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Research Notes

Office of Research and Development RN-41, August 2010

Score Change for 2007 PSAT/NMSQT® Test-Takers: An Analysis of Score Changes for PSAT/NMSQT Test-Takers Who Also Took the 2008 PSAT/NMSQT Test or a Spring 2008 SAT® Test

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Introduction

Every year in October, over 3.5 million students take the Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT®). The majority of the students taking the test are high school sophomores and juniors who wish to prepare for the SAT®, enter scholarship competitions and gain access to college and career planning tools (The College Board, 2009).

One important use of PSAT/NMSQT scores is to aid students in identifying their academic strengths and weaknesses. The feedback the students receive when they take the PSAT/NMSQT includes recommendations for specific skills and items to review, as well as suggestions for improving each skill and preparing for the SAT. Two indicators of improvement are the amount of change between PSAT/NMSQT scores from the sophomore and junior years, and how scores compare on the PSAT/NMSQT and SAT when both tests are taken during the junior year.

The PSAT/NMSQT and SAT are related, but the two tests do not measure exactly the same content. The PSAT/NMSQT is built using questions that have appeared on the SAT, but it is shorter in length. It is intentionally designed to align with the content to which sophomores or juniors, at the beginning of the junior year, are usually exposed. The SAT includes items covering additional content that PSAT/NMSQT test-takers may not have been exposed to, such as higher-level mathematics (Algebra II). Another difference between the two tests is that the SAT writing section includes a required essay question, whereas the PSAT/NMSQT does not. Schools interested in providing students with practice for the SAT essay can use ScoreWrite as a complement to the PSAT/NMSQT writing skills section. ScoreWrite provides schools everything they need to simulate the essay-writing experience and score essays using the same rules and procedures used to score the SAT essay. Scores from the ScoreWrite practice essay are not reported as part of the PSAT/NMSQT score report.

There is a relationship between the PSAT/NMSQT and SAT score scales used to report scores to students; they may find their expected SAT scores from their PSAT/NMSQT scores by adding a 0 (zero) to the end of their PSAT/NMSQT score (The College Board, 2008). However, this relationship will not necessarily provide exactly what students need to estimate their potential performance on the SAT. One problem with this estimate is that the slightly different content on the two tests makes the correspondence between the two tests less than 100 percent. More important, and returning to the idea of using the information provided to students to improve potential weaknesses, if a student simply adds a zero the end of their PSAT/NMSQT score, it will only tell the student what score they might expect to have received on the SAT had they taken the SAT instead of the PSAT/NMSQT on that particular testing occasion. More useful to students would be to know what their SAT score, or PSAT/NMSQT score, would be after an intervening period of time, which would likely include

additional college-preparatory course work. The purpose of this paper is to provide information about how students who retake the PSAT/NMSQT or take the SAT after the PSAT/NMSQT perform on the subsequent test.

There are numerous reasons why scores change from one testing occasion to the next. One significant factor is the courses that students take between the two testing occasions. Students could elect to take very rigorous courses or elect to take no rigorous courses at all. In the former case, we would expect to see scores increase, particularly for students in the low to middle range of scores. In the latter case, we might expect PSAT/NMSQT scores to be stable on retesting but SAT scores to be lower than expected since the test adds new content and would also be more difficult. Other factors that can influence test score change include familiarity with the test, time between testing occasions that can lead to students forgetting material or practice effects diminishing, and situational factors such as student health and attitude. An additional factor, often not mentioned and unrelated to a students' actual ability, is the range of the score scales themselves. When the score scale is truncated, it actually affects students of either high or low ability. For example, a student who earns an 80 for a particular section the first time they take the PSAT/NMSQT cannot, by virtue of the scale, earn anything higher than an 80 when they retake the exam. This does not mean the student did not "grow." This ceiling and floor effect can make it appear that higher-ability students always perform worse on a subsequent testing and lower-ability students always perform better. In addition to those listed above, other factors are at play, such as measurement error (the difference between an observed score and true score) and regression to the mean (a phenomenon of extreme scores on a testing occasion tending to be closer to the mean of scores on a second testing occasion).

Previous unpublished studies (Harvey & Schmitt, 1999; Oh, Wright, & Zanna, 2005) examined the change in scores for students who took the PSAT/NMSQT as both a sophomore and junior as well as for students who took the PSAT/NMSQT and their first SAT as a junior. Both studies found that scores on the PSAT/NMSQT increased from the sophomore to junior years. In the Oh et al. study, scores for both years on the PSAT/NMSQT were lower than those in the Harvey and Schmitt study, except for junior year Writing scores. However, students in the Oh et al. study displayed larger average increases on all three sections of the PSAT/NMSQT from their sophomore to junior years than those in the Harvey and Schmitt study. When examining PSAT/NMSQT to SAT score change, both studies found positive score changes for the Verbal/Critical Reading section (on the revised SAT released in 2005, the verbal section was renamed critical reading to reflect changes in the content of the SAT) and a negative score change for the Writing section. The Oh et al. study found lower junior year PSAT/NMSQT scores than the Harvey and Schmitt study did for Verbal/Critical Reading and Writing sections. However, the Mathematics scores on the PSAT/NMSQT were about the same across studies. Junior year SAT scores were higher on Verbal/Critical Reading and Mathematics and lower for Writing for students in the Oh et al. study than for students in the Harvey and Schmitt study. Across both studies, the correlations between individual sections for both PSAT/NMSQT to PSAT/NMSQT or to the SAT were similar for Verbal/Critical Reading but slightly different for Writing. The differences reported across these two studies are likely to be largely influenced by the major changes that the SAT underwent in 2005, and specifically for the Writing. In the Harvey and Schmitt study, the PSAT/NMSQT Writing scores were compared to the scores of the SAT Writing Subject Test, whereas in the Oh et al. study, the PSAT/NMSQT Writing scores were compared scores to those of the revised SAT Writing test.

The purpose of this paper is to provide information about how students' scores change when they retake the PSAT/NMSQT as juniors or take the SAT in the spring after they take the PSAT/NMSQT as juniors. Two research questions guided this study and motivated the approach for analysis of the data: How do scores change for students who took the PSAT/NMSQT both as a sophomore and junior or the PSAT/NMSQT and SAT as juniors? How will future students taking the PSAT/NMSQT be expected to perform when they take the SAT or retake the PSAT/NMSQT?

Methods

Samples

For the analysis of sophomore to junior PSAT/NMSQT score changes, examinees were selected who took the PSAT/NMSQT both as a sophomore in October 2007 and as a junior in October 2008 and had valid scores on all three sections of the PSAT/NMSQT for both testing occasions. This resulted in 710,595 students being included in the sophomore PSAT/NMSQT to junior PSAT/NMSQT study, which is 50.2 percent of the sophomores and 44.8 percent of the juniors who took the PSAT/NMSQT in October 2008.

For the analysis of the junior PSAT/NMSQT to junior SAT score changes, examinees were selected who took the PSAT/NMSQT as a junior in October 2007 and took their first SAT in March, May or June of 2008. Students who took their first SAT prior to those specific administrations were excluded. Students who took the SAT more than once across those three SAT testing periods were included, but only scores from the first administration were used. Students also must have had valid scores on all three sections of both the PSAT/NMSQT and SAT. This resulted in 585,947 students being included in this portion of the study.

Analyses

To examine the change in scores from PSAT/NMSQT to PSAT/NMSQT or SAT, analyses were performed that examine the percent of students who obtained ranges of changes in scores, average scores and score change, and correlations across testing occasions. These analyses were disaggregated by gender and racial/ethnic groups. Results are reported on the PSAT/NMSQT score scale for the PSAT/NMSQT to PSAT/NMSQT analysis and on the SAT score scale for the PSAT/NMSQT to SAT analysis.

To examine how future students might perform on the SAT after taking the PSAT/NMSQT as juniors, the analysis performed utilized conditional means and standard deviations of SAT scores conditioned on the score of the PSAT/NMSQT. To obtain the conditional means and standard deviations, a bivariate distribution of the scores from the two testing occasions were smoothed, using a polynomial log-linear model that preserved six univariate and two bivariate moments. This approach was done for two reasons: (1) The smoothing of the observed data can reduce random variation and (2) any given form of the PSAT/NMSQT or SAT form does not necessarily utilize all possible scale scores, and the smoothing provides a method to estimate the bivariate distribution of scores for each possible scale score.

For the analysis that predicts SAT Writing scores using the PSAT/NMSQT scores and the ScoreWrite practice essay, an additional assumption was made because data were not available on the ScoreWrite practice essays. This additional assumption was that a student's score on the ScoreWrite practice essay would be the same as the score they received on the SAT essay. This assumption implies that essay scores will not change from one testing occasion to the next. The assumption seemed reasonable given that: (1) the range of scores on the essay is fairly narrow (the scores range from 2 to 12); (2) the essay score is only approximately one-third of the total SAT Writing score; and (3) the differences in scoring are likely to occur between the practice essay (which is low stakes and scored by teachers) and the actual SAT essay (which is higher stakes and scored by two independent trained raters) and not easily modeled. The sample used for this analysis is the same as the sample used to investigate the PSAT/NMSQT to SAT score change.

