

**Career Success of Deaf and Hard of Hearing Graduates:
Preliminary Findings of a Ten-year Study**

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Colleges and universities periodically do alumni surveys to obtain feedback on the quality and relevancy of their education. These surveys often focus on information about the educational, occupational, and economic attainments of the alumni which are important in demonstrating the "economic pay-off" of their education. This information is often helpful to college administrators and service providers for such purposes as justifying requests for public funding and guiding institutional planning and development. During an era of cuts in state and federal money for education, documenting program success through such means as alumni surveys takes on added significance.

Surveys of deaf and hard of hearing alumni have been conducted by Gallaudet University (e.g., Rawlings, Karchmer, King, and Brown, 1985) and the National Technical Institute for the Deaf (NTID) (see Marron, 1982; and Schroedel, 1982, for example). Fisher, Harlow, and Moores (1974) reported results from a survey of deaf and hard of hearing alumni from three two-year postsecondary programs. A few alumni surveys have focused on national samples, including Crammatte (1987) and Schroedel and Watson (1991).

Although an exhaustive review of alumni surveys is beyond the scope of this manuscript, three observations can be made. First, among deaf alumni from various alma maters, the type and level of occupation they are employed in depends in part on the type of college attended and level of degree earned. For instance, surveys of deaf alumni from Gallaudet University and NTID provide some contrasting information. Rawlings, et al. (1985) found that 42% of Gallaudet's graduated alumni had eventually completed either a master's or doctoral degree and 52% worked in four occupations: elementary or secondary teaching, postsecondary teaching, counseling, and school or program administration. In comparison, 81% of graduates from NTID between 1969 and 1979 had either vocational or associate's degrees and 74% worked in professional, technical, or clerical occupations (Marron, 1982; Schroedel, 1982). With type of college having this effect, one must be careful in making conclusions about alumni from different colleges.

Secondly, time is a factor in comparing studies done in different years with different alumni. Time confounds comparisons between the results of alumni surveys conducted at different points in time with different participants. Alumni surveys tend to provide snapshots of the participants (that is,

information collected at one point in time), rather than information collected over time from the same participants.

Thirdly, it was found repeatedly that deaf males on the average earn 30% a year more than deaf females (Armstrong, 1981; Brown, 1987; Crammatte, 1987; Fisher, Harlow, & Moores, 1974; Rawlings, et al., 1985; Welsh & Walter, 1986). In a national study of 116 deaf alumni from 33 special colleges, deaf males earned \$3,700 a year more than deaf females (Schroedel & Watson, 1991). This pattern goes back at least to the 1960s (Quigley, Jenne, & Phillips, 1968) and continues into the 1990s (Rawlings, King, Skilton, & Rose, 1993). It exists even though deaf females are generally more likely to complete bachelor's and master's degrees than are deaf males (Schroedel & Watson, 1991). This pattern is just the tip of an iceberg representing a set of complex topics in gender and employment. These topics deserve broad and deep examination.

Purposes

What is needed to address questions about career trends for alumni who are deaf or hard of hearing in general, rather than from one institution, is a survey of alumni graduating at the same time from representative postsecondary programs and who have been tracked over time for information. This article reports on the results of such a project. It focuses on (a) early career attainments such as employment status, pay, job satisfaction, and promotions ten years after embarking on a career, (b) comparisons of alumni attainments for 1989 and 1994 to observe any relative changes, and (c) comparisons of career attainments of males and females to determine the extent to which gender is related to career success in such areas as pay, benefits, and advancement.

METHOD

Sample

The sample consisted of 325 deaf and hard of hearing participants. Two-thirds of the sample (67%) considered themselves to be deaf, with the remainder (33%) reporting themselves to be hard of hearing. The large majority were White (92%) and participants were about equally distributed in terms of gender (53% female and 47% male). Regarding marital status, 55% were married, 37% single, and 8% divorced or widowed. Average (both mean and median) age was 32 years (ranging from 28 to 60). About one in four (26%) participants had continued their education by earning a degree beyond the one they had received at the initiation of the project ten years earlier. The current distribution of degree levels included vocational (29%), associate's (20%), bachelor's (32%), and master's or higher (19%).

