

# College Readiness of New York City's GED Recipients

Report of the  
CUNY Office of Institutional Research and  
Assessment  
November 2008

# Overview of our initial findings

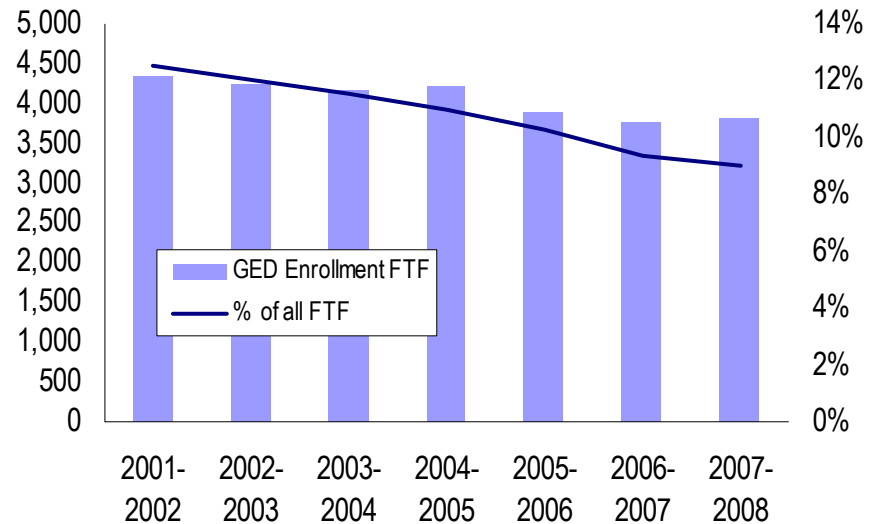
- On the whole GED recipients are substantially less prepared for college than graduates of NYC public high schools.
- Differences in preparation and performance appear early, especially in basic math and writing skills, and for many students the differences persist.
- The shortfall in readiness leads to a series of later challenges:
  - Inability to meet college proficiency standards at entry based on standardized test scores (Regents exams, SATs, CUNY tests) ▶ Table 5
  - Failure to qualify for admission into baccalaureate degree programs ▶ Table 2
  - The need to take non-credit basic skills remediation courses ▶ Tables 5 & 8
  - Slow or no accumulation of college credits ▶ Tables 8, 9, 15a & 15b
  - Increased chances of leaving college after the first semester ▶ Table 10
  - Lower chances of graduating ▶ Table 10
- GED test scores provide useful information on college readiness, but only appear to explain a small part of how these challenges get met.

## Overview, continued

- Only 13% of GED recipients in the CUNY cohorts we studied were fully proficient in basic skills as of the first month of enrollment in college.
- One in five who are not proficient never take any remediation courses, despite their disadvantage.
- Nearly 40% of GED enrollees did not earn any college credits in their first term, whether because of taking non-credit course work or never completing or passing a single for-credit course.
- Yet another 46% were able to earn a first-term GPA of 2.0 or higher.
- The group that earned no credits was only 47% likely to re-enroll in the next fall or spring term, while those with a 2.0 GPA or better had an 87% chance of returning the next semester.
- GED students who persist earn higher average grades than graduates of NYC public high schools, but continue to lag in terms of credits.
- Overall only those who score in the top 20% on the GED test (among CUNY enrollees) are the most comparable to NYC graduates on a variety of academic measures.

# Trend in GED recipient enrollment as first-time freshmen

- Approximately 4,000 GED students enter the CUNY system each academic year as first-time freshmen in degree programs.
- The number of GED enrollees declined from fall 2001 to fall 2007, as did their share of the university total, which went from 12.5% to 9% during the seven years.
- Most of the reduction is in associate degree programs, where GED enrollment fell from 17% to 12% (see data tables).
- Applications from GED recipients were also down during that period.



► See full results in Table 14

# Demographic comparison of applicants: GED versus NYC graduates

- In the cohorts we studied, GED-holding applicants to CUNY were most distinct from NYC public high school graduates in terms of age, with a median difference of four years and a large percentage over age 25.
- The GED applicant pool also has a somewhat larger share of black students and males, but a smaller share of Asian/Pacific Islanders.
- They are somewhat more likely to be foreign born, but less likely to identify as bilingual.

