

Economic benefits of completing a degree from the National Technical Institute for the Deaf

Summary

This report is the latest in a series of studies conducted in collaboration first with the Internal Revenue Service and, during the past two decades, with the Social Security Administration (SSA) to assist the National Technical Institute for the Deaf (NTID) to report on the impact an NTID education has on employability, earnings, Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI) participation of its alumni. Conducted in 2012 and using 2011 data results show that deaf and hard of hearing baccalaureate and master degree graduates earn about 60% more on average per year than students who withdrew without earning a degree. Graduates with an associate degree will earn 20% more than those who withdrew without earning a degree. With respect to percent of NTID alumni reporting earnings from labor (a proxy for labor force participation) almost twice as many non-graduates report no earnings than do graduates. The results also show that, in addition to increasing employability and earnings, college graduation reduces the likelihood of participating in Federal transfer programs for the disabled: Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI). For SSI almost three times more individuals without a degree receive SSI than do alumni with degrees. While there is a general increase in participation in the SSDI program by all groups with age, overall, 31% of withdrawals participated, while similar figures were 24% for those with associate degrees, 17% for bachelor degrees and only 7% for alumni with master's degrees. These findings demonstrate the importance of, once admitted to a college, completing a degree.

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Introduction

For almost 30 years the National Technical Institute for the Deaf (NTID) has collaborated first with the Internal Revenue Service and, during the past two decades, with the Social Security Administration (SSA) to conduct analysis of the employment status and earnings of its alumni. The goal of these studies has been to document the impact NTID has on the individuals who attend NTID. The results of these past studies have been reported in a number of published articles (Walter, Serve, Welsh & Riley, 1987; Walter & Welsh, 1992; Clarcq & Walter, 1998; Walter & Clarcq, 2000; Walter, Clarcq & Thompson, 2002; Walter, 2006; Weathers, Walter, Schley, Hennessey, Hemmeter & Burkhauser, 2007; Schley, Walter, Weathers, Hemmeter, Hennessey & Burkhauser, 2011). Taken together, these studies have demonstrated that completing an NTID education has significant economic benefits for graduates and effectively reduces the social cost of providing support for these disabled individuals. This report is the latest in this series of studies. Conducted in collaboration with the SSA, it reports on the impact an NTID education has on the employment status, earnings, Supplemental Security Income (SSI), and Social Security Disability Insurance (SSDI) participation of its alumni through 2011.

Method

As in the past, NTID negotiated a contract with the SSA. Under this contract, NTID provided the SSA with data about the education attainment of individual NTID alumni, and the SSA merged this information with longitudinal earnings and employment histories as well as SSDI and SSI histories through 2011. The information returned to NTID consisted of tables broken down by the independent variables age (16 through 60) and degree attainment (Master, Bachelor, Associate, Withdrawn). The tables summarized four dependent variables: percentage reporting earnings, Mean and Median Earnings, percentage receiving SSI, and percentage receiving SSDI. The dependent values in these tables represented longitudinal data. For example if someone was 18 years old in the year 1975 or the

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year 2011 or anywhere in between, their earnings¹ are reported when they were 18 (as well as for every other year of age where they were part of the data file). For this study, we focused on a descriptive picture of growth across age: outcome levels are reported for all alumni when they were 18, 19, 20, ... until age 60 (or whatever age each individual had in 2011), regardless of the year of data collection for that value. Graphs included in the results section of this paper are thus longitudinal with data grouped by age in years, where age is controlled for but chronological time is not. This means we explicitly did not pay attention to chronological cohort differences in this study; instead, we were interested in what happens to people as they age in the work force specifically with respect to their income, employment level, and participation in SSI and SSDI federal disability programs.

The SSA followed strict confidentiality guidelines in providing NTID with information. No data about individuals who made up the pool of subjects were reported. NTID made no requests of individuals to furnish any information and no personal information on individuals by way of name or address was used in data analysis.²

The deaf participants in this study represent the universe of individuals exiting NTID from 1970 to the spring quarter of 2010 categorized by highest attainment level: master, bachelor, associate, and withdrawn without a degree. Data about alumni were retrieved from RIT legacy systems and thus are not intended to be representative of deaf and hard-of-hearing persons in the United States. Because this represents population data, and because the number of individuals in the study is so large,³ significance

¹ All earnings were adjusted using the current Consumer Price Index (CPI) to 2011 dollars

²The SSA makes disclosure of grouped information to RIT under authority found in the Privacy Act of 1974 as amended by U.S.C. Section 552a (b)(5): Section 552a (b)(5) states that disclosures may be made to a recipient who has provide the agency with advance adequate written assurance that the record will be used solely as a statistical and reporting record, and the record is to be transferred in a form that is not individually identifiable.