Procedures

Participants were members of the graduating classes of 1983, 1984, and 1985 from 47 special postsecondary programs, including two- and four-year colleges and technical institutes. Prior to graduating during their final year on campus, individuals in the classes of 1984 and 1985 were invited to participate in

the longitudinal study and were informed that this was voluntary (Schroedel & Watson, 1991). Five years later, follow-up surveys were administered to those individuals in the classes of 1984 and 1985 who had agreed to participate; additionally, to increase the sample size, members of the class of 1983 were later invited by mail to participate in the five-year follow-up study. Subsequently, a ten-year follow-up survey was administered to alumni in all three classes who had completed the five-year follow-up survey. Results presented here are based on the combined results from the five-year follow-up survey administered in 1988/1989 and the ten-year follow-up survey administered in 1994. When each survey was administered, participants were informed of the voluntary basis of their participation and that their individual responses would be confidential. Details about each survey are presented below.

Five-year Follow-up Survey. Five years after graduation, about 83% of participants completed mail survey forms which gathered comprehensive work history information, personal and family information, and information about their work environment, use of social services, and additional educational attainments (El-Khiami, 1993). A total of 490 deaf and hard of hearing alumni completed the five-year follow-up questionnaire.

Ten-year Follow-up Survey. The ten-year follow-up survey gathered personal and family information, additional educational attainments and quality of life information, plus detailed information about employment status, current job, and job satisfaction. Mail and phone efforts to trace the 490 people who participated in the five-year follow-up survey yielded a sample of 400 potential participants (82% of the 490). Four mailings of the ten-year follow-up survey questionnaire netted a response rate of 80%, or 325 completed survey forms from the 400 traced alumni.

RESULTS

Data from the 10-year follow-up survey are in the process of being analyzed. Preliminary findings in three general areas will be discussed. The three areas to be addressed are as follows:

- a) Current employment status of survey respondents and work-related information;
- b) Comparisons of selected attributes of respondents' work situations five and ten years after completing their degrees; and
- c) Exploration of gender differences on selected employment characteristics.

Employment Status

The large majority of the participants were employed (84%), with 5% unemployed (but searching for work), and 11% not in the labor force (see Figure 1). Over half of those not in the labor force (60%) were raising their family; other reasons given for not searching for work were "going to school" (30%), "can't find a job" (8%), or "too sick" (2%).

Among the employed respondents, most reported that they worked for a private business (51%), while others worked for government (23%), school systems (17%), or service programs (9%). Also, most of the employed participants reported receiving job benefits: with 88% receiving annual leave, 84% health

insurance, 84% sick leave and 71% a retirement pension program. When asked about sources of income, 84% cited a job as a source of income. The percentage of participants who reported receiving other sources of income ranged from a high of 11% for money from parents to a low of 2% receiving welfare/food stamps (see Figure 2). Thus, the large majority of respondents were economically self-sufficient.

Five- and Ten-Year Comparisons

The median annual job-related income in 1994 for employed participants fell in the \$20,000 to \$25,000 category, up from the median annual income for 1989 which fell in the \$15,000 to \$20,000 category. Incomes are unadjusted for inflation. When asked if they were satisfied with their jobs, a combined 86% indicated that they were either satisfied or very satisfied, and 14% were dissatisfied. Essentially identical figures were obtained for these participants with respect to their job satisfaction five years earlier.

As an additional way to characterize participants' jobs, jobs held in 1989 and 1994 were classified by occupational category, as presented in Figure 3. Most participants in 1994 worked in professional, technical or managerial occupations (53%), with 24% in clerical or sales occupations, 15% in crafts or machine operative occupations, and 8% laborers or service workers. The percentages of participants working in each of these four occupational categories had not changed substantially since the five-year follow-up survey (1989), although there was an increase in the percentage of participants working in professional, technical, or managerial occupations (where 46% had worked five years earlier) and a corresponding decrease in the percentage of participants who had been working in clerical and sales occupations (where 32% had worked five years earlier).

Gender Differences in Employment

The third focus of this paper is the topic of gender differences in employment and the differences in work-related outcomes between males and females during 1994. Preliminary analyses suggest that males are reporting outcomes which appear somewhat more favorable than those reported by female participants. With respect to annual salary, the median annual salary for males (\$25,000-\$30,000) exceeds that for females (\$20,000-\$25,000). Thus, males were earning about \$5,000 more a year in income, or about 20% more than females. Moreover, somewhat more males than females reported receiving each of four types of benefits. The corresponding proportions of males and females receiving each of four job benefits were: health insurance (males, 88%, females, 80%); retirement pensions (males, 72%, females, 69%); annual leave (males, 93%, females 83%); and sick leave (males, 88%, females, 80%). About the same proportion of men (31%) and women (27%) indicated that they supervise other workers.

