Washington State
Institute for
Public Policy

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How Are the Experiences of Foster Youth in Washington State Related to WASL Assessments? 2008 Results

Over the last ten years, a number of assessments have been used to determine the educational progress of students in Washington State. Between 1998 and 2006, students completed *norm-referenced tests* that could be used to compare a student's scores against other students. Beginning in 1998, the state also began piloting *criterion-based tests,* called the Washington Assessment of Student Learning (WASL) that tested how well students had mastered a body of knowledge. Achieving a minimum standard on the WASL became a graduation requirement for students beginning in 2006. However, WASL tests were discontinued in the spring of 2009. Starting in 2010, students in grades 3 through 8 will begin taking the Measurements of Student Progress (MSP) and high school students will take a High School Proficiency Exam (HSPE).

Given the changing landscape of student assessments in Washington State, it has been difficult to follow long-term trends in achievement among certain categories of students. During this period, the Washington State Institute for Public Policy (Institute) has completed several studies that examine the educational attainment and test scores of youth in foster care at different points in time. This research found that students in foster care:

- scored, on average, 15 to 20 percentile points lower on norm-referenced assessment tests than non-foster students;[1] and
- were half as likely to "meet standard" on the WASL than non-foster students (27 percent compared with 54 percent).[2]

Summary

This report examines results from the Washington Assessment of Student Learning (WASL) for foster students completing this test in 2005 and 2008. We follow two cohorts of foster youth and analyze changes in assessment scores between 4th and 7th grades and 7th and 10th grades.

Overall, the "met standard" rates for foster youth completing the WASL are between 15 and 30 percentage points lower than other students. Foster youth, however, have much higher rates of grade retention, school mobility, and other factors associated with poor test scores. As this analysis shows, a student's previous test scores remain the strongest predictor of future assessment results. Between 69 and 77 percent of foster youth who took the math WASL in 2005 and 2008 failed to meet standards in both years (40 percent did not meet reading standards for both tests).

About half of foster youth who completed the WASL in 2008 were not in foster care three years earlier. Youth in care typically come into the child welfare system with educational deficits. Across all students, foster youth scored in the 29th and 23rd percentile on the reading and math WASL. Given the size of this gap, even successful interventions are unlikely to bring educational outcomes to the student average (50th percentile). We did find, however, that for younger students, the number of months in foster care was associated with modest gains in WASL scores. The greatest improvements in WASL scores occurred for students in foster placements lasting between 20 and 22 months.

Suggested citation: Mason Burley (2010). *How are the experiences of foster youth in Washington State related to WASL assessments? 2008 results.* Olympia: Washington State Institute for Public Policy, Document No. 10-04-3902.

[1] M. Burley & M. Halpern (2001). *Educational attainment of foster youth: Achievement and graduation outcomes for children in state care*. Olympia: Washington State Institute for Public Policy, Document No. 01-11-3901.
[2] M. Burley (2008). *Educational attainment of foster children: 2006 results.* Olympia: Washington State Institute for Public Policy, Document No. 08-03-3901.

The difference in academic achievement between foster and non-foster youth has been well established in both state and national research.[3] Fewer studies, however, have examined the relationship between foster care experiences and educational outcomes. Given that many youth enter foster care with educational deficits, how do the characteristics of an out-of-home foster placement affect their educational path? This paper follows foster students in Washington over three years (from grades 4 to 7 and grades 7 to 10) to determine how changes in WASL assessment scores are related to the length and type of foster care placements.

Prior to examining changes in test scores over time, this analysis provides an updated look at the gap in WASL results between foster youth and the general student population. An Institute report completed in March 2008 found that for students taking the WASL in the 2005–06 school year, the "met standard" rate for foster youth was 14 to 29 percentage points *lower* than for non-foster youth.[4] This report investigates if this overall gap in assessment scores has changed since 2005.

Additionally, the second section of this paper analyzes factors associated with changes in assessment scores for foster youth, including prior test scores, demographic characteristics, length of time in foster care, and reason for foster care placement.

Section I: WASL Results for Foster Youth in Washington State

Examining the WASL scores of foster youth can provide a benchmark of how these students are faring academically. However, it should be noted that some students may be eligible to take alternative assessments, or have different criteria for meeting assessment standards. Students served in special education or requiring accommodations as a result of disabilities have several assessment options. These options include:[5]

- taking the unmodified WASL without any accommodations;
- taking the WASL with accommodations identified in the student's Individualized Education Program (IEP);
- taking the WASL Basic Assessment (WABA):students take the WASL at grade-level but "passing" is adjusted from proficient (Level 3) to basic (Level 2); and
- compiling a portfolio: Washington Alternative Assessment System (WAAS). An individualized assessment of the student's knowledge is based on a collection, or portfolio, of their work. Students utilizing the WAAS portfolio option are unable to participate in a general or alternative assessment even with maximum accommodations.