³ As of fall of 2010 NTID had graduated at total of 6,777 students and 6, 454 had withdrawn without a degree.

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testing is not appropriate; any difference between groups would result in being statistically significant (even at an alpha level of .01). Thus, the results stand on their own descriptively.

Results

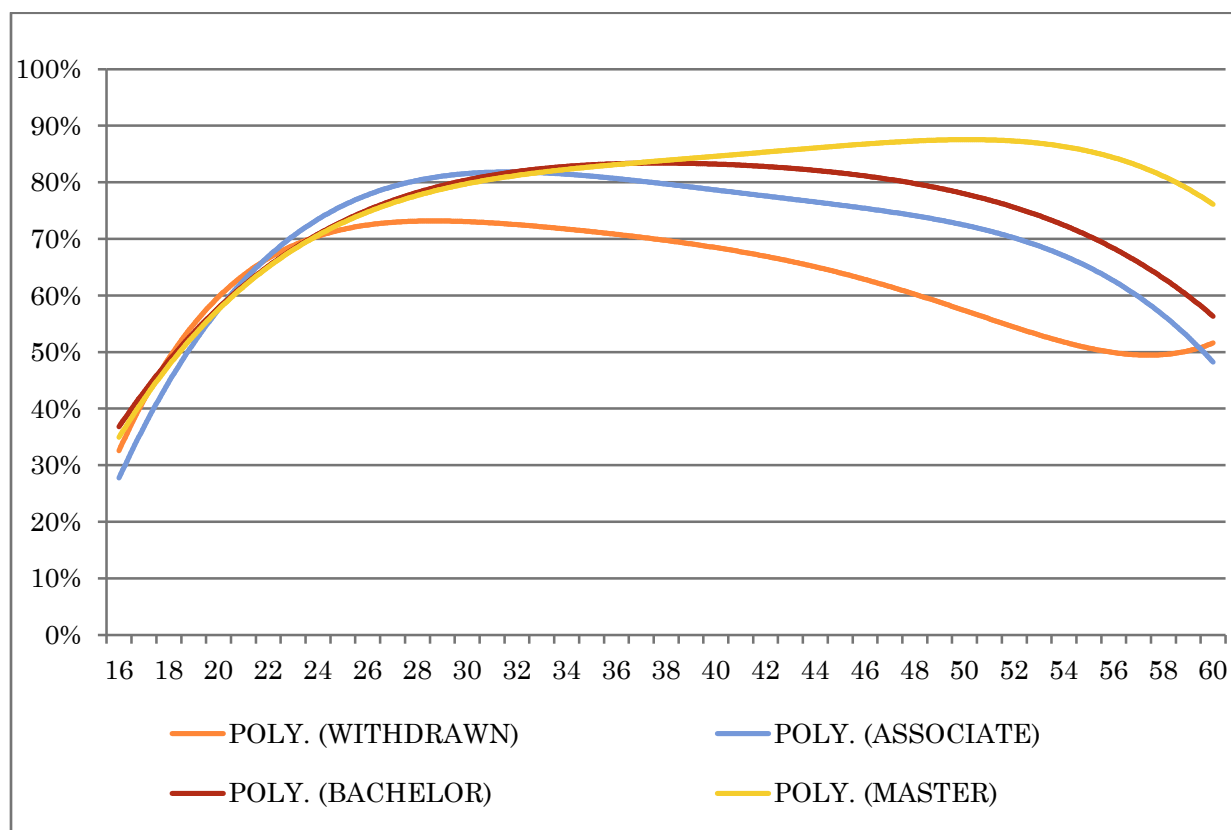
Employment of Graduates NTID has, as its highest priority, facilitating employment of its graduates. For the purposes of this study, income reported to the Internal Revenue Service that qualifies for the social security tax deduction (Federal Insurance Contributions Act [FICA]) is assumed to be evidence of employment. We refer to this statistic as the percentage with labor earnings. This statistic should not be confused with the Labor Force Participation Rate published by the Bureau of Labor Statistics; while related, it is not calculated in the same manner. However, in this report, we use it as a proxy for the labor force participation rate. The SSA provided information about the numbers of participants reporting qualifying earnings each year beginning with age 16. Figure 1 summarizes the information obtained from the SSA in the form of percentages of the participants reporting income, classified by age and degree level. It can be observed that beginning in the late 20's (the age when most alumni have completed their studies) differentiation occurs between graduates and those who have dropped out. Until age 40 about 80 to 85 percent of graduated alumni reported labor earnings while only about 70 percent of withdrawn alumni report such earnings. After age 40 the percentage begins to decline for all groups but a higher percentage of graduates continue to report earnings when compared to withdrawn students. It must be noted that graduates with master degrees maintain a generally high level of employment well into their late fifties. On average between the ages of 26 and 60 75% of alumni with an associate's degree, and 78% with a bachelor's degree, report having earnings, while only 64% of those who dropped out before graduating report any earnings.

