

9-1995

Information You Might Use: Employment Trends for Occupations Requiring a Bachelor's or Higher Degree: 1992 and 2005

Paul Greyer

John Schroedel

Follow this and additional works at: <https://repository.wcsu.edu/jadara>



Part of the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Greyer, P., & Schroedel, J. (1995). Information You Might Use: Employment Trends for Occupations Requiring a Bachelor's or Higher Degree: 1992 and 2005. *JADARA*, 29(2). Retrieved from <https://repository.wcsu.edu/jadara/vol29/iss2/10>

Information You Might Use: Employment Trends for Occupations Requiring a Bachelor's or Higher Degree: 1992 and 2005

By Paul Greyer and John Schroedel

This article summarizes statistics from the U.S. Bureau of Labor Statistics. It focuses on employment trends for occupations requiring a Bachelor's or higher degree. It addresses the question "Why go to college?" and provides career counseling tips and a case study to show how to use employment trend data for career counseling purposes. Additionally, other sources of occupational and educational information which may be useful in career counseling sessions are identified and described. This article is the first of a series of research briefs. Other articles in this series will focus on occupations requiring [a] some postsecondary training, [b] training provided by the employer, and [c] no significant postsecondary training.

Possessing timely occupational information is vital for both the young first-time job seeker who is deaf or hard of hearing and the adult experiencing unexpected hearing loss in mid-career. New career opportunities and new training fields are emerging all the time. Acquiring this information empowers people to make effective career decisions.

People who are deaf or hard of hearing, like everyone who wants to work, must select an occupation and determine how much training and education they will need to qualify for it. These decisions require knowledge about the requirements of occupations and awareness of one's

personal interests, abilities, and work skills.

This article provides information about occupations which require a Bachelor's or higher degree, or four or more years of college. It is written for use by counselors and other service providers in rehabilitation, high school, college, and job placement settings in their efforts to provide educational and career counseling for people who are deaf or hard of hearing.¹ For each occupation, estimates are provided for the number of people employed in 1992, the number and percent of additional workers to be employed by 2005, and income.

The list of occupations in this article is inclusive. No occupation has been eliminated due to any criteria regarding its suitability for workers who are deaf or hard of hearing. Although certain occupations may have "physical requirements" related to hearing, vision, or other functional capacities, occupational requirements are changing so rapidly that it would be presumptuous to say that certain jobs are or are not for workers with loss of hearing. The availability of new technologies, employer needs for skilled workers, and shifts in the demographic characteristics of these workers interact to create powerful dynamics changing workplace accommodations. Rehabilitation and postsecondary professionals need proactive perspectives to effectively respond to these trends.

■ Why Go to College?

There are several good reasons for going to college. Compared to occupations which do not require a Bachelor's degree, occupations which do require a Bachelor's degree usually offer higher salaries and better fringe benefits. They are also considered by most people to be more prestigious. Also, the fastest growing occupations are those requiring a Bachelor's or higher degree, meaning that there is a growing demand for educated workers. Deaf and hard of hearing people with Bachelor's degrees will have satisfied the educational requirements for these occupations and thus, will face lower risks to unemployment and underemployment.

Due to the many advantages of a college education, more and more people have decided to pursue college degrees. A study of deaf adults by the National Technical Institute for the Deaf found that 4.4 percent had Bachelor's or higher degrees in 1983-1985 and 7.9 percent were similarly educated in 1991-1993.² A similar trend is apparent for the U.S. population in general. In 1982 those with a Bachelor's or higher degree comprised 17% of the U.S. work force and by 2000 an estimated 30% of all workers will be similarly educated.³ This means that more people are going to be qualified to compete for occupations which require Bachelor's or higher degrees.

INFORMATION YOU MIGHT USE

■ Employment Trends

Information about employment trends can be very useful when deaf and hard of hearing people are selecting an occupation. Such information can make a big difference in a person's income and likelihood of obtaining full-time employment.

