require on-the-job training.

An industrial designer receives training at art school, a university, or technical school. A portfolio is part of the admissions requirement.

A commercial designer studies for 2 to 3 years and, in addition, receives on-the-job training.

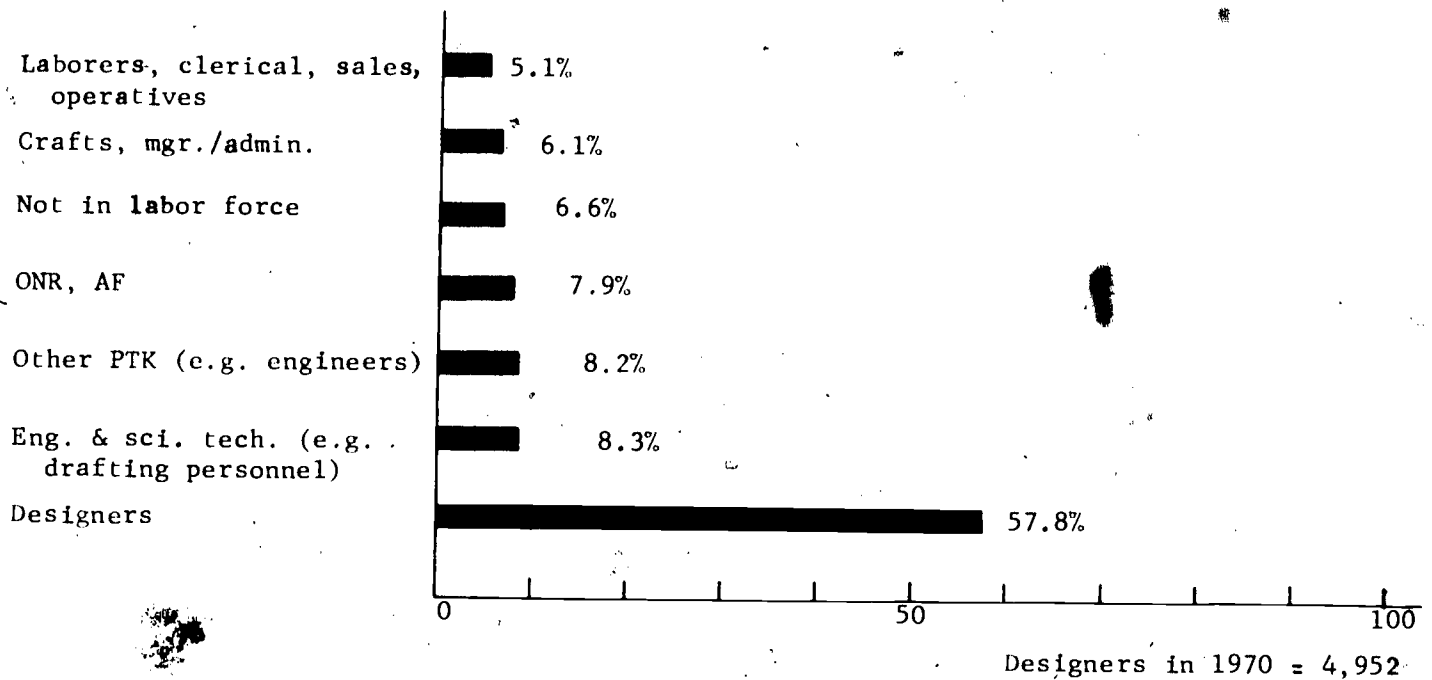
WHERE TO GET MORE INFORMATION

National Art Education Association
National Education Association
1201 - 16th Street, N.W.
Washington, D.C. 20036

Industrial Designers Society of
America
1750 Old Meadow Road
McLean, Virginia 22101

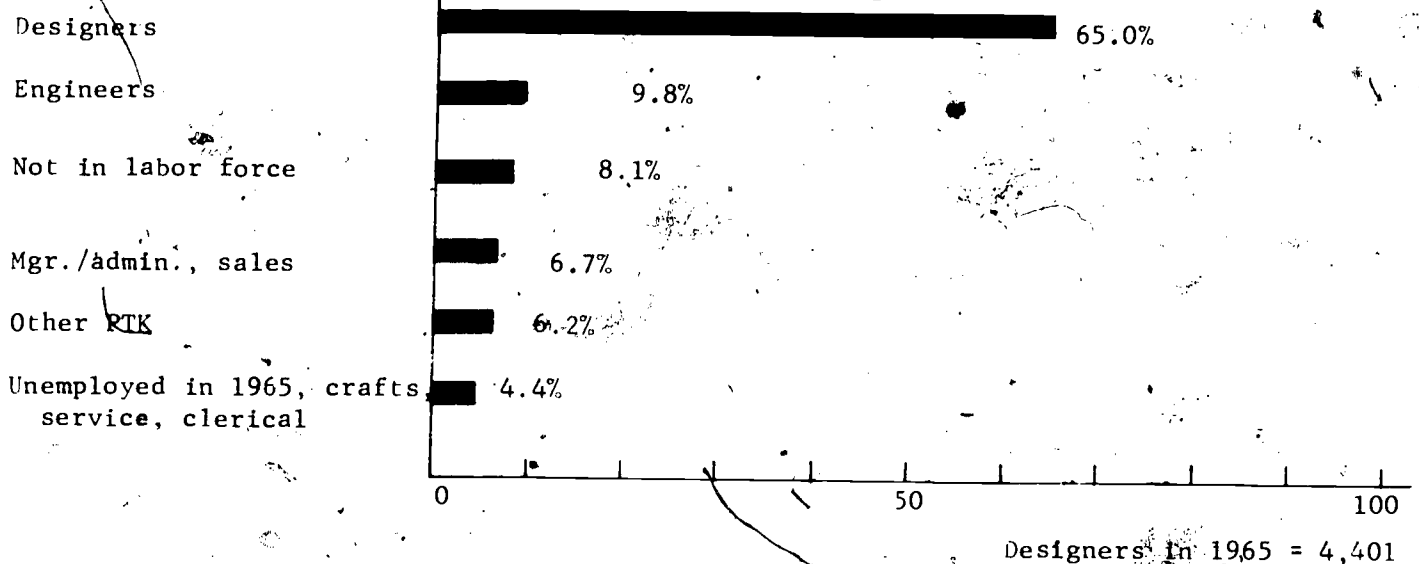
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Designers Were Doing in 1965



Close to 60% of the 1970 designers were already working in that field five years earlier. Almost one-third of the new entrants previously held engineering or technical positions, such as drafting. About 15% were probably training for the occupation in 1965 (not in the labor force). Three-fourths of the 1965 designers remained in that field or became engineers by 1970.

What 1965 Designers Were Doing in 1970



Some job titles classified under this heading:

Art-glass designer
 Body stylist
 Chart writer
 Costume designer

Display artist
 Industrial designer
 Pattern maker
 Stage-set designer

EDITORS AND REPORTERS

D.O.T. # 132.268 and 132.068

What do editors and reporters do? A reporter gathers information and writes it up for publication. An editor assigns reporters to cover stories, then evaluates and edits the finished write-ups.

TO GET THE JOB

You should be able to:

- Write clearly and concisely
- Use good grammar
- Be objective
- Remember accurately what you see and hear

You should prefer to:

- Work in a variety of settings
- Read extensively about many different topics

You should be physically able to:

- See well
- Work under a variety of conditions (fires, storms, or a comfortable office)

ON THE JOB

A reporter collects information on current or past events through interviews, examination of available material, and/or observation of current happenings. The reporter then writes the story and turns it into the editor for publication. A reporter can specialize in news, feature articles, sports and/or editorials.

The editor must evaluate all written material before it is published. The editor is responsible for supervising and coordinating the work of typesetters, and the advertisement and artists. Editors can become associated with different types of publications: newspapers, journals, magazines, or books. Larger newspapers and magazines have many types of editors: the editor-in-chief, city editors, fashion editors, news editors, sports-editors and perhaps even finance editors, arts editors and hobby editors.

