



## How Do Students' 3rd Grade Reading Levels Relate to their ACT/SAT Performance and Chance of Graduating from High School?

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## Introduction

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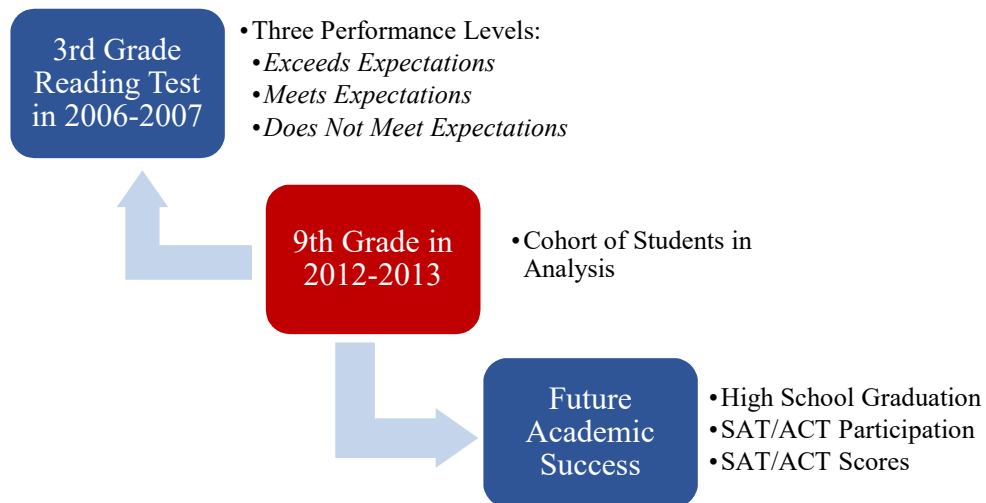
Reading proficiency in 3rd grade is an important educational milestone that is often linked to future academic success.<sup>1</sup> As summarized by the [Get Georgia Reading](#) campaign:

The end of third grade marks the critical time when children shift from learning to read to reading to learn. Children unable to make this shift face serious barriers for future learning, because they can't grasp half of the printed fourth-grade curriculum and beyond, including math and science. As a result, these children fall even further behind. Children who can't read proficiently by the end of third grade are more likely to experience poor health, have discipline problems, become teen parents, and drop out of high school. As adults, they're more likely to spend time in prison, struggle with unemployment, and face shorter life expectancies.<sup>2</sup>

With this context in mind, this report analyzes the relationship between 3<sup>rd</sup> grade reading proficiency and several indicators of future academic success: the percentage who graduate from high school, the percentage who take the ACT or SAT, and average ACT and SAT scores. For the first time, data from [GA•AWARDS](#), Georgia's longitudinal education data system, has enough history to follow students from 3<sup>rd</sup> grade through high school graduation.

The report examines a cohort of 9th grade students from the 2012-2013 school year who took the reading Criterion-Referenced Competency Test (CRCT) as 3<sup>rd</sup> graders in 2006-2007 (see Figure 1).

**Figure 1: Students in Analysis**



<sup>1</sup> See, for example, "[Learning to Read, Reading to Learn: Why Third-Grade is a Pivotal Year for Mastering Literacy.](#)"

<sup>2</sup> Get Georgia Reading. Common Agenda Overview. <http://getgeorgiareading.org/common-agenda/common-agenda-overview/>

Examining a 9th grade cohort makes the analysis more comparable to four-year graduation rates that are traditionally calculated. For the purposes of this analysis, the cohort is divided into three groups based on performance levels on the 3<sup>rd</sup> grade reading CRCT: exceeds expectations, meets expectations, and does not meet expectations.

Overall, students who earned higher scores on the 3rd grade reading CRCT had higher high school graduation rates, were more likely to take the ACT or SAT, and had higher average ACT and SAT scores compared to students in the other performance levels. This pattern holds across race/ethnicities, gender, poverty, English language learner status, and students with disabilities. It is important to note that, while this report provides general trends in high school outcomes by 3rd grade reading performance, it does not establish that 3rd grade reading levels cause higher high school graduation rates or SAT/ACT performance. Many other factors that are not taken into account affect these outcomes.