Table 1 provides summaries of employment trends for 103 occupations which typically require a Bachelor's or higher degree. This information was derived from estimates reported in Occupational Projections and Training Data (1994) by the U.S. Bureau of Labor Statistics. The occupations have been grouped into four broad categories: (a) Executive, administrative and managerial, (b) Professional specialty occupations, (c) Technicians and related support occupations, and (d) Marketing and sales (each listed in **Bold** in Table 1).

Table 1 presents the estimates of the number employed in 1992 and the number and percent of increased employment by 2005 for each occupation. It also provides a rating of 1992 weekly pay for each occupation relative to pay in other occupations. Pay ratings are based on the median earnings of full-time workers in a given occupation. The four pay rating codes are: VH=Very High (top 25% of occupations), H=High (upper-middle 25%), L=Low (lower-middle 25%), and VL=Very Low (bottom 25% of occupations). Ideas on how to use this information are given in the section entitled "Career Counseling Tips" below.

Readers are reminded that the numbers in Table 1 represent estimates for the nation as a whole. The estimates may be higher or lower for certain occupations in some localities. Regional, state, or local statistics may be obtained by contacting state employment security agencies.

■ Career Counseling Tips

Occupational exploration is important in selecting an occupation. Deaf and hard of hearing people considering work requiring a Bachelor's degree should be made aware of the occupations in Table 1. For occupations of interest, they should review with their counselor the following information:

- **The availability of an occupation now (using numbers for 1992).** The number of workers in some occupations is greater than in others. A larger number of workers means that there will be more opportunities for employment.
- **The employment outlook in 2005 (forecasted percentage of growth).** Growth tends to bring opportunities for entry-level jobs and advancement.
- **The pay rating.** Pay is important to most workers. Higher earnings can bring a better quality of life.
- **Educational requirements.** After selecting an occupation requiring a Bachelor's degree, the job seeker will want to know how to meet its specific educational requirements. This involves selection of a college major.
- **Where to get additional information.** Published sources of additional information are listed in the "Additional Resources" section below. Job seekers should also be advised to contact and interview workers in the occupation of interest (especially workers who are deaf or hard of hearing), college career counselors, or other service providers.

■ A Case Study

Sheila, a college-bound high school senior, is interested in a career in labor relations and wants to know

if this would be a wise career choice. Labor relations is included within the occupations labeled Personnel, training and labor relations specialists and managers in Table 1. As shown, by 2005, a 25.2% increase in the number of workers in this type of occupation is expected; a good sign that jobs will be available. Weekly earnings are in the Very High category (the top 25% of pay scale); thus pay is an attractive attribute. This would be a wise career choice for people who desire these attributes.

Sheila also wants to know what specific college majors would prepare her for this occupation and what other occupations would require the same college major. This article does not provide answers to such questions. Such information can be found in the Occupational Outlook Handbook (1994) and related publications (see the "Additional Resources" section below for more information about these publications).

For a specific occupation, the Occupational Outlook Handbook provides specific educational requirements (such as college major) and identifies related occupations requiring similar knowledge and skills. The Personnel, training, and labor relations specialists and managers section of this handbook reports that many colleges and universities offer labor relations courses in majors like personnel administration or human resource management. It also says that "Graduate study in industrial and labor relations is becoming increasingly important for those seeking work in labor relations" (page 61), which means she needs an advanced degree if she intends to work in labor relations. Students such as Sheila, who are interested in labor relations, will be able to get answers to more detailed questions

INFORMATION YOU MIGHT USE

Table 1 Employment data for jobs requiring a Bachelor's or higher degree

(Numbers in Thousands)