THINGS TO THINK ABOUT

Advantages:

- Chances for advancement
- Opportunity to meet important people
- Self-satisfaction in seeing published work

Disadvantages:

- Irregular work schedule
- Many different assignments
- Sometimes difficult to get work recognized

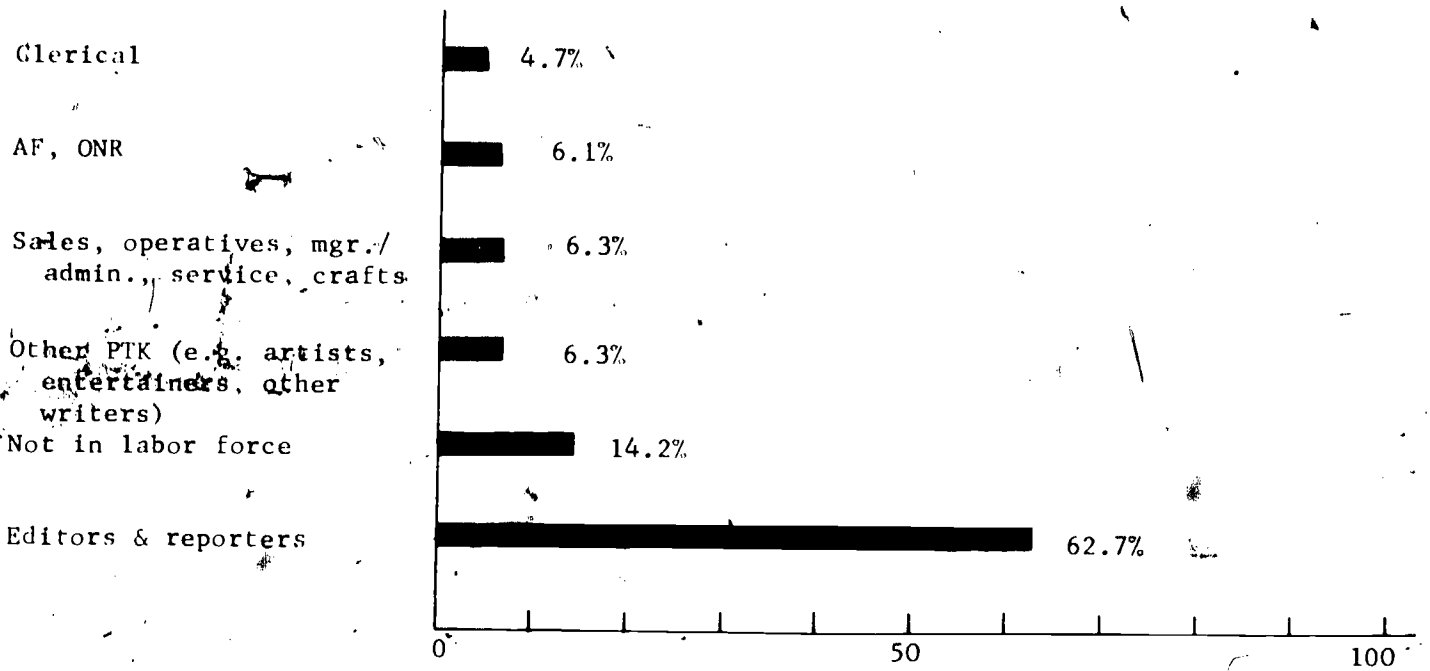
WHERE TO GET MORE INFORMATION

American Newspaper Guild
1126 - 16th Street, N.W.
Washington, D.C. 20036

Association of American University Presses, Inc.
1 Park Avenue
New York, New York 10016

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

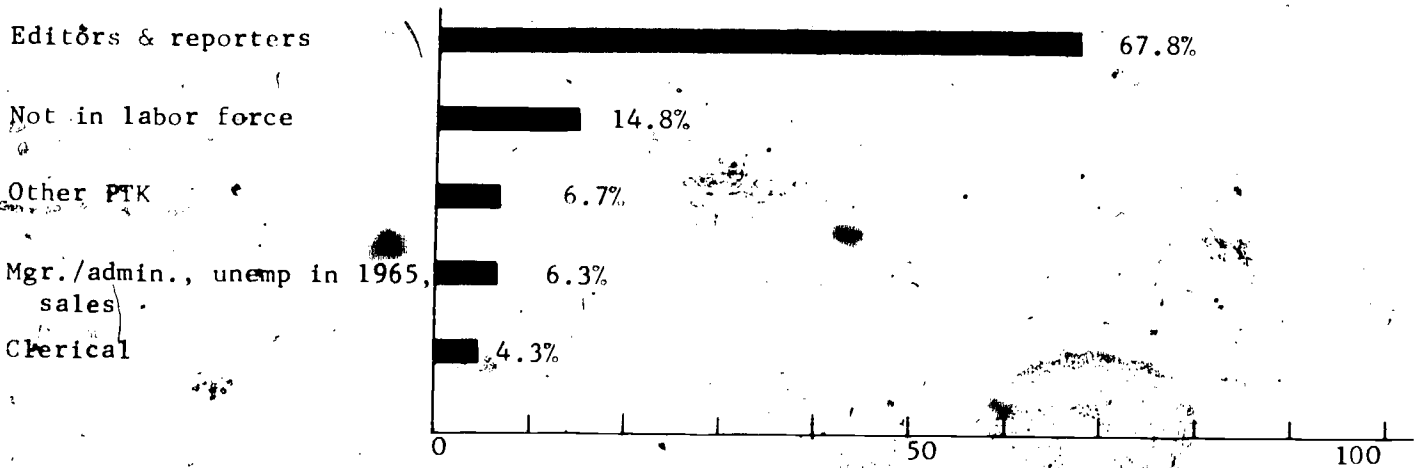
What 1970 Editors and Reporters Were Doing in 1965



Editors and reporters in 1970 = 5,451

Over 60% of the 1970 editors and reporters were already working in that field five years earlier. Almost 40% of the new entrants were probably in school in 1965 (not in the labor force). Another 30% were previously clerical or other professional employees. Two-thirds of the 1965 editors and reporters remained in that occupation in 1970. One-third of those who left the field moved into clerical or other professional positions.

What 1965 Editors and Reporters Were Doing in 1970



Editors and reporters in 1965 = 5,038

Some job titles classified under this heading:

- | | | |
|---------------|-----------------------|---------------------|
| Ad writer | Copy reader | Manuscript reader |
| Art critic | Cub reporter | News commentator |
| Book reviewer | Editorial assistant | Newspaper reporter |
| City editor | Foreign correspondent | Radio-script writer |
| Columnist | Magazine editor | Sports announcer |

MUSICIANS AND COMPOSERS

D.O.T. # 151.028, and 151.048

What does a musician do? A musician performs for an audience to entertain them or to provide background music for the performing artist.

TO GET THE JOB

You should be able to:

- Receive formal or informal training
- Exhibit talent and creativity
- Play one or more musical instruments
- Maintain poise and composure

You should prefer to:

- Work and practice long and irregular hours
- Travel
- Perform before large groups or audiences

You should be physically able to:

- Maintain good health
- Manipulate fingers, hands and arms well
- Sit for long periods of time

ON THE JOB

Musicians usually belong to one of the musicians' unions. These entertainers usually specialize in classical or popular music. As a classical musician, a person generally plays in a symphony orchestra, a theater or opera orchestra or a "Pops" orchestra. As a popular musician, the artist usually performs with dance bands, jazz groups, rock groups, or accompanies vocalists, or instrumental soloists. A few exceptional musicians become concert artists. A great majority of all musicians are teachers in schools and colleges. A small number work in hospitals (music therapy) and music libraries.

THINGS TO THINK ABOUT

Advantages:

- Gaining recognition
- Self-rewarding

Disadvantages:

- Rigorous and demanding work
- Little time for social life
- Must begin to study at an early age

PREPARATION AND TRAINING

Training usually begins at an early age.

It requires continual training either privately, with a college or university, or at a music conservatory.

An audition is usually a prerequisite.

A thorough knowledge of music and the ability to interpret it are necessities.

WHERE TO GET MORE INFORMATION

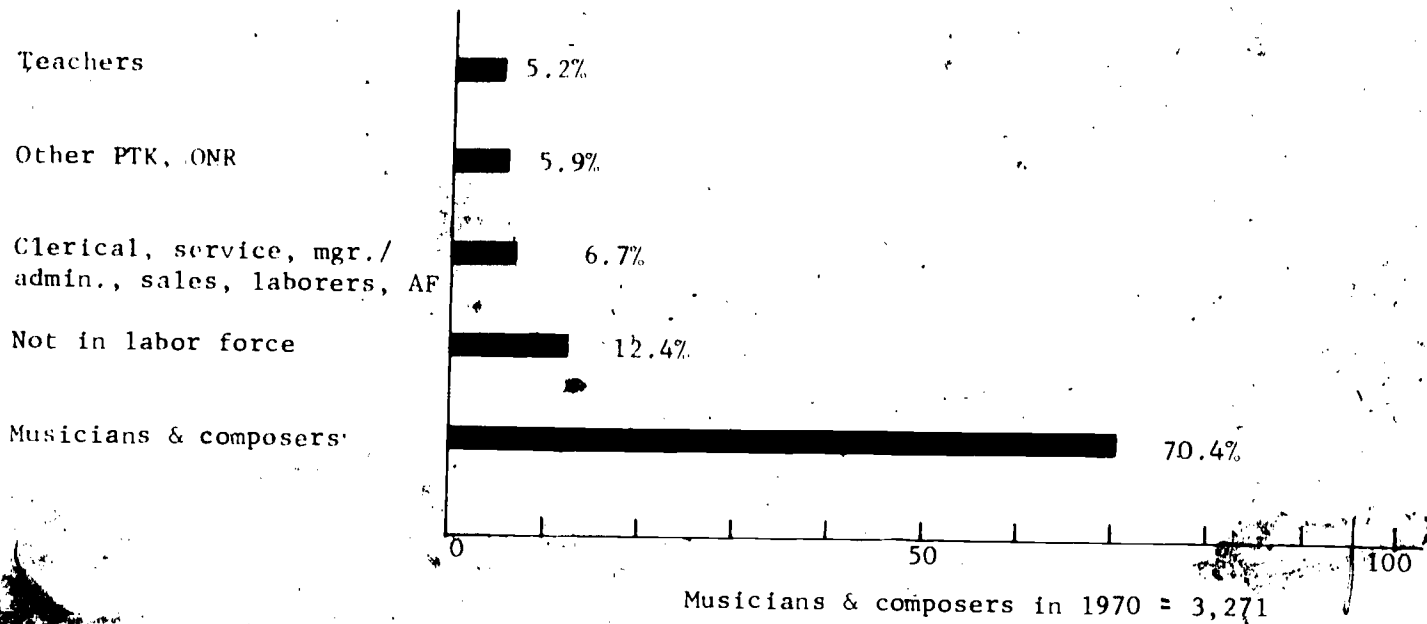
American Federation of Musicians
(AFL-CIO)