Results

Analysis of Observed Score Changes

Sophomore to junior year PSAT/NMSQT score change. Figure 1 displays the score change for students who took the PSAT/NMSQT as sophomores in 2007 and then again as juniors in 2008. The results include the percent of students whose scores increased or decreased by ranges of 3 PSAT/NMSQT scale score points, the average change in scores, the correlation between the scores on the two testing occasions, and the average scores and standard deviations for each testing occasion. For all three sections, the average change was positive, and the correlation between the two scores was positive and large. Over 61 percent of all the students taking the PSAT/NMSQT had scores that increased by two (2) scale score points or more. Table 1 disaggregates the information from Figure 1 by sophomore year PSAT/NMSQT score bands. As with Figure 1, most students within an initial score band see an increase from sophomore to junior year of 2 scale score points or more. Most students see between a 1- and 7-point gain, and the score change is fairly consistent across all sophomore score ranges. Figures 2, 3 and 4 display the average score change for each content area of the PSAT/NMSQT by the score earned as a sophomore. Similar to the results displayed in Figure 1, these figures show that students with initial scores of between 35 and 72 have a gain between 2 and 4 scale score points. Those with lower sophomore scores show, on average, the largest gains, and those with higher sophomore scores show, on average, a small decrease in scores.

Table 2 displays the sophomore to junior PSAT/NMSQT score change by gender. More females than males take the PSAT/NMSQT both as sophomores and juniors. Females tend to have higher scores as sophomores on the Critical Reading and Writing sections. Table 3 displays the sophomore-to-junior PSAT/NMSQT score change by racial/ethnic background. All groups display a change of 2 scale score points or more from their sophomore to junior year. White students are more likely to take the PSAT/NMSQT in both their sophomore and junior

years compared to the other groups, and white students have higher average scores on Critical Reading and Writing than the other groups. Asian American students tend to show the largest gains on those two portions of the test. Asian American students tend to have the highest sophomore average scores on Mathematics, whereas white students tend to show the largest average gain on this portion of the test. For both genders and all racial/ethnic groups, the correlations between sophomore and junior year PSAT/NMSQT scores were large and positive.

Junior year PSAT/NMSQT to junior year SAT score change. Figure 5 displays the score change for students who took the PSAT/NMSQT as juniors in 2007 and then took the SAT for the first time in March, May or June of 2008 as juniors. The results include the percent of students whose scores increased or decreased by ranges of 30 SAT scale score points, the average change in scores, the correlation between the scores on the two testing occasions, and the average scores and standard deviations for each testing occasion. For all three sections, the average change was positive, and the correlation between the two scores was positive and large. Over 50 percent of all the students taking the PSAT/NMSQT had scores that increased by 20 SAT scale score points or more. While these percentages are lower than seen with the PSAT/NMSQT to PSAT/NMSQT score change analysis, less than 27 percent of all students on all sections displayed a loss of 20 SAT scale score points or more. Table 4 disaggregates the information from Figure 5 by junior year PSAT/NMSQT score bands. As was shown by the results in Figure 5, many students show an increase in scores from their junior PSAT/NMSQT score to junior year SAT score of 20 SAT scale score points or more. Figures 6, 7 and 8 display the average score change, on the SAT scale score, for each content area of the PSAT/NMSQT and SAT by the score earned as a junior on the PSAT/NMSQT. As in the case of the results displayed in Figure 5, these figures show that many students have a small gain, whereas those with lower junior PSAT/NMSQT scores show, on average, the largest gains, and those with higher junior PSAT/NMSQT scores show, on average, a small decrease in scores.

Table 5 displays the junior PSAT/NMSQT to junior SAT score change by gender. More females take the PSAT/NMSQT and their first SAT as a junior than males. Females also tend to have higher scores as juniors on Writing, while males tend to have higher Mathematics scores. Males tend to have larger gains on Critical Reading from the PSAT/NMSQT to SAT as juniors than females do. The two groups show similar gains on Mathematics and Writing. Table 6 displays the junior PSAT/NMSQT to junior SAT score change by racial/ethnic background. All groups display a change of 10 SAT scale score points or more from their junior PSAT/NMSQT to junior SAT scores on all sections, except African American students on Critical Reading and Mathematics. More white students tend to take the PSAT/NMSQT and their first SAT in their junior year, and these students have higher average junior PSAT/NMSQT scores on Critical Reading and Writing than the other racial/ethnic groups. Asian American students tend to have the highest junior PSAT/NMSQT average scores on Mathematics, whereas white students show the largest average gain on Mathematics. Asian American students tend to show the largest gains on the Writing test. For both genders and all racial/ethnic groups, the correlations between their junior year PSAT/NMSQT and junior year SAT scores were large and positive.

Analysis of predicted SAT scores for future test-takers. Table 7 displays the predicted SAT score, as a range, for a junior who takes the PSAT/NMSQT and takes the SAT for the first time in March, May or June in his or her junior year. The average range of SAT scores for Critical Reading is 99.5, for Mathematics it is 100.5 and for Writing it is 112.3, indicating that there is more variability in predicting future writing scores than there is for critical reading or mathematics. To use Table 7, find the appropriate PSAT/NMSQT score, for example a 55 in Critical Reading, and read across to the first two columns under "Predicted Junior SAT Critical Reading Score." You will find that the student is likely to earn between a 530 and 600. These scores represent the 25th and 75th percentiles of scores students earned on the SAT, given the PSAT/NMSQT score they earned as a junior. Readers can also multiply the PSAT/NMSQT score by 10 to arrive at an approximate SAT score and see that in general this approximate score is less than halfway in the ranges of junior SAT scores for all three sections. This suggests that students are more likely to earn a higher SAT score than what would simply be predicted by multiplying the PSAT/NMSQT score by 10.

Table 8 displays the predicted junior-year SAT Writing score from the junior-year PSAT/NMSQT Writing score in conjunction with an estimated ScoreWrite practice essay score. The reader should recall that the ScoreWrite practice essay score was never actually observed and only estimated. The results indicate that the estimated score from the practice essay does provide information about how examinees might perform on the SAT Writing section. For example, as shown in Table 7, a student who obtains a 50 as a junior on their PSAT/NMSQT, without the practice essay, would be expected to earn between a 480 and 560 on the SAT Writing section as a junior. However, as shown in Table 8, this student could actually earn between a 380 and 600 on the SAT Writing section, depending upon what

their practice essay score was. Table 8 shows that a student with a PSAT/NMSQT score of 50 and a score of 5 on the practice essay would actually have a predicted score between 420 and 490. Readers will notice that the range of possible Writing scores in Table 8 is larger than the range reported in Table 7. This is a result of having limited information, — that is, no essay score — to estimate the results reported in Table 7. Table 8 estimates what the scores would be with an essay, which could result in a lower overall Writing score than using just the PSAT/NMSQT Writing score by itself.

Summary and Discussion

The purpose of this study was to examine how students' scores changed when they took the PSAT/NMSQT as both a sophomore and junior, or took the PSAT/NMSQT and their first SAT as a junior. Below are highlights of the results:

- On average, 2007 sophomore PSAT/NMSQT test-takers that repeated the PSAT/NMSQT as juniors improved their Critical Reading score by 3.3 points, their mathematics score by 4.0 points and their Writing score by 3.3 points (see page 6).
- For students who took the PSAT/NMSQT in October 2007 as sophomores and again in October 2008 as juniors, the correlations between the old (2007) and the new (2008) scores are 0.85 for Critical Reading, 0.87 for Mathematics and 0.84 for Writing.
- On average, 2007 junior PSAT/NMSQT test-takers who took their first SAT as a junior in March, May or June 2008 received SAT Critical Reading scores that were 17.5 points higher, SAT Mathematics scores that were 15.8 points higher and SAT Writing scores that were 22.5 points higher.
- For students who took the PSAT/NMSQT in October 2007 as juniors and their first SAT in March, May or June of 2008 as juniors, the correlations between the PSAT/NMSQT scores and the SAT scores are 0.87 for Critical Reading, 0.88 for Mathematics and 0.83 for Writing.
- The use of the ScoreWrite practice essay in conjunction with PSAT/NMSQT scores can aid in predicting students' scores on the SAT writing section, which would ultimately benefit students by providing additional information on strengths and weakness in the area of writing.

Compared to the previous studies on the score changes of students taking the PSAT/NMSQT as both a sophomore and junior or the PSAT/NMSQT and SAT as a junior, the results of the current study are similar in some patterns. For the PSAT/NMSQT to PSAT/NMSQT analysis, this study again shows that there is a positive score change between testing occasion and a large and positive correlation between scores. For the PSAT/NMSQT to SAT analysis, score change is similar to the previous studies for the Critical Reading and Mathematics sections, a positive change and correlations. However, the current study indicates that for Writing, the score change was positive and larger than in magnitude than the previous studies. The difference in the Writing results is likely a result of the increased alignment between the PSAT/NMSQT and SAT Writing sections (the 2006 PSAT/NMSQT forms were the first forms to incorporate the changes made to the SAT in 2005).

Future research on this topic might take a look at characteristics of students that display large score changes, particularly large positive score changes, as these results might provide insight into ways to help other students improve. Other research could examine types of course work and the rigor of the course work and how both these factors are related to score changes. The current analysis could also be further extended to examine score changes for students took the PSAT/NMSQT as a sophomore and then took the SAT as a junior but didn't retake the PSAT/NMSQT. In addition, research could examine how scores change for those students who took the PSAT/NMSQT as both a sophomore and junior and then took their first SAT as a junior.

