

## **Is the GED an Effective Route to Postsecondary Education?**

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## **Abstract**

We use data from the Texas Schools Microdata Panel to compare the postsecondary outcomes of GED holders to those of high school graduates who graduated from 1-3 years later than expected, given their birth date. We argue that these “late” graduates pose the best chance for estimating what would have happened to GED holders had they persisted in secondary school rather than dropping out. We first show that both groups (1) have very similar 10-grade test scores and (2) accumulate very little postsecondary schooling within 5 years of graduation or GED acquisition. We go on to show that GED holders are about 8 percentage points less likely than the “late” graduates to have ever enrolled in a public postsecondary institution within five years of obtaining a GED. We also find that GED holders have accumulated 10 fewer credits than the “late” graduates within the same five year window. On the one hand this suggests that the GED is not a particularly effective route to postsecondary education relative to staying in school and obtaining a high school diploma. On the other hand, if only postsecondary outcomes are considered, we show that the postsecondary education gains associated with graduating late from high school may not outweigh the costs of the extra years of secondary schooling.

## **Introduction**

Every year approximately half a million students leave high school without receiving a diploma. Based on any indicator, these school dropouts face a bleak prospect in today's economy. One potentially ameliorating option for dropouts is the acquisition of the General Educational Development (GED) credential. The role of the GED has grown over the years and now about three quarters of a million people per year try obtain this "second chance" credential. A logical question is: a "second chance" for what? While recent research indicates that acquisition of a GED is associated with increased earnings for some dropouts,<sup>1</sup> this same research points out that acquiring a GED is no ticket out of poverty for those lacking a traditional high school diploma. At least to the extent that the GED is an education endpoint, this is not a surprising result given what we know about the labor market disadvantages faced by those who lack any postsecondary education. Thus, any serious economic role of the GED may primarily lie in the extent to which this credential helps school dropouts move into postsecondary education programs. Though postsecondary education has never been more important to individual economic well-being, and though concerns over the "dropout problem" have never been higher, the effectiveness of GED acquisition as a route into postsecondary education is a woefully understudied area. To address this knowledge gap we utilize data from the Texas Schools Microdata Panel (TSMP) to examine the postsecondary education experiences of GED holders in Texas.

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<sup>1</sup> See for example Tyler, Murnane, and Willett (2000) and Tyler (2004).

## **Prior Research**

One of the most robust areas of study in labor economics during the 1990s was the attention given to the rising return to a college degree. One strand of this general research area suggests that postsecondary education appears to be important even when it does not result in a degree. Kane and Rouse (1995) find that a year of college credit is associated with a 4-7 percent increase in hourly wages and annual earnings. They are not able to reject the hypothesis that credits earned at two-year and four-year colleges are equivalent. This is a particularly important finding for credentialed dropouts, since those on the margin of postsecondary attendance disproportionately attend community colleges.

NLSY-based evidence in Murnane, Willet, and Boudett (1999) confirm that GED holders do receive an economic benefit from years of postsecondary education. Their estimates of the return on an additional year of college range from 5.2 percent in a random effects specification to 10.8 percent in a fixed effects specification. These estimates are similar to Kane and Rouse and confirm that postsecondary education is beneficial to credentialed dropouts even if credentialed dropouts are less likely to complete degrees and if enrolled, more likely to be enrolled in community colleges.

Basic descriptive analysis suggests that obtaining the GED does increase postsecondary education relative to uncredentialed dropouts, but is not the equivalent of a high school diploma. Berkthold et al (1998) examine the educational attainment of the 1988 cohort of 8<sup>th</sup> graders in the National Education Longitudinal Study (NELS:88/94). Using the 1994 NELS follow-up, they observe educational attainment two years after high school graduation and compare postsecondary attendance patterns for individuals who never dropped out of school, individuals who dropped out but received a credential,

and dropouts who remain uncredentialed. They find that credentialed dropouts, relative to uncredentialed dropouts, are much more likely to have postsecondary education. Forty percent of GED holders have some postsecondary education compared to 14 percent of uncredentialed dropouts. Among those with some postsecondary attendance, half of credentialed dropouts enrolled in degree programs (either AA or BA) whereas almost all uncredentialed dropouts enrolled in certificate or other non-credentialed programs.