641 Lexington Avenue

New York, New York 10022

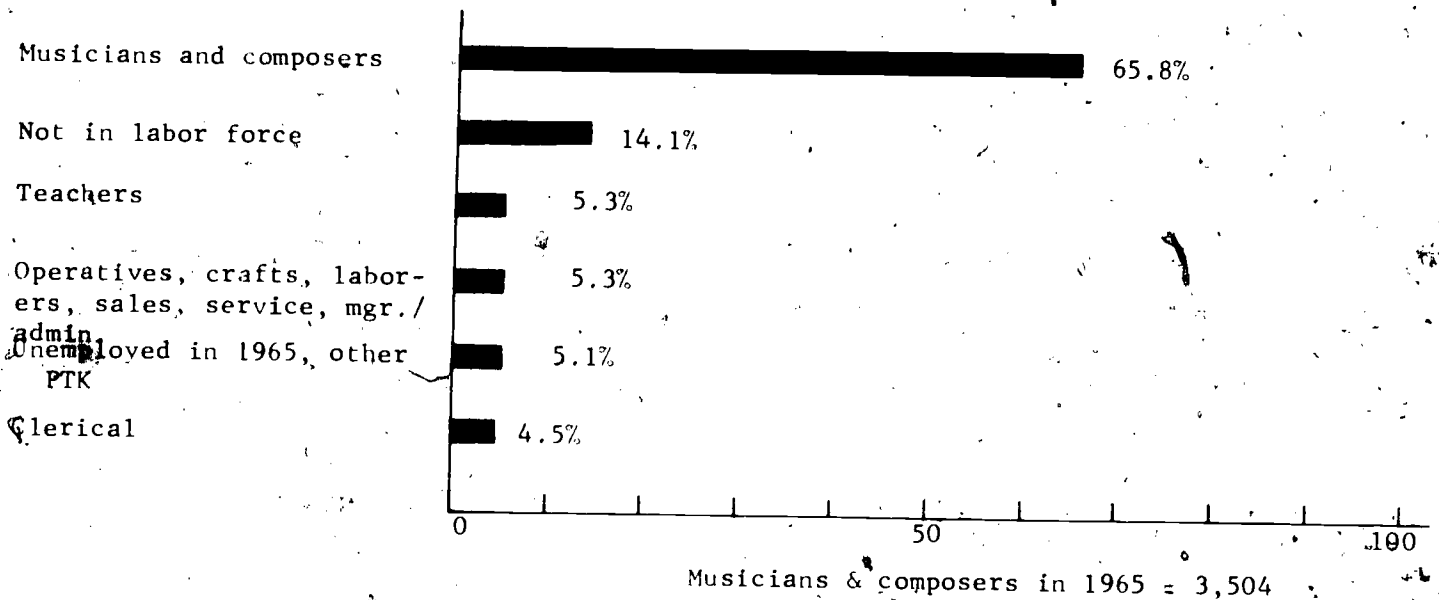
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Musicians and Composers Were Doing in 1965



More than 2,300 of the 1970 musicians and composers were already working in that field five years earlier. Over 40% of the new entrants were probably training in their specialty in 1965 (not in the labor force). About 17% previously were school teachers. Two-thirds of the 1965 musicians and composers remained in that occupation in 1970. Another 10% became teachers or clerical workers.

What 1965 Musicians and Composers Were Doing in 1970



Some job titles classified under this heading:

Accompanist
Band director
Bugler
Cellist
Choirmaster

Concert pianist
Drummer
Music arranger
Opera singer
Orchestra conductor

Organist
Recording artists
Soloist
Song writer
Vocalist

PAINTERS AND SCULPTORS

D.O.T. # 144.081, 148.081

What do painters and sculptors do? Painters and sculptors design forms by utilizing such materials as stone, clay, water colors, wood, oils or pastels, to express emotions, ideas, thoughts and observations.

TO GET THE JOB

You should be able to:

- Develop and produce ideas
- Use a variety of mediums
- Think in novel ways

You should prefer to:

- Persist in projects you undertake
- Work long and hard to establish a career
- Work individually

You should be physically able to:

- Coordinate eye and hand movements
- Manipulate objects with your hands
- Detect relationships between colors, textures, forms and space

ON THE JOB

A painter or sculptor usually begins a career in art on a part-time basis. Regular work hours are usually spent in the commercial art field or teaching. An artist tries to establish a reputation by displaying art work at open exhibitions and through friends. Artists prepare preliminary sketches of a composition, then paint or sculpt the finished work, endeavoring to create a harmonious relationship through the piece.

THINGS TO THINK ABOUT

Advantages:

- A chance to travel
- Self-satisfaction at seeing work exhibited or purchased

Disadvantages:

- Mentally strenuous
- May need to work in an unrelated field to support yourself, while trying to become established as an artist.
- Difficulty in "getting a break"

PREPARATION AND TRAINING

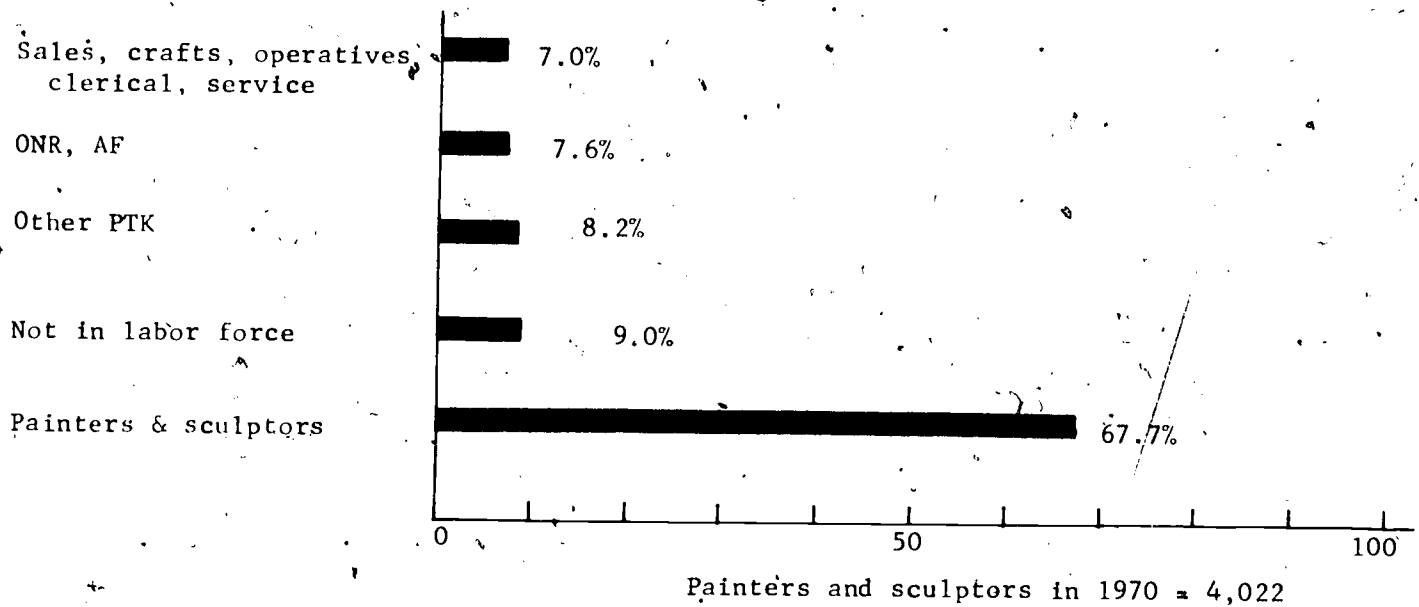
Training at an art institute, a college or university is useful in developing a sense of color, line perspective, and composition. Continual practice and study is necessary to become a good painter or sculptor. A portfolio is usually necessary to gain admission to an institute, as well as in obtaining a position.