For the purpose of this analysis, we examined WASL results in 2008 for all foster students with a recent out-of-home placement lasting 90 days or longer.[6] Approximately 600 students at each grade level (grades 4, 7, and 10) met these criteria. Compared with other students, fewer foster youth completed the unmodified WASL. As Exhibit 1 indicates, between 84 and 89 percent of eligible foster youth participated in an unmodified WASL assessment (compared with 96 percent of other students).

[3] M.E. Courtney, S. Terao, & N. Bost (2004). *Midwest evaluation of the adult functioning of former foster youth: Conditions of youth preparing to leave state care*. Chicago: Chapin Hall Center for Children at the University of Chicago; P. Pecora, et al. (2005). *Improving family foster care: Findings from the northwest foster care alumni study.* Seattle: Casey Family Programs; C. Smithgall, R.M. Gladden, E. Howard, R. Goerge, & M. Courtney (2004). *Educational experiences of children in out-of-home care*. Chicago: Chapin Hall Center for Children at the University of Chicago; and
Office of Superintendent of Public Instruction (2009). *2008 annual report on students in foster care.* Olympia: Author.

[4] Burley, 2008.

[5] More information about alternative assessments and accommodations can be found at: http://k12.wa.us/assessment/AlternativeAssessment/pubdocs/AccommodationGuidelines2008-2009.pdf

[6] Foster youth were defined specifically as any student with an out-of-home placement in the last three years lasting 90 days or more. Since analysis presented later in this paper looks at differences in test scores over three years, we include all students with foster care experiences during this time.

Exhibit 1
Student Assessment Participation by Grade, 2007–08 School Year

	Grade 4		Grade 7		Grade 10	
	Non-Foster	Foster	Non-Foster	Foster	Non-Foster	Foster
Unmodified WASL	73,696 (96.0%)	558 (87.9%)	74,903 (96.4%)	511 (88.9%)	79,921 (96.0%)	505 (84.2%)
WASL Basic Assessment (WABA)	2,281 (3.0%)	56 (8.8%)	2,150 (2.8%)	50 (8.7%)	2,755 (3.3%)	72 (12.0%)
Washington Alternative Assessment System (WAAS)	742 (1.0%)	21 (3.3%)	631 (0.8%)	14 (2.5%)	610 (0.7%)	23 (3.8%)
Total	**76,719**	**635**	**77,684**	**575**	**83,286**	**600**

Among students slated to take the WASL, a certain percentage will not participate in the assessment as planned. Students may be exempt for several reasons, including excused absences, medical reasons, or limited English proficiency. In addition, many students also may not be tested for several unapproved reasons: unexcused absences, refusals to take assessments, or incomplete assessments. Among students in grades 4 and 7, more than 90 percent were tested in all three subject areas (reading, writing, math) during the 2007–08 school year. For students in the 10th grade, however, nearly one-third of non-foster students and one-half of foster students did not complete all three assessments (Exhibit 2).

Exhibit 2
Percentage of Eligible Students Completing All Content Areas of the WASL, 2007–08 School Year

	Grade 4		Grade 7		Grade 10	
	Non-Foster	Foster	Non-Foster	Foster	Non-Foster	Foster
Tested	71,306 (96.8%)	526 (94.3%)	72,113 (96.3%)	468 (91.6%)	53,219 (66.6%)	251 (49.7%)
Exempt	965 (1.3%)	16 (2.9%)	1,239 (1.6%)	18 (3.6%)	19,735 (24.7%)	146 (28.9%)
Not Tested	1,425 (1.9%)	16 (2.9%)	1,551 (2.1%)	25 (4.9%)	6,967 (8.7%)	108 (21.5%)
Total	**73,696**	**558**	**74,903**	**511**	**79,921**	**505**

The high school class of 2008 was the first class required to pass the reading and writing portions of the WASL in order to receive a high school diploma. In 2007, however, the Washington State Legislature delayed the requirement that students pass the math portion of the WASL to receive a diploma. This change may have affected the WASL completion rate among 10th graders in the 2007–08 school year. A significant percentage of students were not tested with the WASL, or participated in an alternative assessment during the study period. These students are not included in this analysis. Rather, the remainder of this report focuses on differences between foster and non-foster students who completed the unmodified WASL in spring 2008.