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Acknowledgments

The authors wish to thank Gerald Melican, Jennifer Kobrin and Andrew Wiley for providing valuable reviews and feedback.

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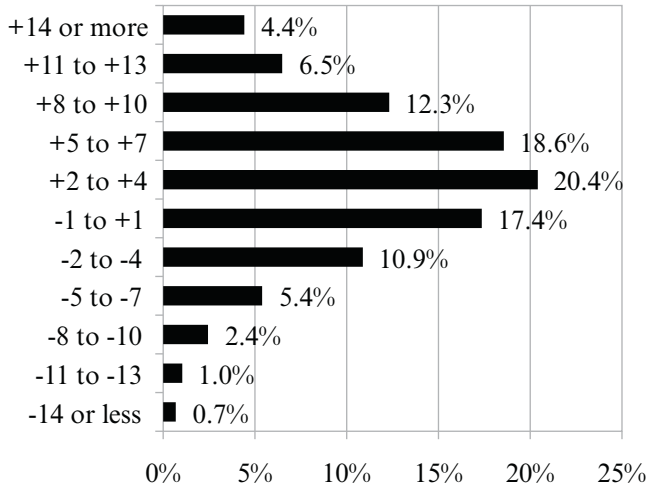
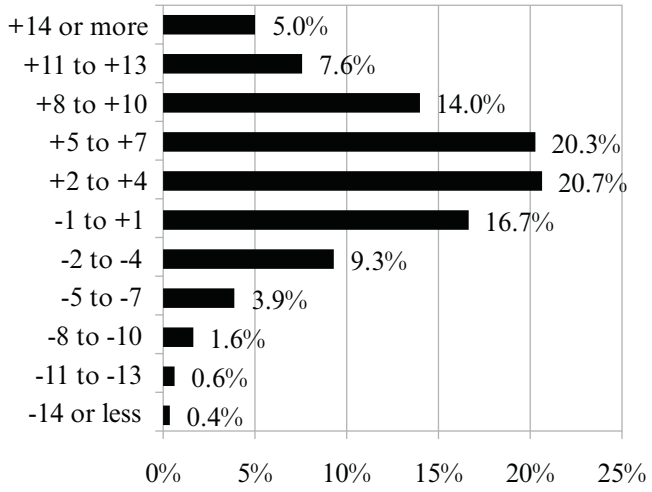


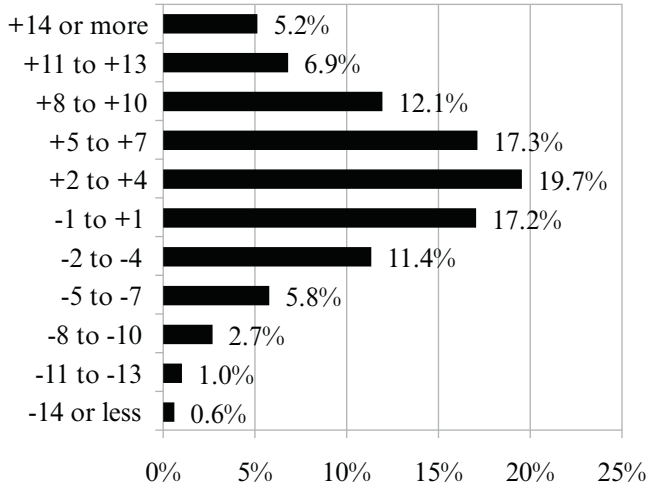
Critical Reading Score

Average Change	3.3
Correlation	0.85
Number of Students Repeating	710,595
Average Score (S.D.) at Testing Time	
2007 Sophomore PSAT/NMSQT	45.4 (10.8)
2008 Junior PSAT/NMSQT	48.7 (11.6)



Mathematics Score

Average Change	4.0
Correlation	0.87
Number of Students Repeating	710,595
Average Score (S.D.) at Testing Time	
2007 Sophomore PSAT/NMSQT	46.7 (11.1)
2008 Junior PSAT/NMSQT	50.7 (11.6)



Writing Score

Average Change	3.3
Correlation	0.84
Number of Students Repeating	710, 595
Average Score (S.D.) at Testing Time	
2007 Sophomore PSAT/NMSQT	44.8 (10.7)
2008 Junior PSAT/NMSQT	48.1 (11.3)

Figure 1. Score change for 2007 sophomore PSAT/NMSQT to 2008 junior PSAT/NMSQT.

Table 1
Percentage of Junior Year Students with Sophomore to Junior PSAT/NMSQT Score Gain or Loss

Sophomore Year PSAT/NMSQT Score Range -14 & below	*-14 & Below*	*-13 to -11*	*-10 to -8*	*-7 to -5*	*-4 to -2*	*-1 to +1*	*+2 to +4*	*+5 to +7*	*+8 to +10*	*+11 to +13*	*+14 & above*	*Avg. Junior Year PSAT/NMSQT Score*
						Critical Reading						
68–72	<1	1	2	8	16	18	24	16	11	3		71
63–67	<1	1	2	6	14	23	21	18	9	5	3	67
58–62	<1	1	2	6	12	19	23	20	10	4	3	62
53–57	<1	1	2	6	14	18	20	18	12	5	2	57
48–52	1	1	2	6	12	21	23	17	11	5	3	52
43–47	1	1	2	5	11	18	22	21	11	5	3	48
38–42	1	1	2	5	9	15	20	20	15	8	4	44
33–37	2	2	2	5	9	14	17	18	15	9	6	39
28–32		3	6	4	8	12	15	18	14	10	9	34
						Mathematics						
68–72	<1	1	3	8	16	24	21	16	8	4		71
63–67	<1	1	2	6	14	22	26	15	9	4	1	67
58–62	<1	<1	2	5	10	19	25	21	11	5	2	63
53–57	<1	<1	1	4	11	17	19	21	13	8	3	59
48–52	<1	<1	1	4	8	19	22	19	14	8	4	54
43–47	<1	<1	1	3	9	15	20	24	14	8	5	50
38–42	1	<1	1	3	8	17	23	18	15	8	4	44
33–37	1	1	2	3	8	13	19	23	16	7	6	39
28–32		2	5	2	6	14	15	20	19	9	7	35
						Writing						
68–72	1	2	6	15	13	28	14	5	11	4		69
63–67	1	2	5	9	17	22	17	14	7	4	3	65
58–62	1	1	3	9	12	19	23	16	10	5	4	62
53–57	<1	1	2	6	14	19	20	16	11	6	4	58
48–52	<1	1	3	6	11	18	24	17	11	6	4	53
43–47	<1	1	2	6	12	16	19	21	13	6	4	48
38–42	1	1	2	5	12	18	20	16	13	8	4	43
33–37	1	2	2	5	10	16	20	18	13	6	6	38
28–32		1	5	4	7	14	18	20	14	9	7	35

Note: Empty cells reflect no students in that category.