WHERE TO GET MORE INFORMATION

College Art Association of America
16 East 52nd Street
New York, New York 10022

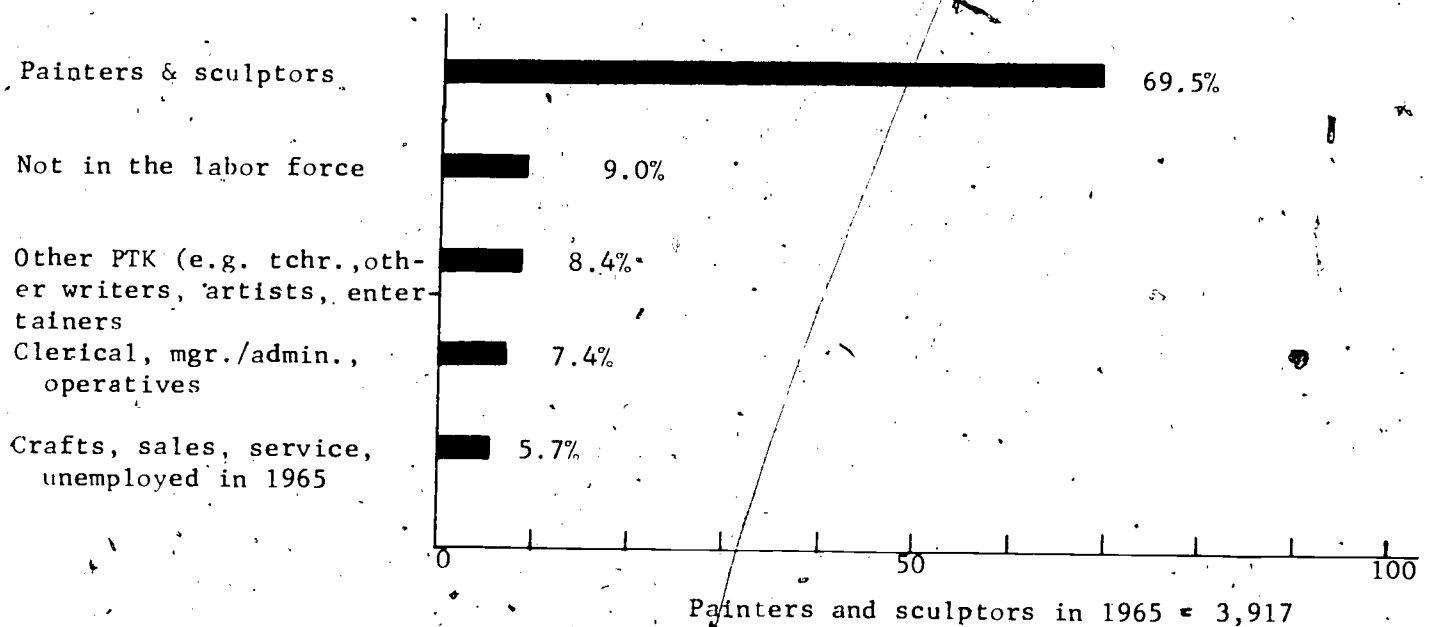
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Painters and Sculptors Were Doing in 1965



Two-thirds of the 1970 painters and sculptors were already classified in that occupation five years earlier. Almost 30% of the new entrants were probably in school in 1965 (not in the labor force). One-fourth were employed in other professional or technical positions. Seventy percent of the 1965 painters and sculptors remained in that occupation in 1970. Another 17% left the work force or moved into other professional or technical fields.

What 1965 Painters and Sculptors Were Doing in 1970



Some job titles classified under this heading:

- | | | |
|----------------------|---------------|------------------------|
| Air-brush artist | Etcher | Photograph retoucher |
| Art gallery director | Fresco artist | Portrait painter |
| Art restorer | Illustrator | Scientific illustrator |
| China decorator | Layout artist | Sketcher |
| Commercial artist | Letterer | Statue maker |

PHOTOGRAPHERS

D.O.T. # 143.062, 143.282, and
143.382

What does a photographer do? A photographer uses a camera to portray people and events on film using a variety of photographic techniques and equipment.

TO GET THE JOB

You should be able to:

Use a variety of equipment
Develop film

You should prefer to:

Work under a variety of conditions
Work as part of a team or individually

You should be physically able to:

See well and coordinate eye and hand movements
Have a good eye for color and texture, and form and line
Maintain good health and stamina

ON THE JOB

A photographer must be an artist and a technician. As an artist, the photographer's work must reveal a talent for the unusual, a proficiency in design and an awareness of the needs and sensitivities of others. As a technician, the photographer must utilize different types of films and cameras, must have the ability to use different types of lighting equipment, and must be able to carry through the process of photographic development. A photographer can specialize. A portrait photographer limits clients to individuals and groups. The commercial photographer usually depicts merchandise, exteriors, interiors, machinery or fashions. An industrial photographer's main emphasis is work that is produced for a single company. Other specialities include: photo journalism, aerial photography, educational photography and scientific photography.

THINGS TO THINK ABOUT

Advantages:

Self-satisfaction

Disadvantages:

- Work hours depend on the area of specialization
- Different working conditions depending on specialization

PREPARATION AND TRAINING

A college or university education is helpful but not necessary. In some specialties such as scientific photograph, a formal four year education in that field is required.

Experience with a camera is a must and an apprenticeship is required for some areas of specialization (e.g., press photography).

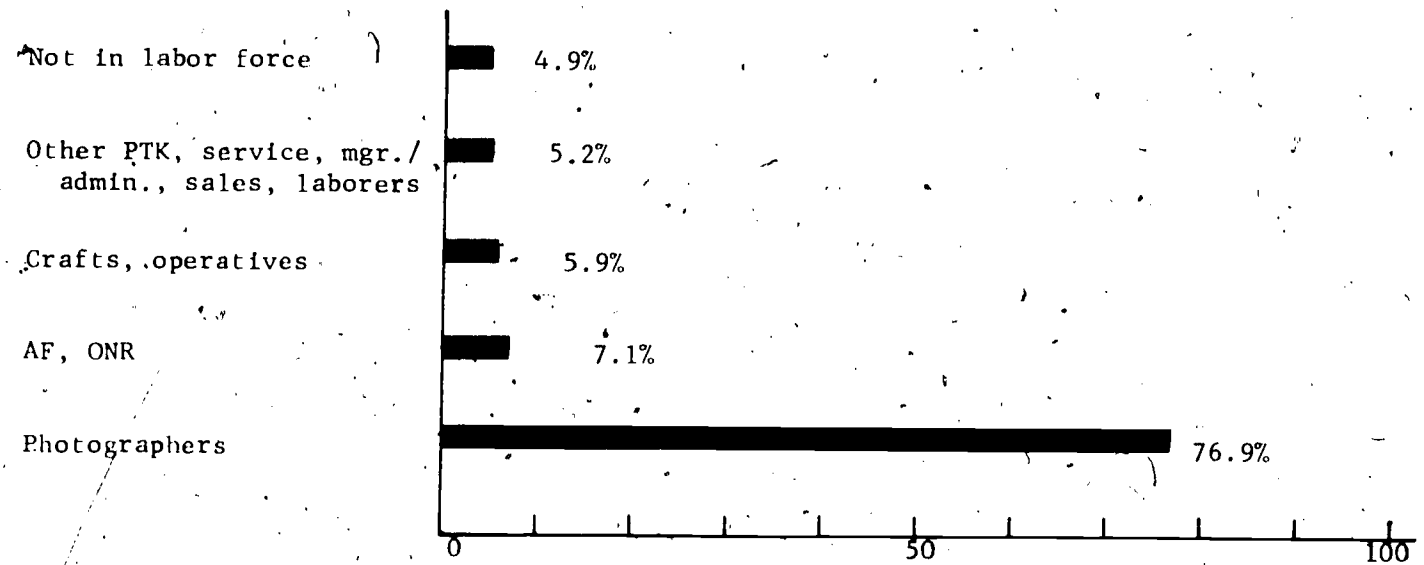
WHERE TO GET MORE INFORMATION

Professional Photographers of American, Inc.
1090 Executive Way
O'Leary Commons
Des Plaines, Illinois 60018

American Newspaper Guild
New York Local No. 3
West 44th Street
New York, New York 10036