1992 Job Titles	Number Employed 1992	Number Increased by 2006	Percent Increased by 2006	Weekly earnings 1992	Counselor Notes:
Executive, administrative, and managerial occupations					
Managerial and administrative occupations					
Administrative services managers	226	30	13.1	VH	
Communication, transportation, and utilities operations managers	144	14	10.0	VH	
Education administrators	351	81	23.2	VH	
Engineering, mathematical, and natural science managers	337	106	31.5	VH	
Financial managers	701	174	24.8	VH	
General managers and top executives	2,871	380	13.2	VH	
Government chief executives and legislators	73	2	3.1	VH	
Industrial production managers	203	5	2.4	VH	
Marketing, advertising, and public relations managers	432	156	36.1	VH	
Personnel, training, and labor relations managers	193	48	25.2	VH	
Property and real estate managers	243	85	35.0	H	
Purchasing managers	221	31	13.9	VH	
All other managers and administrators	1,676	582	34.7	VH	
Management support occupations					
Accountants and auditors	939	304	32.3	VH	
Budget analysts	67	13	20.1	VH	
Credit analysts	33	1	3.7	VH	
Employment interviewers, private or public employment service	79	17	21.8	VH	
Inspectors and compliance officers, except construction	155	42	27.0	VH	
Loan officers and counselors	171	88	40.0	VH	
Management analysts	208	89	42.7	VH	
Personnel, training, and labor relations specialists and managers	281	102	36.1	VH	
Purchasing agents, except wholesale, retail, and farm products	222	6	2.7	H	
Tax examiners, collectors, and revenue agents	64	10	15.2	VH	
Underwriters	100	24	24.1	VH	
All other management support workers	892	348	39.0	VH	
Professional specialty occupations					
Engineers					
Aeronautical and astronautical engineers	66	9	14.1	VH	
Chemical Engineers	52	10	19.4	VH	
Civil engineers, including traffic engineers	173	41	23.6	VH	
Electrical and electronics engineers	370	90	24.2	VH	
Industrial engineers, except safety engineers	118	20	16.8	VH	
Mechanical engineers	227	46	20.3	VH	
Metallurgists and metallurgical, ceramic, and materials engineers	19	5	26.3	VH	
Mining engineers, including mine safety engineers	4	0	3.1	VH	
Nuclear engineers	17	0	0.5	VH	
Petroleum engineers	14	0	2.4	VH	
All other engineers	295	85	29.0	VH	
Architects and surveyors					
Architects, except landscape and marine	96	25	26.3	VH	
Landscape architects	19	5	26.3	VH	

INFORMATION YOU MIGHT USE

Table 1 Employment data for jobs requiring a Bachelor's or higher degree

(Numbers in Thousands)

1992 Job Titles	Number Employed 1992	Number Increased by 2005	Percent Increased by 2005	Weekly earnings 1992	Counselor Notes:
Life scientists					
Agricultural and food scientists	29	4	14.4	VH	
Biological scientists	78	19	25.0	VH	
Foresters and conservation scientists	35	4	12.2	VH	
Medical scientists	39	12	30.8	VH	
All other life scientists	1	0	7.8	VH	
Computer, mathematical, and operations research occupations					
Actuaries	15	4	29.4	VH	
Computer systems analysts, engineers, and scientists					
Computer engineers and scientists	211	236	111.9	VH	
Systems analysts	455	501	110.1	VH	
Statisticians	16	2	9.3	VH	
Mathematicians and all other mathematical scientists	16	1	7.6	VH	
Operations research analysts	45	27	61.4	VH	
Physical scientists					
Chemists	92	20	21.2	VH	
Geologists, geophysicists, and oceanographers	48	11	22.2	VH	
Meteorologists	6	1	24.4	VH	
Physicists and astronomers	21	1	3.2	VH	
All other physical scientists	30	14	46.2	VH	
Social scientists					
Economists	51	13	25.3	VH	
Psychologists	143	69	48.0	VH	
Urban and regional planners	28	6	23.2	VH	
All other social scientists	35	7	20.3	VH	
Social, recreational, and religious workers					
Clergy	189	56	29.8	H	
Directors, religious activities and education	64	19	29.9	H	
Recreation workers	204	78	38.1	H	
Social workers	484	191	39.5	H	
Lawyers and judicial workers					
Judges, magistrates, and other judicial workers	90	2	2.3	VH	
Lawyers	526	195	31.1	VH	
Teachers, librarians, and counselors					
Teachers, elementary	1,456	311	21.3	VH	
Teachers, preschool and kindergarten	434	236	54.3	L	
Teachers, special education	358	267	74.4	H	
Teachers, secondary school	1,203	462	38.6	VH	
College and university faculty	812	214	26.4	VH	
Other teachers and instructors	16	0	3.0	H	
Farm and home management advisors					
Instructors and coaches, sports and physical training	260	94	36.2	H	
Adult and vocational education teachers	235	60	25.7	H	
Instructors, adult (nonvocational) education					
Teachers & instructors, vocational education and training	305	111	36.5	H	
All other teachers and instructors	530	201	37.9	VH	
Librarians, archivists, curators, and related workers					
Curators, archivists, museum technicians, and restorers	19	3	16.2	VH	
Librarians, professional	141	17	12.3	VH	
Counselors	154	50	32.2	VH	