While credentialed dropouts have higher postsecondary attendance rates than uncredentialed dropouts, Berkold et al find their postsecondary attendance lags behind traditional high school graduates. Seventy-eight percent of traditional high school graduates had completed some postsecondary education and around three-quarters of this group were enrolled in a degree program. Credentialed dropouts were less likely to be enrolled and, conditional on enrollment, less likely to be in a degree program. While this descriptive analysis is interesting, it is limited. There are clearly many demographic and academic differences between traditional high school completers and credentialed dropouts.

The descriptive patterns reported by Berkold et al have been confirmed using other survey data. Murnane, Willet, and Tyler (2000) use *High School and Beyond* to examine the postsecondary attendance of credentialed males. They also find that the postsecondary attendance of credentialed dropouts falls between uncredentialed dropouts and traditional high school graduates. MWT highlight two other important characteristics of the postsecondary experience of GED recipients. GED recipients are much more likely to be enrolled in 2-year community colleges, as opposed to 4-year colleges. They

also accumulate very few credits. Tyler, Murnane, and Willet (2003) report similar findings for the females in *High School and Beyond*.

Murnane, Willett, and Boudett (1997) go beyond this descriptive analysis. Using the National Longitudinal Survey of Youth, MWB test whether the acquisition of a GED increases the probability that dropouts will obtain postsecondary education. They estimate random effects probit models using longitudinal data on all high school dropouts. MWB find that obtaining the GED does increase the probability of college attendance and that the postsecondary gap between uncredentialed and credentialed dropouts grows over time. They also find that the GED has the biggest effect for dropouts who have the fewest years of completed schooling. While it is interesting to compare credentialed and uncredentialed dropouts, uncredentialed dropouts may face substantial institutional barriers that prevent them from obtaining postsecondary education. This is particularly relevant in MWB's analysis of the NLSY that imposes the restriction that uncredentialed dropouts have no college experience.

### **Research Question**

There are two research questions one could pose regarding the “postsecondary education effects” of the GED. The first is: once the dropout decision has been made, does obtaining a GED lead to better postsecondary education outcomes than would have been experienced in the absence of this credential. Answering this question involves a comparison of GED holders to some appropriate group of dropouts without the credential, with the research focus on differences in the postsecondary outcomes of the two groups.

A second research question is: does obtaining a GED lead to postsecondary outcomes that are just as good as they would have been had the individual stayed in school and acquired a regular high school diploma. This involves a comparison of the postsecondary outcomes of GED holders to those of a suitable group of regular high school graduates. Information on this research question either would come from a statistically significant difference in postsecondary outcomes between the two groups or with a well estimated “zero” difference.

In this paper we have chosen to examine the second research question for two reasons. First, we think that the postsecondary education “value” of a GED relative to a regular high school diploma is often the research question policy makers have in mind when they think of the potential value of the GED for dropouts. Second, the fact that many postsecondary institutions require a GED for enrollment in their degree-granting programs generates a mechanical and positive correlation between GED attainment and postsecondary outcomes when the comparison is among a pool of dropouts. That is, trying to answer the first research question has an element of simply trying to affirm that the “gate keeping” role that postsecondary institutions have assigned to the GED is working.<sup>2</sup> Therefore, we focus on the second research question: what would have happened to the GED holder had they not dropped out, but had instead stayed in school and obtained their high school diploma.

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<sup>2</sup> It is the case that dropouts lacking a GED can gain acquisition to some postsecondary programs (primarily at two-year colleges) by “testing into” these programs. We are examining the extent of this phenomenon in Texas, and thus using uncredentialed dropouts as a comparison group may have some future promise.

## Data and Models

To answer our research question, we use the TSMP data to examine the postsecondary outcomes of Texas GED holders who obtained their credential in 1995. We use only those GED holders who were between the ages of 16 and 22 when they obtained the GED in 1995, contrasting their outcomes to those of two groups of regular high school graduates in Texas. The first comparison group is composed of regular high school graduates who graduated “on time” in either 1995 or 1996. The second comparison group is composed of regular high school graduates who graduated a year or more later than would have been predicted given their birth date. Figures 1 and 2 show the test score distributions of GED holders and “on time” high school graduates (Figure 1) and of GED holders and “late” graduates (Figure 2) on a high stakes test given in the tenth grade in Texas—the Texas Assessment of Academic Skills (TAAS) math test. Figure 2 indicates that the “late” high school graduates may comprise a very compelling comparison group for estimating the counterfactual of what would have happened to GED holders had they not dropped out of school, but instead had persisted in getting a regular high school diploma.