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

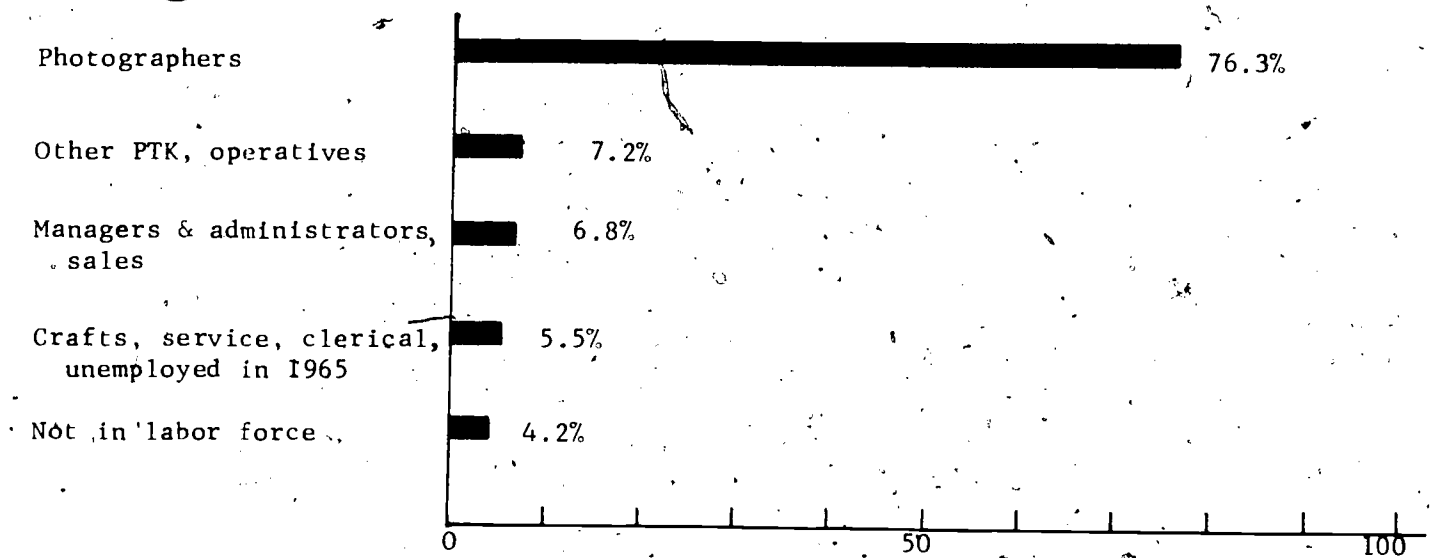
What 1970 Photographers Were Doing in 1965



Photographers in 1970 = 2,502

More than three-fourths of the 1970 photographers were already working in that field five years earlier. One-fifth of the new entrants were probably training for the occupation in 1965 (not in the labor force). Another fourth were employed as craftsmen or operatives. Over 70% of the 1965 photographers remained in that occupation in 1970. Another 7% became operatives or moved into other professional or technical positions.

What 1965 Photographers Were Doing in 1970



Photographers in 1965 = 2,520

Some job titles classified under this heading:

- Aerial photographer
- Cinematographer
- Commercial photographer
- Medical photographer
- Motion-picture photographer
- Photograph maker

PUBLIC RELATIONS WORKERS AND PUBLICITY WRITERS

D.O.T. # 165.068

What do public relations workers and publicity writers do? Public relations workers assist an organization by maintaining or developing a favorable image for that organization through advertising and public relations programs.

TO GET THE JOB

You should be able to:

- Gather, prepare and present information
- Communicate with others easily
- Analyze information and make long-range decisions
- Create and plan programs
- Work efficiently

You should prefer to:

- Make quick decisions
- Travel
- Work on developing programs without assistance

You should be physically able to:

- Work long and irregular hours
- Work in a variety of situations

ON-THE JOB

A public relations worker seldom works from the organization's home office. Main functions include: writing and preparing materials for publication, editing publications, contacting and working closely with members of the press, organizing special events, appearing before groups and selecting others to speak, preparing visual materials, programming and determining the needs of the organization and perhaps supervising other professionals in the field. A public relations worker can specialize in a variety of areas. A press agent usually prepares and distributes materials about, as well as arrange interviews and conferences for an individual. A public relations consultant usually operates independently and can work with a variety of organizations. Other specialties include: press secretary, publicity director and sales promotion offices.

THINGS TO THINK ABOUT

Advantages:

- A chance to travel
- Opportunity for prestige; may meet dignitaries

Disadvantages:

- Necessary to interpret company policy
- Must try to please both the public and the organization represented

PREPARATION AND TRAINING

A four-year college degree in English or journalism is essential; often secretarial skills and a knowledge of clerical duties are helpful, as are extracurricular activities like work on a school newspaper or literary magazine.

Experience in a related communications field is often valuable to entry into public relations. Part-time employment in selling or publications can assist greatly.

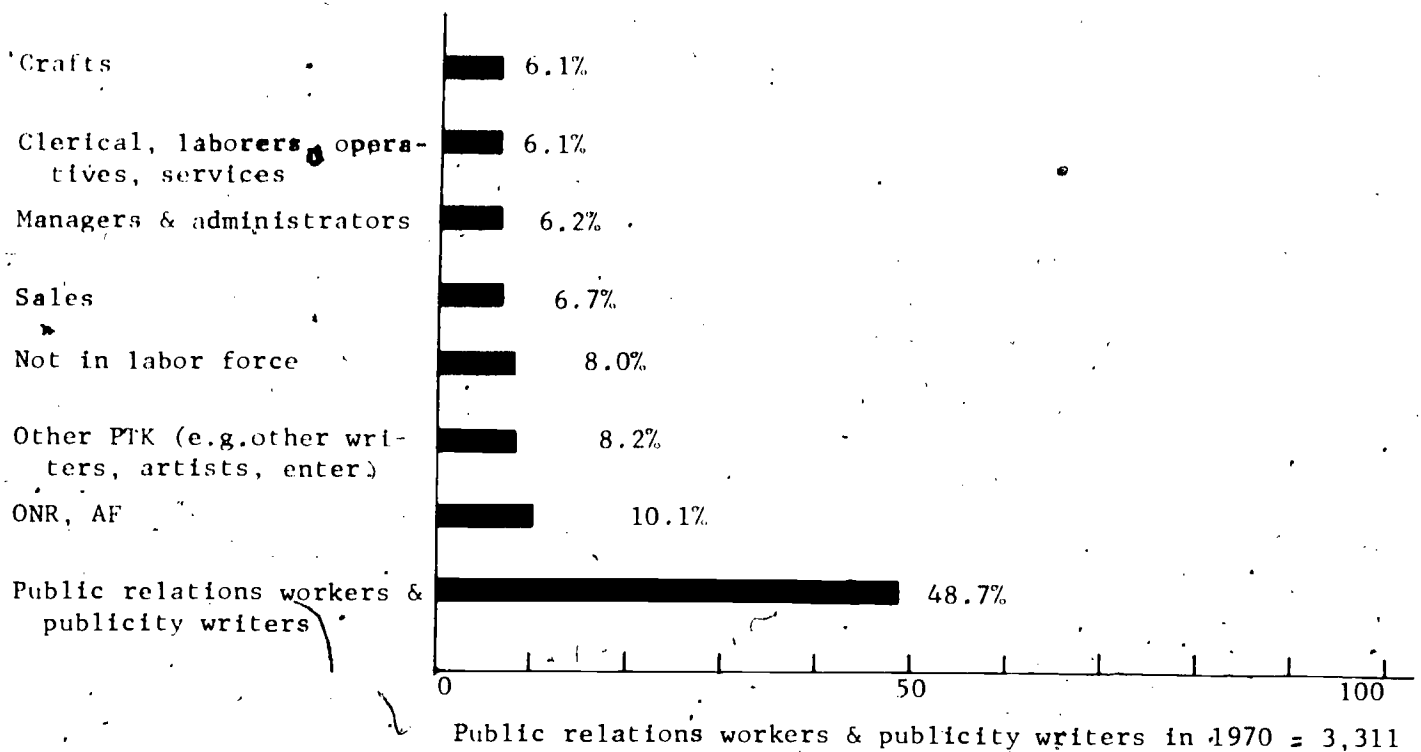
WHERE TO GET MORE INFORMATION

Career Information
Public Relations Society of America
845 Third Avenue
New York, New York 10022