INFORMATION YOU MIGHT USE

Table 1 Employment data for jobs requiring a Bachelor's or higher degree

(Numbers in Thousands)

1992 Job Titles	Number Employed 1992	Number Increased by 2005	Percent Increased by 2005	Weekly earnings 1992	Counselor Notes:
Health diagnosing occupations					
Chiropractors	46	16	35.8	VH	
Dentists	183	9	5.2	VH	
Optometrists	31	5	15.7	VH	
Physicians	556	195	35.0	VH	
Podiatrists	15	5	37.4	VH	
Veterinarians and veterinary inspectors	44	14	32.7	VH	
Health assessment and treating occupations					
Dietitians and nutritionists	50	13	26.3	H	
Pharmacists	163	47	29.0	VH	
Physician assistants	58	20	33.8	VH	
Therapists					
Occupational therapists	40	24	59.6	VH	
Physical therapists	90	79	88.0	VH	
Recreational therapists	30	12	39.8	VH	
Speech language pathologists & audiologists					
All other therapists	73	37	51.3	VH	
Writers, artists, and entertainers					
Artists and commercial artists	23	13	55.6	VH	
Designers					
Designers, except interior designers	273	63	22.9	H	
Interior designers	235	49	20.6	VH	
Public relations specialists and publicity writers	66	8	12.2	VH	
Radio and TV announcers and newscasters	98	26	26.3	H	
Reporters and correspondents	56	14	25.1	H	
Writers and editors, including technical writers	58	15	26.1	VH	
All other professional workers	283	66	23.2	VH	
	883	386	43.8	VH	
Technicians and related support occupations					
Health technicians and technologists					
Clinical lab technologists and technicians					
Technicians, except health and engineering and science	268	71	26.5	H	
Computer programmers					
Legal assistants and technicians, except clerical	555	169	30.4	VH	
All other legal assistants, including law clerks	68	20	30.0	VH	
Marketing and sales occupations					
Securities and financial services sales workers	200	65	32.5	VH	

INFORMATION YOU MIGHT USE

by talking with people working in labor relations.

■ Additional Resources Occupational Information

The most comprehensive occupational information is available from the U.S. government in the following publications:

Occupational Outlook Handbook (1994). It contains narrative-style information about 250 occupations. For each occupation, information is given on training and educational requirements, working conditions, pay, nature of the work, the outlook for growth in employment opportunities, and sources of other related information.

Occupational Projections and Training Data (1994). Information for over 600 occupations is presented, including information on growth rates, educational requirements, and characteristics like worker age and race. Occupations are ranked on growth rate, unemployment rate, and pay.

Two other resources are:

Occupational Outlook Quarterly (OOQ) and the Monthly Labor Review (MLR). Both of these share useful occupational information such as "The 1992-2005 Job Outlook in Brief" from the Spring, 1994 OOQ and "Labor Force Trends of Persons with and without Disabilities" from the October, 1991 MLR.