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Figure 1

Percentage of NTID Alumni Reporting Labor Earnings by Age and Graduation Status



Earnings of Alumni For alumni, the effects of college graduation on increasing earning power is dramatic.

In 2011 dollars, between the ages of 26 and 60, bachelor's graduates will earn, on average, approximately \$15,000 per year more than students who attend but withdraw without a degree. Associate degree graduates will earn about \$9,000 less per year than bachelor graduates but approximately \$6,000 more than students who withdrew without a degree. While for most of their working years graduates with masters degrees report earnings similar to the bachelor graduates, they do, on average, earn about

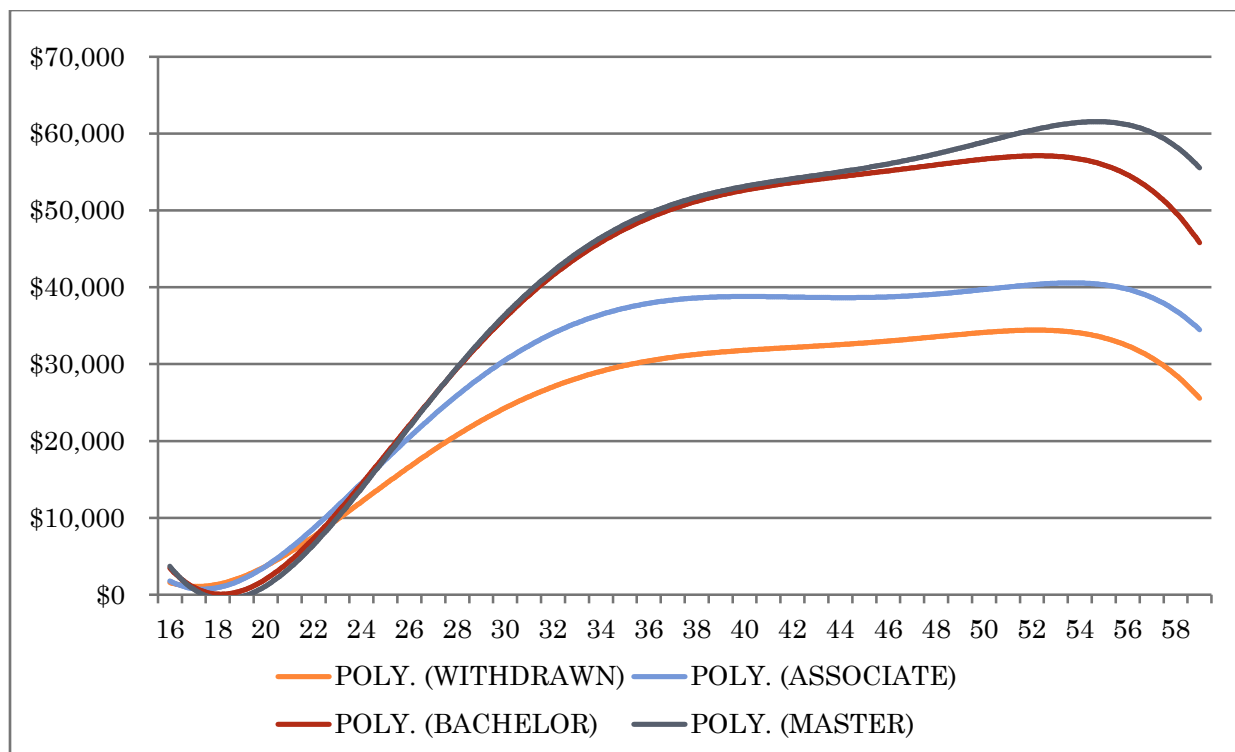
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\$5,000 more after age 50. These differences demonstrate that not only are graduates employed at higher rates but they also earn significantly more than individuals who withdrew or were denied admission to NTID. In percentage terms, the incremental benefit on earnings of completing college is significant when compared to those who withdraw. On average, between the ages of 26 and 60, bachelor's and master graduates earned 50% more per year, and sub-bachelor's graduates 21% more than individuals who withdrew. These data present further evidence of the importance of completing a college degree. If a student attends college and drops out without a degree, the economic impact of attendance is minimal in terms of increased earnings.