► See full results in Table 1

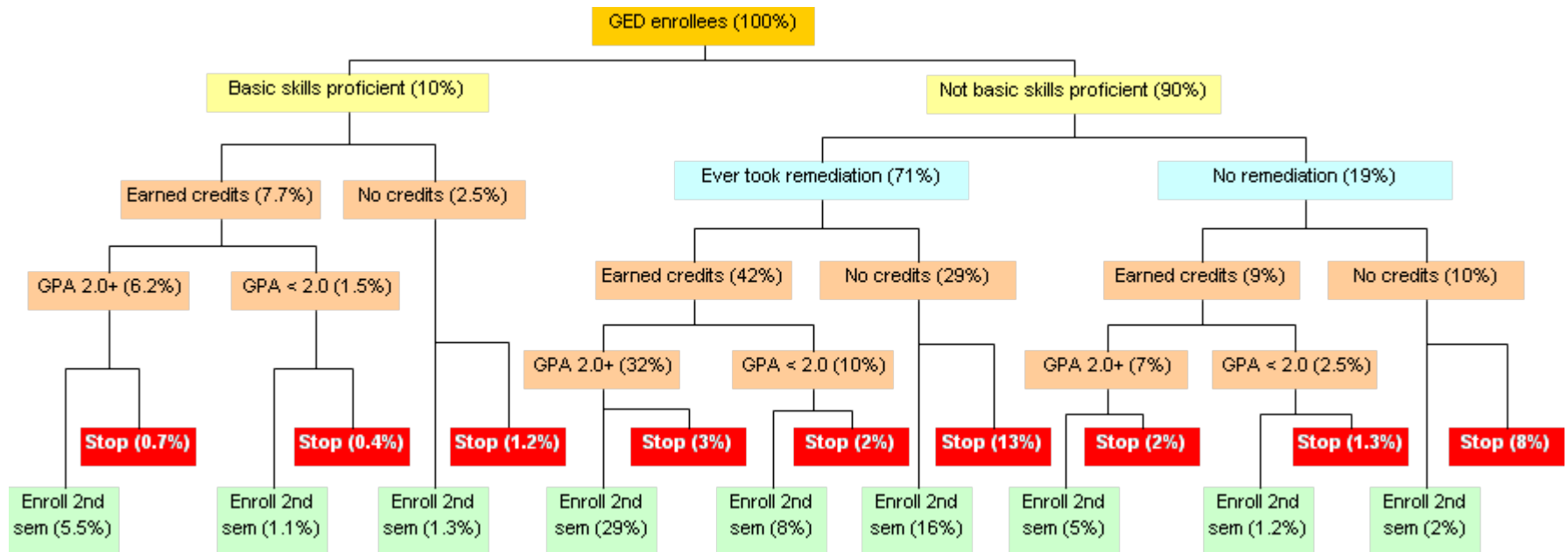
		GED	NYC Public
<b>First-time Freshman</b>	<b>N</b>	19,789	102,297
<b>Race/Ethnicity</b>			
American Indian/Native Alaskan	%	0.3	0.2
Asian/Pacific Islander	%	8.1	18.2
Black	%	39.9	30.4
Hispanic	%	34.9	33.7
White	%	16.8	17.4
<b>Place of Birth</b>			
U.S. Born	%	55.8	59.3
Foreign Born	%	44.2	40.7
<b>Language of Comfort</b>			
English	%	58.5	52.4
Equally comfortable with both	%	30.9	40.8
Other Language	%	10.6	6.9
<b>Gender</b>			
Male	%	45.2	42.1
Female	%	54.8	57.9
<b>Age</b>			
	Mean	25	19
	Median	22	18
Over 25	%	34.7	2.6

## Large share of GED applicants eventually enroll at CUNY

- In our study period, more than 68% of GED recipients who applied to CUNY later enrolled, compared with 59% for graduates of NYC public high schools. ► Table 2
- The vast majority (74%) of GED enrollees attend community colleges, and 95% enroll in certificate or associate degree programs at community or comprehensive colleges. ► Table 2
- GED students have a high rate (38% versus 12% NYC public) of entering college in the spring term. ► Table 2
- GED enrollees are six times more likely than NYC public students to be considered independent for financial aid purposes. ► Table 3

# Mapping the early college progress of GED recipients at CUNY

Associate entrants: First-term outcomes and chances of re-enrolling in the next term