1977

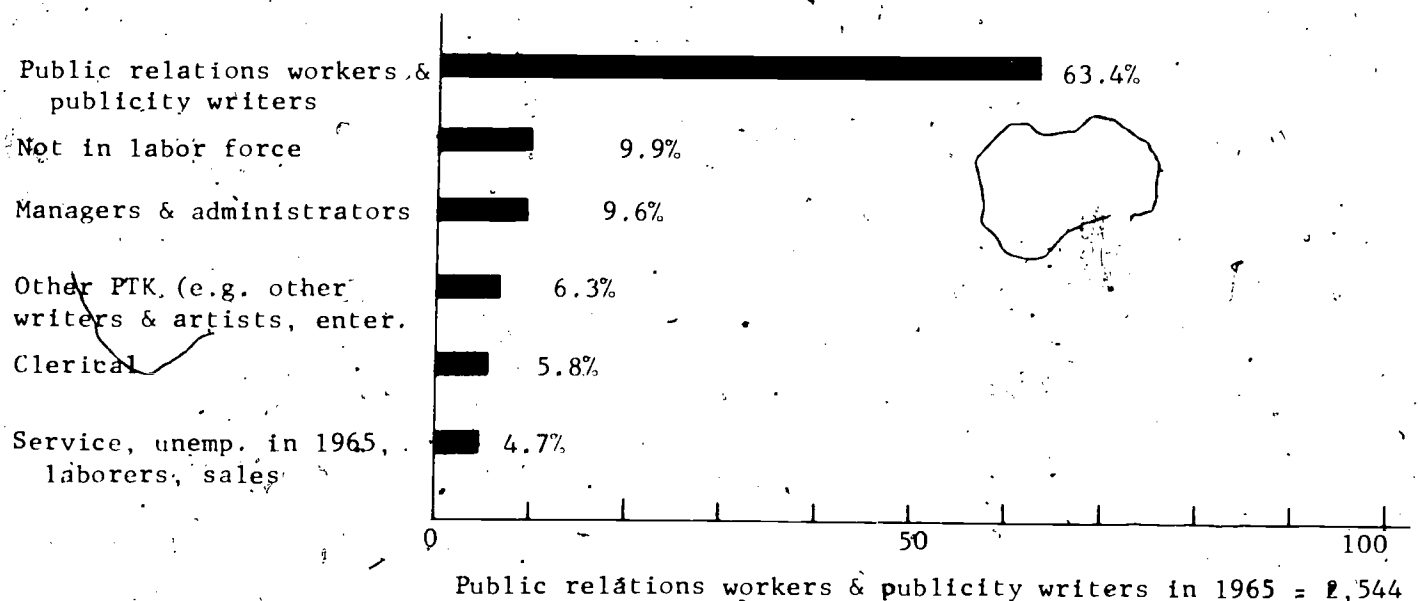
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Public Relations Workers and Publicity Writers Were Doing in 1965



Half of the 1970 public relations workers were doing something else five years earlier. About 25% of the new entrants were previously employed in sales or administrative positions. Another 15% were probably in school in 1965 (not in the labor force). Over 60% of the 1965 public relations remained in that occupation in 1970. Another 16% moved into administrative or other professional or technical fields.

What 1965 Public Relations Workers and Publicity Writers Were Doing in 1970



Some job titles classified under this heading:

Director of information
 Press secretary
 Promotion manager

Public relations consultant
 Public relations supervisor
 Publicity expert

RADIO AND TELEVISION ANNOUNCERS

D.O.T. # 159.148

What do radio and television announcers do? Radio and television announcers present music, news, and commercials to the public.

TO GET THE JOB

You should be able to:

- Work under time constraints
- Speak clearly, concisely and correctly
- Know something about a variety of subjects
- Take criticism from your listening or viewing audience

You should prefer to:

- Share your private life with the public
- Keep up-to-date with current events

You should be physically able to:

- Stand or sit in one position for a long period of time
- Work in a variety of settings

ON THE JOB

Radio and television announcers do a variety of jobs. A radio announcer usually presents music, news and commercials. Much of the commentary is extemporaneous speaking (ad libbed). In addition, a radio announcer must operate a variety of technical equipment. A television announcer usually specializes in presenting one particular type of program such as sports, news, or weather. Both types of announcers introduce various programs, interview guests and act as master of ceremonies. They read news flashes and describe public events. Additional duties may be assigned at small stations: operating control board, selling time and writing scripts. Some announcers may work primarily with advertising or local programming.

THINGS TO THINK ABOUT

Advantages:

- A chance to meet people
- The possibility to travel

Disadvantages:

- The strain of always being in the limelight
- Being called upon to participate in community activities

PREPARATION AND TRAINING

High school courses in English, public speaking, and music are quite useful. Training at a vocational school in announcing or a four-year degree in broadcasting is very helpful.

An operator's license is required by the Federal Communications Commission.

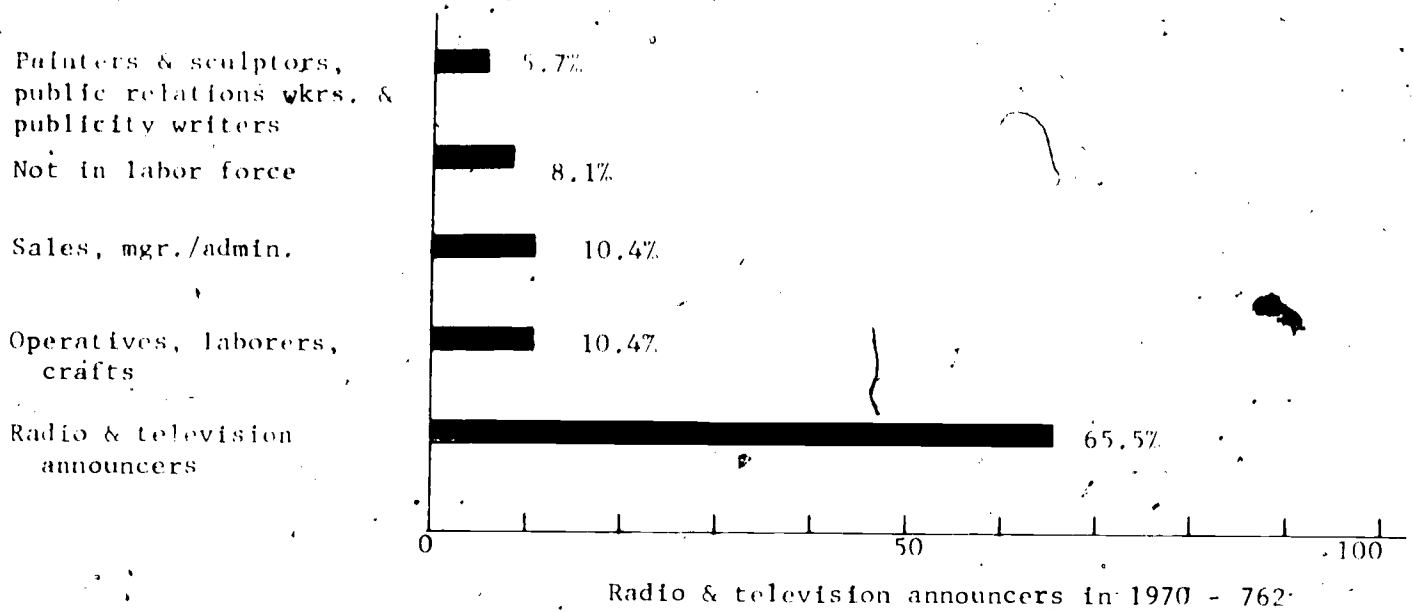
WHERE TO GET MORE INFORMATION

National Association of Broadcasters
1771 N Street, N.W.
Washington, D.C. 20036

Corporation for Public Broadcasting
888 - 16th Street, N.W.
Washington, D.C. 20036

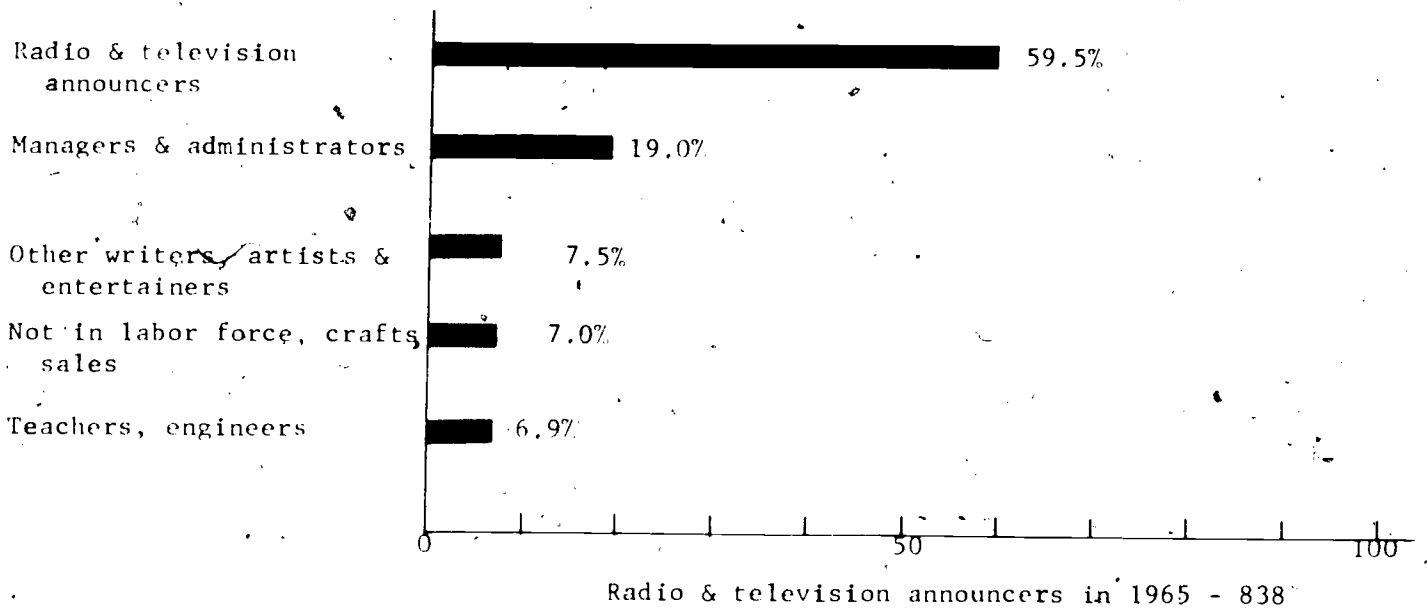
ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