Figure 2

Median Labor Earnings of Deaf RIT/NTID Alumni by Age and Graduation Status



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Participation in SSI and SSDI The federal government provides two income-support programs targeted toward disabled individuals: SSI and SSDI. SSI is a federal entitlement program established in 1972 and is intended to provide income support for disabled individuals with little or limited resources. Disability eligibility for SSI funds includes having “a medically determinable physical or mental impairment that results in marked and severe functional limitation(s), and which can be expected to result in death, or has lasted or can be expected to last for a continuous period of not less than 12 months” (Social Security Handbook, 2010, chap. 21, p. 12). To be eligible for SSI, a disabled person must be a U.S. citizen or legal resident with limited resources.

SSDI is a federal social insurance program established in 1956 for disabled workers who are eligible⁴ for Social Security coverage. “Social Security pays benefits to people who cannot work because they have a medical condition that is expected to last for at least a year.” (Social Security Administration, 2010, p. 4). SSDI is intended to be a temporary means of support while an individual is recovering from some disabling condition. In practice, however, fewer than 10% of individuals receiving benefits leave the SSDI rolls (Mashaw, Reno, Burkhauser, & Berkowitz, 1996).

Figure 3 presents information about the percentage of participants who collected SSI benefits by age and education level. Age has a significant impact on receipt of SSI payments for NTID alumni. From the graph, it is clear that the percentage of participants collecting SSI declines sharply from about 60% of cases in the early 20s while enrolled in college until the mid-30s when the rate of participation averages about 2% for graduates (both bachelor and associate) and just under 10% for individuals who have withdrawn. Although rates decline significantly for all groups the rate of decline is slower for non-graduates and remains about 8% higher throughout middle-age. Again, college graduates participate in the SSI program at lower rates than non-graduates.

