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EMPLOYMENT ATTAINMENTS OF DEAF ADULTS ONE AND TEN YEARS AFTER GRADUATION FROM HIGH SCHOOL

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Introduction

Deaf adults have historically lagged behind hearing workers in most measures of work attainment (Best 1943; Martens, 1937; Lunde & Bigman, 1959; Weinrich, 1972; Schein & Delk, 1974; Schroedel 1976). This fact, coupled with the changes in societal attitudes regarding access to college arising from the launching of Sputnik and the civil rights movement, has resulted in more deaf persons being enrolled in college now than at any other time in history. Numbers have increased from an estimated 250 students in 1950 to more than 10,000 today. This growth in the number of deaf persons accessing postsecondary education is, perhaps, the most significant occurrence in the field of deaf education in the last quarter of a century.

Despite this growth the relative number of deaf students enrolling in postsecondary programs still does not match the rate of attendance for hearing persons. The proportion of deaf students has increased from 2 college students for every 100 elementary and secondary level students in 1955 (Schein & Bushnaq, 1962) to 16 in 100 in 1985. Similar figures for hearing students were 8 in 100 in 1955 and 28 in 100 in 1985. The relative difference in 1985 was 12 percentage points, up from 6 percentage points in 1955. While the rate of growth has been great it has not kept pace with

the relatively more rapid growth experienced by hearing persons.

With the growth in numbers of deaf persons attending postsecondary education, the question must be asked: What effect has college attendance had on the occupational status of deaf persons? As a result of limited educational opportunities, there were relatively small numbers of deaf college graduates prior to the 1960's, thus making it difficult to address the question of the effect of postsecondary education on the work force attainments of deaf people. The recent increase in the number of deaf college graduates has made it possible to study the relationship between achievement of a college degree and attainment in the work place (Welsh, Walter and Riley, 1988; Welsh and Walter, 1987; Welsh and Foster, 1988). The relationship is well known with regard to the general population (Taubman and Wales, 1974; Mincer, 1975; Jencks, et.al., 1977; Bowen, 1977; Young, 1984). Typically, higher education results in graduates having less difficulty finding employment; obtaining a satisfying, safer, and more secure occupation; earning more money; and attaining a higher socioeconomic status. Since the purpose of this paper is to report on the current employment status of deaf persons and the changes effecting that status, it seems only appropriate to focus on the impact of postsecondary education.

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This paper focuses on four primary questions:

1. Are deaf high school graduates continuing their education beyond the secondary level?
2. What are the labor force and employment conditions of deaf high schools graduates?
3. What kinds of occupations and what levels of earnings do deaf high school graduates have?
4. What is the influence of postsecondary education on employment conditions, occupations and earnings of deaf high school graduates?

Procedures

The results reported in this paper are derived from data gathered through the Secondary School Graduate Follow-up Program for the Deaf which is managed by the National Technical Institute for the Deaf (NTID) at the Rochester Institute of Technology (RIT). The origins of the follow-up program go back to 1977 when the Conference of Educational Administrators Serving the Deaf (CEASD), at its annual meeting in Toronto, Canada, passed a resolution for establishing a follow-up system. At CEASD's request NTID became manager of the program in 1980. Current membership includes 26 educational programs for deaf students in 21 states. To date, the data base includes information provided by 4972 graduates of the participating schools.

Each participating school appoints a coordinator who sends the questionnaires to deaf adults who have graduated 1, 3, 5, 10, and 20 years prior to the survey year. For example, in 1988 efforts were made to locate and contact the graduating classes of 1987, 1985, 1983, 1977 and 1967. This sampling procedure permits periodic followup of graduates without the necessity of

asking them to complete the questionnaire each year. Completed questionnaires are then forwarded to NTID for analysis and returned to the individual school together with summary information about its graduates. Information from and about individual graduates and their school remains confidential. Each year NTID prepares a composite report of the results from the yearly survey.