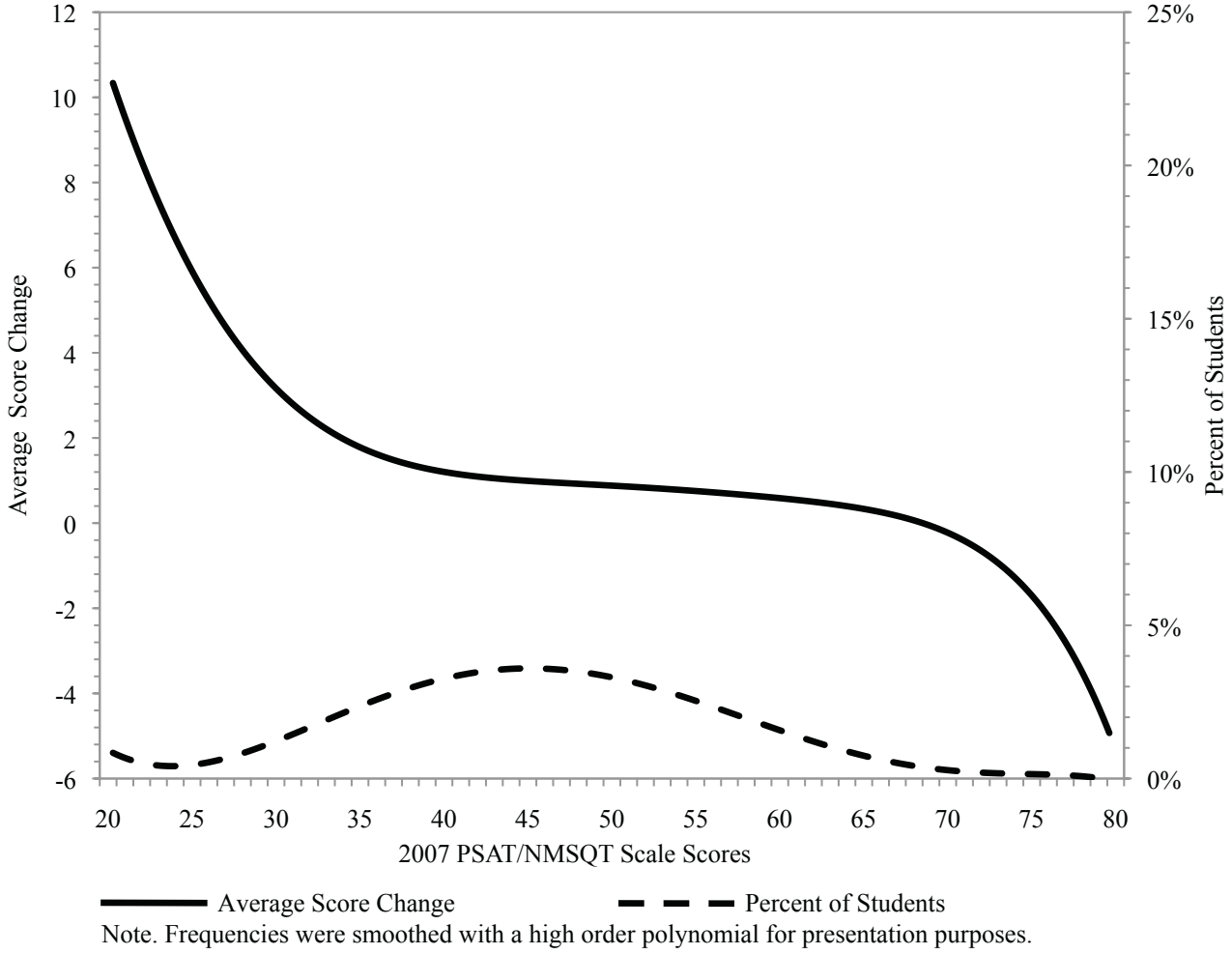


Figure 2. Average sophomore to junior PSAT/NMSQT critical reading score change by 2007 PSAT/NMSQT score.

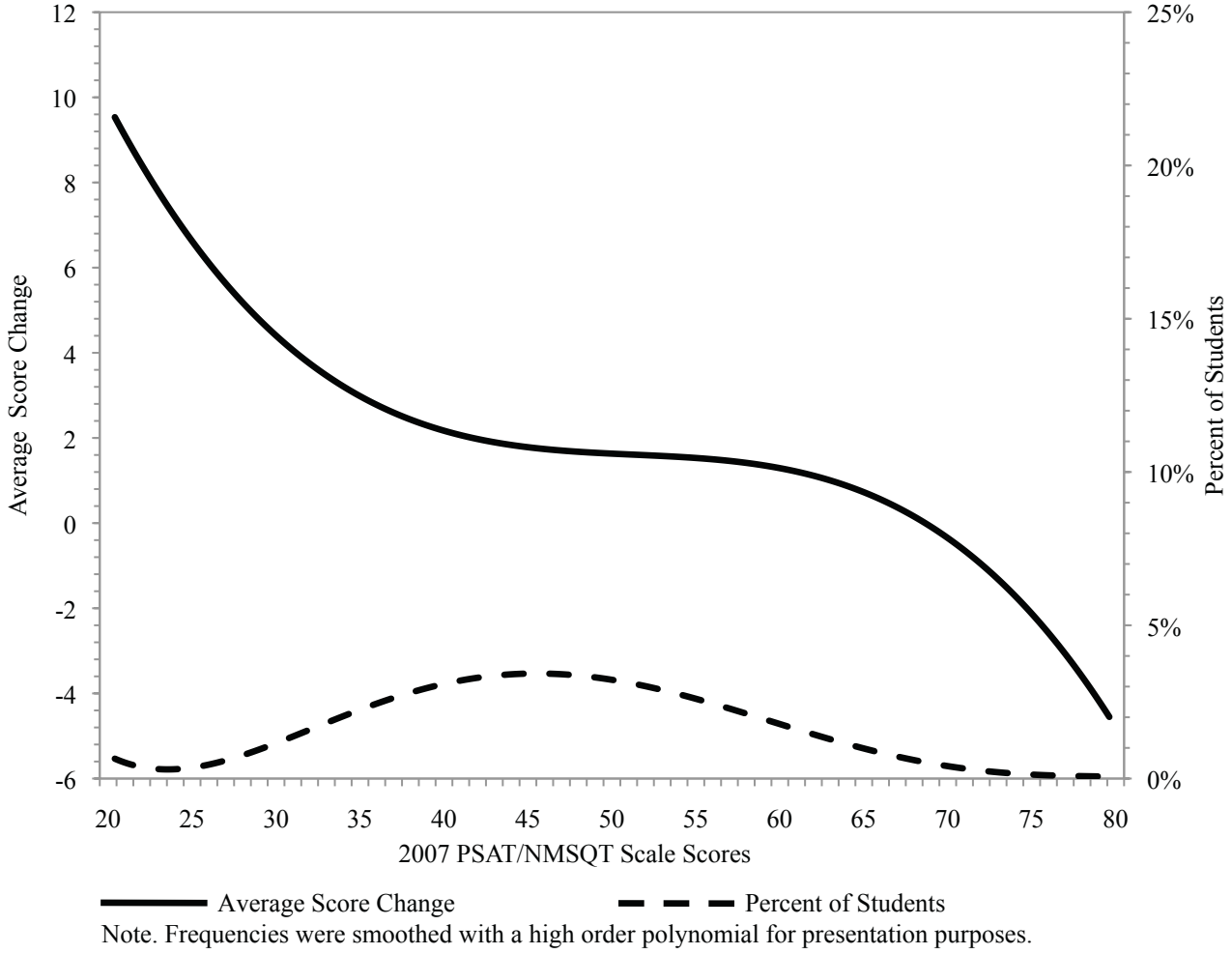


Figure 3. Average sophomore to junior PSAT/NMSQT mathematics score change by 2007 PSAT/NMSQT score.