The above resources are products of the U.S. Bureau of Labor Statistics, and are sold by: U.S. Government Printing Office,

Superintendent of Documents, Washington, DC 20402-0001. Phone: (202)-512-2303. These resources can also be found in many local public libraries as well as in college and university libraries.

Another source of occupational information is:

The Complete Guide for Occupational Exploration (1993). The CGOE is based on data provided by the U.S. Department of Labor. For over 12,000 occupations, it identifies the occupational requirements for: worker interests; reading, math, and language levels; physical abilities and other attributes. The CGOE is sold by JIST Works, Inc., 720 North Park Avenue, Indianapolis, IN 46202-343. Phone: 1-800-648-5478.

Educational Information

The following organizations offer information about educational programs and support services for college-bound deaf or hard of hearing people:

Association on Higher Education and Disability (AHEAD), P.O. Box 21192, Columbus, OH 43221-0192. Phone: (614) 488-4972 (Voice or TDD).

Self Help for Hard of Hearing People, Inc. (SHHH) 7910 Woodmont Avenue, Suite 1200, Bethesda, Maryland. Phone: (301) 657-2248 (Voice) or (301) 657-2249 (TDD).

HEATH National Clearinghouse on Postsecondary Education for Individuals with Disabilities, American Council on Education, One Dupont Circle, Suite 800, Washington, DC 20036-1193. Phone: (800) 544-3284 or (202) 939-9320 (Voice or TDD).

Gallaudet University, National Information Center of Deafness, 800 Florida Avenue, NE, Washington, DC 20002. Phone: (202) 651-5051 (Voice or TDD).

National Technical Institute for the Deaf, National Center on Employment of the Deaf, 1 Lomb Memorial Drive, Rochester, NY 14623. Phone: (716) 475-6205 (Voice or TDD).

Additionally, the following publication provides useful information about college programs offering Bachelor's degrees:

College and Career Programs for Deaf Students (1994), edited by Rawlings, Karchmer, De Caro, and Allen. This is one of the best sources of information for deaf students selecting a college with support services such as interpreters, notetakers, and tutors. It provides full information on 136 special colleges in the United States. It is available from the Center for Assessment and Demographic Studies, Gallaudet University, Washington, D.C. 20002. Phone: (202) 651-5575 (Voice or TDD).

Questions and requests for additional information can be sent to the Research and Training Center for Persons Who are Deaf or Hard of Hearing, 4601 West Markham Street, Little Rock, AR 72205. Phone: (501) 686-9691 (Voice or TDD) or (501) 686-9698 (FAX). The contents of this publication were developed under a research and training grant (H133B10001) from the National Institute of Disability and Rehabilitation Research, Office of Special Education and Rehabilitation Services; Department of Education, Washington, DC 20202. However, these contents do not necessarily represent the policy of that agency, and you should not assume

INFORMATION YOU MIGHT USE

endorsement by the Federal Government.

Paul Greyer and John Schroedel are both with the Rehabilitation Research and Training Center for Persons who are Deaf or Hard of Hearing at the University of Arkansas.

End Notes

¹Several experienced rehabilitation professionals were interviewed regarding the contents and need for the information in this and subsequent articles in this series. We wish to express our gratitude for the help of Gloria Wright, Ken Musteen, Steve Cumnock, and Robert Sanders III, from the Arkansas Rehabilitation Services' Office for the Deaf and Hearing Impaired and several anonymous reviewers for their special contributions to the development of this article.

²This information resulted from an on-going collaborative study between the authors of this article and Janet MacLeod-Gallinger of the national Technical Institute for the Deaf. These data are derived from an annual survey of deaf alumni from about 30 residential and day high schools across the nation between 1983 and 1993.

³U.S. Bureau of the Census (1991). *Statistical Abstract of the United States*. (111th ed.). Washington, DC: U.S. Government Printing Office.