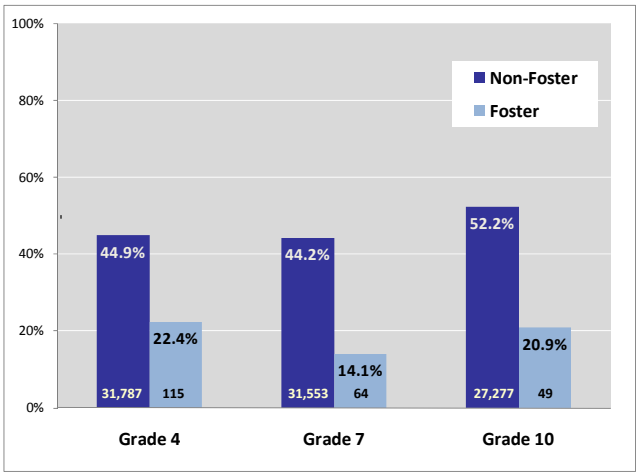
WASL "Met-Standard" Rates

While WASL questions vary from year to year, assessment results are calibrated each year and a "scale score" is derived for each student. These scale scores are divided into four "levels" which indicate how well students meet assessment expectations in each subject area. The four levels include:[7]

- Level One—Below Basic
- Level Two—Basic
- Level Three—Proficient
- Level Four—Advanced

Students must score a level three or four to pass the WASL. Students who reach this level of proficiency are considered to have met standard in the assessed subject area. Exhibit 3 shows the percentage of students who met standard in all three content areas (reading, writing, and math). Among 10th-grade students completing all three WASL assessments, over half (52 percent) of non-foster youth met standard. Only 21 percent of 10th graders in foster care, however, met standard in all three WASL subject areas.

Exhibit 3
Percentage of Students Meeting Standard in All Content Areas of the 2007–08 WASL



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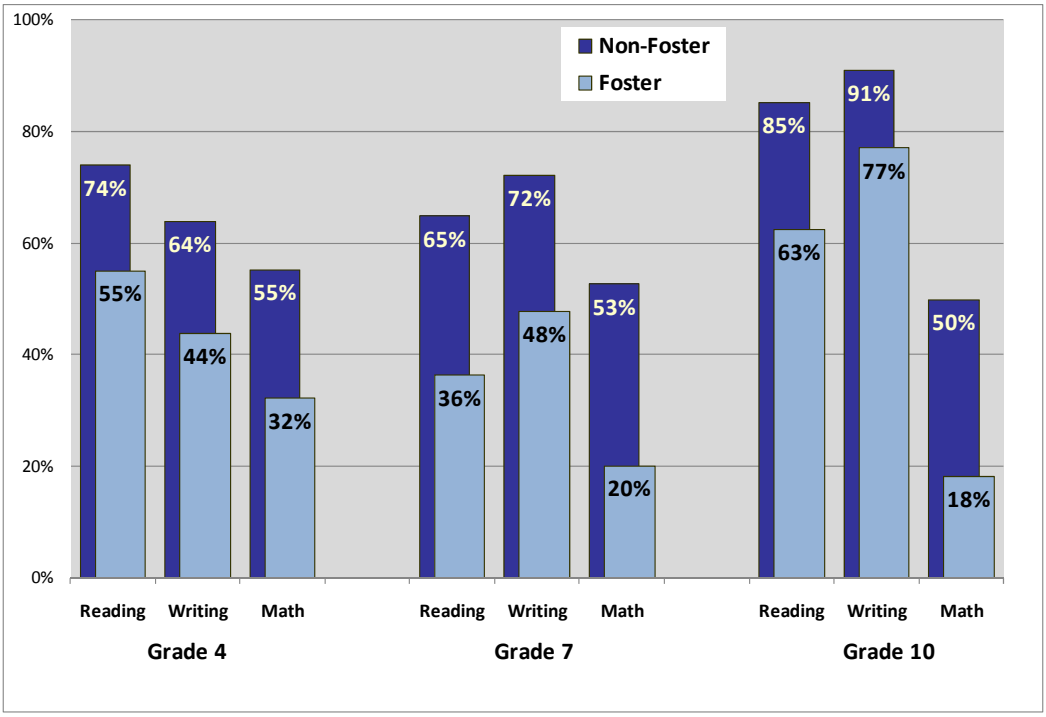
As noted previously, the requirement that students pass the math WASL was postponed in 2007. Prior to 2007, just over 50 percent of 10th-grade students statewide met standard on the math WASL. Given that the "stakes" for the math WASL changed significantly after 2007, it is worthwhile to analyze results in each WASL subject area separately. Exhibit 4 displays the met-standard rates for reading, writing, and math for both foster and non-foster students taking the WASL during the 2007–08 school year.

As Exhibit 4 indicates, the number of foster youth meeting standard on the WASL lags behind non-foster youth by about 15 to 30 percentage points. This difference, however, is most notable for the math portion of the WASL. In grades 7 and 10, approximately 20 percent of foster youth met standard on the math WASL (30 percentage points lower than non-foster youth).

Among 10th-grade non-foster students, 85 percent met standard in WASL reading assessments and 91 percent met WASL writing standards, compared with 63 percent and 77 percent of 10th-grade foster youth, respectively.