What 1970 Radio and Television Announcers Were Doing in 1965



Two-thirds of the 1970 announcers were already working in that field five years earlier. Over 30% of the new entrants were previously employed as sales workers or administrators. More than 40% were not in the labor force or were artists or publicity workers in 1965. Sixty percent of the 1965 announcers remained in that occupation in 1970. Another third moved into administrative or other professional positions.

What 1965 Radio and Television Announcers Were Doing in 1970



Some job titles classified under this heading:

- Announcer
- Broadcaster
- Commercial announcer
- Newscaster
- Radio announcer
- Television announcer

WRITERS, ARTISTS, AND ENTERTAINERS

D.O.T. # 139,088, 151,048
and 152,048

What do writers, artists and entertainers do? Writers, artists, and entertainers are individuals who entertain the public with their stories, the parts they play, or other forms of artistic expression.

TO GET THE JOB

You should be able to:

- Have a talent for writing, acting, or entertaining
- Possess good verbal and nonverbal expression
- Have a sensitivity for the feelings of others
- Work on your own and get along well with other members of a company

You should prefer to:

- Perform in front of an audience or prepare the material for others to use in a performance
- Travel

You should be physically able to:

- Work irregular hours
- Work under varying physical conditions
- Maintain good health and stamina

ON THE JOB

Work will vary according to the job setting. Writers will often work in an office as part of a team, such as studio writers. Free-lance writers work out of their home. Artists, such as painters and sculptors use visual means of expression. Entertainers such as lion tamers, magicians, and palm readers all offer their audience a welcome diversion from every day life by utilizing their specific skills.

THINGS TO THINK ABOUT

Advantages:

- Gaining recognition
- A chance to travel
- The opportunity to perform or to see your work performed

Disadvantages:

- Work is difficult and demanding
- Very few fringe benefits
- Difficult to make a living
- Increasingly difficult to "break-in" to the field

PREPARATION AND TRAINING

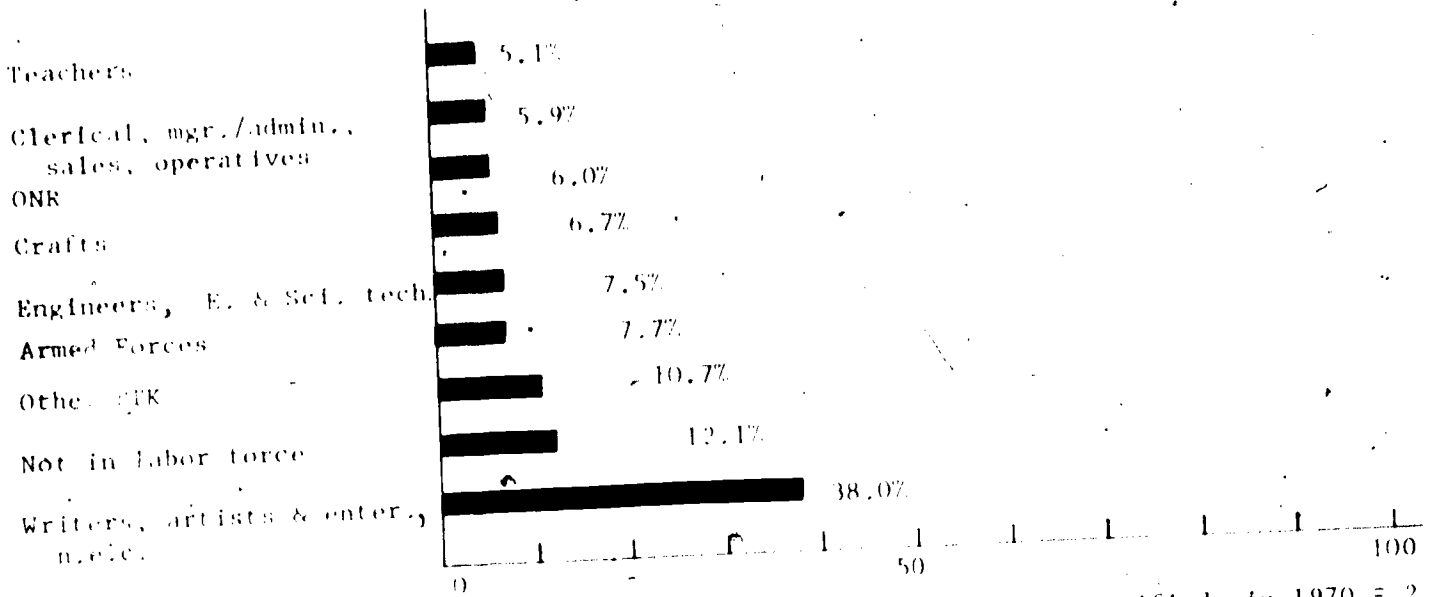
- A degree in liberal arts is becoming an important asset for artists, writers, and entertainers.
- Practical experience is also quite valuable.
- Work in summer stock, playing in a jazz band or working in a circus could be beneficial.

WHERE TO GET MORE INFORMATION

Actor's Equity Association
165 West 46th Street
New York, New York 10036

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

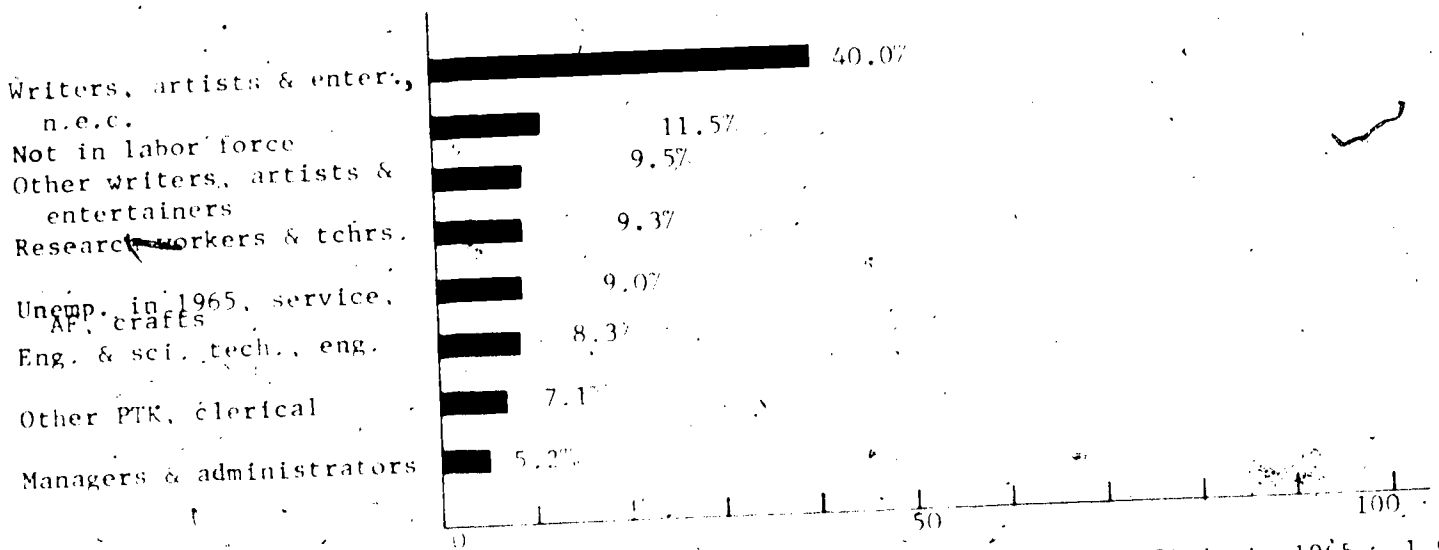
What 1970 Writers, Artists, and Entertainers, Not Elsewhere Classified, Were Doing in 1965



Writers, Artists & entertainers, not elsewhere classified, in 1970 = 2,030

Over 60% of the 1970 workers in this classification were doing something else five years earlier. Almost one-fifth of the new entrants were not in the work force in 1965. More than one-third were previously employed in other professional or technical positions. Half of these 1965 workers remained in the same classification in 1970 or moved into another occupation within the same category. Another fifth became employed in other professional or technical fields.