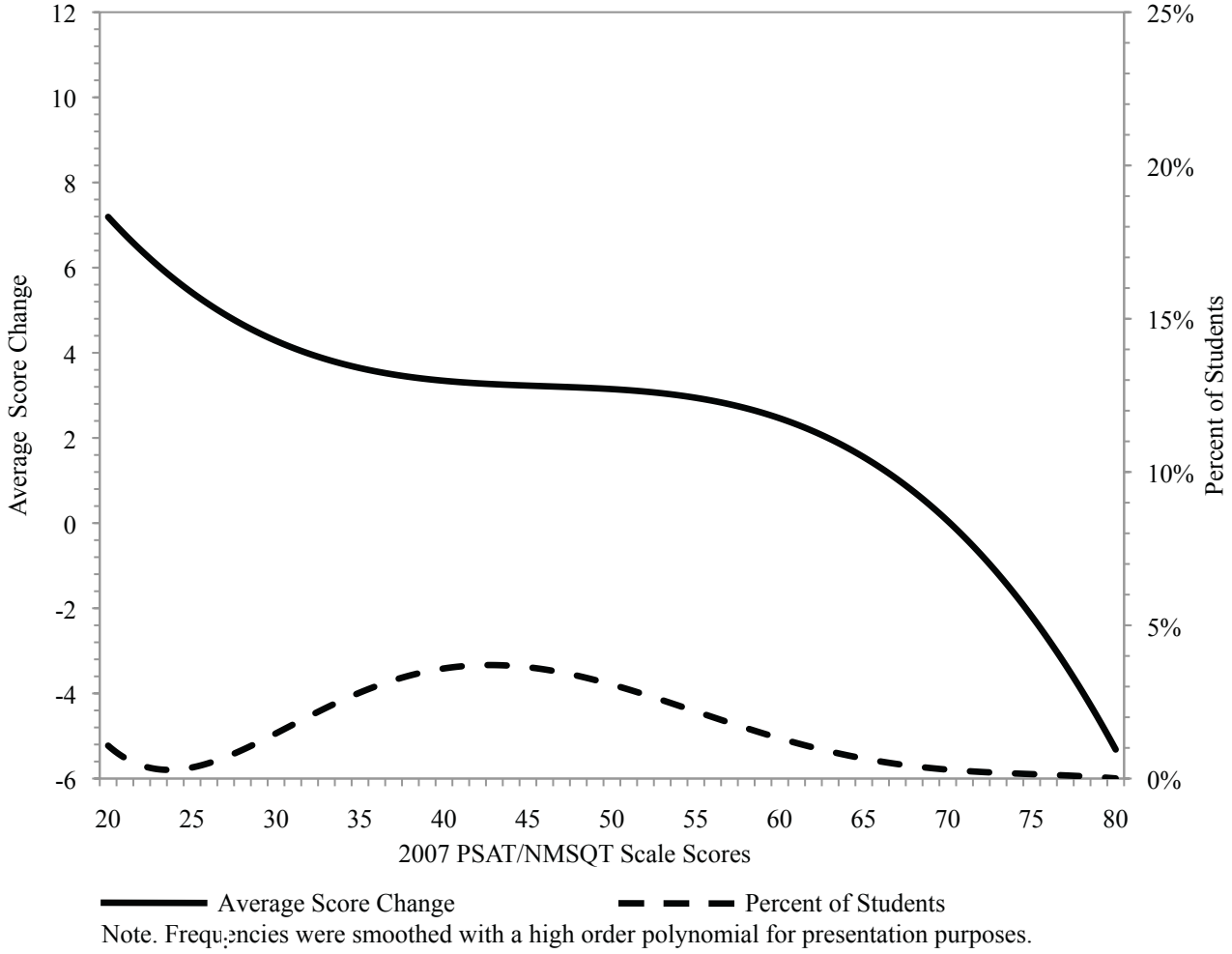


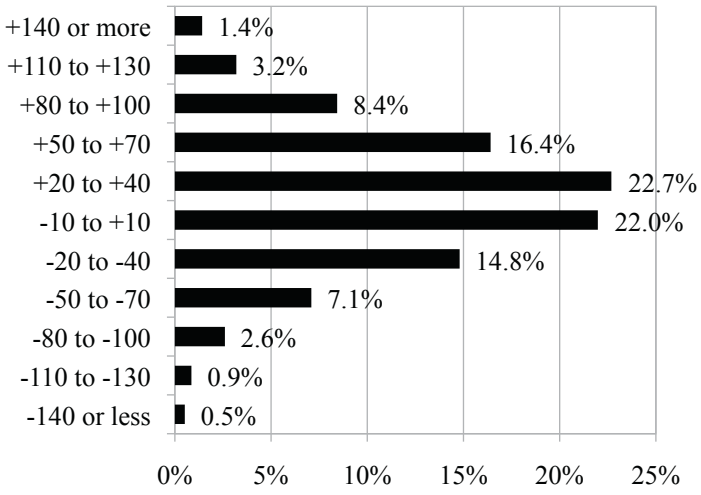
Figure 4. average sophomore to junior PSAT/NMSQT writing score change by 2007 PSAT/NMSQT score.

Table 2
Sophomore-Year to Junior-Year PSAT/NMSQT Score Change by Gender

	Sophomore-Year PSAT/NMSQT Score			*Junior-Year PSAT/NMSQT Score*			
	N	***M***	***S.D.***	***M***	***S.D.***	***Average Score Change***	***Correlation***
				Critical Reading			
Female	389,528	45.7	10.4	48.6	11.3	2.9	0.85
Male	320,880	45.1	11.2	48.7	11.9	3.6	0.85
Unknown	187	49.0	11.6	52.8	11.3	3.8	0.84
Total	710,595	45.4	10.8	48.7	11.6	3.3	0.85
				Mathematics			
Female	389,528	45.5	10.6	49.4	11.1	3.9	0.86
Male	320,880	48.2	11.5	52.4	11.9	4.2	0.87
Unknown	187	50.1	10.2	54.3	11.4	4.2	0.87
Total	710,595	46.7	11.1	50.7	11.6	4.0	0.87
				Writing			
Female	389,528	45.5	10.6	48.6	11.2	3.1	0.84
Male	320,880	43.9	10.9	47.4	11.5	3.5	0.83
Unknown	187	47.8	10.6	51.9	11.5	4.1	0.87
Total	710,595	44.8	10.7	48.1	11.3	3.3	0.84

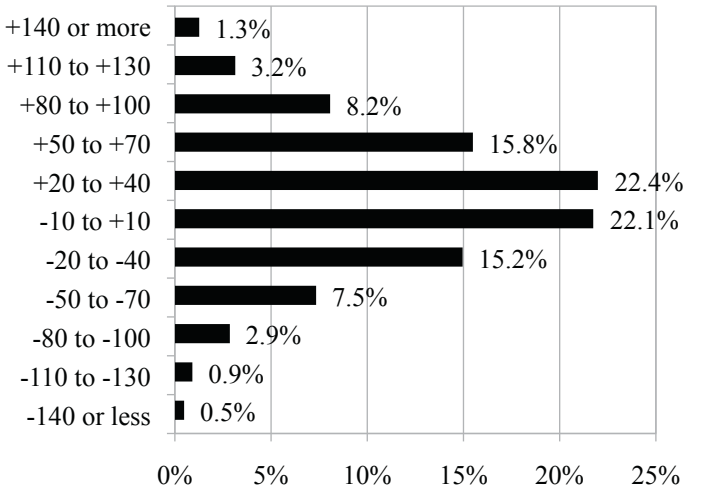
Table 3
Sophomore-Year to Junior-Year PSAT/NMSQT Score Change by Racial/Ethnic Background

	Sophomore-Year PSAT/NMSQT Score			*Junior-Year PSAT/NMSQT Score*			
	N	*M*	*S.D.*	*M*	*S.D.*	*Average Score Change*	*Correlation*
				Critical Reading			
American Indian	3,704	43.6	10.8	46.8	11.4	3.2	0.83
Asian/Asian American	64,357	47.8	10.9	51.9	11.9	4.1	0.86
African American	90,564	38.9	9.4	40.9	10.1	2.0	0.77
Mexican American	43,134	39.6	9.6	42.4	10.3	2.8	0.79
Puerto Rican	11,677	39.8	10.0	42.4	11.0	2.6	0.81
Other Hispanic	51,731	39.7	9.9	42.5	10.8	2.8	0.80
White	400,894	48.3	9.9	51.8	10.4	3.5	0.83
Other	25,150	44.7	11.1	47.9	11.9	3.2	0.85
Unknown	19,384	41.7	11.4	44.5	12.4	2.9	0.85
Total	710,595	45.4	10.8	48.7	11.6	3.3	0.85
				Mathematics			
American Indian	3,704	44.5	10.6	48.5	11.2	4.0	0.85
Asian/Asian American	64,357	52.9	11.9	57.1	12.0	4.2	0.88
African American	90,564	38.9	9.3	42.1	9.9	3.2	0.79
Mexican American	43,134	41.2	9.6	44.8	10.0	3.5	0.81
Puerto Rican	11,677	40.2	9.9	43.7	10.5	3.5	0.82
Other Hispanic	51,731	40.9	10.0	44.5	10.5	3.6	0.82
White	400,894	49.3	10.0	53.7	10.2	4.3	0.84
Other	25,150	45.6	11.1	49.5	11.7	3.9	0.86
Unknown	19,384	42.7	11.3	46.6	12.0	3.9	0.86
Total	710,595	46.7	11.1	50.7	11.6	4.0	0.87
				Writing			
American Indian	3,704	42.5	10.5	45.4	11.0	2.9	0.82
Asian/Asian American	64,357	46.9	11.1	51.5	12.0	4.6	0.84
African American	90,564	38.7	9.1	40.9	9.7	2.2	0.77
Mexican American	43,134	39.3	9.1	42.8	9.6	3.5	0.78
Puerto Rican	11,677	39.1	9.7	41.7	10.5	2.5	0.80
Other Hispanic	51,731	39.2	9.6	42.4	10.2	3.2	0.79
White	400,894	47.6	10.1	50.9	10.5	3.3	0.82
Other	25,150	44.0	11.0	47.3	11.7	3.2	0.84
Unknown	19,384	40.9	11.1	44.0	11.8	3.1	0.83
Total	710,595	44.8	10.7	48.1	11.3	3.3	0.84



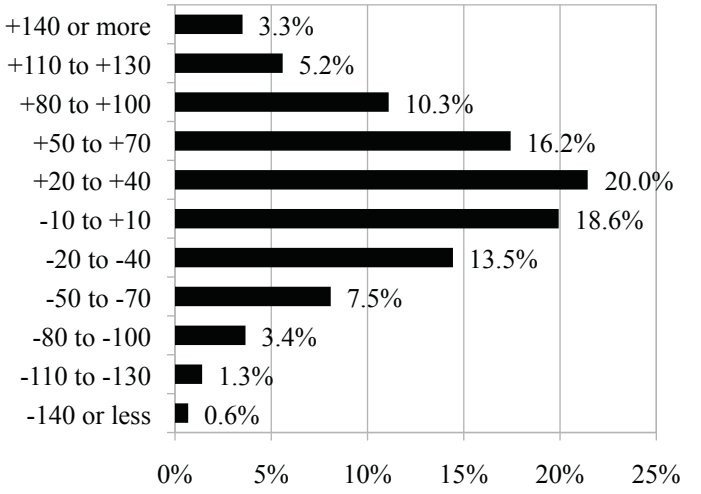
Critical Reading Score

Average Change	17.5
Correlation	0.87
Number of Students Repeating	585,947
Average Score (S.D.) at Testing Time	
2007 Junior PSAT/NMSQT	50.8 (10.2)
2008 Junior SAT	525.5 (104.3)



Mathematics Score

Average Change	15.8
Correlation	0.88
Number of Students Repeating	585,947
Average Score (S.D.) at Testing Time	
2007 Junior PSAT/NMSQT	52.5 (10.5)
2008 Junior SAT	541.1 (108.0)



Writing Score

Average Change	22.2
Correlation	0.83
Number of Students Repeating	585,947
Average Score (S.D.) at Testing Time	
2007 Junior PSAT/NMSQT	50.0 (10.5)
2008 Junior SAT	522.2 (104.6)

Figure 5. Score change for 2007 junior PSAT/NMSQT to 2008 junior SAT.
Note: the Average change is on the SAT score scale and average scores are on the repesective test's score scale.