Table 1 shows the distribution of predicted high school graduation years by actual year of high school graduation or GED certification for the three groups in our sample. Panel A of Table 1 shows that most of our “on time” high school graduates graduated in either 1995 or 1996, and that the large portion of these individuals did graduate on time as opposed to graduating earlier than predicted by their birth date.

Panel B indicates that while individuals in our “late” graduating sample may have graduated up to three years later than predicted by their birth date, the largest percentage

graduated only one year later than predicted by their birth date, and from 96 to 98 percent graduated one to two years later than predicted. Panel B also indicates that most of our “late” graduates graduated in 1994, 1995, or 1996.

Panel C of Table 1 shows that most of the individuals in our 1995 GED sample had predicted graduation years of 1995 or 1996, suggesting that most members of the GED sample were getting their GED in the year of or one year prior to their predicted graduation year.

We attempt to make both of the high school graduate comparison groups as close to the GED holders as possible by controlling for observable factors likely to be correlated with both GED status and postsecondary education outcomes. In addition to TAAS test scores, we control for being at risk of dropping out, participating in special education or gifted and talented programs, or being a participant in a Title I program. We also control for demographic characteristics of the sample members and factors such as age, gender and race/ethnicity, as well as the expected year of graduation (school cohort).

The TSMP data contain postsecondary schooling information for those individuals who attended a public Texas two-year or four-year college or university. Our sample was constructed so that all members had a five year window in which to acquire postsecondary education from the time they obtained their GED or graduated from high school. We use two different dependent variables as measures of postsecondary education participation. The first is a dichotomous indicator of whether or not an individual ever enrolled in a public Texas two- or four-year college or university. The second outcome we examine is the number of postsecondary credits an individual has accumulated at a two- or four-year institution in the five years since graduating from high school or

receiving a GED. It is important to note here that our measure of postsecondary credits is a measure of the credits in which an individual enrolled. In this version of the paper we have no information on whether an individual completed the observed “enrolled credits” with a passing grade.<sup>3</sup>

Based on the available outcome measures, we examine two analytic models. To examine enrollment probabilities, we estimate probit models where  $\beta'x$  is specified as:

$$\beta\text{GED} + \delta X + \gamma\text{TAAS} + \pi W + \theta Z$$

with,

- GED = 1 for GED holders and zero for regular high school graduates,
- X = an indicator for gender, indicators for the year of expected graduation, and age and age-squared five years after high school graduation or GED acquisition,
- TAAS = tenth grade TAAS math scores, TAAS scores squared, and TAAS scores cubed,
- W = indicator variables for race/ethnicity, labeling as being from an “economically disadvantaged” family, and for having limited English proficiency, and
- Z = indicator variables for being labeled “at risk” of dropping out, English second home language, participation in Title I programs, special education designation, and participation in gifted and talented program.

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<sup>3</sup> There is information on course grades in the TSMP data that we can merge into the enrolled credits data to create true accumulated course credits variables. We expect to have these variables in a subsequent version of this paper.

We estimate separate models to examine the probability of ever being enrolled in a two-year postsecondary institution, ever being enrolled in a four-year postsecondary institution, and ever being enrolled in either a two-year or a four-year institution.

We use the same  $\beta'x$  as above in Ordinary Least Squares estimation when accumulated postsecondary credits is the outcome measure. As with the enrollment probability models, we estimate separate models for accumulated two-year college credits, accumulated four-year college credits, and total (two-year or four-year) accumulated credits.

### **Descriptive Statistics**

Descriptive statistics in Table 2 indicate that the high school graduates who graduated in the year their school entry age would predict are less likely to be male and Hispanic than either the “late” graduates or the GED holders. “On time” graduates were also less likely to have been designated as “at risk” of dropping out and to be categorized as “economically disadvantaged.” Perhaps not surprisingly, the “on time” high school graduates were more likely to have participated in a gifted and talented program, and they had substantially higher tenth grade TAAS math scores.

A closer comparison of the “late” graduates and the GED holders shows that a higher percentage of late graduates are Hispanic. The late graduates are also more likely to have been in special education programs and more likely to have been labeled as “at risk,” from an economically disadvantaged family, and to have participated in a Title I program.