Subjects

The data presented in this paper are based on 2001 respondents surveyed between the years 1982 and 1988 inclusive. Two groups of respondents were selected: graduates who had been out of high school for one year (n=1406); and graduates who had been out ten years (n=595). Examining graduates one year out allows evaluation of the employment conditions of deaf high school those who choose to enter the work place immediately. Looking at graduates ten years out permits evaluation of the effects of time, training and maturity on the employment conditions of deaf workers. These were the sole criteria upon which selections were made. The deaf high school graduates in this sample who were one year out range in age from 17 to 24 with both a mean and median age of 20, and those who were ten years out ranged age 27 to 34 with a mean and median of age 30. The corresponding age groups used in this study for national data comparisons are 20 to 24 for respondents one year out, and 25 to 34 for respondents ten years out. Both the one and ten years out groups were comprised of an equal percentage of males and females. As a point of reference, the racial composition of the groups is for the most part reflective of percentages occurring nationally with slight variations depending upon age groups included in national reporting and the regions represented. There was

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a representative percentage of whites, 5 percent more blacks, 2.4 percent fewer Hispanics, and 1 percent fewer American-Asians in the deaf sample that occurs in the population at large including all ages (U.S. Bureau of the Census, 1991).

graduates ten years after leaving school, will have attempted some form of postsecondary education. These percentages reflect the increased access to postsecondary education since the 1950's.

Findings

Participation in Postsecondary Education

Table 1 contains the percentage of graduate respondents who have enrolled in some form of postsecondary education anytime within one year and ten years of high school graduation. From this sample, about forty percent of deaf high school

Labor Force Status of High School Graduates

The Bureau of Labor Statistics classifies all persons 16 years of age or older in the U.S. as being either in the labor force or out of the labor force. Persons are considered in the labor force if they are employed or currently looking for work, and out of the labor force if they are not currently working and have not looked for a job in the last four weeks.

TABLE 1
PERCENTAGE OF DEAF STUDENTS WHO ENROLL IN POSTSECONDARY EDUCATION
WITHIN ONE AND TEN YEARS OF HIGH SCHOOL GRADUATION

POSTSECONDARY EDUCATION	PERCENTAGE OF HIGH SCHOOL GRADUATES	
	WITHIN ONE YEAR	WITHIN TEN YEARS
ENROLLED	37%	41%
NOT ENROLLED	63%	59%

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Table 2 presents the labor force status of deaf high school graduates one and ten years after graduation (inclusive of both those who have and who have not continued their education beyond the secondary level).

One year after graduation statistics for deaf persons in the labor force do not compare well with their hearing peers. Among these young graduates, 52 percent were in the labor force, and 53 percent of them were unemployed. Current statistics for the hearing population¹ age 20-24 yield a 79 percent labor force participation rate, and an unemployment rate of 8 percent. We see a considerably higher labor force participation rate, and a much lower employment rate within the hearing young adult population, than among young deaf people. Certainly these figures indicate that many young deaf high school graduates have difficulty entering the work force of the United States.

Ten years after graduation the labor force status of deaf adults approaching 30 years of age improves considerably. Almost 81 percent of the deaf adults ten years out of high school are in the labor force (including many who had been in college and out of the labor force ten years before). Most important, their unemployment rate has dropped dramatically, from 53 percent to 15 percent.

Recent statistics for the hearing population of the U.S., ages 25 to 34, show that over 78 percent are in the labor force and the unemployment rate is about 6 percent. These comparison figures are a reminder that even though the discrepancies are not as great ten years later as they are immediately after high school graduation, deaf people as a group still experience significantly more unemployment than hearing persons.

TABLE 2
LABOR FORCE CIRCUMSTANCES OF DEAF HIGH SCHOOL GRADUATES
ONE AND TEN YEARS AFTER GRADUATION

LABOR FORCE STATUS	YEARS FROM GRADUATION	
	ONE	TEN
IN THE LABOR FORCE	52%	81%
UNEMPLOYED	53%	15%

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Occupations

Our society places importance on not only the opportunity to work, but also the chance to succeed in a meaningful career. Table 3 shows the kinds of occupational categories in which deaf people are able to find work, one and ten years after high school.