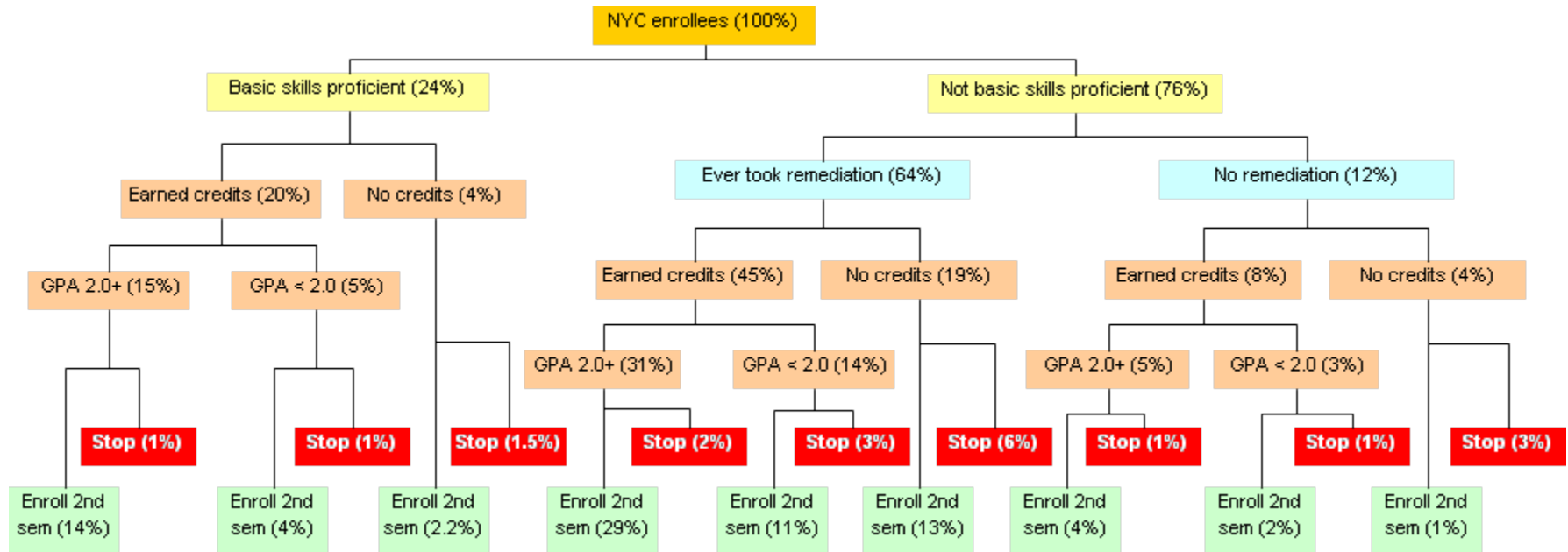


All percentages are of the total population of the GED associate enrollee cohorts with complete data (N=13,588).

Persistence to second semester is measured as re-enrolling in the fall or spring term immediately after the term of entry. Credits are college credits toward the degree and do not include non-credit hours. Basic skills proficiency status is as of the first month of the semester of entry.

# Comparative progress of graduates from NYC public high schools

Associate entrants: First-term outcomes and chances of re-enrolling in the next term



All percentages are of the total population of the NYC public associate enrollee cohorts with complete data (N=37,936).

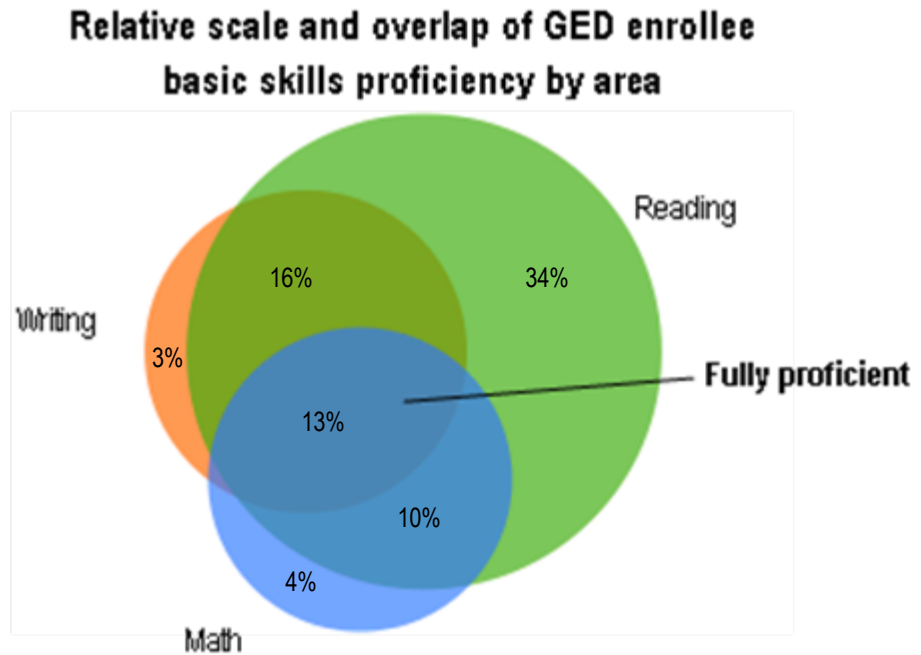
Persistence to second semester is measured as re-enrolling in the fall or spring term immediately after the term of entry. Credits are college credits toward the degree and do not include non-credit hours. Basic skills proficiency status is as of the first month of the semester of entry.

# GED recipients trail other NYC students substantially in basic skills

- Roughly 73% of GED enrollees were found to be proficient in college-level reading skills (by testing or exemption) as of the month they began college.
- But only 33% met the skills requirements for writing and 29% for math.
- The comparable statistics for recipients of NYC public high school diplomas were 79%, 61%, and 64%, respectively.
- These low proficiency rates present one of the persistent hurdles GED students face as they enter college, and we believe the disadvantage manifests itself in several ways.
- For instance, one year later, GED students at CUNY still have only half the rate of achieving full proficiency versus their peers with NYC diplomas, even after controlling for whether they attended a community college or a four-year college.
- The difference appears to be nonlinear, with total GED test scores of 2750 or higher (the top quintile) predicting much greater chances of reaching proficiency early in college among students enrolled in associate degree programs. Those in the top quintile are more than 7 times more likely to be proficient by the first term than those in the lowest quintile (scores of 2320 or less).