First evidence on our research question occurs in the bottom rows of Table 2. The bottom row of the table indicates that the unconditional probability of being enrolled in any postsecondary education (either two-year or four-year college) is substantially greater for the “on time” high school graduates than for GED holders. Almost three out of every four students who received a high school diploma on time enroll in some public postsecondary institution in Texas within five years of graduating from high school. Meanwhile, only about forty percent of the GED holders ever enroll in a two- or four-year college. The last row of Table 2 also indicates that the “late” high school graduates, in spite of the fact that they have somewhat worse high school indicators (e.g., economic status, special education and Title I participation), tend to enroll in two- and four-year colleges at higher rates than do GED holders. Differences between GED holders and “on time” high school graduates is especially stark when examining enrollment in four-year colleges. Forty percent of the high school graduates had enrolled in a four-year college or university within five years of graduating, whereas only five percent of the GED holders had done so within five years of obtaining their credential.

Patterns of enrolled credit accumulation look similar. GED holders tended to accumulate fewer credits than either high school graduate group, with the biggest differences relative to “on time” graduates coming in accumulated four-year college credits.

### **Estimation**

Table 3 presents probit estimates of the probability of enrolling in any postsecondary education for GED holders relative to the two comparison groups—“on

time” and “late” high school graduates. All estimates are of the marginal effects estimated at the means of the control variables. Columns 1 and 5 control only for gender, age, and school matriculation “cohort.” The column 1 results indicate that GED holders have a 21 percentage point lower probability of having ever enrolled in a two- or four-year institution when compared to “on time” high school graduates. Meanwhile, GED holders have an 11 percentage point lower probability of having ever been enrolled when compared to students who graduated from high school one or more years later than expected.

The estimates in columns 2 and 6 indicate that controlling for TAAS math scores closes the GED-high school graduate gap on slightly. This is not particularly surprising using the “late” graduates as the comparison group since their tenth grade TAAS scores are so similar to those of the GED holders. The result in column 2 is somewhat surprising. One possible interpretation of why TAAS scores fail to explain more of the difference in outcomes between GED holders and “on time” graduates is that Figure 1 suggests that there may be substantial ceiling effects of the TAAS scores for the “on time” high school graduates.

Additional controls that are added in the other models represented in Table 3 leave the estimates unchanged. This suggests that the TAAS scores may be capturing most of the relevant information regarding the probability of enrolling in a two- or four-year postsecondary institution within the five year window after graduation or credentialing.

Table 4 estimates the same models using probability of enrolling in a two-year college as the outcome, and Table 5 does the same using probability of enrolling in a

four-year college or university as the outcome. The most important lesson from these tables is that the “GED deficit” is most acutely seen when examining the probability of four-year enrollment. GED holders are 26 percentage points less likely to enroll in a four-year institution than are observationally similar “on time” high school graduates.

Tables 6, 7, and 8 show OLS estimates contrasting the mean accumulated postsecondary credits of GED holders to the two groups of high school graduates. Estimates in Table 6 indicate that within five years of credentialing, GED holders have, on average, about twenty fewer credits than observationally similar “on time” high school graduates. This represents almost a year’s worth of college credits. Meanwhile, observationally similar “late” high school graduates have accumulated about ten more credits than GED holders, or about an additional semester’s worth of postsecondary credits.

Table 7 presents similar results based on the accumulation of two-year credits, and Table 8 presents the four-year credit results. The Table 8 results point out that controlling for schooling cohort and age (column 1) explains slightly over half of the 33-credit raw difference in four-year credits between GED holders and “on time” graduates seen in Table 1. Meanwhile, in earlier results (Table 5) these variables only explained about twenty percent of the raw four-year enrollment differences between these groups. In any case, the general pattern of results for accumulated credits is similar to that for enrollment probabilities: the postsecondary outcomes of GED holders are most similar to

those of “late” high school graduates, but GED holders still lag behind this group on all postsecondary measures.<sup>4</sup>

## **Summary and Conclusions**

We have found that GED holders have both lower probabilities of enrolling in a Texas public two-year or four-year postsecondary institution and fewer accumulated postsecondary credits than two high school graduate comparison groups. We are particularly interested in the comparisons between GED holders and high school graduates who receive their diploma from one to three years later than would be expected, given their birth date. We believe that this group best estimates the counterfactual of greatest interest: what would have happened to the GED holders in our sample had they not dropped out of high school, but instead had remained on a path toward a high school diploma. Both the GED holders and the “late” graduates show some level of persistence. The dropouts who obtained a GED chose to pursue a GED instead of remaining uncredentialed, while the “late” high school graduates were steadfast in their pursuit of a high school diploma in spite of the fact that it took them longer than expected to do so. Furthermore, to the extent that tenth-grade TAAS math scores capture factors that are correlated with postsecondary outcomes, the “late” high school graduates look very similar to GED holders, at least as of the tenth grade.