Table 4
Percentage of Junior Year Students with Junior PSAT/NMSQT to Junior SAT Score Gain or Loss

Junior Year PSAT/NMSQT Score Range -140 & below	*-140 & below*	*-130 to -110*	*-100 to -80*	*-70 to -50*	*-40 to -20*	*-10 to +10*	*+20 to +40*	*+50 to +70*	*+80 to +100*	*+110 to +130*	*+140 & above*	*Avg. Junior Year SAT Score*
						Critical Reading						
68–72	1	1	4	11	22	24	22	10	5	1		694
63–67	1	1	3	9	19	27	20	13	5	1	1	652
58–62	1	1	3	8	17	24	23	15	6	2	1	609
53–57	1	1	2	7	15	23	24	16	8	2	1	563
48–52	<1	1	3	7	15	22	24	17	8	3	1	515
43–47	<1	1	2	7	14	22	23	17	9	3	1	469
38–42	<1	1	2	5	11	20	23	20	11	5	2	429
33–37	1	1	2	4	9	16	22	21	13	7	3	386
28–32		1	3	3	7	12	17	22	18	10	7	352
						Mathematics						
68–72	1	1	4	11	22	24	19	11	6	1		700
63–67	1	1	4	8	17	27	22	12	5	2	1	656
58–62	1	1	3	9	16	23	23	16	6	2	1	611
53–57	1	1	3	8	15	21	22	16	9	3	1	566
48–52	<1	1	3	7	15	23	22	16	9	4	1	522
43–47	<1	1	2	6	13	21	24	18	9	4	2	475
38–42	<1	1	2	5	13	21	25	18	10	4	2	426
33–37	<1	1	2	6	11	16	23	20	13	5	3	380
28–32		1	4	5	9	16	18	20	15	8	4	341
						Writing						
68–72	2	4	9	15	19	20	15	9	5	2		680
63–67	1	2	7	13	19	20	18	11	5	3	1	643
58–62	1	1	4	9	16	21	20	14	8	3	2	607
53–57	1	1	3	8	15	20	21	16	9	5	2	569
48–52	<1	1	3	7	13	19	21	17	11	5	3	525
43–47	<1	1	2	6	12	19	21	18	12	6	3	482
38–42	<1	1	2	5	11	18	21	19	13	7	4	435
33–37	<1	1	2	4	9	16	21	20	14	8	6	393
28–32		<1	2	3	7	12	19	20	17	10	9	360

Note: Empty cells reflect no students in that category, where as cells with a zero reflect a percentage greater than zero but less than 1.

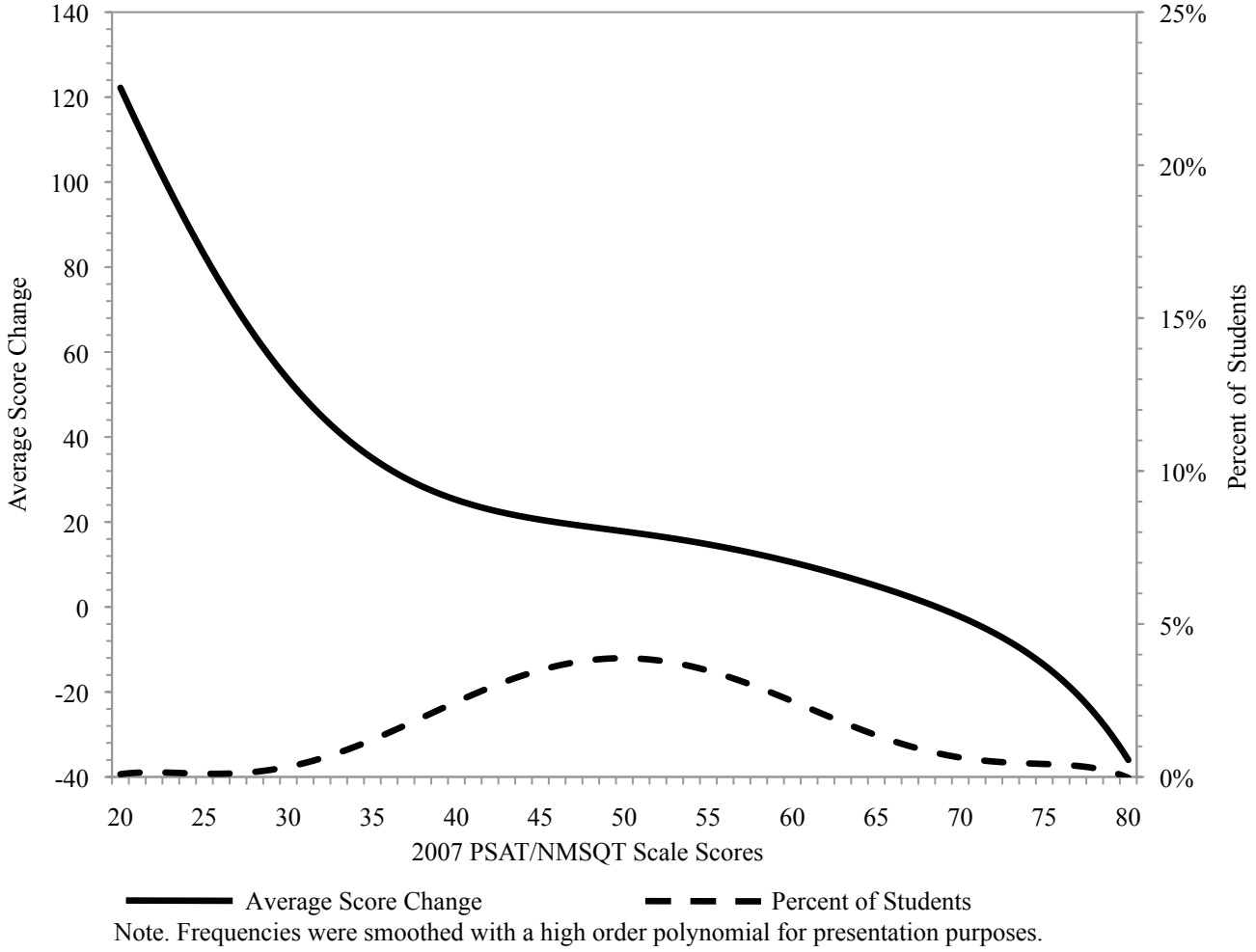


Figure 6. Average junior PSAT/NMSQT to junior SAT critical reading score change by 2007 PSAT/NMSQT score.

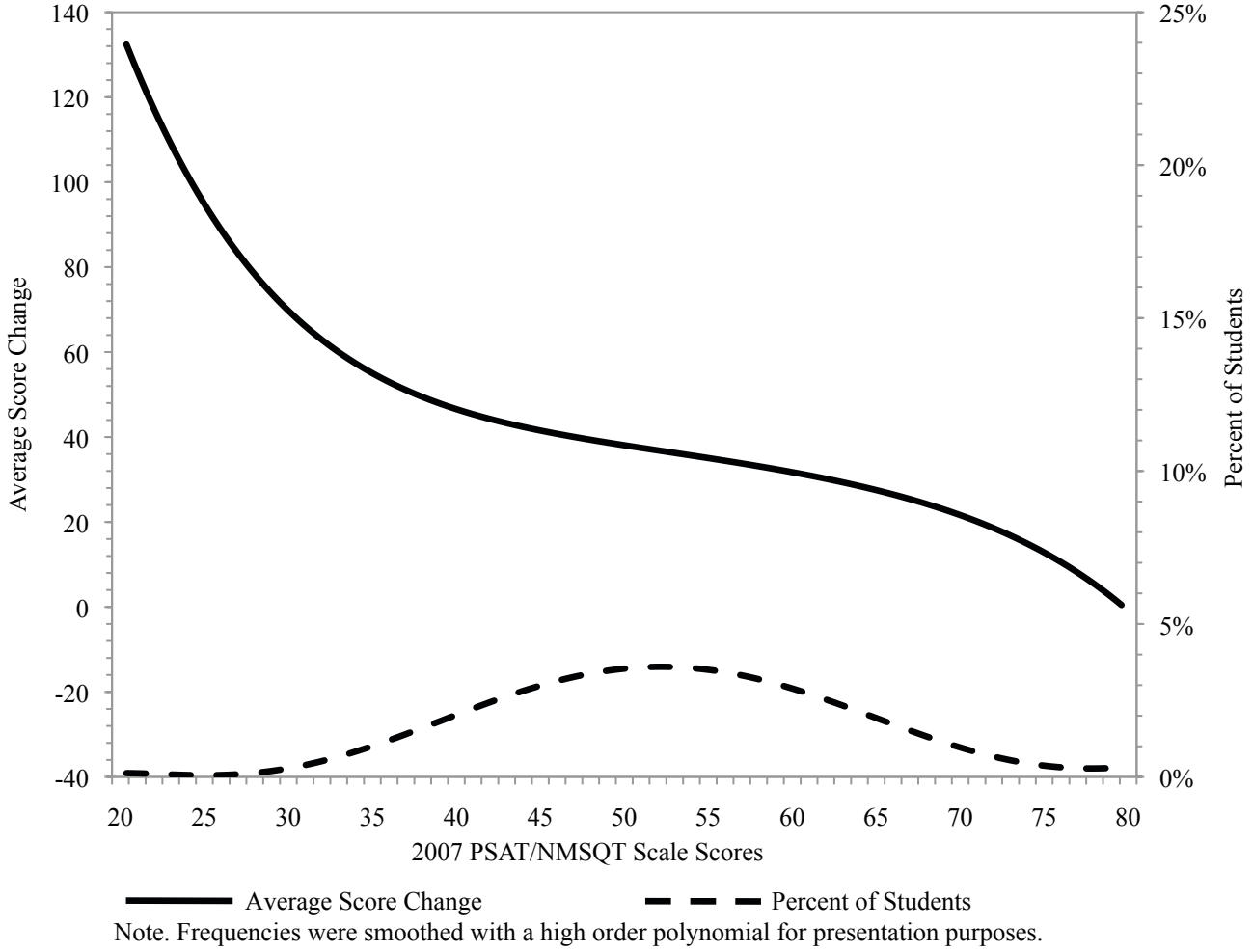


Figure 7. Average junior PSAT/NMSQT to junior SAT mathematics score change by 2007 PSAT/NMSQT score.