More men than women indicated that they had received promotions: specifically, 38% of the men and 24% of the women reported receiving two or more promotions during the past five years, 20% of the men and 22% of the women reported receiving one promotion, and 42% of the men and 54% of the women

reported receiving no promotions. From another perspective, the proportion of males with two or more promotions was somewhat more than 25% larger than their female counterparts.

The disparities in earnings and job benefits between males and females in this study are even more perplexing after one compares the educational attainments of the two groups. As presented in Figure 4, the proportions of females with bachelor's or master's degrees exceeds those of males. Despite overall higher educational attainments, females lag behind males in economic attainments, a condition which has persisted for some time across the nation. A possible explanation for this condition is that higher levels of education do not necessarily guarantee entry into higher paying occupations. Several occupations which require two-years of technical training offer highly competitive wages, relative to occupations requiring more advanced degrees. Thus, a higher degree does not necessarily qualify a person for a better paying job. As shown in Figure 4, the percentages of males with either vocational or associate's degrees are larger than for females, possibly accounting for the higher earnings of male participants. Nevertheless, because educational attainments clearly do have an impact on occupational attainments (as discussed earlier), it is all the more important to find that the less favorable employment outcomes reported by females do not seem to be a result of lower educational attainments.

In a preliminary effort to understand why the male participants appear to have experienced somewhat more favorable outcomes than the female participants, two possible explanations have been considered. First, a greater number of females than males worked in part-time jobs: 6% of males and 18% of females worked in part-time jobs. Part-time jobs tend to have lower hourly pay and fewer benefits. Future analyses will examine the relationships between number of hours worked, job benefits, and wages between males and females. Secondly, it is possible that female workers have entered jobs which tend to pay less and tend to offer fewer benefits. With respect to occupational category, males seem to work in the more lucrative occupations. According to Figure 5, for example, 22% of the males and 7% of the females reported working in crafts and machine operative occupations, which tend to offer high pay and good benefits. Conversely, fewer men (19%) than women (29%) reported working in clerical or sales occupations noted for their relatively low pay and relatively modest benefits. In the professional, technical and managerial occupations, men (51%) and women (55%) were employed at about the same frequency, as was true for men (8%) and women (9%) who reported working as laborers or service workers. Similarly, it is possible that men have been hired by companies which tend to offer better pay and benefits. More men (57%) than women (46%) work for private business, and more men (27%) than women (18%) work for government agencies. Conversely, more women (23%) than men (11%) work for school systems, and more women (13%) than men (5%) work for human service programs. Government agencies and private businesses may provide better pay and benefits than service programs and school systems. These difference may account for the generally more favorable work outcomes that males have reported compared to females. Additional analyses are planned to further explore this possible explanation.

Discussion

Ten years after college most of the respondents in this survey were doing well in life. The large majority were economically self-sufficient; 84% had income from a job. Median income for 1994 was in the \$20,000-\$25,000 bracket, about \$5,000 higher than five years earlier. A majority (53%) worked in professional, technical, or managerial jobs. This percentage for 1994 was larger than for 1989. The fact that 26% had received another degree in the past ten years contributed to these career attainments. In several comparisons, respondents were doing better economically and occupationally in 1994 than in 1989. A conclusion to be reached from these findings is that the educational and occupational success of these alumni justifies continued support for public investment in education. These alumni are productive citizens making worthwhile contributions to society.

One of the problem areas identified by the survey was the finding that females were earning about 20% less than males, were less likely to get job benefits, and reported fewer promotions on the job. The pay differential is well documented in the literature; however the findings from this study show that gender differences favoring males extend beyond differences in pay. Adding to the perplexity of the topic, it was found that females were more likely to complete bachelor's and master's degrees than were their male counter parts. Among the prospective explanations for these differences were: (a) females were three times more likely to work in part-time occupations, and (b) females were less likely to work in jobs with better socioeconomic quality (for example, fewer females than males worked in private business or for the government where better jobs may be available).

Several recommendations are offered for postsecondary service providers on the question of gender gaps in employment. One practical suggestion is to encourage more females to enter college majors in technical and scientific fields where they are under-represented (Schroedel, 1987; Schroedel & Watson, 1991). Another suggestion is to inform deaf college students about better employment prospects in expanding growth jobs of the future. Information on these jobs is available in Geyer and Schroedel (1995) and Schroedel and Geyer (1996).