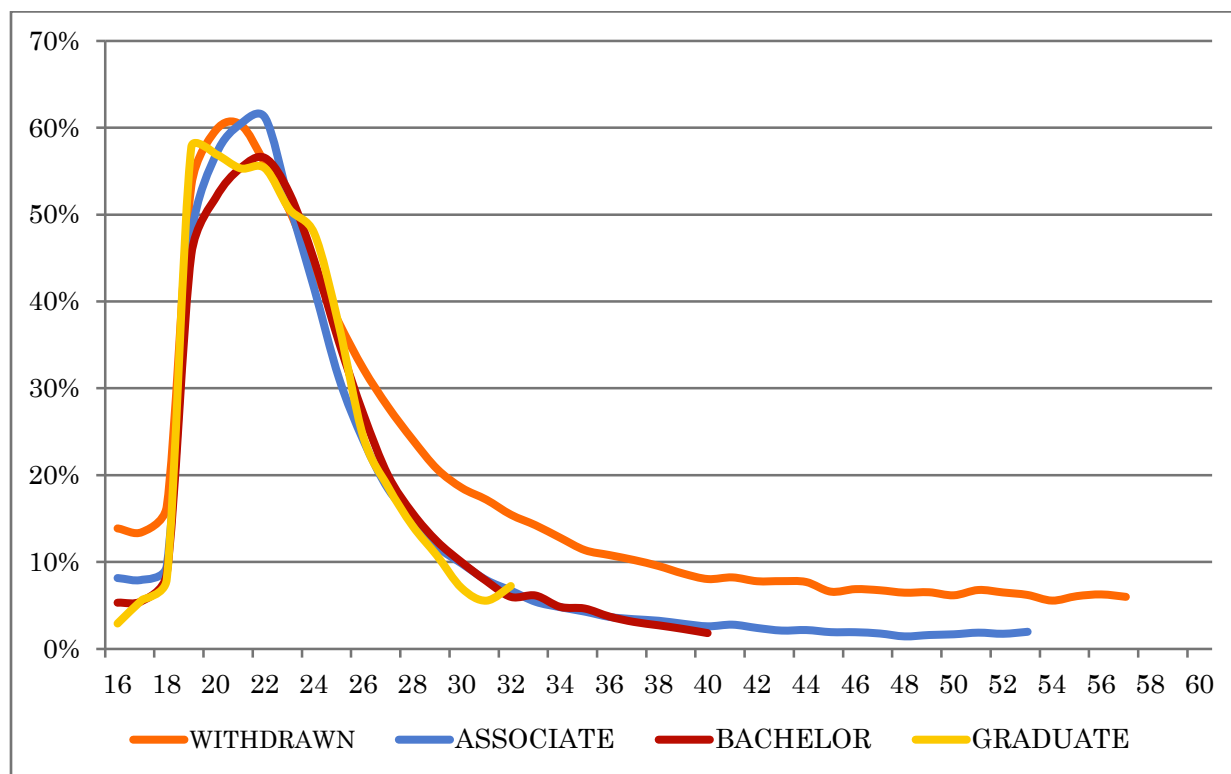
⁴To be eligible for SSDI, a disabled person must have worked or had been working but earning less than the Substantial Gainful Activity level (\$1,000/month in 2011) (Social Security Administration, 2011) and paid FICA tax for enough years to be covered under Social Security.

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Figure 3

Percentage of NTID Alumni receiving SSI Payments by Age and Graduation Status*



* Beyond age 35 too few cases with master degrees to support analyses.

Figure 4 graphically presents information about alumni participation in the SSDI program. Overall, the percentage of individuals collecting SSDI who withdrew was greater than for individuals who graduated. The percentage of graduates collecting SSDI increases until the mid-20s (when students are

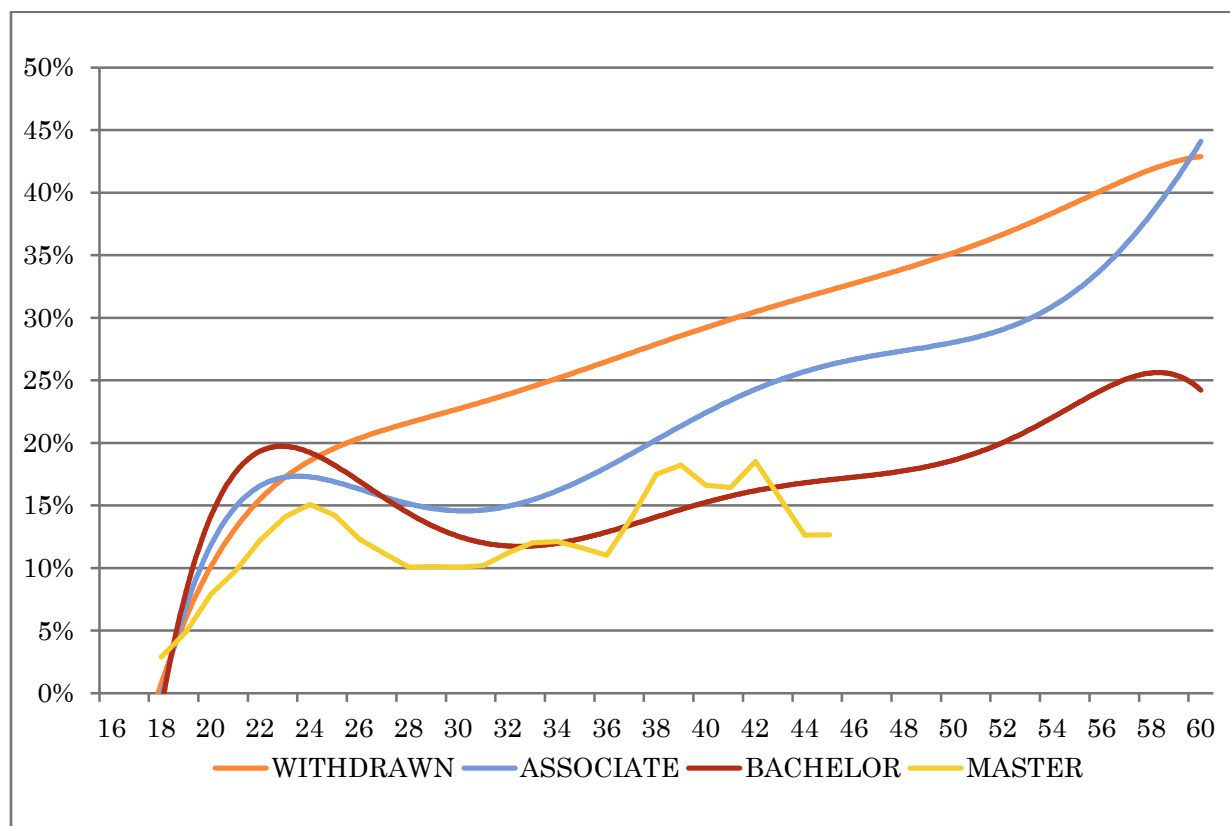
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completing school and looking for work) and then declines sharply until about age 30 when only about 10% of graduates collect SSDI. After about age 30, there begins a slow increase in participation until at age 60 about one quarter of bachelor graduates are collecting benefits, and about 40 to 45 percent