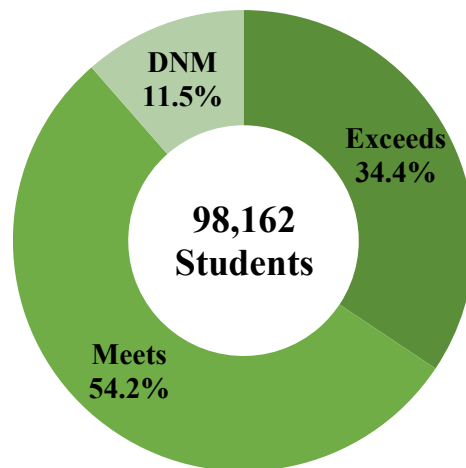
The report begins with an overview of the 9th grade cohort of students being analyzed. The next section presents patterns in high school graduation rates, followed by an analysis of ACT and SAT performance. It concludes with a summary of findings.

## Overview of Students Included in Analysis

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During the 2012-2013 school year, 98,162 9<sup>th</sup> grader had scores on the 3rd grade reading CRCT in 2006-2007, representing 75% of the total 9<sup>th</sup> grade cohort that year.<sup>3</sup> Over half of these students scored in the meets expectations category, 34% scored in the exceeds expectations category, and 11% did not meet expectations.<sup>4</sup>

**Figure 2: 3rd Grade Reading Levels of 2012-2013 9<sup>th</sup> Grade Students**



<sup>3</sup> Students must be in the 9<sup>th</sup> grade for the first time during this school year to be included in the cohort.

<sup>4</sup> Prior to 2015, the statewide assessments did not have high proficiency standards, resulting in about 90% or more students earning meets or exceeds expectations on the 3<sup>rd</sup> grade reading CRCT. As a result, this analysis splits the meets and exceeds groups to show more differentiation in reading level. For more information on Georgia's low proficiency standards on the CRCT relative to other states, see this article from *Education Next*.

<http://educationnext.org/despite-common-core-states-still-lack-common-standards/>

As seen in Table 1 below, the percentage of students in each performance category varies by race/ethnicity and other subgroups.

- Asian (50%) and white students (48%) had much higher rates of students in the exceeds expectations category than students in other race/ethnicity subgroups.
- Black, Hispanic, and Pacific Islander students had higher rates of students in the does not meet expectations category (between 17-18%) than students in other race/ethnicity subgroups.
- Female students had a higher exceeds rate than male students.
- Economically disadvantaged students (ED), English Language Learners (ELL), and students with disabilities (SWD) had lower exceeds rates than other students.<sup>5</sup>
- ELL (50%) and students with disabilities (41%) had far higher rates of students in the does not meet expectations category than other students.

**Table 1: Summary Statistics by Demographic Subgroup**

Group	3rd Grade Not Meeting		3rd Grade Meeting		3rd Grade Exceeding		Total Number
	Number	% of Total	Number	% of Total	Number	% of Total	
All Students	11,256	11%	53,187	54%	33,719	34%	98,162
<i>Race/Ethnicity</i>							
American Indian or Alaskan Native	25	11%	132	60%	62	28%	219
Asian	146	5%	1,319	45%	1,439	50%	2,904
Black	6,324	17%	22,601	62%	7,256	20%	36,181
Hispanic	1,719	17%	6,462	63%	2,078	20%	10,259
Pacific Islander	13	18%	43	59%	17	23%	73
Two or More Races	224	9%	1,359	52%	1,009	39%	2,592
White	2,805	6%	21,271	46%	21,858	48%	45,934
<i>Gender</i>							
Female	4,525	9%	26,216	53%	18,428	37%	49,169
Male	6,731	14%	26,971	55%	15,291	31%	48,993
<i>Other Subgroups</i>							
Economically Disadvantaged	8,922	16%	33,625	62%	11,990	22%	54,537
English Language Learners	623	50%	584	47%	32	3%	1,239
Students with Disabilities	4,078	41%	4,976	50%	856	9%	9,910

<sup>5</sup> Economically disadvantaged as determined by free/reduced-price lunch. Only students with disabilities who took the CRCT are included in this analysis.