Figure 1

Employment Status 10 Years after Graduation

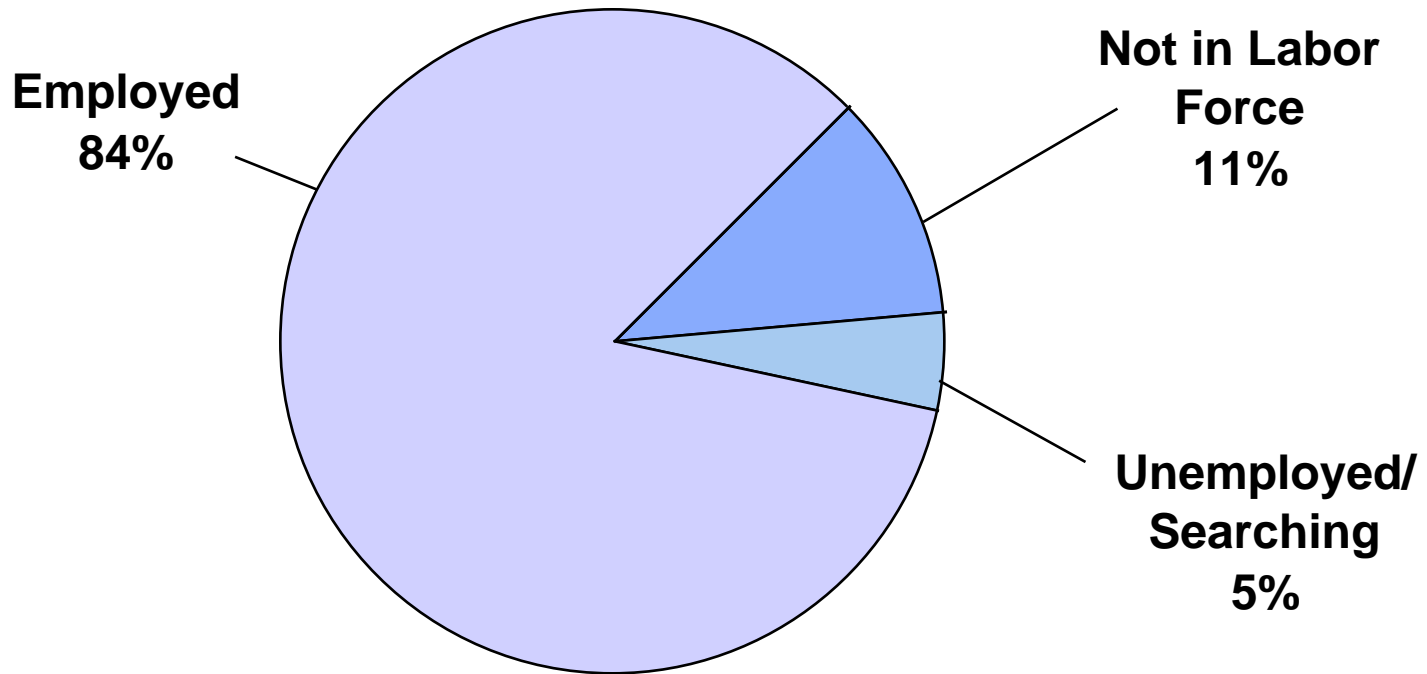


Figure 2

Sources of Income 10 Years after Graduation

• Jobs	84%
• Parents	11%
• SSDI	9%
• Medicare	6%
• SSI	5%
• VR Services	4%
• Unemployment Insurance	4%
• Welfare/Food Stamps	2%