Figure 4

Percentage of NTID Alumni receiving SSDI Payments by Age and Graduation Status*



*Beyond age 45 too few cases with master degrees to support analyses.

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of associate graduates and withdrawals are collecting benefits. Until the late fifties the rates for graduates contrast greatly with the non-graduates whose rates of participation increase continuously from about 10% at age 20 to more than 40% by age 60. On average, for graduates between the ages of 26 and 60, 24% of associate and 17% of bachelor graduates collect SSDI while 31% of dropouts receive such payments. Throughout a lifetime, a degree from NTID substantially reduces dependency on SSDI as a source of income -- the higher the degree attainment the less the rate of SSDI participation.

Conclusions

The previous research referenced earlier about NTID alumni has shown that graduation from college can result in major economic benefits for deaf and hard-of-hearing persons. The present study shows that baccalaureate and master degree graduates will earn about 60% more on average per year than students who withdrew without earning a degree. Associate degree graduates will earn 20% more than those who withdrew without earning a degree. With respect to percent of the alumni population reporting earnings from labor (participation in the labor force), almost twice as many non-graduates report no earnings than do graduates.

While most studies of outcomes from a college education focus on the effect of education on employment and earnings, this study has also demonstrated the effects of reducing participation in the Federal social transfer programs of SSI and SSDI. Because all members of the study population are disabled they have access to these safety net programs. The results from this study show that in addition to increasing employability and earnings of alumni, a college education reduces the populations' likelihood of participating in these programs during their working years. For SSI almost three times as many individuals without a degree receive SSI than do alumni with degrees. While attending NTID approximately 60 percent of students were receiving SSI. Ten years after graduation about 2% of these graduates are collecting SSI, while 10% of non-graduates continue to receive benefits even into their 40s.

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Educational programs such as NTID act to significantly increase income levels that, in turn, result in reduction of long term dependence on the income supports provided through the SSI program. For SSDI, while there is a general increase in participation by all groups with age, throughout the working years (26-60) 31% of withdrawals participated, while similar figures were 24% for those with associate degrees, 17% for bachelor degrees and 7% for master degrees. These differences translate into significant savings of federal dollars that support the SSI and SSDI programs.

This report summarizes a rather phenomenal case study: That of the entire population of students who have attended and exited NTID, both with and without a degree. It would be valuable to apply this methodology to other institutions of postsecondary education. Certainly, the results of this study suggest a substantial economic benefit for those who persist to graduation. However, for those who gain access but dropout before graduation the economic effects are minimal, and differ little from individuals who never gained access to NTID (Schley, et. al., 2011). This finding demonstrates the importance of, once admitted, completing a degree.

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