

WHO HAS AND HAS NOT YET COMPLETED THE 10TH-GRADE WASL?

The 2006 Legislature directed the Washington State Institute for Public Policy (Institute) to conduct a “review and statistical analysis of Washington assessment of student learning [WASL] data.”¹ As part of this mandate, the Institute was instructed to identify possible barriers to student success on the WASL. One barrier is clear: meeting standard on the WASL presupposes that a student has actually taken it. Less clear, however, are the characteristics of students who have not yet completed the WASL.

This report identifies the characteristics of students who were slated to take the 10th-grade WASL in spring 2006 but have not yet completed all three subject-area assessments (reading, writing, and math).²

For the class of 2008:

- 77,806 students were slated to take all three subject-area assessments of the 10th-grade WASL (excluding students with an Individualized Education Program [IEP] who are eligible for an alternate assessment—the WAAS or WASL-Modified—for any subject).³
- Of these, 38,264 students (49.2 percent) have completed and met standard on all three subject-area assessments of the WASL.
- An additional 28,700 students (36.9 percent) have completed but not met standard on the WASL.
- Accordingly, 10,842 students, or 13.9 percent of students slated to take the WASL, have not yet completed all three reading, writing, and math assessments (see **Exhibit 1**).

A previous report by the Institute discussed the reasons, identified by the Office of Superintendent of Public Instruction, why some students have not yet completed the WASL as scheduled.⁴ These reasons include excused and unexcused absences, English language learner or medical exemptions, test invalidation, and student refusal to take the WASL.

¹ SSB 6618, Chapter 352, Laws of 2006.

² These analyses are based on individual student WASL records received from the Office of Superintendent of Public Instruction (OSPI) as of October 2006.

³ The Institute previously reported that 78,020 students were slated to take the 10th-grade WASL in spring 2006. See W. Cole & R. Barnoski. (2006). *Student performance on the 10th-grade WASL in spring 2006: Interim report*. Olympia: Washington State Institute for Public Policy, Document No. 06-12-2201. This report has 214 fewer students because multiple student records were matched and duplicate records deleted.

⁴ W. Cole & R. Barnoski. (2006). *How different base populations affect WASL results*. Olympia: Washington State Institute for Public Policy, Document No. 06-11-2201.

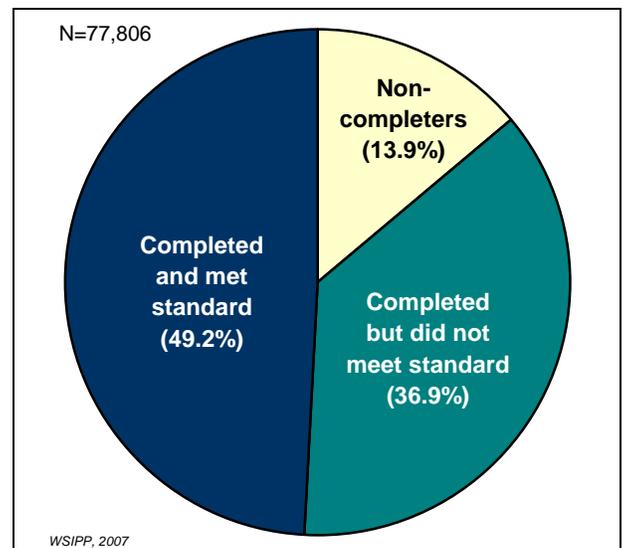
SUMMARY

This report identifies the characteristics of students in the class of 2008 who are slated to take the WASL but have not yet completed all three subject areas: reading, writing, and math.

Key findings:

- 13.9 percent of students who were slated to take the 10th-grade WASL in spring 2006 had not yet completed it by fall 2007.
- An additional 36.9 percent of students have completed but not met standard on the WASL.
- Grade point average is most strongly associated with WASL completion rates.

Exhibit 1
Percentage of students in the class of 2008 who have completed and not completed the 10th-grade WASL*



* Based on the number of students slated to take all three reading, writing, and math assessments of the WASL.

Exhibit 2 displays results from a multivariate logistic regression analysis of the relative association between student characteristics and WASL completion rates. Except for GPA, the analysis includes the same characteristics used to analyze met-standard rates in a previous Institute report.⁵ Larger absolute values indicate stronger relative associations. Positive numbers signify that a student characteristic is associated with higher completion rates; negative numbers denote lower completion rates; and zeros indicate that the characteristic is not associated with completion rates, all else being equal.

Grade point average has the strongest association with WASL completion rates: as GPAs increase, completion rates also increase, even after other student characteristics are considered.

Students who report spending several hours each week on homework and whose parents are highly educated are also likely to have completed the WASL, although the association of these characteristics with completion rates is much weaker relative to GPA. Three additional characteristics—students' educational aspirations, Asian students, and Hispanic students—are also weakly associated with higher completion rates.

Several student characteristics are associated with lower completion rates: non-English language speakers, students with a disability, and time spent watching TV are the strongest, followed in descending order of strength by poverty status, American Indian students, African American students, and students enrolled in vocational education. Again, these associations are much weaker relative to GPA. One characteristic, gender, is unrelated to aggregate completion rates.

In previous reports, we found that a similar combination of student characteristics is strongly associated with met-standard rates on the WASL, as is GPA when considered in isolation.⁶ It appears that, without some form of intervention or remediation, many non-completers would not have met standard if they had taken the WASL.

⁵ R. Barnoski & W. Cole. (2007). *Tenth-grade WASL in spring 2006: Relative strength of associations between student characteristics and met-standard rates*. Olympia: Washington State Institute for Public Policy, Document No. 07-01-2206.

⁶ Ibid.; R. Barnoski & W. Cole. (2007). *Tenth-grade WASL in spring 2006: How individual student characteristics are associated with performance*. Olympia: Washington State Institute for Public Policy, Document No. 07-02-2201.

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Exhibit 2
Relative association* between student characteristics and completion rates on the 10th-grade WASL in spring 2006

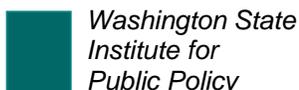
Characteristic	Standardized Estimate
Higher completion rates	
Grade point average	+38
Hours doing homework	+14
Parents' education	+10
Educational aspirations	+7
Asian	+5
Hispanic	+2
Lower completion rates	
Primary language not English	-11
Disability status	-11
Hours watching TV	-11
Poverty	-8
American Indian	-4
African American	-3
Vocational education	-1
No association with completion rates	
Male	0
AUC = 0.831	

* Standardized logistic regression parameter estimates (times 100).

The Area Under the Receiver Operating Characteristic Curve (AUC) statistic of 0.831 indicates that the student characteristics in Exhibit 2, when considered together, are strongly predictive of who completes the WASL. In comparison, the association between GPA alone and completion rates is 0.797. An AUC of 1.00 means that one could determine whether a student did or did not complete the WASL based on knowledge of the characteristics in Exhibit 2; conversely, an AUC of 0.500 indicates that the characteristics do not distinguish WASL completers from non-completers.⁷

⁷ *The Area Under an ROC Curve* <<http://jim.unmc.edu/dxtests/roc3.htm>>; M.E. Rice & G.T. Harris. (2005). Comparing effect sizes in follow-up studies: ROC Area, Cohen's *d*, and *r*. *Law and Human Behavior*, 29: 615-620; J.A. Swets. (1988). Measuring the accuracy of diagnostic systems. *Science*, 240: 1285-1293.

Document No. 07-02-2203



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