Do the Cognitive Skills of Dropouts Matter in the Labor Market?
Results from a study of GED attempters in two states

Does the US labor market reward cognitive skill differences among high school dropouts, who are the members of the labor force with the least formal education? That is, does it matter how well young dropouts can read, write, and manipulate numbers? The answer is not obvious.

We know that skill differences among more highly educated groups translate into large wage differences. For example, most analysts believe that the observed increases in the financial returns to a college degree relative to a high school diploma represent increased returns to the extra skills possessed by college graduates (Blackburn et al., 1993; Bound & Johnson, 1992; Juhn et al., 1993; Katz & Murphy, 1992). If the economy rewards differences in skills among more highly educated groups, perhaps it rewards differences in skills among all groups: higher skills mean higher wages.

We also know that these same economic trends have depressed the average earnings of the less skilled (Levy & Murnane, 1992). For the young, this may be because the economy has relegated most young dropouts to entry-level jobs where skills matter very little and consequently are not rewarded.

There is a third possibility. The earnings of male dropouts of color in 1996 averaged 28 percent less than those of white male dropouts. Thus, it could be that skills matter for dropouts, but the extent to which they matter is a function of race/ethnicity and/or gender.

These possibilities raise two important questions for research. Do cognitive skills matter for dropouts? If skills are important determinants of earnings for dropouts, do the returns to cognitive skills vary by race/ethnicity and/or gender?

Teachers of adult basic education classes immediately recognize the importance of the answers to these questions. After all, surely one desired outcome for many of their students is the ability to get a job that pays a living wage. It would be a depressing finding indeed if the skills learned through hard work in ABE and GED classes did not translate into positive outcomes in the labor market. I have taken up these questions in collaboration with Richard J. Murnane and John B. Willett of the Harvard Graduate School of Education. Using a unique data source containing GED test scores and demographics merged with Social Security earnings data, we have examined the skills earnings relationship for a large group of young dropouts in Florida and New York who all attempted the GED exams. This article is a summary of that research. The complete work will be available from NCSALL upon its release.

Our results are both encouraging and troubling. Encouraging is our finding that skills are tightly related to earnings, even for very-low-skilled dropouts: those who were unable to pass the GED exams. The message is that what you learn in formal school and in ABE courses does matter in the labor market. More troublesome is our finding that the annual earnings of young dropouts are very low: around $10,000 annually for male dropouts who were age 21 to 26 in 1995 and $7,500 annually for female dropouts of the same age. We base these findings on dropouts who last attempted the GED exams in Florida and New York between 1986 and 1990. Our data contain both the successful and the unsuccessful GED candidates in those states and years. The passing standard in both of these states during this time was a minimum score on the five GED exams of at least 40 coupled with a mean score on the five exams of at least 45. The individuals in our study were age 16 to 21 at the time they attempted the GED, and we looked at their earnings five years later, whether or not they passed the GED exams. Thus, our earnings figures are based on earnings in the years 1991 to 1995. We use the GED test scores of these dropouts as our measure of cognitive skills.
Simply put, our research question is: do dropouts with higher GED test scores tend to earn more five years later than similar dropouts with lower GED scores? Our answer is an unequivocal yes. Our results indicate quite large earnings returns to cognitive skills for both male and female dropouts, and for white and dropouts of color. We also find that the earnings payoff to skills increases with age.

We found that regardless of race/ethnicity or gender, individuals who score in the upper ranges of the GED exams earn substantially more five years after attempting the GED than do individuals who score substantially lower on the tests. Some of this difference could be because those with higher scores have a GED, while those with much lower scores do not. Previous research we have conducted suggests that there are labor market returns to the GED credential itself (Tyler et al., 1999).

Test Failers

To eliminate any effect of the GED on earnings from our estimates, we first looked at the group of candidates who did not receive a GED, separately by race/ethnicity and gender. We found that among dropouts who scored so low that they did not pass the GED, those with higher GED test scores (but no GED) tended to have annual earnings about $1,000 higher per year than nonpassers with lower test scores. This represents about a 10 percent gain in earnings. This was true for all groups except for white females, among whom we found no differences between high and low scorers. Not only is a 10 percent gain in earnings substantial, but also keep in mind the small score differences we were using. Our "high" scorers in this group were those whose minimum score among the five GED tests was between 40 and 44, while "low" scorers had minimum scores between 20 and 34.

Test Passers

Next, we looked at the group of candidates who did receive a GED. Among passing GED candidates we found similar returns to cognitive skills five years after the GED attempt. Those GED holders with high GED test scores (minimum test scores 49 or higher) earn $900 to $1,400 more per year than do GED holders with lower test scores (minimum test scores 45 to 48). (Again, this is around a 10 percent gain in earnings.) We find these types of returns for all groups except white males, among whom we found no statistically discernable returns to skills.

So in most cases cognitive skills do matter in the labor market, whether or not a dropout has a GED. Furthermore, these findings are most consistent for dropouts of color. We found these types of returns to skills to be much lower when we looked only one year after the GED attempt. This fits the notion that it may take time for employees to demonstrate their skills in the labor market or for employers to learn about the skills of their employees.

As I mentioned at the beginning of this article, the less optimistic news is that earnings of these young dropouts are very low to begin with. Male dropouts age 21 to 26 have annual earnings of only about $10,000, while the earnings of young female dropouts are about $2,500 lower. It is important to understand that these average earnings figures include individuals who report zero earnings for the year. Thus, they are a measure of the types of wages these dropouts are receiving and whether or not they are working at all.

We ask "What is happening to dropouts in this economy?" The answer we bring is that in this age of computers, the Internet, and high-tech jobs, the skills that dropouts bring to the labor market do matter very much. This does not mean that acquiring a GED makes a dropout "information age ready." It means that it matters what skills you have when you drop out, and it matters what you learn between the time you drop out and the time you look for a job.
Notes

1 In our definition, cognitive skills are not immutable, but can be changed through education and experience.

2 Author's tabulation of Current Population Survey data.

References


About the Author

John Tyler is an Assistant Professor of Education, Economics, and Public Policy at Brown University. For the last four years he has been conducting research that examines the roles played by skills and credentials such as the GED in affecting the labor market outcomes of school dropouts.

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