[7] http://www.k12.wa.us/Assessment/pubdocs/ScaleScores Levels WASLAssessments.pdf

Exhibit 4
Percentage of Students Meeting Standard by Subject Area on the 2007–08 WASL



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The gap between assessment scores for foster and non-foster students may be explained by a variety of factors. A higher percentage of foster youth have characteristics associated with poor academic performance (such as falling behind a year in school), and a lower percentage have characteristics associated with academic success (such as school stability). In Exhibit 5 (next page), we explore some of the demographic and educational characteristics of students that may be related to meeting WASL standards. Exhibit 5 includes only foster and non-foster students in the 10th grade; these patterns can be seen in grades 4 and 7 as well.

Given the high proportion of foster youth with academic risk factors, the lower WASL met-standard rates for these students should be expected. For example, 34 percent of 10th-grade non-foster students behind a grade level in school met standard on all three WASL tests compared with 22 percent of foster youth. While 12 percent of the non-foster population had been retained a grade, almost one-third (31 percent) of foster youth were behind a grade in school.

Additionally, foster youth had less stability or consistency in the same school district, as shown in Exhibit 5. About 12 percent of the non-foster population had been in their current school district for less than one year compared with almost 30 percent of foster youth. WASL met-standard rates for students new to a school district were 9 to 10 percentage points lower than students than who had been in the same school district for more than two years.

Finally, the results presented in Exhibit 5 include met-standard rates for the standard, unmodified WASL. While students in special education can generally take an alternative assessment, students may take the unmodified WASL based on their individual circumstances. Nearly 96 percent of non-foster students taking the unmodified WASL in 10th grade did not have a recorded disability. Only 82 percent of foster youth in this grade, however, had no disability. For those foster youth with a specified disability, WASL met-standard rates were significantly lower than other categories of students.

Exhibit 5
Characteristics of 10th Graders Completing the 2007–08 WASL

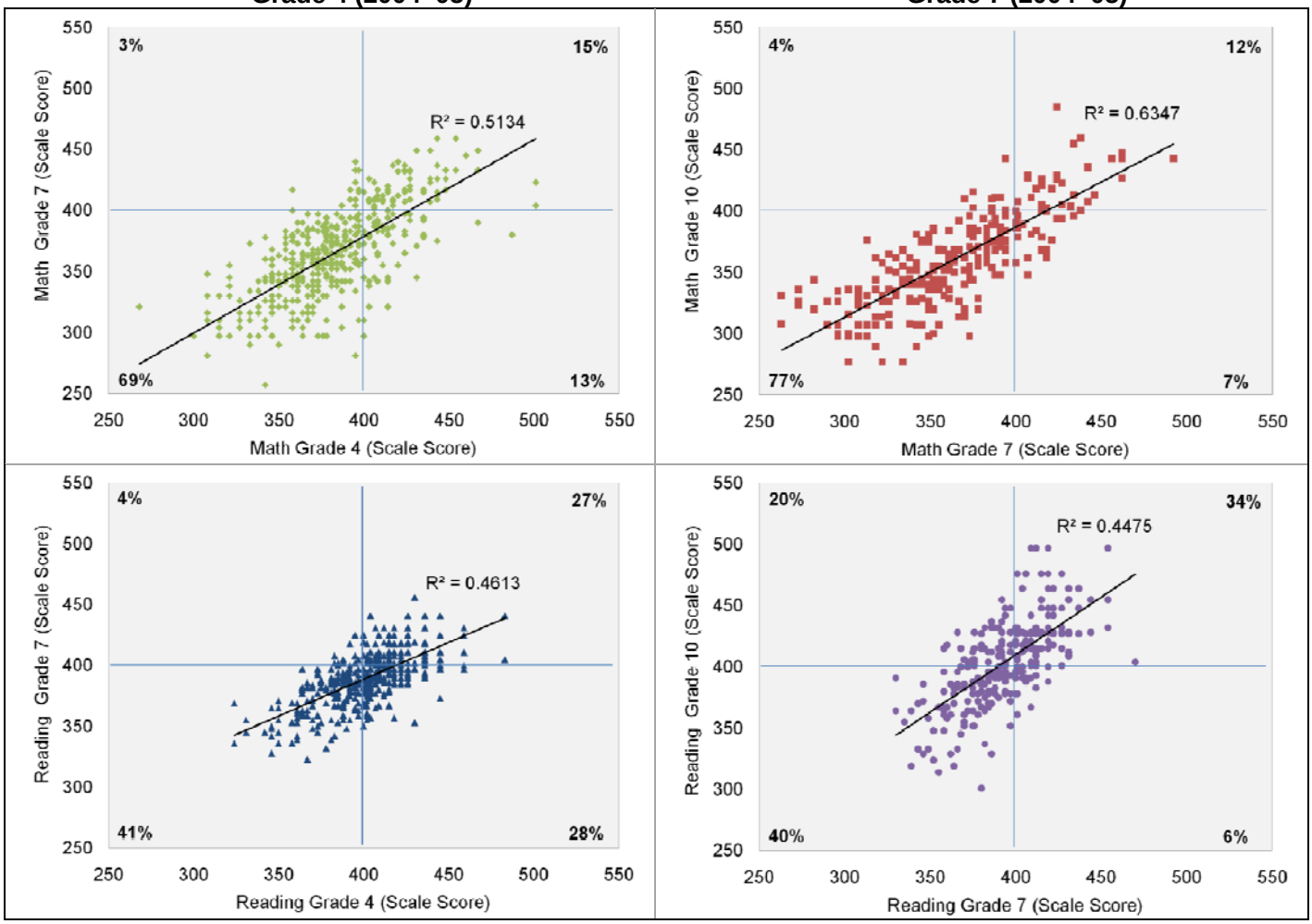
Category of Student	Percentage of 10th Graders		Met Standard in All Three Areas	
	Non-Foster	Foster	Non-Foster	Foster
All Students	99.5%	0.5%	52.2%	20.9%
Race/Ethnicity				
African American (Not of Hispanic Origin)	4.9%	13.6%	25.1%	6.3%
American Indian/Alaskan Native	2.3%	12.3%	33.6%	6.9%
Asian American	8.7%	2.6%	61.4%	50.0%
Caucasian (Not of Hispanic Origin)	70.7%	57.9%	57.8%	26.5%
Hispanic/Latino	11.8%	12.3%	27.3%	17.2%
Gender				
Female	48.4%	53.2%	50.2%	20.0%
Male	51.6%	46.8%	54.0%	21.8%
School Status				
Behind Grade Level	12.4%	30.6%	34.2%	22.2%
Time in Same District				
One Year or Less	11.7%	28.9%	43.8%	17.6%
One to Two Years	17.8%	34.0%	50.4%	17.5%
Longer Than Two Years	70.5%	36.2%	54.0%	27.1%
Disability Status				
No Disability	95.9%	81.7%	53.9%	24.0%
Emotional/Behavioral Disability	0.2%	6.4%	9.5%	6.7%
Health Disability	1.2%	5.5%	17.2%	7.7%
Specific Learning Disability	2.1%	4.7%	6.2%	9.1%
Other Disability	0.5%	1.7%	28.8%	0.0%