What 1965 Writers, Artists, and Entertainers, Not Elsewhere Classified, Were Doing in 1970



Writers, Artists & entertainers; not elsewhere classified, in 1965 = 1,928

Some job titles classified under this heading:

- | | | | |
|------------------|-------------|-------------------|------------------------|
| Acrobat | Disc jockey | Linguist | Seeing-eye-dog trainer |
| Astrologer | Crapologist | Orator | Snake charmer |
| Circus performer | Hypnotist | Puppeteer | Stunt man |
| Cowboy | Interpreter | Research director | Technical illustrator |

RESEARCH WORKERS

D.O.T. # 199.384 and 189.118

What does a research worker do? A research worker attempts to find specific answers to questions or problems.

TO GET THE JOB

You should be able to:

- Have an understanding of science and mathematics
- Communicate and exchange information with others
- Design instruments when needed

You should prefer to:

- Work as part of a research team or individually
- Do accurate and detailed work
- Have an interest in the welfare of mankind

You should be physically able to:

- Work under a variety of conditions
- Have good manual dexterity

ON THE JOB

A research worker must be alert, studious, and communicate well. He or she is responsible for studying a specific problem, developing new research ideas, and carrying out proposed projects. He or she must be observant and be able to examine the how and why of a problem. Finally, the research worker must attempt to solve questions or problems by using various instruments, working with others, and remaining objective. Duties may include collecting samples, performing tests, determining and analyzing results, and writing reports. A research director supervises other research workers.

THINGS TO THINK ABOUT

Advantages:

- Pleasant working conditions
- Great variety--working towards one answer through different methods
- Stimulation by striving for answers

Disadvantages:

- Tedious and exacting
- Potential for hazard in certain laboratory conditions

PREPARATION AND TRAINING

High school courses should be a combination of arts and sciences courses. A four-year college degree in a broad technical field is necessary. Graduate training is becoming more important. Trainees usually start as research assistants or junior analysts.

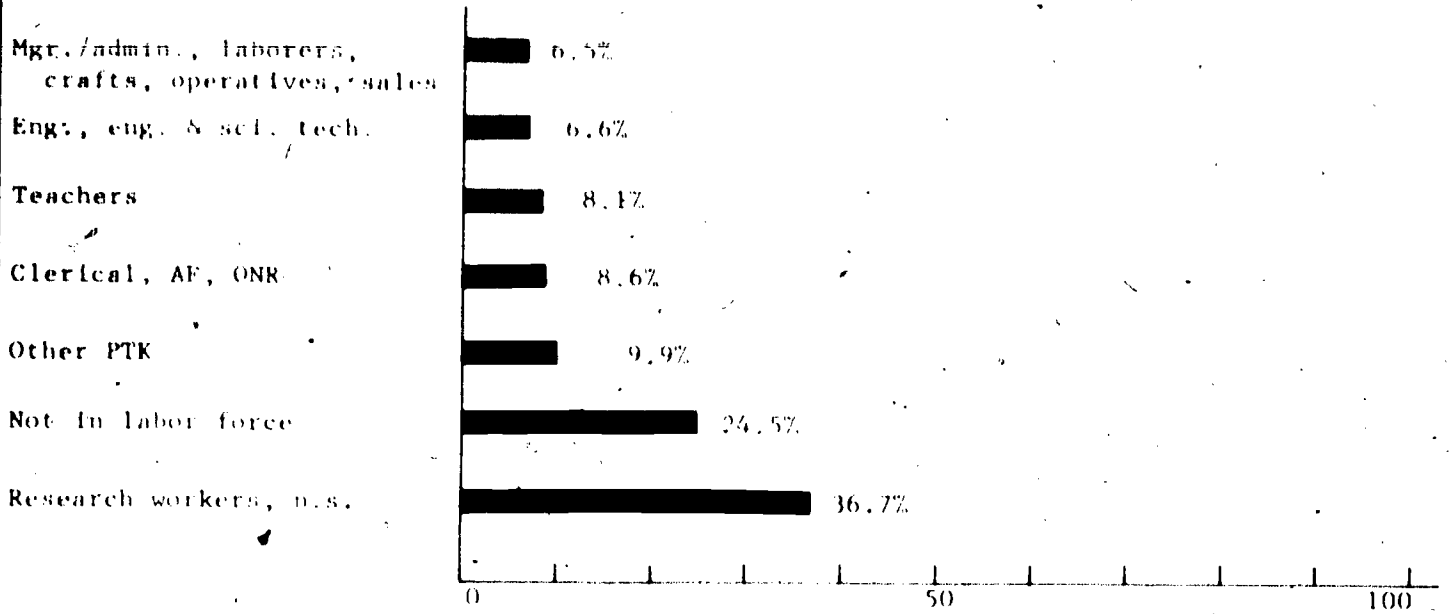
WHERE TO GET MORE INFORMATION

American Public Health Association
1790 Broadway
New York, New York

American Chemical Society
1155 Sixteenth Street, N.W.
Washington, D.C. 20036

ASK YOUR SCHOOL COUNSELOR FOR MORE INFORMATION

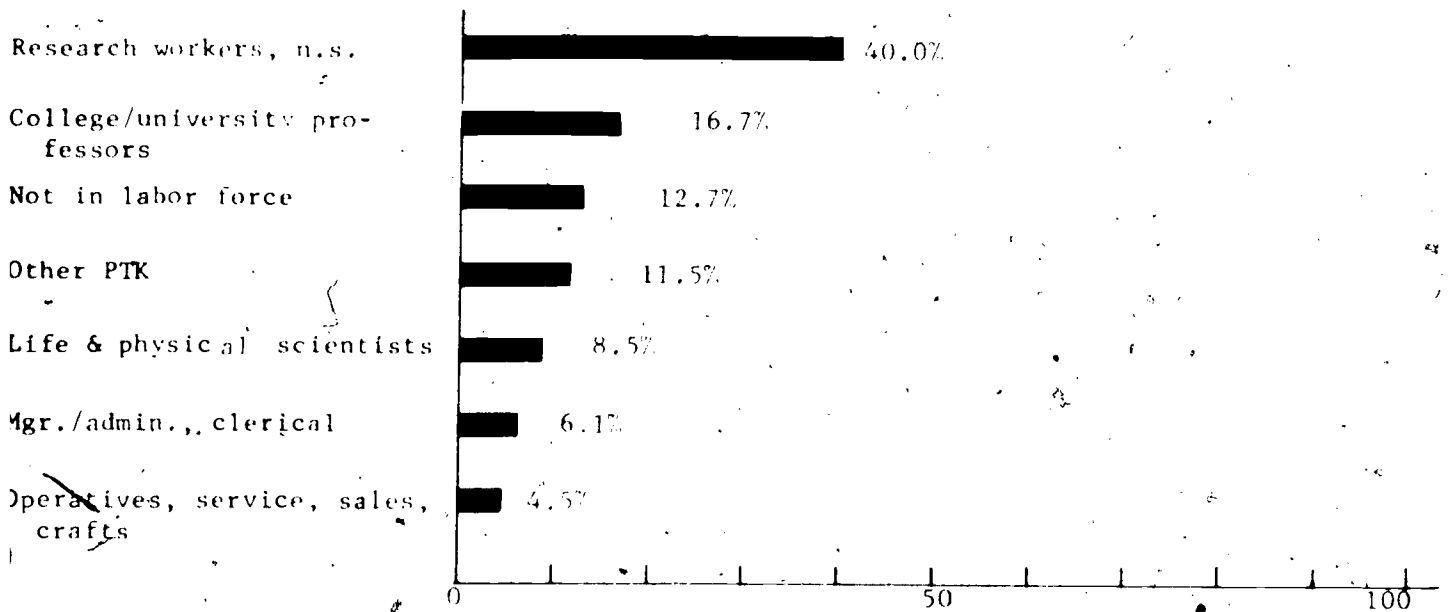
What 1970 Research Workers, Not Specified, Were Doing In 1965



Research workers, not specified, in 1970 = 4,567

Almost two-thirds of these 1970 research workers were doing something else five years earlier. More than one-third of the new entrants were probably in college or graduate school in 1965 (not in the labor force). Another third were employed in other technical or professional occupations, such as engineering or teaching. Sixty percent of the 1965 research workers moved into other classifications by 1970. Over 40% of that group became professors or scientists.

What 1965 Research Workers, Not Specified, Were Doing in 1970



Research workers, not specified, in 1965 = 4,194

Some job titles classified under this heading:

- Clinical fellow
- Hospital fellow
- Inventor
- Research manager
- Research analyst
- Textile expert