## High School Graduate Rates and 3rd Grade Reading Levels

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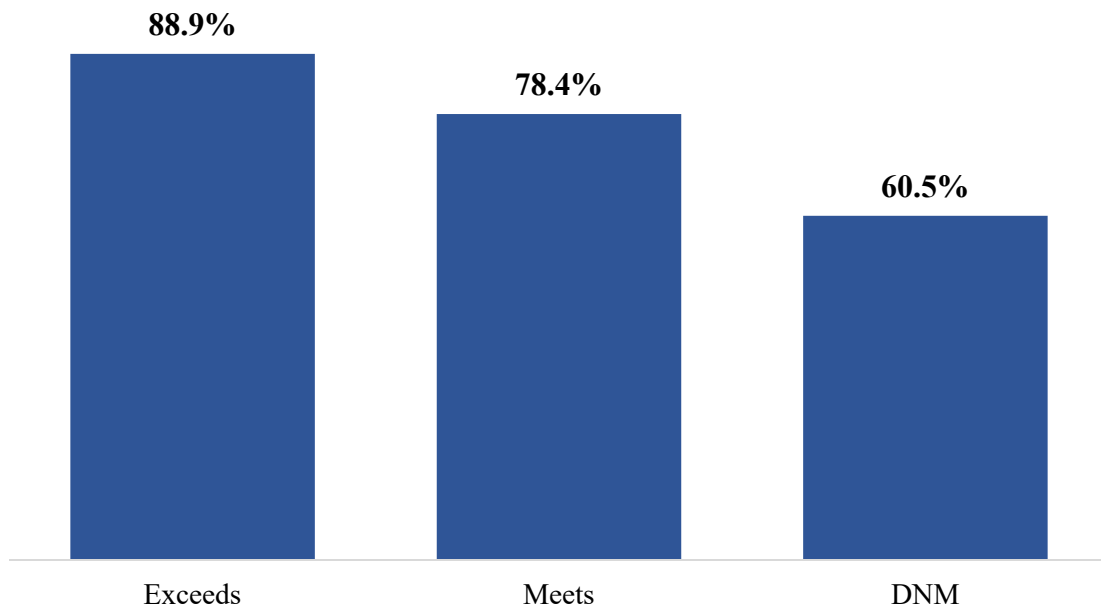
To assess patterns in high school graduation rates, the analysis follows the 9<sup>th</sup> grade cohort from 2012-2013 through the 2015-2016 school year.

The graduation rate is computed as follows:

$$\frac{\text{Number of High School Graduates}}{(\text{Number in the 9}^{\text{th}} \text{ Grade Cohort} - \text{Number of Students Who Transfer out of State, Emigrate, or Die})^6}$$

Nearly 89% of students who scored in the exceeds expectations category in 3rd grade reading graduated high school, compared to 78.4% of students in the meets expectations category and 60.5% of students in the does not meet expectations category.