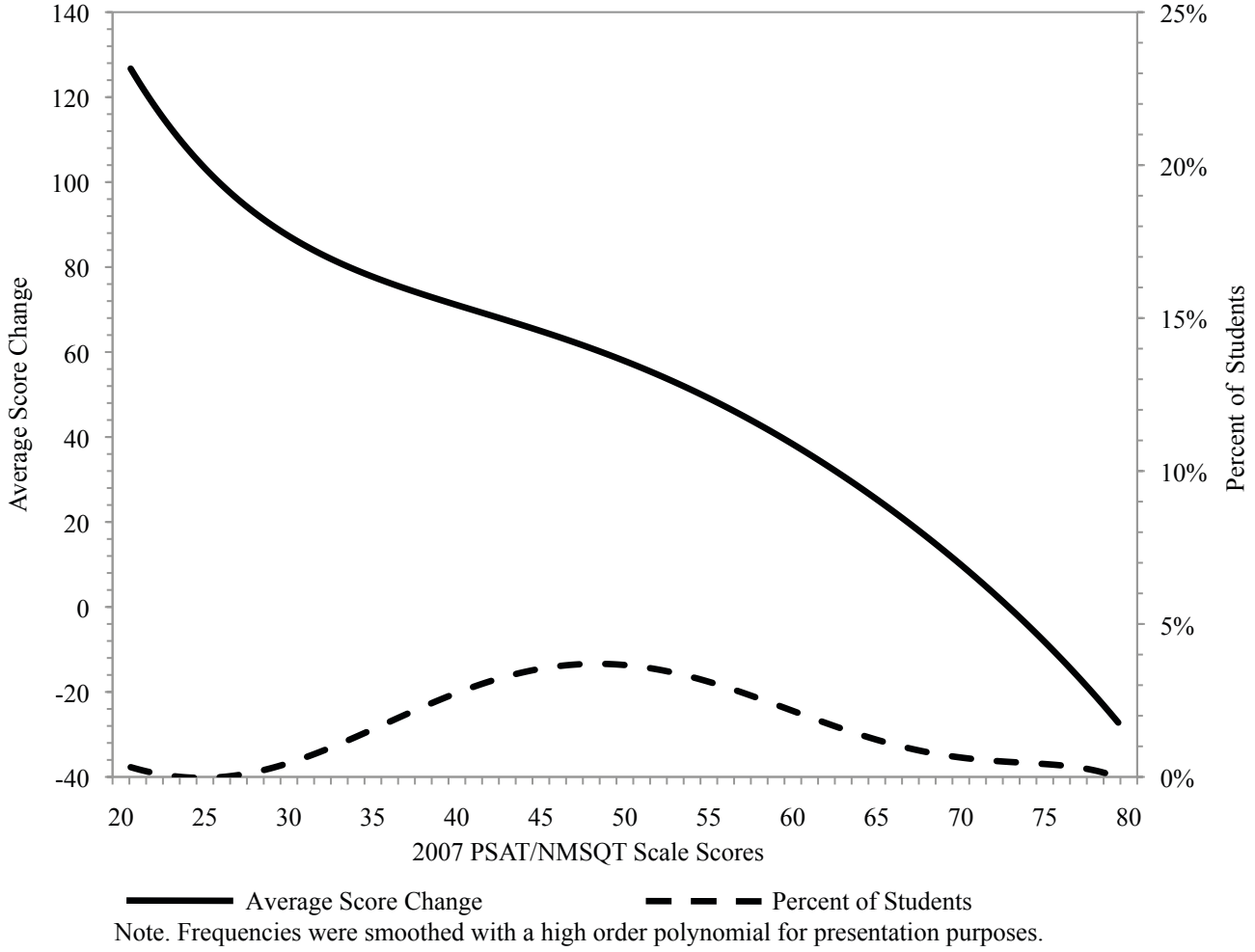


Figure 8. Average junior PSAT/NMSQT to junior SAT writing score change by 2007 PSAT/NMSQT score.

Table 5
Junior-Year PSAT/NMSQT to Junior-Year SAT Score Change by Gender

	Junior-Year PSAT/NMSQT Score			*Junior-Year SAT Score*			
	N	***M***	***S.D.***	***M***	***S.D.***	***Average Score Change***	***Correlation***
				Critical Reading			
Female	325,135	50.7	9.9	521.5	103.3	14.5	0.87
Male	260,741	50.9	10.5	530.5	105.3	21.2	0.86
Unknown	71	53.7	11.5	552.7	121.2	15.5	0.92
Total	585,947	50.8	10.2	525.5	104.3	17.5	0.87
				Mathematics			
Female	325,135	50.9	10.1	523.8	104.3	15.2	0.87
Male	260,741	54.6	10.6	562.7	108.7	16.6	0.88
Unknown	71	54.1	11.6	571.0	116.4	30.0	0.90
Total	585,947	52.5	10.5	541.1	108.0	15.8	0.88
				Writing			
Female	325,135	50.4	10.5	526.0	104.0	22.3	0.83
Male	260,741	49.5	10.6	517.5	105.1	22.7	0.82
Unknown	71	52.1	12.1	544.5	117.5	23.5	0.86
Total	585,947	50.0	10.5	522.5	104.6	22.5	0.83

Note: Average score change is on the SAT scale score metric. PSAT/NMSQT scores are truncated to the nearest 1/10th and therefore the average score change may not be equal to the value computed from the numbers reported in this table due to rounding.

Table 6
Junior-Year PSAT/NMSQT to Junior-Year SAT Score Change by Racial/Ethnic Background

	Junior-Year PSAT/NMSQT Score			*Junior-Year SAT Score*			
	N	*M*	*S.D.*	*M*	*S.D.*	*Average Score Change*	*Correlation*
				Critical Reading			
American Indian	2,585	50.0	10.0	517.4	102.4	17.8	0.85
Asian/Asian American	55,489	51.7	10.9	532.8	109.9	15.5	0.88
African American	47,634	44.5	9.6	453.7	97.9	9.1	0.83
Mexican American	22,657	46.0	9.5	472.0	99.0	11.9	0.84
Puerto Rican	7,332	45.9	9.8	471.5	100.7	12.6	0.85
Other Hispanic	30,769	46.4	10.1	477.0	103.7	13.5	0.85
White	387,747	52.2	9.6	541.7	97.5	19.5	0.85
Other	20,543	50.8	10.8	525.6	110.1	17.5	0.88
Unknown	11,191	49.5	11.3	512.8	114.9	17.5	0.88
Total	585,947	50.8	10.2	525.5	104.3	17.5	0.87
				Mathematics			
American Indian	2,585	51.0	10.2	523.3	102.8	13.5	0.86
Asian/Asian American	55,489	57.6	11.2	593.0	112.7	17.0	0.89
African American	47,634	44.7	9.7	455.0	99.6	7.7	0.84
Mexican American	22,657	47.7	9.8	487.0	101.2	10.6	0.86
Puerto Rican	7,332	46.6	10.0	476.5	104.3	10.3	0.86
Other Hispanic	30,769	47.6	10.3	487.7	106.2	11.8	0.86
White	387,747	53.7	9.7	553.9	99.1	17.3	0.86
Other	20,543	51.9	10.8	535.9	111.1	17.3	0.88
Unknown	11,191	50.5	11.4	521.2	117.5	15.9	0.89
Total	585,947	52.5	10.5	541.1	108.0	15.8	0.88
				Writing			
American Indian	2,585	48.4	10.2	503.5	101.0	19.7	0.80
Asian/Asian American	55,489	51.2	11.2	538.2	113.3	26.1	0.85
African American	47,634	43.8	9.4	449.7	96.4	11.3	0.80
Mexican American	22,657	45.5	9.5	469.3	95.7	14.3	0.81
Puerto Rican	7,332	44.9	9.9	467.6	100.6	19.0	0.82
Other Hispanic	30,769	45.6	10.0	475.1	102.8	19.1	0.83
White	387,747	51.3	10.1	537.1	98.0	24.0	0.81
Other	20,543	50.0	10.9	525.1	108.8	24.9	0.83
Unknown	11,191	48.5	11.4	508.5	114.2	23.1	0.85
Total	585,947	50.0	10.5	522.2	104.6	22.5	0.83

Note: Average score change is on the SAT scale score metric. PSAT/NMSQT scores are truncated to the nearest 1/10th and therefore the average score change may not be equal to the value computed from the numbers reported in this table due to rounding.