Based on the comparisons between the “late” graduates and the GED holders, how should our results be interpreted? It is clear that dropping out of school and getting a GED is associated with worse postsecondary outcomes relative to staying in school until

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<sup>4</sup> We did examine various subgroups independently to see if there were any different results, and we found none. These subgroups were defined by gender, race/ethnicity, and place in the TAAS test score distribution.

graduation, even when it takes extra time to graduate from high school. A key question, of course, concerns the magnitude of any postsecondary effects that accrue to “late” graduates. We find that on average, GED holders have accumulated about one less semester (one-half academic year) of enrolled credits within the first five years of credentialing than have the “late” graduates. Using the lower bound estimate from Kane and Rouse (1995) on the return to a year of college credit of four percent, one could say that on average, GED holders will experience a two percent earnings disadvantage because they did not earn a high school diploma and eventually complete that extra half year of college credits.<sup>5</sup> A back of the envelope calculation suggests that for GED holders, an extra semester of college credit has a present discounted value of about \$20,000.<sup>6</sup> The opportunity costs for staying in school for an extra year in Texas due to lost earnings are about \$11,000, assuming that a 17 year-old dropout could work full time, full year at the minimum wage of \$5.15 per hour.

Based on these calculations, it appears that an individual who is weighing a decision of whether to finish their last year of high school and then garner one semester of postsecondary education versus dropping out now, getting a GED and going to work would slightly favor the high school diploma route. The present discounted value of the benefits associated with one semester of college credit is \$20,000, and the present discounted value of the opportunity costs of a year and half of not working at minimum wage is about \$16,000.<sup>7</sup>

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<sup>5</sup> At this point in the narrative, we assuming that the “enrolled credits,” which is what we have data on are all completed and passed.

<sup>6</sup> Based on a three percent discount rate.

<sup>7</sup> These calculations do not take into account any lifetime returns that might accrue to having an extra year of secondary schooling (i.e., the returns to finishing the 12<sup>th</sup> grade).

We present these estimates not as a definitive private cost-benefit analysis that should inform individuals' decisions. Rather we present them as an attempt to quantify the size of the postsecondary "disadvantage" that saddles GED holders relative to "late" high school graduates, keeping in mind that the results may be sensitive not only to the assumptions we bring to the cost-benefit analysis, but also to the fact that we are able to look only five years post-GED or post-high school graduation. Our rough estimates of the costs and benefits associated with the GED versus "late" high school graduation options do point to one conclusion. In the first five years after credentialing or graduation, neither GED holders nor "late" graduates have accumulated enough postsecondary education to allow them to fully participate in, or benefit from, today's economy.

## References

- Berkthold, Jennifer; Geis, Sonya and Kaufman, Phillip. "Subsequent Educational Attainment of High School Dropouts," Washington, D.C.: National Center for Education Statistics, 1998.
- Kane, Thomas J. and Rouse, Cecilia. "Labor Market Returns to Two-Year and Four-Year College." *American Economic Review*, 1995, 85(3), pp. 600-14.
- Murnane, Richard J.; Willett, John B. and Tyler, John H. "Who Benefits from a Ged? Evidence from *High School and Beyond*." *The Review of Economics and Statistics*, 2000, 82(1), pp. 23-37.
- Murnane, Richard J.; Willett, John B. and Boudett, Kathryn Parker. "Do Male Dropouts Benefit from Obtaining a Ged, Postsecondary Education, and Training?" *Evaluation Review*, 1999, 22(5), pp. 475-502.
- Murnane, Richard J.; Willett, John B. and Boudett, Katherine P. "Does Acquisition of a Ged Lead to More Training, Post-Secondary Education, and Military Service for School Dropouts?" *Industrial and Labor Relations Review*, 1997, 51(1), pp. 100-16.
- Tyler, John. "Does the Ged Improve Earnings? Estimates from a Sample of Both Successful and Unsuccessful Ged Candidates." *Industrial and Labor Relations Review*, 2004, 57(4), pp. 579-98.
- Tyler, John H.; Murnane, Richard J. and Willett, John B. "Who Benefits from a Ged? Evidence for Females from High School and Beyond." *Economics of Education Review*, 2003, 22(3), pp. 237-47.
- Tyler, John H.; Murnane, Richard J. and Willett, John B. "Estimating the Labor Market Signaling Value of the Ged." *Quarterly Journal of Economics*, 2000, 115(2), pp. 431-68.