**Figure 3: 2016 High School Graduation Rate by 3rd Grade Reading Level**



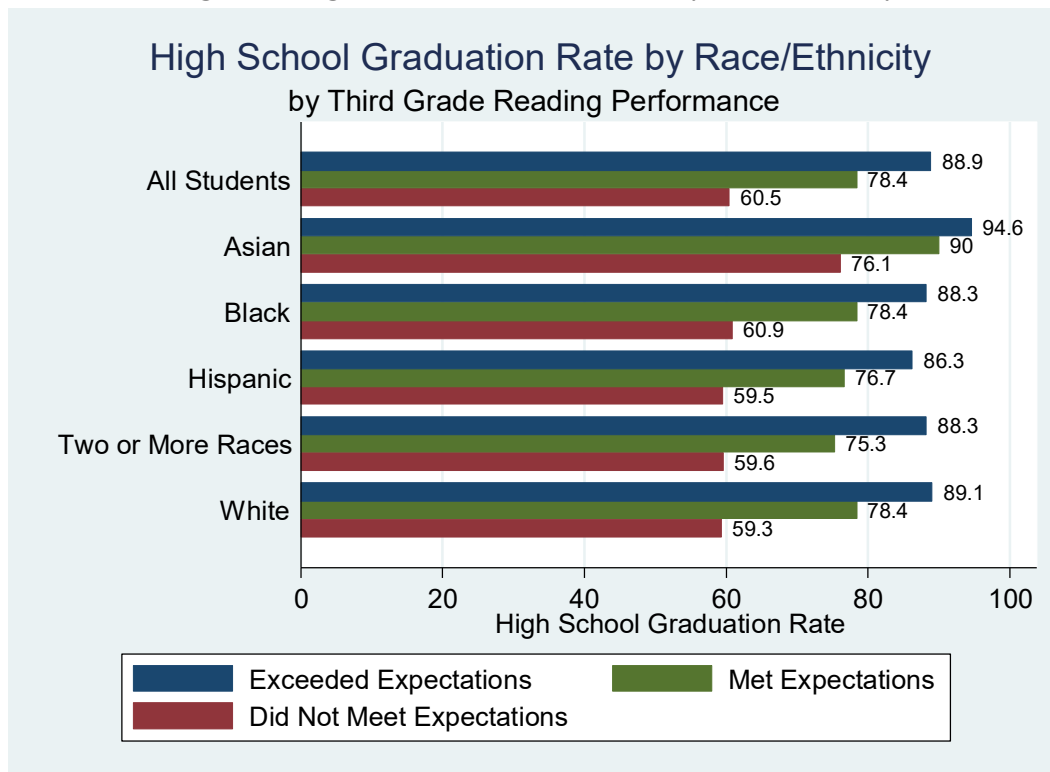
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<sup>6</sup> As determined by the following withdrawal codes in the last year of enrollment in public school: D-death, H-attend home study, J-transferred out of county, K-transferred to a private school, N-transferred to a Department of Defense school, X-transferred out of state, and Z-SB10 transfer to private school.

A similar pattern exists by race/ethnicity, gender and the other subgroups as well; the graduation rates are highest for those who scored in the exceeds expectations category.<sup>7</sup>

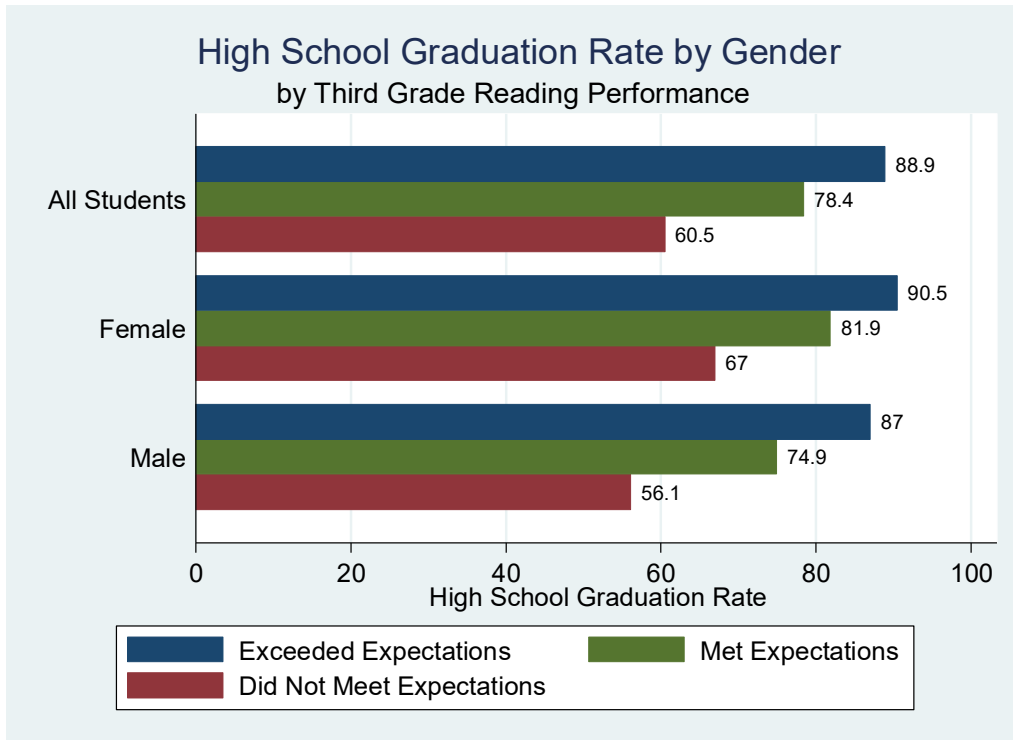
- Black, White, and Hispanic students in each performance level graduated at nearly the same rates. Asian students graduated at higher rates than other subgroups in each level (Figure 4).
- While the graduation rate of female students in the exceeds expectations group was only 2.5 points higher than male students, the rate in the does not meet expectations group was 10.9 points higher (Figure 5).
- Economically disadvantaged students, English language learners, and students with disabilities across all three performance levels graduated at lower rates than all students (Figure 6).
- In all three performance levels, economically disadvantaged students had graduation rates almost ten points lower than students who were not economically disadvantaged (Figure 7).