All of the relationships presented above could be considered *status indicators.* That is, at a given point in time, a student with a certain set of characteristics would have a given probability of meeting WASL standards. While informative, this type of snapshot does not provide a full picture of a student's achievement. A more relevant approach may be to ask, "How do the scores of foster students change as they progress through the school system?"

To investigate this question, we compared foster students' 2004–05 WASL scores with the scores they received when they completed the WASL three years later (2007–08 school year). We were able to examine two cohorts of students by linking test scores over time. The first cohort includes 4th grade foster youth who completed the WASL in 2005 *and* also completed the WASL in 2008 as 7th graders. Second, we looked at 7th grade foster students who completed the WASL in 2005 and then completed the 10th grade WASL in 2008. As expected, a foster student's previous WASL score (in 2005) was strongly associated with future assessment results (Exhibit 6).

In statistical terms, the strength of this relationship is measured by the *coefficient of determination* (r^2). This term represents the degree to which the variance, or fluctuation, in one variable can be explained by another variable. The value of r^2 ranges between 0 (no explained variation) to 1 (perfect one-to-one relationship). As Exhibit 6 shows, between 45 and 63 percent of the total variation in student test scores can be explained by a student's previous assessment.

Exhibit 6
Relationship Between WASL Reading and Math Scores for Foster Students Taking Test in 2005 and 2008



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The plots shown in Exhibit 6 include a line that divides the scale score above and below 400. A scale score of 400 and above indicates that the student met standard on the WASL. Observing which students met standard in both time periods (2005 and 2008) is one way to measure student progress. The lower left quadrant, for example, represents students who did not meet WASL standards in both 2005 and in 2008. Between 69 and 77 percent of foster students who took both tests failed to meet WASL standards in math and about 40 percent did not meet reading standards.

A student who did not meet standard upon completing the WASL was unlikely to meet standard three years later. Among math completers, just 3 to 4 percent of students taking the tests in both years went from a "no-pass" to "pass" level on the WASL.

The foster students included in this analysis had at least one out-of-home (foster) placement lasting 90 or more days between the time they completed their first (2005) and second (2008) WASL tests. Many of these students, however, had very low WASL assessment scores even before they entered foster care. The next section explores how a student's experience in foster care during this period may be related to changes in assessment results.