# Overlap between proficiency areas

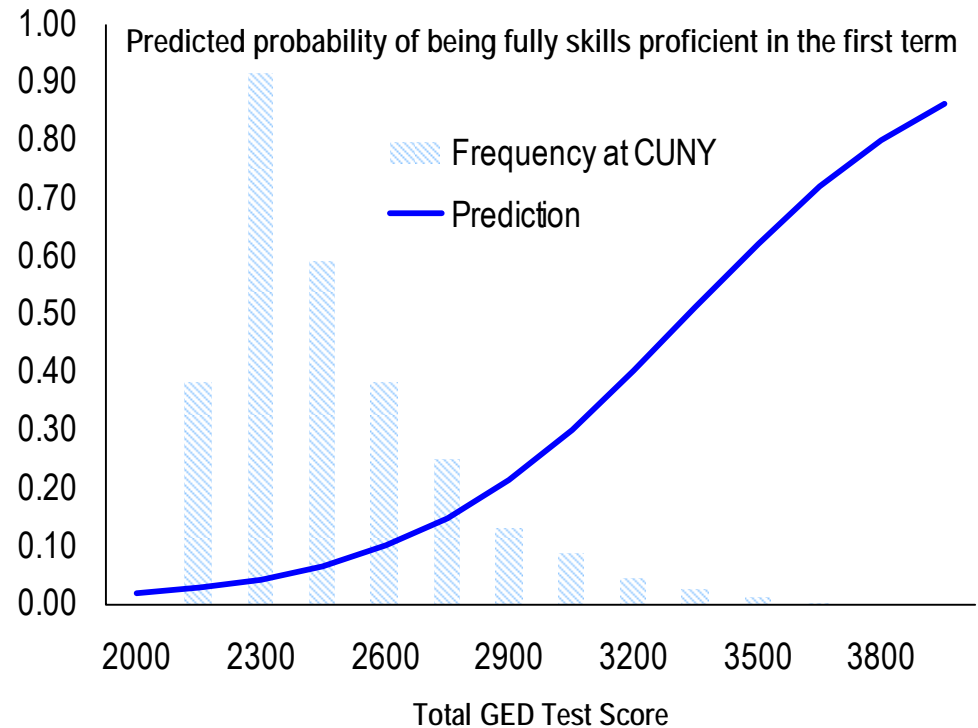
- While there is overlap in GED recipients' proficiency by area, there may be subpopulations with different needs.
- A large group of GED students has the required reading skills but is neither math nor writing proficient. This group represents 34% of all GED enrollees.
- The second-largest group (16%) is both reading and writing proficient but not yet ready in math.
- Only 13% are fully proficient.
- Yet it is not uncommon (10%) to meet the requirements for both math and reading but not for writing.
- Not shown here is another 19% of all GED enrollees who do not meet any of the proficiency standards.



Note: Figures include both associate and baccalaureate entrants.

# Basic skills proficiency predicted by overall GED test score

- A clear association exists between combined GED test scores and students' chances of reaching CUNY basic skills proficiency within their first year.
- Students who score one standard deviation above the mean total GED score from our cohorts are estimated to have more than twice the odds of being skills proficient.
- This only applies to associate-degree seeking enrollees, as baccalaureate programs generally require proficiency before entry.



Figures for FTF associate degree seekers in fall 2001, spring 2002, fall 2004, spring 2005, fall 2006 and spring 2007 (n=13,012). Scale displayed is for predicted probabilities (line graph); relative frequencies (column graph) are included to enable comparisons, but are not drawn to scale shown.

# GED test scores for math and writing are the best overall predictors of proficiency

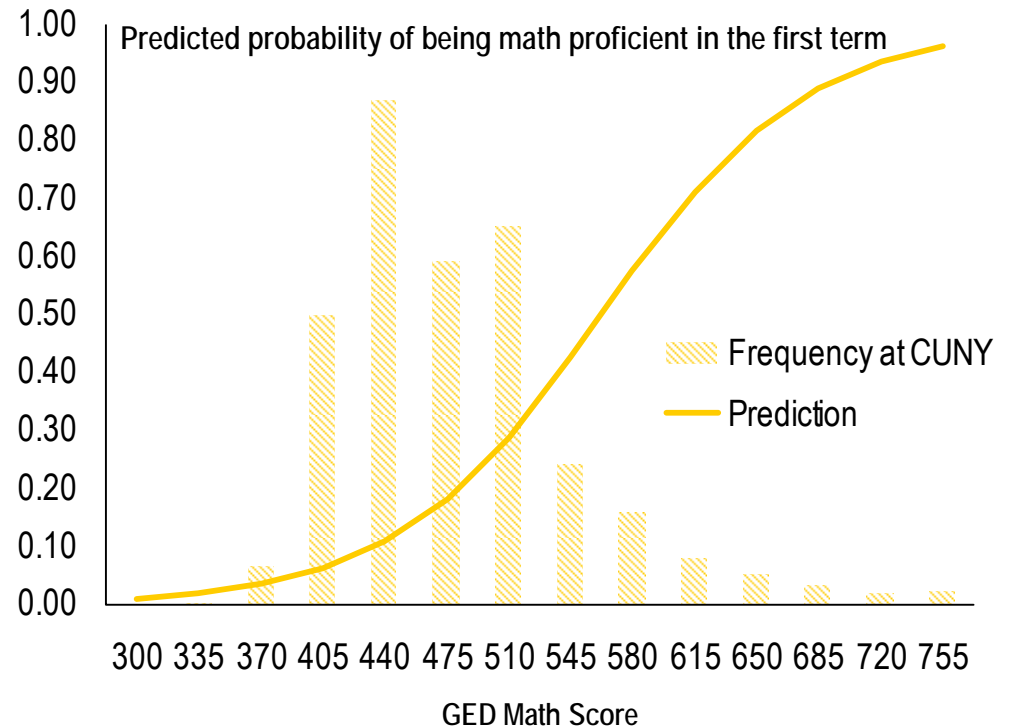
- Because math and writing are the areas of the biggest shortfalls, not surprisingly in a regression analysis the math and writing subtests are the best predictors of overall proficiency.
- A difference of one standard deviation in GED math test score — for example, going from 500 to 568 — is associated with 84% higher odds of overall basic skills proficiency.
- For writing, a similar increase on the GED subtest score would improve the odds by 26%.
- The science and social science subtests also have smaller effects net of the others, but English does not add much new information on the question of overall proficiency.