**Figure 4: High School Graduation Rate by Race/Ethnicity**

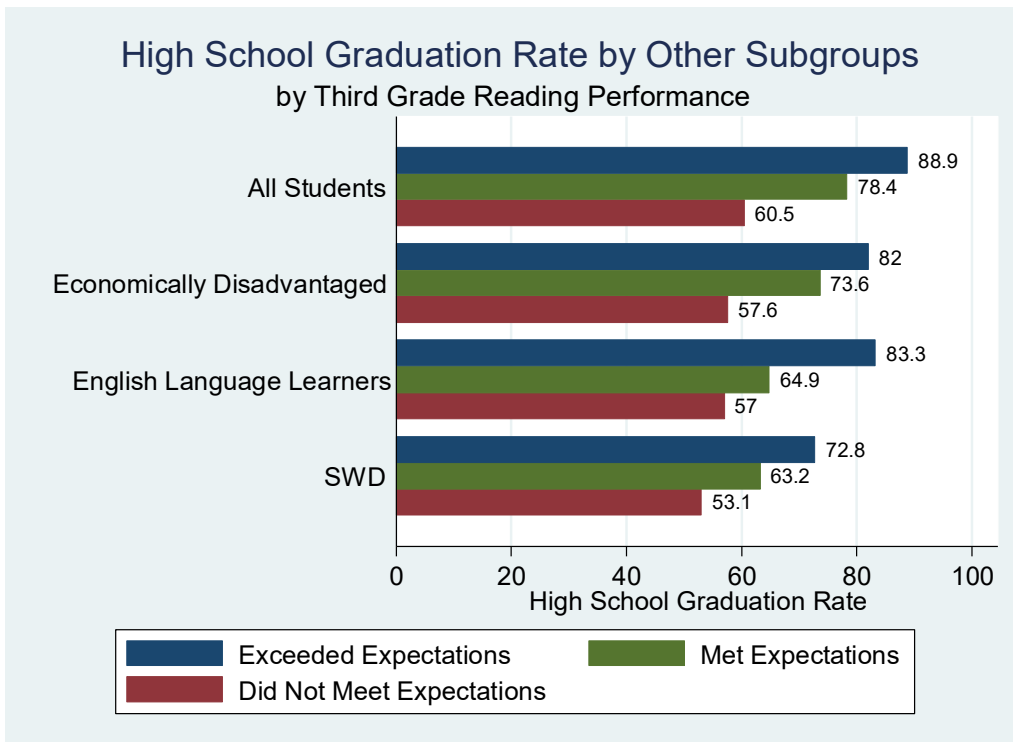


<sup>7</sup> When race/ethnicity, gender, and economically disadvantaged are taken into account simultaneously, students in the exceeds expectations category have the highest graduation rates across all combinations with ten or more students. American Indian or Alaskan Native and Pacific Islander subgroups were excluded because there were fewer than ten graduates in one or more performance levels.