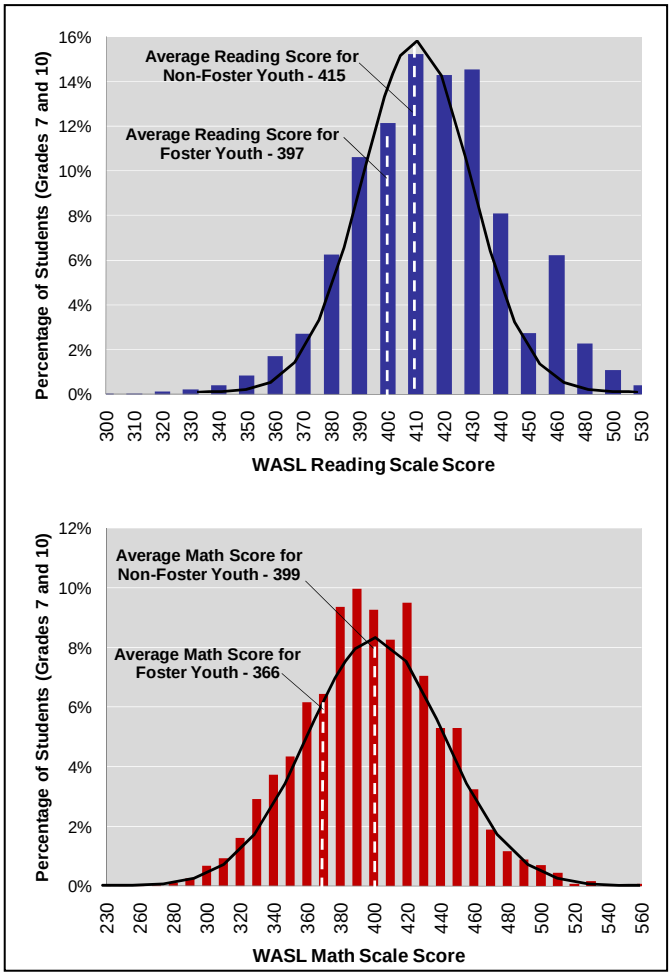
Section II: Foster Care Characteristics and WASL Results

Children enter the foster care system for a variety of reasons, including abuse or neglect, abandonment, or as a result of the death or incarceration of a parent. The implications of these experiences on the social, emotional, and behavioral development of foster youth are well established.[8] Youth with foster care experiences may exhibit signs of detachment, aggression, opposition, and anxiety as a reaction to previous trauma. Troubles with social and emotional development also impact educational outcomes. In addition, frequent placement changes once a youth enters foster care may lead to a student falling behind in school and interfere with academic progress. A study of foster youth's assessment results in New York City found that higher attendance correlated with improvements in test scores, while more school transfers were associated with lower scores.[9]

When discussing the factors that influence students' test scores, education researchers typically measure change by the difference in *standard deviations* between groups. The standard deviation is a statistic that indicates how tightly each observation clusters around the mean or average. In a *normal distribution*, most observations are grouped around the mean, and fewer observations are in the extremes in either direction. With normally distributed data, 68 percent of all observations fall one standard deviation above or below the mean.

Assessment scores can be expressed easily in these terms because in a large sample, test score results will tend toward a normal distribution. Exhibit 7 shows the distribution of WASL reading and math scores for both 7th and 10th grade students taking the test in 2008. For non-foster youth, the average reading WASL score was 415 (standard deviation: 28) and the average math WASL score was 399 (standard deviation: 45).

Exhibit 7
Distribution of WASL Test Scores
7th and 10th Grade Students (2008)



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Students with a recent foster care placement scored 397, on average, on the reading WASL and 366 on the math WASL. Exhibit 8 (next page) shows that foster youth scored nearly one standard deviation lower (0.62 in reading and 0.79 in math) than other students on the WASL. If an average student is considered to perform at the 50th percentile, this would mean that foster youth score at the 29th and 23rd percentiles for reading and math, respectively.

[8] American Academy of Pediatrics, Committee on Early Childhood and Adoption and Dependent Care (2000). Developmental issues for young children in foster care. *Pediatrics, 106*(5), 1145–50.
[9] D. Conger (2001). *How children's foster care experiences affect their education*. New York: Vera Institute of Justice, Inc.

Exhibit 8
Differences in Average WASL Scores for Foster and Non-Foster Youth—2008

	Standard Deviation Difference	Percentile
Reading WASL	- 0.62	29th
Math WASL	- 0.79	23rd

Interventions that achieve a change of one-quarter (0.25) of a standard deviation in average assessment score gains are generally considered to be effective in education research.[10] If the foster youth in this study showed this level of test score improvements, we could expect their average scores to increase from the 29th to 38th percentile in reading and from the 23rd to 32nd percentile in math. While these would be significant and notable improvements, it should be cautioned that even highly effective efforts would be unlikely to bring foster students to the 50th percentile in WASL scores.