	Fully skills proficient in first term		Fully skills proficient in first term	
	Odds ratio	Sig.	Odds ratio	Sig.
Combined GED score (Z)	2.212	0.000		
GED English subtest score (Z)			0.970	0.446
GED writing subtest score (Z)			1.257	0.000
GED math subtest score (Z)			1.844	0.000
GED social science subtest score (Z)			1.149	0.001
GED science subtest score (Z)			1.175	0.000
% proficient at mean GED test score	8.7		8.3	
N	13,012		12,048	
Pseudo-R Squared	0.131		0.170	

GED test scores were standardized as Z-scores. A one-unit change in Z-score is equal to a standard deviation change on the original scale. An odds ratio close to 1 indicates a weak or no relationship; values much larger than 1 indicate a strong positive relationship. See the notes in the full tables for details.

# Subtests predict subject area proficiency, up to a point

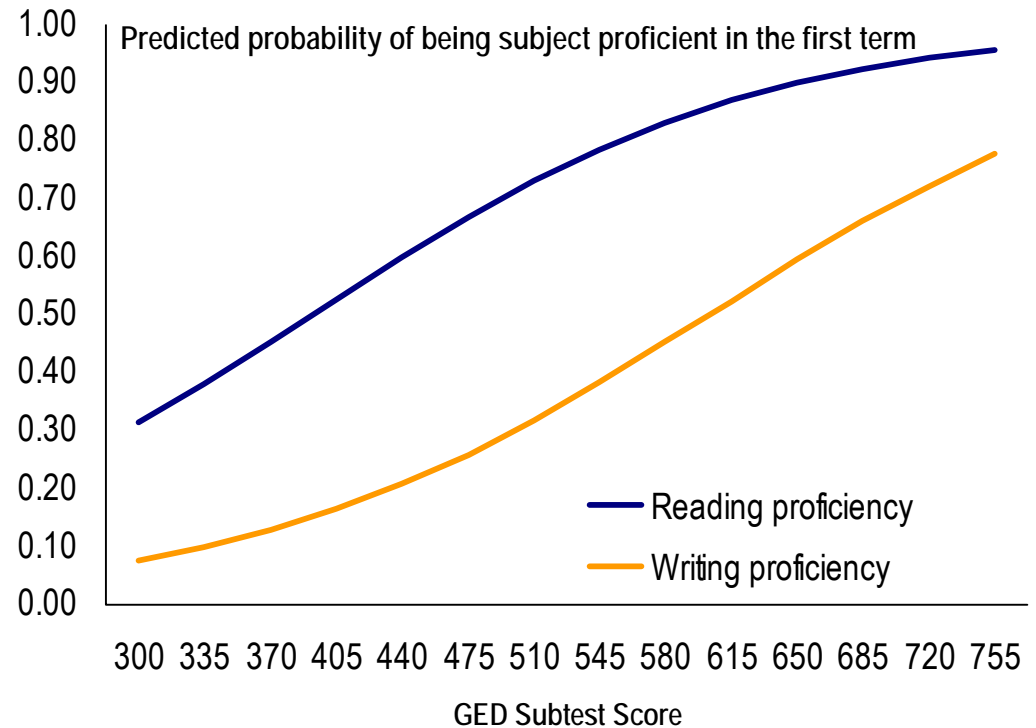
- As expected, the subject tests predict proficiency in their respective area.
- The math subtest, as illustrated here, is relatively strong at predicting whether or not GED recipients meet the proficiency standard in their first term.
- But even with math, the best-fitting among the three models, the GED subtest score only accounted for an estimated 24% of the variability in math proficiency in the first term.



Figures for FTF associate degree seekers in fall 2001, spring 2002, fall 2004, spring 2005, fall 2006 and spring 2007 with subject test scores (n=12,048). Scale displayed is for predicted probabilities (line graph); relative frequencies (column graph) are included to enable comparisons, but are not drawn to scale shown.

# GED scores are less predictive of reading and writing proficiency

- Although they are still important indicators, English and writing scores from the GED test are not as sensitive measures compared to math in predicting whether a student reaches subject proficiency by their first term in college.
- For comparison, a student with an English subtest score of 600 has an 86% predicted likelihood of being reading proficient, versus a 75% probability for someone with a score of 520.
- Similarly a 65-point improvement over the mean GED writing test score yields an estimated 12% rise in the likelihood of being writing proficient.