**Figure 5: High School Graduation Rate by Gender**

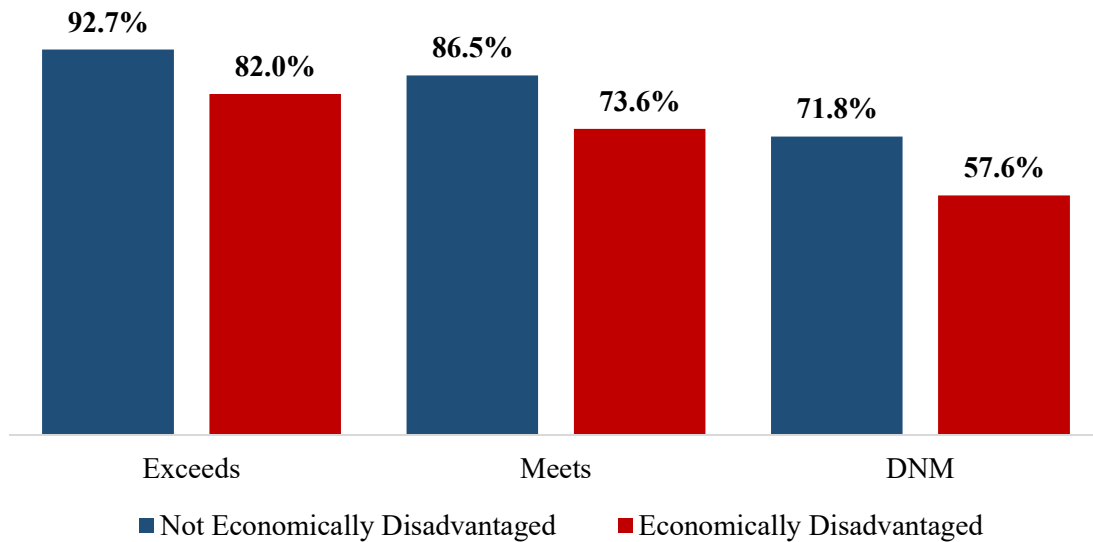


**Figure 6: High School Graduation Rate by Other Subgroups**



**Figure 7: High School Graduation Rate by 3rd Grade Reading Level and Economically Disadvantaged Status**





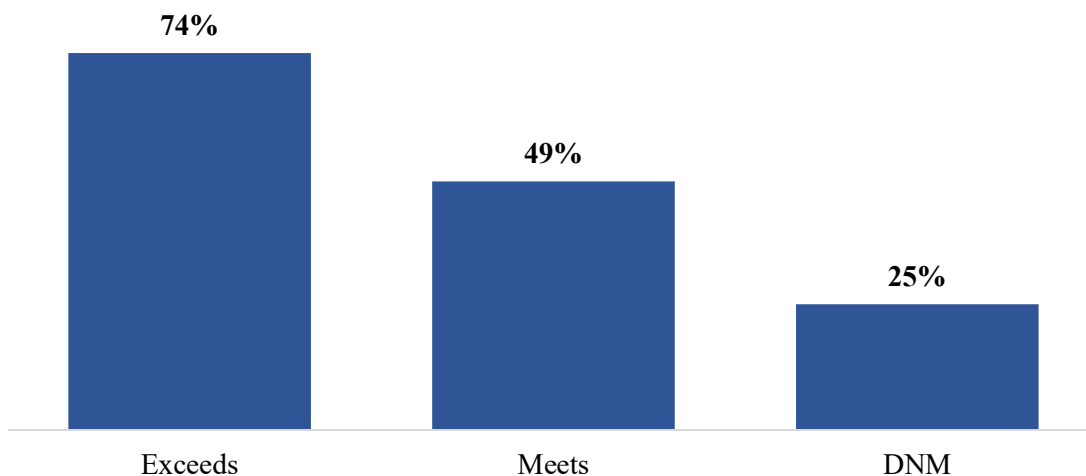
## ACT/SAT Performance and 3rd Grade Reading Levels

For many colleges and universities, ACT or SAT scores are required for admission. To assess patterns in performance on the SAT and ACT, this analysis follows the 9<sup>th</sup> grade cohort through the 2015-2016 school year to analyze whether students took either test and the students' highest score on each test, if taken.