Figure 3
**Occupational Category 5 and 10
Years after Graduation**

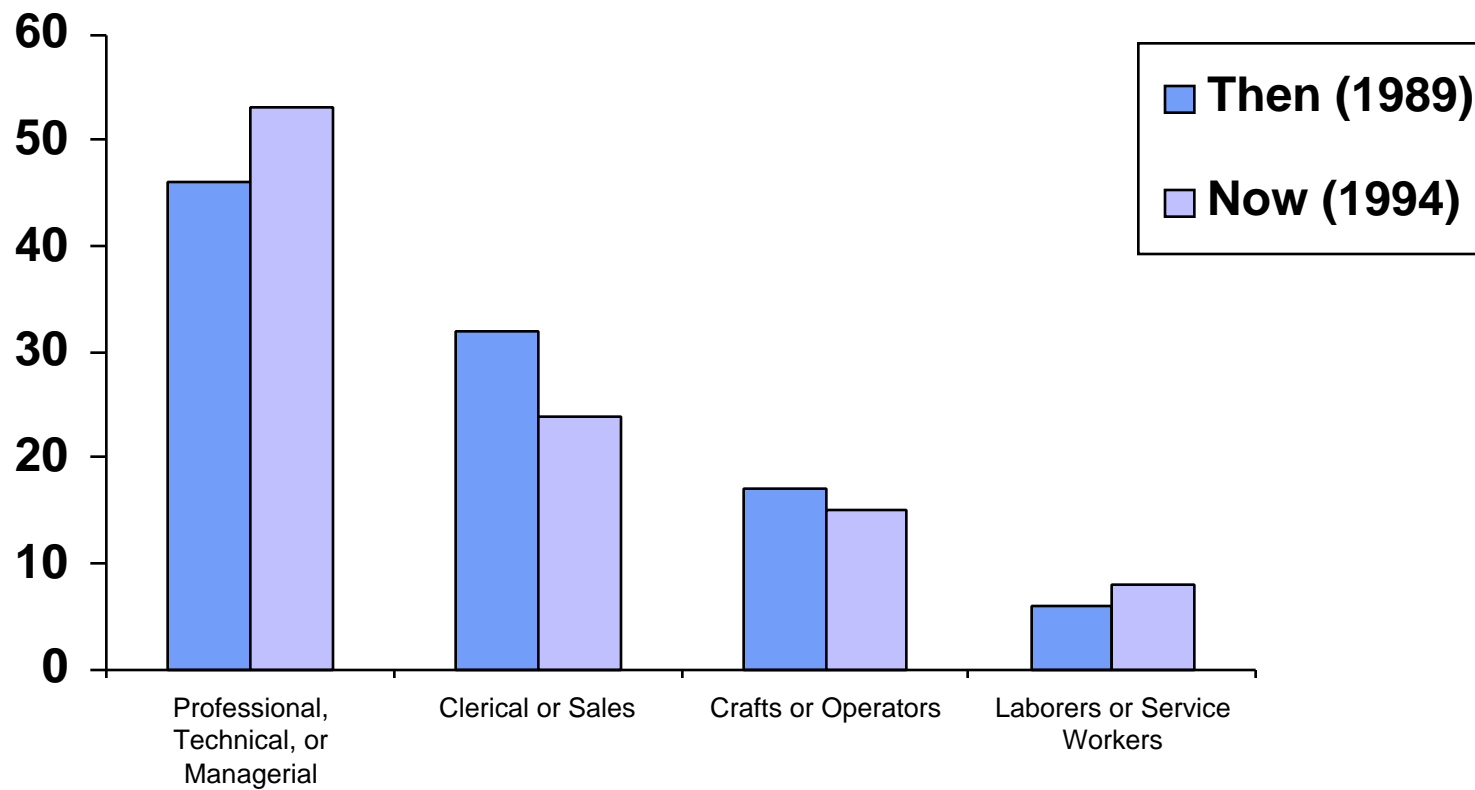


Figure 4

Occupational Category 10 Years after Graduation by Gender