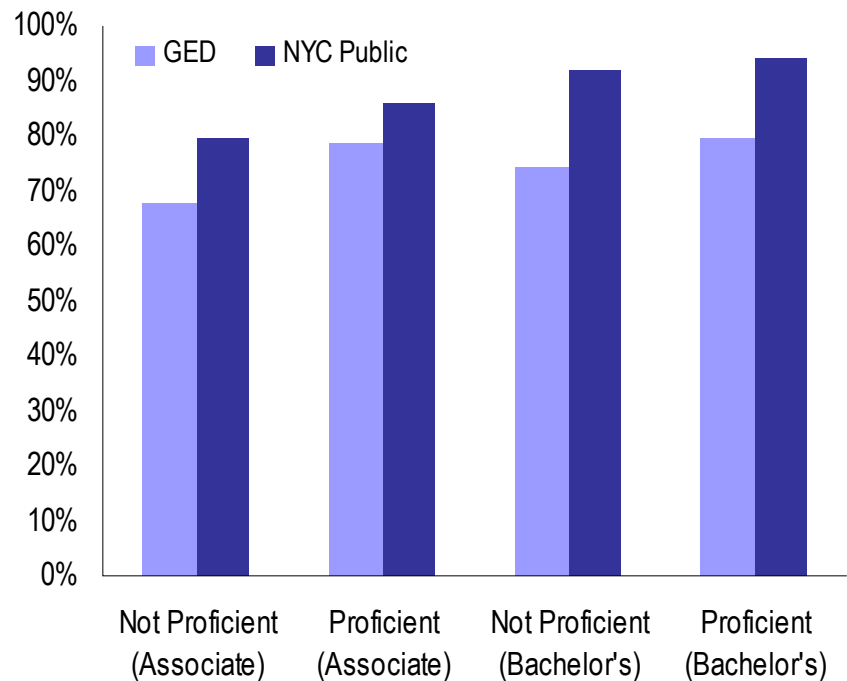


Figures for FTF associate degree seekers in fall 2001, spring 2002, fall 2004, spring 2005, fall 2006 and spring 2007 with subject test scores (n=12,048).

# Proficiency shortfalls contribute to early attrition, but not the only cause

- Within non-proficient first-time freshmen (FTF) at the associate level, GED recipients are 11 percentage points less likely than NYC graduates to return the next semester.
- But GED students are less likely to persist than NYC graduates regardless of proficiency status or degree pursued.
- The persistence gap is smallest among skills-proficient associate level students.
- This highlights that proficiency is an important factor—but not the only one—associated with challenges GED students face in college.

Persistence rate to the second calendar semester

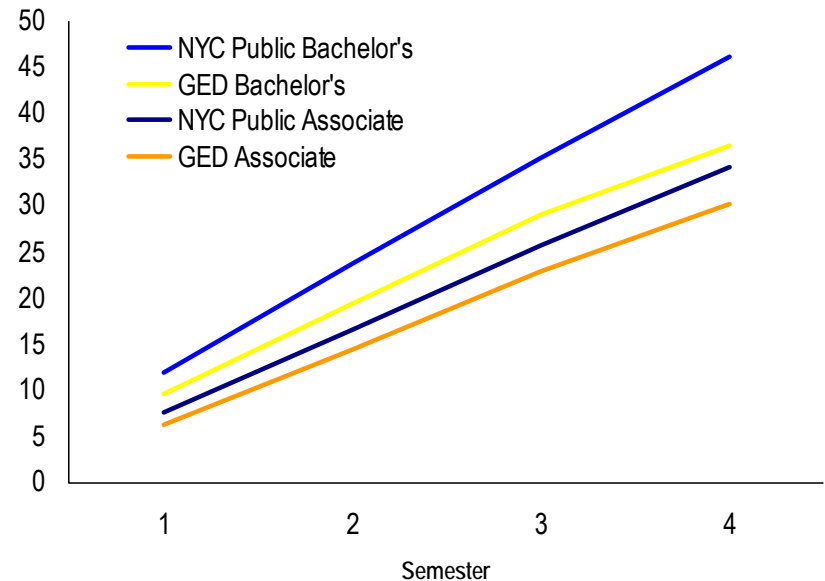


Figures for FTF. Second calendar semester is the fall or spring term immediately following the student's FTF term.

# GED students lag on credit accumulation, even those who stay in school

- GED students start off earning fewer credits and over time the shortfall widens.
- This is seen at both the associate and baccalaureate levels, but appears more pronounced at the bachelor's level.
- Comparing only students who were enrolled continuously for the first four fall/spring terms, GED baccalaureate students trailed their NYC public peers by nearly 10 credits on average by the fourth term.
- The difference is primarily due to fewer credits attempted, although higher rates of failure and withdrawal in bachelor's programs contribute.
- We believe many factors contribute, including likelihood of taking remedial courses and higher rates of part-time attendance.
- The effect is compounded when students with non-continuous enrollment are included in the analysis.
- Our student surveys (discussed later) provide clues on why part-time commitments may be preferred.