Figure 1. Kernel density estimates of the 10<sup>th</sup> grade standardized math test scores of high school graduates who graduated in their predicted year of graduation and GED holders.

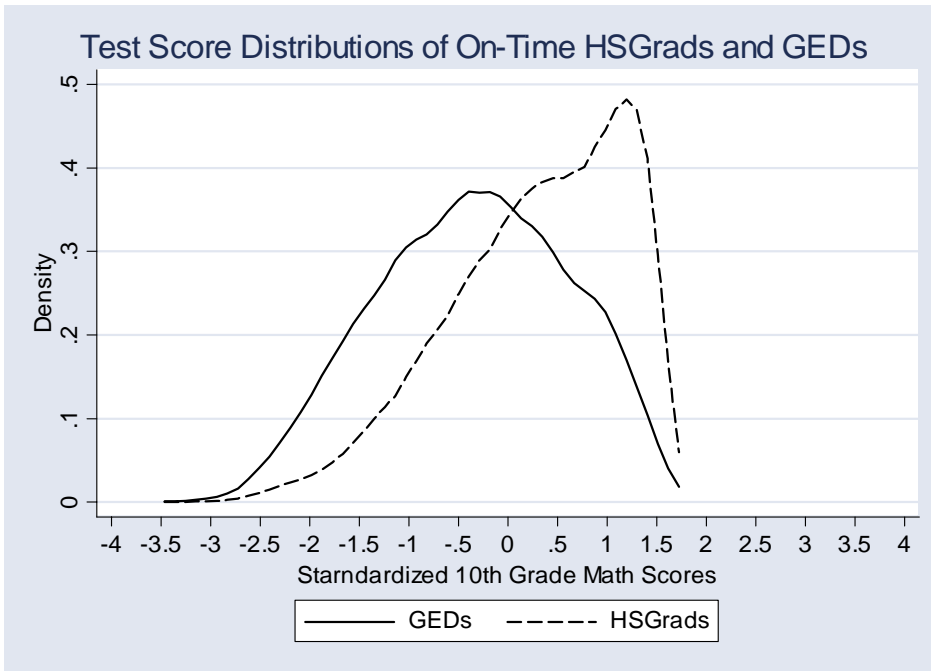


Figure 2. Kernel density estimates of the 10<sup>th</sup> grade standardized math test scores of high school graduates who graduated later than their predicted year of graduation and GED holders.

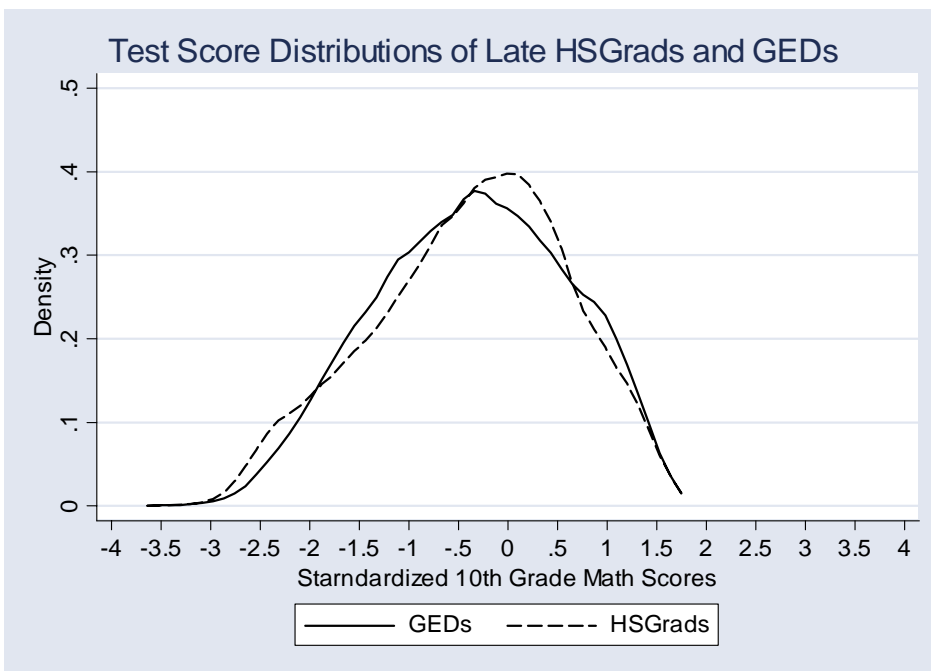


Table 1. Distribution of predicted high school graduation years by actual year of high school graduation or GED certification.