Statistical Analysis

While students in foster care score lower, on average, than other students, there may be certain factors or characteristics among foster students related to performance. This analysis includes an examination of how a student's foster care experience may relate to educational performance. Specifically, we want to determine how time in an out-of-home (foster) placement is associated with changes in WASL scores.

To complete this analysis, we developed a multivariate statistical model to test how the change in a student's WASL score was related to several foster care variables. This technique, called *linear regression*, makes it possible to isolate the influence of each factor being measured on the outcome, while holding all other variables constant.

To ensure results were comparable, we modeled the change in standard deviation between the time the student completed the WASL in 2005 and then took the test again in 2008. Results for two cohorts of students were modeled—those who completed the WASL between 4th and 7th grades and an older group who completed the test between 7th and 10th grades. Exhibit 9 shows the total number of students in each cohort and the foster care characteristics of each group.

Exhibit 9
Foster Care Characteristics of Foster Youth Completing the WASL in 2005 and 2008

	Grade 4 (2005) n=480	Grade 7 (2005) n=271
Time in Care*		
1 to 12 months	41.5%	36.2%
13 to 24 months	21.7%	24.4%
25 to 36 months	36.9%	39.5%
Mean (months)	18.1	19.2
In Care at Time of First WASL	46.0%	49.8%
Type of Placement*		
Group Home	5.2%	10.0%
Licensed Family	47.9%	55.4%
Relative	46.9%	34.7%
Number of Providers*		
One	64.0%	52.4%
Two	20.0%	24.4%
Three or More	16.0%	23.3%
Age at First Placement		
Missing	4.0%	3.7%
Birth to 5	20.2%	19.6%
6 to 8	15.6%	11.4%
9 to 11	44.2%	17.0%
12 to 14	16.0%	36.9%
15 to 17	n/a	11.4%
Mean	8.3	10.0
Had Detention Stay*	2.1%	8.9%
Placement Result*		
Still in Foster Care	30.6%	40.6%
Returned to Parent	38.1%	32.1%
Adoption	10.8%	3.0%
Guardianship/Transfer	20.4%	24.0%

Note: Results include foster youth completing the Reading WASL in 2005 and 2008.
*Calculated between WASL tests (2005 and 2008)

[10] G.D. Borman, G.M. Hewes, L.T. Overman, & S. Brown (2002). *Comprehensive school reform and student achievement: A meta-analysis*. Baltimore, MD: CRESPAR/Johns Hopkins University.

As Exhibit 9 shows, the experiences of youth in foster care during the three-year study period (2005 to 2008) were diverse and varied. For our study sample, we included all youth who completed the WASL in 2005 and 2008 and spent time in an out-of-home placement between these years. On average, youth spent 18 to 19 months in a foster placement; about 40 percent were in care for more than two years during this period. It is also worth noting that over half (50 to 54 percent) of the study group were not in a foster care placement at the time they completed the first WASL.

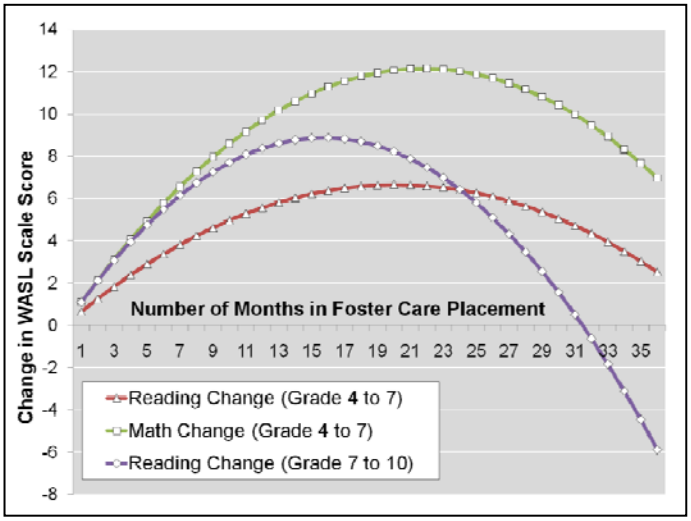
The older study cohort includes those foster youth who completed the 7th grade WASL in 2005 and 10th grade WASL in 2008. These students were more likely to have more than one foster care provider, enter care at an older age, and have a stay in juvenile detention. Based on some of these differences, our models of test score results are presented separately for each age group.