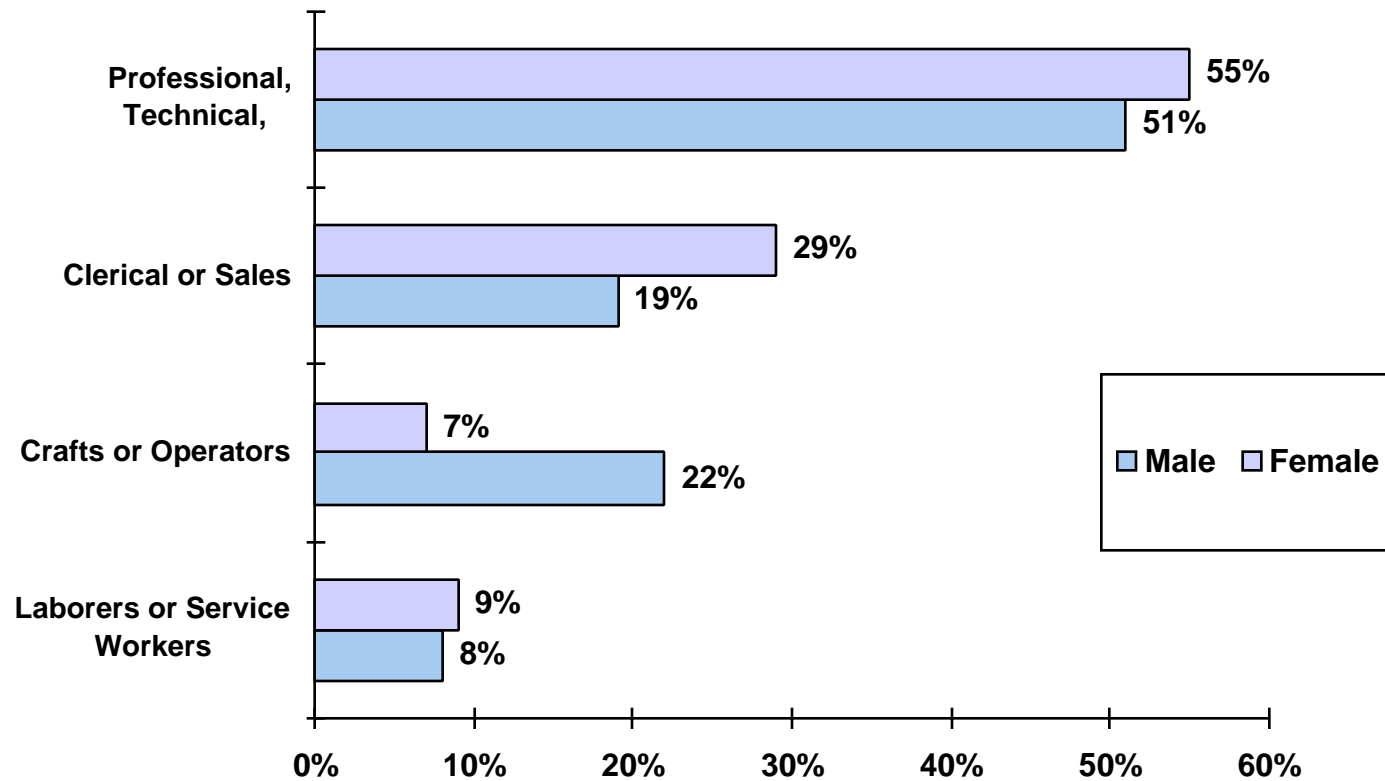
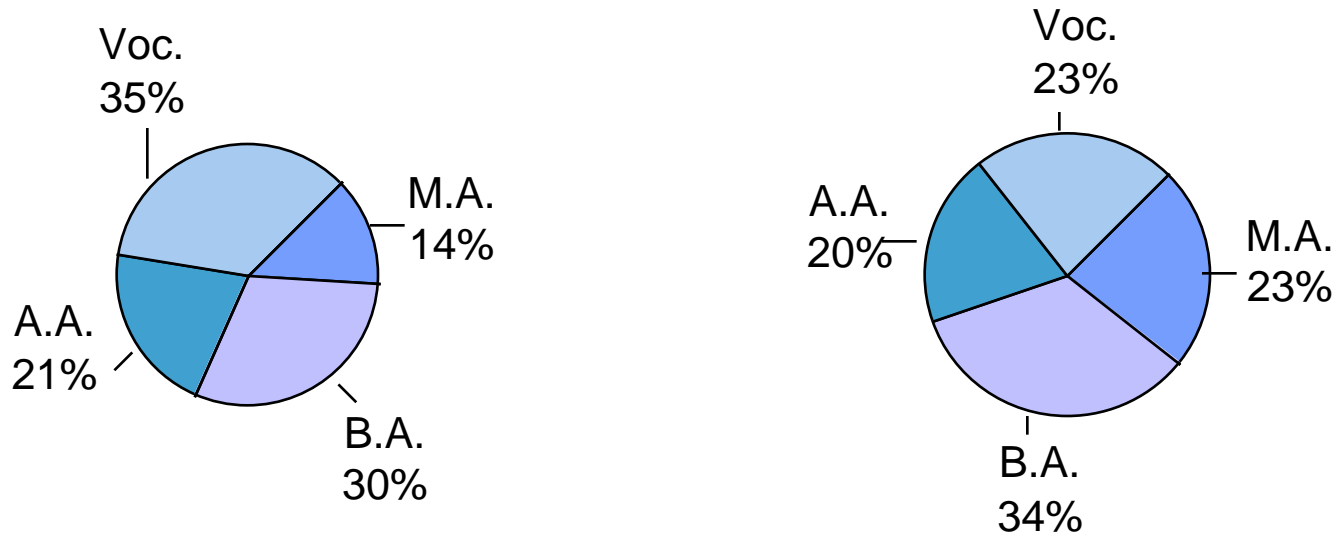


Figure 5

Highest Degree Attained 10 Years after Initial Graduation by Gender



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