	Actual Graduation Year	Predicted Graduation Year								Row Totals
		1991	1992	1993	1994	1995	1996	1997	1998	
Panel A: "On time" HS Grads										
	1995					0.87	0.12	0.01		1.00
	1996						0.95	0.05		1.00
Panel B: "Late HS Grads										
	1994	0.04	0.16	0.80						1.00
	1995		0.03	0.15	0.82					1.00
	1996			0.02	0.11	0.87				1.00
Panel C: GEDs										
	1995		0.02	0.06	0.16	0.33	0.38	0.04	0.004	1.00

Table 2. Descriptive statistics for high school graduates who graduated “on time,” high school graduates who graduated “late,” and GED holders.

Percent...	“On time” HS grads	“Late” HS grads	GEDs
Male	0.44	0.59	0.54
white	0.59	0.39	0.56
Black	0.12	0.15	0.12
Hispanic	0.26	0.43	0.31
Asian	0.03	0.03	0.01
Native American	0.002	0.002	0.002
economically disadvantaged at risk	0.20	0.37	0.28
English second language Title I participant	0.29	0.62	0.65
special education	0.01	0.04	0.02
gifted education program	0.10	0.15	0.09
Mean 10 <sup>th</sup> grade TAAS math score <sup>a</sup>	0.03	0.15	0.04
Mean accumulated two-year credits <sup>b</sup>	0.13	0.03	0.02
Mean accumulated four-year credits <sup>b</sup>	0.30	-0.38	-0.36
Mean accumulated total credits <sup>b</sup>	23	16	10
Percent ever enrolled in...	34	11	1
two-year college	59	28	13
four-year college	0.62	0.46	0.40
any college	0.40	0.15	0.05
	0.73	0.50	0.42
N	24,350	6,694	5,204

a. Standardized (mean zero and standard deviation of one) test score.

b. Accumulated enrolled credits.

Table 3. Probit estimates (marginal effects) of postsecondary enrollment probabilities using a five year post-high school graduation or GED attainment window. (All estimates are statistically significant at the 0.01 level.)

	Relative to “On-time” HS Graduates				Relative to “Late” HS Graduates			
	1	2	3	4	5	6	7	8
Probability of postsecondary enrollment for GED holders <sup>1</sup>	-0.21	-0.18	-0.18	-0.18	-0.11	-0.08	-0.08	-0.08
Controlling for 10 <sup>th</sup> grade math scores <sup>2</sup>	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Controlling for demographic and SES characteristics <sup>3</sup>	No	No	Yes	Yes	No	No	Yes	Yes
Full model <sup>4</sup>	No	No	No	Yes	No	No	No	Yes
N	29,554	29,554	29,554	29,554	11,898	11,898	11,898	11,898

1. Controlling for gender, year of expected graduation, and age five years after high school graduation or GED acquisition.
2. Controls through cubic in tests scores.
3. Controls for race/ethnicity, indicator for “economically disadvantaged,” and indicator for limited English proficiency.
4. Additional controls for at risk, English second home language, participation in Title I programs, special education designation, and participation in gifted and talented program.

Table 4. Probit estimates (marginal effects) of two-year college enrollment probabilities using a five year window post-high school graduation or GED attainment. (All estimates are statistically significant at the 0.01 level.)

	Relative to “On-time” HS Graduates				Relative to “Late” HS Graduates			
	1	2	3	4	5	6	7	8
Probability of postsecondary enrollment for GED holders <sup>1</sup>	-0.18	-0.16	-0.17	-0.17	-0.09	-0.07	-0.06	-0.06
Controlling for 10 <sup>th</sup> grade math scores <sup>2</sup>	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Controlling for demographic and SES characteristics <sup>3</sup>	No	No	Yes	Yes	No	No	Yes	Yes
Full model <sup>4</sup>	No	No	No	Yes	No	No	No	Yes
N	29,554	29,554	29,554	29,554	11,898	11,898	11,898	11,898

5. Controlling for gender, year of expected graduation, and age five years after high school graduation or GED acquisition.
6. Controls through cubic in tests scores.
7. Controls for race/ethnicity, indicator for “economically disadvantaged,” and indicator for limited English proficiency.
8. Additional controls for at risk, English second home language, participation in Title I programs, special education designation, and participation in gifted and talented program.

Table 5. Probit estimates (marginal effects) of four-year college enrollment probabilities using a five year window post-high school graduation or GED attainment. (All estimates are statistically significant at the 0.01 level.)