Results

For students in foster care between the 4th and 7th grades, we found that increased days in an out-of-home placement were associated with an improvement in WASL results. This finding, however, also showed that increased time in care may reach a point of "diminishing returns" with respect to test score gains. Specifically, the greatest improvements in test scores were observed for foster students who had an out-of-home placement lasting 20 to 22 months. A longer (2 to 3 year) stay in foster care was still associated with gains in a student's WASL scores, but these gains were not as large as for youth with a 20- to 22-month placement.[11]

While we observed a relationship between gains in WASL scores between 4th and 7th grade and length of time in foster care, these gains were still modest. Exhibit 10 shows that, on average, staying in foster care for about two years (24 months) is associated with a 6-point increase in reading scores and a 12-point gain in math scores.

Exhibit 10
Estimated Change in WASL Scale Scores by Length of Time in Foster Care



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For students taking the WASL between grades 7 and 10, we did not find a statistically significant relationship between length of time in care and changes in math scores. Foster students from this age cohort exhibited improvements in reading scores that increased for the first year they remained in a placement. These gains eroded for youth who remained in care past this length of time and fell below zero for older youth in foster care for 32 months or more.

Conclusion

During the 2007–08 school year, only about 20 percent of all 10th-grade students in foster care met WASL standards in reading, writing, and math. Across these subject areas, the met-standard rate for foster youth was about 15 to 30 percentage points lower than for non-foster youth. Following these students over time, however, we find that many enter the foster care system already behind in school and struggling to meet WASL standards. For some students, however, an out-of-home foster placement was associated with modest improvement in WASL scores over a three-year period.

[11] Full regression results are presented in the Appendices.

Appendix A

Change in WASL Test Scores (Standard Deviation Units)
for Foster Students Taking 4th Grade Test in 2005 and 7th Grade Test in 2008

Characteristic	Reading		Math	
	Estimate	Standard Error	Estimate	Standard Error
Intercept	-0.2517**	0.1245	-1.7301***	0.1029
Days in Foster Care Between 2005 and 2008	0.0010**	0.0004	0.0010***	0.0003
Foster Care Days (squared)	-8.15E-07**	3.56E-07	-7.65E-07***	2.88E-07
Male	-0.1127	0.0749	-0.0406	0.0612
Ethnic Minority	0.1848**	0.0770	0.0419	0.0627
Not in Age Appropriate Grade	-0.0175	0.0884	0.0152	0.0714
Learning Assistance Program	0.1540	0.1085	-0.0217	0.0890
In Same District Less Than One Year	0.0524	0.0849	-0.0823	0.0693
Primary Placement Relative Care	-0.1260	0.0772	-0.1280**	0.0632
Primary Placement Group Care	-0.3442*	0.1766	-0.2414*	0.1431
Number of Foster Care Providers	-0.0029	0.0412	-0.0290	0.0344
Age at First Placement Before Five	-0.1090	0.0847	-0.0492	0.0694
Detention Stays	-0.2055**	0.0890	-0.1756**	0.0727
Disability—Behavior	0.0486	0.1572	0.0220	0.1280
Disability—Learning	0.0613	0.1423	-0.1320	0.1192
Disability—Health	-0.1171	0.1374	-0.2030*	0.1167
R^2	**0.07**		**0.07**	
n	**459**		**454**	

* >0.10
** >0.05
*** >0.01

Appendix B

Change in WASL Test Scores (Standard Deviation Units)
for Foster Students Taking 7th Grade Test in 2005 and 10th Grade Test in 2008

Characteristic	Reading		Math	
	Estimate	Standard Error	Estimate	Standard Error
Intercept	-2.8403***	0.2157	0.4409***	0.1567
Days in Foster Care Between 2005 and 2008	0.0012*	0.0006	0.0003	0.0005
Foster Care Days (squared)	1.24E-06**	5.48E-07	-8.31E-08	-3.98E-07
Male	-0.2243**	0.1091	0.1825**	0.0796
Ethnic Minority	-0.1193	0.1114	-0.0577	0.0822
Not in Age Appropriate Grade	0.0404	0.1251	0.0103	0.0901
Learning Assistance Program	0.2093	0.1501	-0.0308	0.1089
In Same District Less Than One Year	-0.4455***	0.1211	-0.0063	0.0874
Primary Placement Relative Care	0.0262	0.11535	0.0800	0.0835
Primary Placement Group Care	0.1753	0.1940	-0.2661*	0.1409
Number of Foster Care Providers	0.0475	0.0501	-0.0329	0.0353
Older Than 12 at First Placement	-0.0568	0.1421	-0.0258	0.1029
Disability—Behavior	0.5307**	0.2461	0.2014	0.1583
Disability—Learning	0.0217	0.1781	0.2663*	0.1492
Disability—Health	-0.0588	0.2120	0.1098	0.1432
Detention Stays	-0.0630	0.0698	-0.0594	0.0506
In Foster Placement at Time of First WASL	0.2829*	0.1509	-0.1394	0.1098
R^2	0.13		0.10	
n	250		249	

* >0.10
** >0.05
*** >0.01

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