One year after graduation, 71 percent of young deaf adults are employed predominantly in what have traditionally been called blue collar jobs (Service, Farming and Fishing, Precision Production, Operators and Fabricators). This compares with 49 percent of hearing high school graduates of the equivalent age range.² Ten years out 49 percent of the deaf respondents were

employed as blue collar workers while a little over 38 percent of hearing persons age 25 to 34 were in similar occupations. This change is the result of a number of factors, one of which is time and experience in the workplace. But more importantly, many of the men and women who were not in the labor force one year out of high school because they were in college, have since become employed. The higher skilled jobs of the college graduates will have influenced the occupational level of the ten year group as a whole. More about the effect of college on occupational status will be presented later in this report.

TABLE 3
PROPORTION OF DEAF WORKERS HOLDING VARIOUS JOB ONE AND TEN YEARS
AFTER HIGH SCHOOL GRADUATION

OCCUPATIONAL CLASSIFICATION	YEARS FROM GRADUATION	
	ONE YEAR	TEN YEARS
MANAGERIAL & PROFESSIONAL	2%	14%
TECH, SALES & ADMIN SUPPORT	28%	37%
SERVICE OCCUPATIONS	25%	12%
FARMING, FISHING, FORESTRY	4%	2%
PRECISION PRODUCTION, CRAFT	10%	12%
OPERATORS, FABRICATORS LABORERS	32%	23%

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These comparative figures indicate that deaf high school graduates are significantly more often employed in blue collar jobs than are hearing peers. Moreover, deaf workers ten years after high school graduation have an occupational profile more in line with hearing workers in their early years of employment, reflecting the continued underemployed condition of deaf workers.

Earnings

Income, while not the sole measure, is certainly one important indicator of one's occupational attainment. Table 4 presents a comparison of the 1988 salary levels of deaf and hearing persons by years from graduation³. It can be seen that deaf persons do not attain the equivalent earnings levels as hearing cohorts of the same age. The difference is not as severe ten years after graduation as it is one year after graduation.

Influence of Postsecondary Education

Human capital theory (Micner, 1975; Becker,

1964) posits that by investing time and effort, typically in education, one can positively influence employment rate, occupational level and earnings. The earnings data reported in Table 4 represent a large proportion of individuals with college training.

Therefore, it is worth looking at the sample in terms of educational level attained in order to investigate what effects postsecondary education has on their labor force status and earnings. To do this, respondents one and ten years out were categorized as (1) having graduated from high school only, (2) those achieving subbaccalaureate degrees (certificates, diplomas, associates degrees) and (3) individuals earning baccalaureate degrees or higher. One year out of high school, less than two percent of the deaf high school graduates have completed any postsecondary educational programs. This is not surprising. Degrees completed were certificates or diplomas. Ten years out however, 39 percent of the graduates, self-reporting in the questionnaire, had earned some type of postsecondary degree.

TABLE 4
EARNINGS OF DEAF AND HEARING PERSONS ONE AND TEN YEARS
AFTER GRADUATION

HEARING STATUS	YEARS FROM GRADUATION	
	ONE YEAR	TEN YEARS
DEAF	\$193	\$339
HEARING*	\$265	\$381

*Data reported for hearing workers ages 20-24 for the ONE YEAR group and ages 25-34 for the TEN YEARS group.

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Table 5 presents a profile of the labor force status, occupational level and weekly earnings of the deaf sample by educational level attained. It can be observed that high school graduates who did not attend college have higher unemployment rates, are employed in blue collar jobs more often and earn significantly less than those completing degree programs. It can be deduced that there are significant economic gains to be realized from achieving a college degree.

The reader, however, must be cautioned against attributing these gains only to the influence of college. Variables, such as achievement, level of hearing loss, presence of multiple handicaps, parental socio-economic status, and gender also exert considerable influence on occupational attainments. It should be stressed that the effects of these "other" variables are not controlled in the findings presented in Table 5. There is a need for further research to determine the contribution of these variables (including college) to the occupational attainments of deaf high school graduates.

The most current data available indicates that hearing persons who have not attended college have a 7 percent unemployment rate, 68 percent employment in blue collar occupations and average weekly earnings of \$396. The comparable statistics for deaf persons show 20 percent unemployed, 64 percent blue collar employment, and average weekly earnings of \$330 per week. Although deaf degree recipients employed in white collar occupations have similar unemployment and participation rates to those of hearing persons, there are still considerably reduced earnings by comparison. Hearing recipients of sub-baccalaureate degrees earn an average of \$460 per week compared to \$381 for deaf graduates. Hearing baccalaureate recipients earn \$603 a week compared to \$440 a week for deaf baccalaureates. This difference is substantial and may suggest, among other things, lack of accommodation, communication difficulties, difficulties in new skill acquisition and discrimination.