	Relative to “On-time” HS Graduates				Relative to “Late” HS Graduates			
	1	2	3	4	5	6	7	8
Probability of postsecondary enrollment for GED holders <sup>1</sup>	-0.28	-0.26	-0.26	-0.26	-0.10	-0.08	-0.08	-0.08
Controlling for 10 <sup>th</sup> grade math scores <sup>2</sup>	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Controlling for demographic and SES characteristics <sup>3</sup>	No	No	Yes	Yes	No	No	Yes	Yes
Full model <sup>4</sup>	No	No	No	Yes	No	No	No	Yes
N	29,554	29,554	29,554	29,554	11,898	11,898	11,898	11,898

9. Controlling for gender, year of expected graduation, and age five years after high school graduation or GED acquisition.
10. Controls through cubic in tests scores.
11. Controls for race/ethnicity, indicator for “economically disadvantaged,” and indicator for limited English proficiency.
12. Additional controls for at risk, English second home language, participation in Title I programs, special education designation, and participation in gifted and talented program.

Table 6. Ordinary Least Squares estimates of total accumulated college enrollment credits using a five year window post-high school graduation or GED attainment. (All estimates are statistically significant at the 0.01 level.)

	Relative to “On-time” HS Graduates				Relative to “Late” HS Graduates			
	1	2	3	4	5	6	7	8
Estimated mean credits for GED holders <sup>1</sup>	-26	-21	-21	-21	-14	-11	-10	-10
Controlling for 10 <sup>th</sup> grade math scores <sup>2</sup>	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Controlling for demographic and SES characteristics <sup>3</sup>	No	No	Yes	Yes	No	No	Yes	Yes
Full model <sup>4</sup>	No	No	No	Yes	No	No	No	Yes
N	29,554	29,554	29,554	29,554	11,898	11,898	11,898	11,898

13. Controlling for gender, year of expected graduation, and age five years after high school graduation or GED acquisition.
14. Controls through cubic in tests scores.
15. Controls for race/ethnicity, indicator for “economically disadvantaged,” and indicator for limited English proficiency.
16. Additional controls for at risk, English second home language, participation in Title I programs, special education designation, and participation in gifted and talented program.

Table 7. Ordinary Least Squares estimates of accumulated two-year college enrollment credits using a five year window post-high school graduation or GED attainment. (All estimates are statistically significant at the 0.01 level.)

	Relative to “On-time” HS Graduates				Relative to “Late” HS Graduates			
	1	2	3	4	5	6	7	8
Estimated mean credits for GED holders <sup>1</sup>	-12	-11	-12	-12	-7	-6	-6	-6
Controlling for 10 <sup>th</sup> grade math scores <sup>2</sup>	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Controlling for demographic and SES characteristics <sup>3</sup>	No	No	Yes	Yes	No	No	Yes	Yes
Full model <sup>4</sup>	No	No	No	Yes	No	No	No	Yes
N	29,554	29,554	29,554	29,554	11,898	11,898	11,898	11,898

17. Controlling for gender, year of expected graduation, and age five years after high school graduation or GED acquisition.
18. Controls through cubic in tests scores.
19. Controls for race/ethnicity, indicator for “economically disadvantaged,” and indicator for limited English proficiency.
20. Additional controls for at risk, English second home language, participation in Title I programs, special education designation, and participation in gifted and talented program.

Table 8. Ordinary Least Squares estimates of accumulated four-year college enrollment credits using a five year window post-high school graduation or GED attainment. (All estimates are statistically significant at the 0.01 level.)

	Relative to “On-time” HS Graduates				Relative to “Late” HS Graduates			
	1	2	3	4	5	6	7	8
Estimated mean credits for GED holders <sup>1</sup>	-14	-9	-9	-9	-7	-5	-5	-5
Controlling for 10 <sup>th</sup> grade math scores <sup>2</sup>	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Controlling for demographic and SES characteristics <sup>3</sup>	No	No	Yes	Yes	No	No	Yes	Yes
Full model <sup>4</sup>	No	No	No	Yes	No	No	No	Yes
N	29,554	29,554	29,554	29,554	11,898	11,898	11,898	11,898

21. Controlling for gender, year of expected graduation, and age five years after high school graduation or GED acquisition.
22. Controls through cubic in tests scores.
23. Controls for race/ethnicity, indicator for “economically disadvantaged,” and indicator for limited English proficiency.
24. Additional controls for at risk, English second home language, participation in Title I programs, special education designation, and participation in gifted and talented program.