Average cumulative credits earned among continuous enrollees



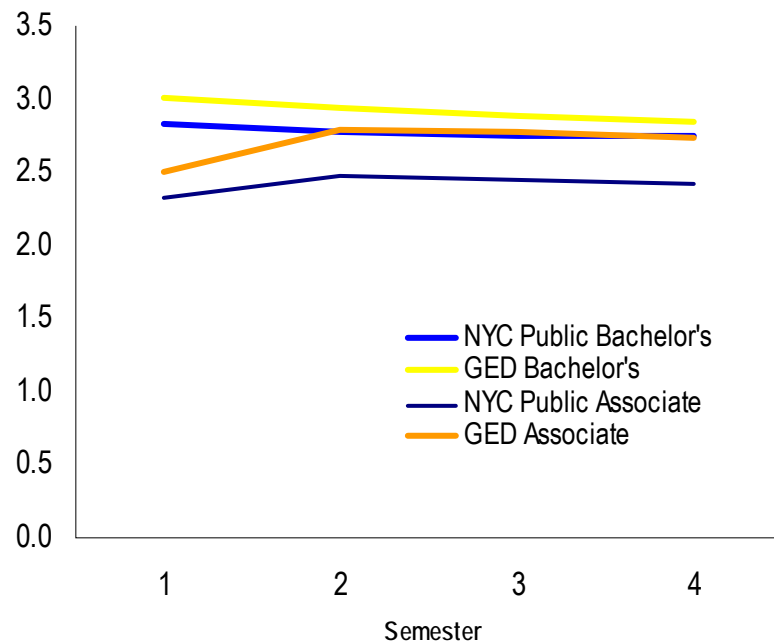
Figures for students who remained continuously enrolled for the first four consecutive fall/spring terms after starting college. Credits earned before the FTF term are excluded.

► See Tables 15a and 15b

# Yet average grades earned in credit-bearing classes are competitive

- GED recipients are competitive with graduates of NYC public high schools in terms of cumulative GPA.
- Looking at all members of our cohorts, there is no real difference in the first term, meaning that GED students achieve on par with NYC students.
- But GED students who persist to the second and later semesters have slightly but consistently stronger grades than their NYC peers with the same histories.
- The gap amounts to less than half a letter grade on average, but it is seen across time and cohorts.
- The difference between parity in the first term and advantages in later terms is explained by the large share of GED students who drop out of college quickly, leaving the better prepared still enrolled.

Average cumulative GPA among continuous enrollees



Figures for students who remained continuously enrolled for the first four consecutive fall/spring terms after starting college.

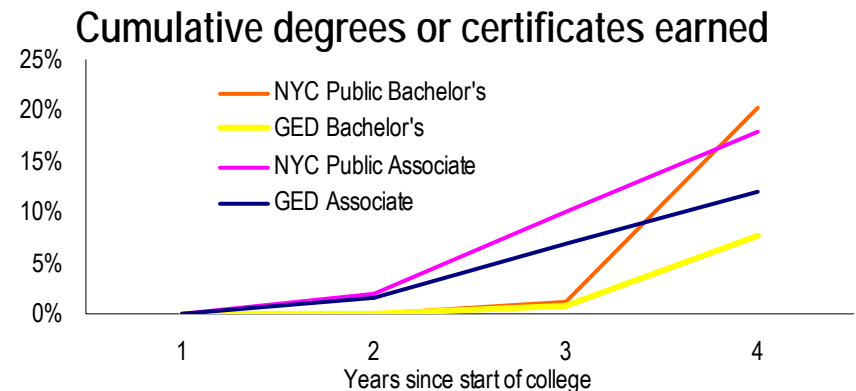
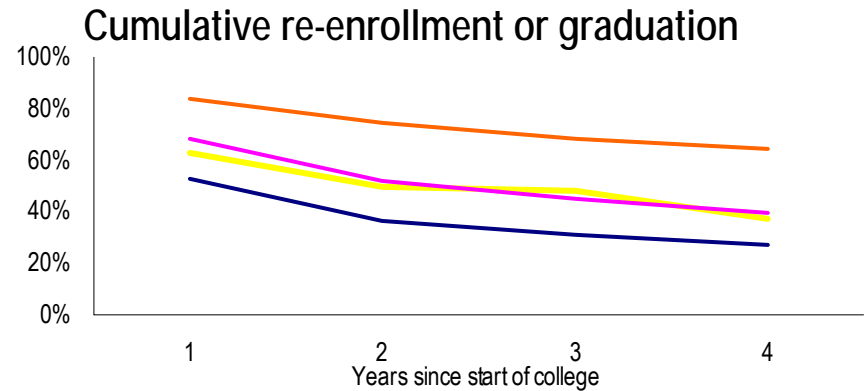
► See Tables 16a and 16b

# Assistance programs more likely to elude GED students

- GED recipients are much less likely than graduates of NYC public high schools to enroll in the SEEK (four-year) and College Discovery (two-year) programs for disadvantaged students, even while we suspect that the GED population may have higher rates of eligibility for these programs.
- Receipt of first-year NYS TAP grants is somewhat lower among GED students, likely in part because of the historical requirements for full-time attendance.
- However, the rate of receiving Pell grants is similar.
- Our Student Experience Surveys offer supporting evidence of GED students' relative economic disadvantage and potential eligibility for need-based programs. One example is that GED students were 40% less likely than all other students to have a household income of \$50,000 or greater.