TABLE 5
LABOR FORCE CHARACTERISTICS OF DEAF HIGH SCHOOL GRADUATES
TEN YEARS AFTER GRADUATION BY DEGREE EARNED

VARIABLE	HIGH SCHOOL	SUB-BACHELOR	BACHELOR
IN THE LABOR FORCE	77%	84%	90%
UNEMPLOYED	20%	9%	5%
WHITE COLLAR JOB	36%	57%	89%
WEEKLY EARNING*	\$330	\$381	\$440

*Adjusted to 1988 dollars Consumer Price Index.

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Conclusions

Information about the most recent high school graduates has, in some respects, more relevance to their high schools of graduation because it is less diluted by other major influences that follow high school graduation in the process of assuming an adult role in society. High schools should bear little responsibility for changes in an individual's marital status, living environment, educational attainments and career changes occurring ten or more years after graduation.

The most striking observation made in connection with the recent deaf high school graduate relates to the decision about whether to continue education at the postsecondary level, or to enter the labor force directly. Since these decisions have major significance for the graduate's future occupation status, employment security, and earnings, a postsecondary education should be considered for all students who are academically able. This is especially true in view of the increased opportunities for postsecondary education afforded most deaf high school graduates today, and the variety of career and program choice available.

It is necessary to point out, however, that access to education is not equal to completing a degree. The fact is that just under 25 percent of deaf persons beginning college will graduate (Walter, 1987). When evaluated in light of the reported positive effects of increased occupational status and earnings resulting from achieving some form of college certification, this fact becomes more disturbing. Such a high rate of attrition is probably a combination of lack of accommodation to the special needs of deaf students by the college environment, and relatively poor academic preparation of deaf high school graduates⁴.

However, a high school has equal responsibility for the student who cannot, or

chooses not to continue his or her education, as it does for the college-bound student. The transition from high school to the world of work is likely to be extremely difficult for this graduate, as evidenced by the large proportion of such graduates who are unemployed, and others who are neither in college nor in the labor force. These findings are corroborated by concurrent research done by the Center for Assessment and Demographic Studies on a followup study of deaf students in their Annual Survey of Hearing Impaired Youth who were in the transitional year between high school and the world of work (Allen, Rawlings & Schildroth, 1989). Results of both studies suggest the crucial need for transitional programming to improve the employability of the non college-bound deaf student.

While increased support by way of vocational counseling, training and placement would certainly help, we cannot lose sight of the fact that, collectively, these young adults continue to have measured achievement levels of fourth grade and below (Allen, 1987). Any proposed solutions need to include major attention to quality vocational training and placement. We also need a long term goal of increasing the overall achievement level, most especially literacy, among deaf students graduating from high school. Educators of the deaf need to be attuned to the changes taking place in the work place, and to think about preparing students accordingly.

Several decades ago America began to move from an industrially-based to a technically-based economy. Education of the deaf responded in large measure by expanding opportunities for many high school graduates to continue their education at the postsecondary level. The terms "career education" and "technical education" took on new meaning. Data from our high school graduates suggest these efforts have been relatively successful.

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It is said that we are becoming an information and service-based economy. If this is so, we need to insure deaf high school students are prepared to enter a job market that expects sophistication both in technology and in communication. We have seen in this paper the effect education has on the

opportunities afforded deaf persons. The curriculum developers of elementary, secondary and postsecondary programs must mount a unified effort to address the special needs of the deaf learner in order to maximize their attainment potential.

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Notes

1. All comparative statistics are from publications of the U.S. Bureau of Labor Statistics.
2. The age group included here is 16 to 24 since national data did not separate ages 16 to 19 and 20 to 24 in their reporting.
3. All reported earnings have been converted to 1988 dollars using the Consumer Price Index.
4. For example the Median reading grade equivalent for 17 year old hearing-impaired students is 3.2 on the Stanford Achievement Tests (Allen, 1987).