When comparing ACT/SAT performance between groups, it is important to consider the differences in test participation between groups. The lower participation rates among students may indicate a lack access to the test, lower postsecondary expectations, or other barriers to taking the test.

- Nearly 75% of students who scored in the exceeds expectations category took either the SAT or the ACT, while only 49% of those who scored in the meets expectations category took either test. This percentage drops to 25% for those who scored in the does not meet category (Figure 8).
- This ACT/SAT test participation decline by performance level existed in all subgroups (Table 2).

**Figure 8: ACT/SAT Participation Rate by 3rd Grade Reading Level**



**Table 2: Percentage of Students Taking ACT/SAT by Performance Level and Subgroup<sup>8</sup>**

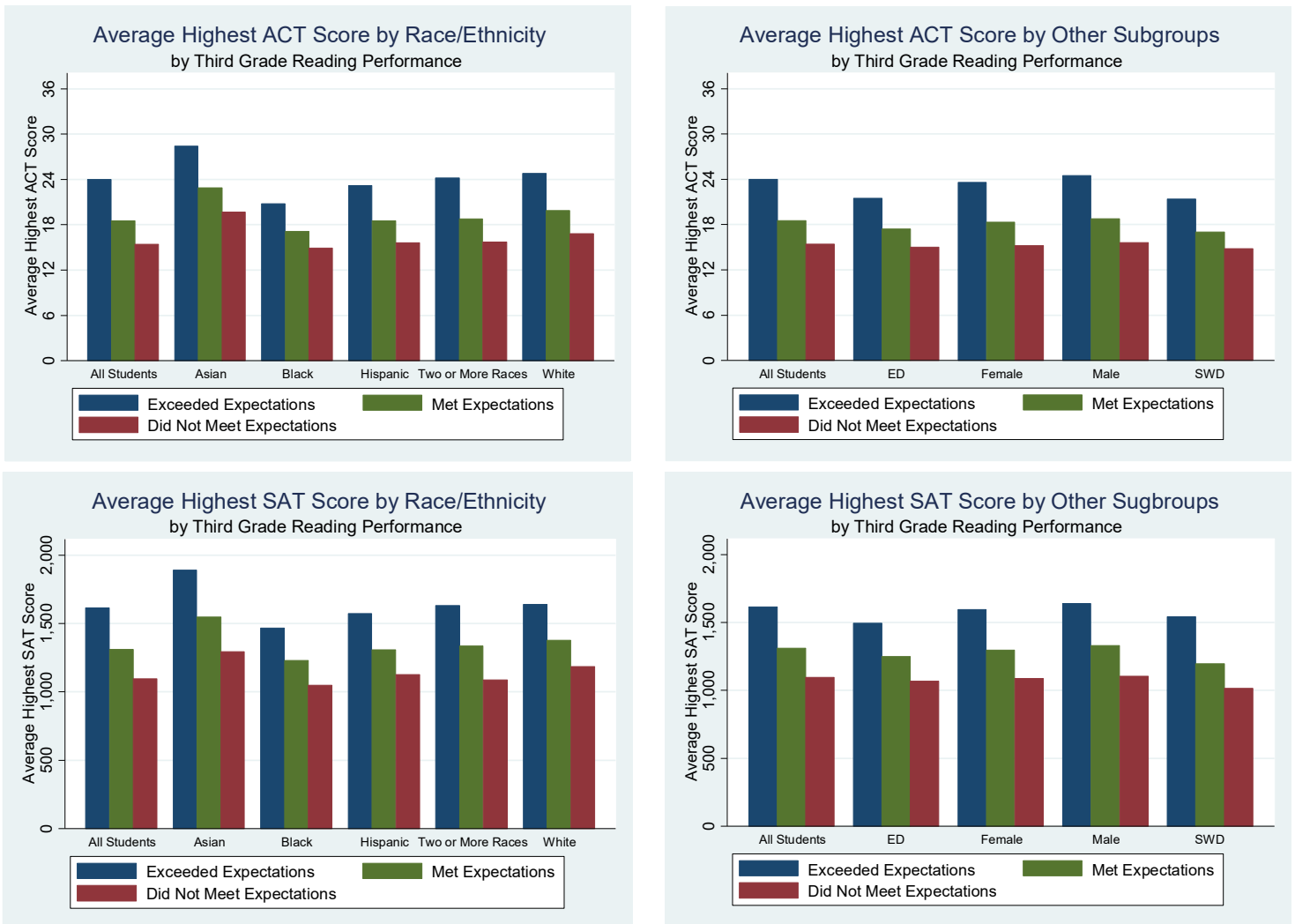
Group	3rd Grade Not Meeting		3rd Grade Meeting		3rd Grade Exceeding	
	ACT or SAT Test Takers	ACT/SAT Participation Rate	ACT or SAT Test Takers	ACT/SAT Participation Rate	ACT or SAT Test Takers	ACT/SAT Participation Rate
All Students	2,774	25%	25,899	49%	24,902	74%
<i>Race/Ethnicity</i>						
Asian	88	60%	1,048	79%	1,308	91%
Black	1,775	28%	11,771	52%	5,377	74%
Hispanic	341	20%	2,710	42%	1,356	65%
Two or More Races	55	25%	630	46%	734	73%
White	507	18%	9,660	45%	16,071	74%
<i>Gender</i>						
Female	1,348	30%	14,281	54%	14,453	78%
Male	1,426	21%	11,618	43%	10,449	68%
<i>Other Subgroups</i>						
Economically Disadvantaged	1,983	22%	13,843	41%	7,064	59%
English Language Learners	116	19%	133	23%	10	31%
SWD	579	14%	1,229	25%	343	40%