# GED recipients' long-term persistence and graduation rates lower, too

- Looking at long-term measures of college success, GED holders earn college degrees at a much lower rate than graduates of NYC public high schools.
- For the fall 2001 cohort of first-time freshmen, 12% of GED students who entered at the associate level earned any kind of degree or certificate within four years, compared to 18% for NYC graduates.
- The gap widens at the baccalaureate level to 8% for GED recipients versus 20% for NYC graduates.
- GED recipients trail in cumulative persistence rates (graduation or re-enrollment combined) versus NYC graduates by up to 15 points at the associate level, and by more than 25 points among bachelor's degree seekers.
- We see similar patterns in the early years of the more recent cohorts.



Figures for 2001-2002 FTF. Percentage is the number who received any degree or are still enrolled in a degree program out of all those who entered in the cohort.

# GED students have greater demands on their time

- Our survey research indicates that GED students are more likely to have more work and care-giving commitments outside school.
- Among GED students 53% reported working 20 hours or more for pay each week, compared to 43% of all other students.
- Care-giving demands are even more dramatic, with 32% of GED students providing care to others for 20 hours or more each week, versus 16% among other students.
- GED students are about 9 percentage points more likely to want their college to offer more night classes; and 80% do not “strongly agree” that courses are offered when they can take them.
- However, these demands do not simply deduct from time spent on college course work. Reported amounts of time spent preparing for classes are marginally higher among GED recipients; yet reported course-taking is somewhat lower, a pattern also seen clearly in transcript data.
- The result appears to be that GED students commit to fewer course hours, but spend at least as much time—perhaps more— preparing for those courses versus their peers.
- This approach to school may help explain why GED recipients who persist in college tend to have higher GPAs but earn credits slowly and do not appear to make rapid progress toward completing a degree.

# Differences in college persistence predicted by demographics

- Although average persistence and graduation rates are lower among GED recipients, a substantial number do advance in college.
- Demographically those who leave quickly and fail to earn many if any credits are different from those who persist.
- GED test scores are not strong indicators of this behavior one way or another, but several demographic and proficiency measures provide insights.
- Based on various measures of persistence, GED students who make longer-term progress in college are more likely to be
  - Math and writing proficient
  - Over 25
  - Female
  - Born outside the US
  - Speakers of a second language
  - Fall-term entrants
  - Attending full time
  - Participating in the CUNY SEEK/College Discovery programs
  - Receiving TAP awards and Pell grants
- Contrary to expectations, dependent GED students are less likely to persist.

# Top tier of GED students is most comparable to average NYC graduate

- Looking at quintiles of GED test scores, only the top 20% — in our sample, those with a combined score of 2750 or better — perform roughly on par with graduates of NYC public high schools on two key measures of progress, credit accumulation and basic skills proficiency.
- For example, at the associate level 48% of NYC graduates are fully skills proficient within one year, versus 47% of the top GED quintile (as opposed to only 33% for GED students overall).
- In associate programs, both NYC graduates and top-quintile GED recipients attained an average of 33 credits by the fourth semester after starting college.
- College GPAs of GED students are exceptional in that even the lowest quintile has slightly higher grades on average compared to graduates of NYC public schools, although the difference is usually less than half of a letter grade. As expected, this effect is amplified among those in the upper quintiles of GED test scores.
- However, in terms of persisting to the second consecutive term (whether fall or spring) or persisting fall-to-fall (fall entrants only), all quintiles of GED students substantially lag the NYC graduate average.
- The similarities between the top quintile and NYC graduates do not hold at the bachelor's level, where even the top quintile falls significantly behind in terms of credits earned and likelihood of basic skill proficiency.

# Summary of findings

- GED students struggle on most academic measures versus their peers who have graduated from NYC public high schools.
- Problems for the weakest GED students are most likely to manifest themselves in failure to complete for-credit courses, due to the potential remediation burden or other difficulties encountered after they begin college.
- These students are much more likely to leave college within the first term.
- Numerically, remediation may also present more of a roadblock for GED students simply because a larger share of them are subject to basic skills testing and placement, since they typically do not have the same exemption options as other students.
- Those who persist to the second and third terms, along with those who score in the top 20% on the GED test, resemble graduates of NYC public high schools more closely on academic measures.
- Nonetheless even those who continue to enroll each semester attempt fewer credits and thus make slower progress toward their degrees than do graduates of NYC public schools.
- Average grades, however, tend to remain comparable or even slightly higher among GED recipients.

## Possible directions for future research

- A closer study of GED students' remediation experiences and outcomes could reveal more about how basic skills proficiency interacts with their ability to make progress in college.
- We remain interested in the possibility of comparing students from different types of GED programs in order to understand whether some are more effective at preparing students for college.
- Expanded research might also consider GED recipients' high school records in addition to their GED-related histories, as we suspect there could be differences between students who leave high school early versus late, along with their high school performance to the extent they completed conventional high school courses.
- We have data in place to compare the outcomes of students who take the GED test in English versus Spanish, and we could generate the analyses.
- We presented some descriptive comparisons of GED students based on survey responses, but it may be useful to learn more about the relationship between performance in college and such factors as work hours and care-giving responsibilities.
- We suggest examining in greater detail what happens when GED recipients leave CUNY, either temporarily or permanently. In particular, combining our records with a search of a national clearinghouse database, we can establish to what extent these students transfer out to other colleges or maintain co-enrollments, which could shed new light on leavers.