<sup>8</sup> Subgroups with fewer than ten test takers in any performance category are excluded from these figures.

Of students who took the SAT or the ACT, the average score of those students in the exceeds expectations performance level in 3rd grade is higher than the average score of students who scored in either the meets expectations or the did not meet expectations performance levels.

- The average ACT score for students in the exceeds expectations performance level was 24 out of 36, which is 5.5 points higher than the average score for students in the meets expectations category and 8.4 points higher than students in the does not meet expectations category.
- Similarly, the average SAT score for students in the exceeds expectations performance level was 1614 out of 2400, compared to 1312 for students in the meets expectations category and 1096 for students in the does not meet expectations category.
- For both assessments, these patterns held across race/ethnicities, gender, and other subgroups.

**Figure 9: Average Scores by Subgroup**



## Summary

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Students who earned higher scores on the 3rd grade reading CRCT had higher high school graduation rates, were more likely to take the ACT or SAT, and had higher average ACT and SAT scores compared to students in the other performance levels.

- Nearly 9 in 10 students who exceeded expectations on the 3rd grade reading CRCT graduated from high school nine years later. Only 6 in 10 students who did not meet expectations in 3rd grade reading graduated nine years later.
- Male students who did not meet expectations on the 3rd grade reading CRCT were 11 percentage points less likely to graduate than female students in that performance level.
- In all three performance levels, economically disadvantaged students had graduation rates almost ten points lower than students who were not economically disadvantaged.
- Three-fourths of students who scored in the exceeds expectations performance level in 3rd grade took either the SAT or ACT in high school. Only one-fourth of students in the does not meet expectations performance level took either test.
- The average ACT and SAT score of students in the exceeds category in 3rd grade was significantly higher than students in both the meets and does not meet expectations performance levels.

The graduation rate, ACT/SAT participation rate, and ACT/SAT score patterns were consistent regardless of student race/ethnicity, gender, poverty, ELL status, and disability status.

It is important to note that, while this report provides general trends in high school outcomes by 3rd grade reading performance, it does not establish that 3rd grade reading levels cause higher high school graduation rates or SAT/ACT performance. Many other factors that are not taken into account affect these outcomes.



## Acknowledgements

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