Table 7
Predicted Junior SAT Scores from Junior PSAT/NMSQT Scores for Future Test-Takers

Junior PSAT/NMSQT Score	*Predicted Junior SAT Critical Reading Score*		*Predicted Junior SAT Mathematics Score*		*Predicted Junior SAT Writing Score*	
	25th Pct'ile	*75th Pct'ile*	*25th Pct'ile*	*75th Pct'ile*	*25th Pct'ile*	*75th Pct'ile*
80	750	790	750	790	710	770
79	750	790	740	790	710	770
78	740	790	730	780	700	770
77	740	780	730	780	690	760
76	730	780	720	770	690	760
75	720	770	710	770	680	750
74	710	770	700	760	670	750
73	700	760	700	760	670	740
72	690	750	690	750	660	740
71	680	740	680	740	650	730
70	670	730	670	730	650	720
69	660	720	660	730	640	720
68	650	720	650	720	630	710
67	640	710	640	710	620	700
66	630	700	630	700	620	690
65	620	690	620	690	610	690
64	610	680	610	680	600	680
63	600	670	600	670	590	670
62	590	660	590	660	580	660
61	580	650	580	650	580	650
60	570	640	570	640	570	650
59	560	630	570	630	560	640
58	560	620	560	630	550	630
57	550	610	550	620	540	620
56	540	600	540	610	530	610
55	530	600	530	600	530	610
54	520	590	520	590	520	600
53	510	580	510	580	510	590
52	500	570	500	570	500	580
51	490	560	490	560	490	570
50	480	550	480	550	480	560
49	470	540	470	550	480	560
48	460	540	460	540	470	550
47	460	530	460	530	460	540
46	450	520	450	520	450	530
45	440	510	440	510	440	520
44	430	500	430	500	430	510
43	420	490	420	490	430	500
42	410	480	410	480	420	500
41	400	480	400	470	410	490
40	390	470	390	470	400	480
39	380	460	380	460	390	470
38	380	450	370	450	380	460
37	370	440	360	440	370	450
36	360	440	360	430	370	440
35	350	430	350	420	360	430
34	340	420	340	410	350	430
33	330	410	330	400	340	420
32	320	400	320	390	330	410
31	310	390	310	390	320	400

Table 7 (continued)

Junior PSAT/NMSQT Score	*Predicted Junior SAT Critical Reading Score*		*Predicted Junior SAT Mathematics Score*		*Predicted Junior SAT Writing Score*	
	25th Pct'ile	*75th Pct'ile*	*25th Pct'ile*	*75th Pct'ile*	*25th Pct'ile*	*75th Pct'ile*
30	310	390	300	380	310	390
29	300	380	290	370	310	380
28	290	370	280	360	300	370
27	280	360	270	350	290	370
26	270	350	270	340	280	360
25	270	350	260	330	270	350
24	260	340	250	320	270	340
23	250	330	250	320	260	330
22	250	320	240	310	250	320
21	240	320	230	300	250	320
20	240	310	230	290	240	310

Table 8
Predicted Junior SAT Writing Scores from Junior PSAT/NMSQT Scores and Estimated ScoreWrite™ Essay Scores for Future Test-Takers

PSAT/NMSQT Writing Skills Scaled Score	*ScoreWrite™ SAT Practice Essay Raw Score*																							
	0		*2*		*3*		*4*		*5*		*6*		*7*		*8*		*9*		*10*		*11*		*12*	
	25th	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*	*25th*	*75th*
80	610	650	620	650	630	680	640	690	650	710	660	720	680	740	690	760	700	770	710	790	720	800	730	800
79	610	650	610	650	620	670	630	690	640	700	660	720	670	730	680	750	700	760	710	780	720	790	730	800
78	600	640	600	640	610	660	620	680	630	690	650	710	670	730	680	750	690	760	700	770	710	790	720	800
77	590	640	600	640	600	660	620	670	620	680	640	700	660	720	680	740	690	750	700	760	710	780	720	790
76	590	630	590	630	600	650	610	660	620	680	630	700	650	710	670	730	680	740	690	760	700	770	710	790
75	580	620	580	620	590	640	600	660	610	670	630	690	640	710	660	720	670	740	680	750	690	770	700	780
74	570	610	570	610	580	640	590	650	600	660	620	680	640	700	650	720	670	730	680	740	690	760	700	770
73	560	600	560	610	570	630	590	640	600	660	610	680	630	690	650	710	660	720	670	740	680	750	690	770
72	550	600	550	600	570	620	580	640	590	650	610	670	620	680	640	710	650	720	660	730	680	750	690	760
71	530	580	540	590	560	620	580	640	590	650	600	670	620	680	630	690	650	710	660	730	670	750	690	760
70	530	580	530	580	560	610	570	630	580	640	600	660	610	670	620	690	640	710	660	720	670	740	680	750
69	520	570	520	570	550	610	560	620	570	630	590	650	600	660	610	680	630	700	650	710	660	730	670	740
68	510	560	520	560	540	600	550	610	560	620	580	640	600	660	610	670	620	690	640	710	650	730	670	740
67	510	560	510	560	530	590	550	600	560	620	570	640	590	650	600	660	620	690	630	700	650	720	660	730
66	500	550	500	550	520	580	540	600	550	610	570	630	580	640	590	660	610	680	630	690	640	710	650	720
65	490	540	500	540	510	570	530	590	540	600	560	620	580	640	590	650	600	670	620	690	630	700	650	720
64	490	540	490	540	500	560	520	580	530	590	550	610	570	630	580	640	600	660	610	680	630	690	640	710
63	480	530	480	530	490	550	510	570	520	580	540	600	560	620	580	630	590	650	600	670	620	680	630	700
62	470	520	470	520	490	550	500	560	510	580	540	600	550	620	570	630	580	650	590	670	610	680	620	700
61	470	520	470	520	480	540	500	560	510	570	530	590	550	610	560	620	580	640	590	660	610	670	620	690
60	460	510	460	510	470	530	490	550	500	560	520	580	540	600	560	620	570	630	580	650	600	660	610	680
59	450	510	450	510	460	520	480	540	490	550	510	580	530	600	550	610	560	630	570	640	590	660	600	680
58	440	500	440	500	450	510	470	530	480	550	510	570	530	590	540	600	560	620	570	640	590	650	600	670
57	440	490	440	490	440	510	460	530	480	540	500	560	520	580	530	600	550	610	560	620	570	640	590	650
56	430	480	430	490	440	500	460	520	470	530	490	550	510	580	530	590	540	610	550	620	570	640	580	650
55	420	480	420	480	430	490	450	510	460	520	480	550	510	570	520	590	540	600	550	610	570	630	580	650
54	410	480	410	480	420	480	440	500	450	520	480	540	500	560	510	580	530	590	540	600	560	620	580	630
53	410	470	410	470	410	470	430	500	450	510	470	530	490	550	510	570	520	580	530	600	550	610	560	630
52	400	460	400	460	400	470	430	490	440	500	460	530	490	550	500	570	520	580	530	590	540	610	560	630
51	390	450	390	460	390	460	420	480	430	490	460	520	480	540	490	560	510	570	520	580	540	590	560	610

Table 8 (continued)

PSAT/NMSQT Writing Skills Scaled Score	*ScoreWrite SAT Practice Essay Raw Score*																							
	0		*2*		*3*		*4*		*5*		*6*		*7*		*8*		*9*		*10*		*11*		*12*	
	Min	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*	*Min*	*Max*
50	380	450	380	450	390	450	410	470	420	490	450	510	470	530	490	550	500	560	510	570	530	590	550	600
49	370	440	370	440	380	440	400	470	420	480	440	500	460	530	480	550	500	560	510	570	530	590	540	600
48	360	440	370	440	370	440	400	460	410	470	430	500	460	520	480	540	490	550	500	560	520	570	530	590
47	360	430	360	430	360	430	390	450	400	470	430	490	450	510	470	540	480	550	490	560	510	570	530	580
46	350	420	350	420	360	420	380	450	390	460	420	480	440	510	460	540	470	550	490	560	500	570	520	580
45	340	410	340	410	350	420	370	440	390	450	410	480	440	500	460	530	470	540	480	550	500	560	520	580
44	320	400	330	400	340	410	370	430	380	450	410	470	430	490	450	520	470	530	480	540	500	550	520	560
43	310	390	320	390	330	400	360	430	370	440	400	460	420	490	450	520	460	530	470	540	490	550	510	560
42	300	380	310	390	330	400	350	420	370	430	390	460	420	480	450	510	460	520	470	530	490	540	510	560
41	290	380	300	380	320	390	350	410	360	430	390	450	410	470	440	500	450	510	470	520	490	530	510	550
40	280	370	290	370	310	380	340	410	350	420	380	440	400	470	430	490	440	500	460	510	480	530	500	540
39	270	360	280	360	300	370	330	400	350	410	370	440	400	460	430	490	440	500	460	510	480	530	500	540
38	260	350	270	360	300	370	320	390	340	410	370	430	390	450	420	480	430	490	450	500	470	510	490	530
37	250	340	260	350	290	360	320	390	330	400	360	420	380	450	410	470	420	480	440	490	460	510	480	530
36	240	330	250	340	280	360	310	380	330	390	350	420	370	440	400	470	410	480	430	490	460	510	480	520
35	230	320	240	330	280	350	300	370	320	390	350	410	370	430	400	460	410	470	430	480	460	500	480	520
34	230	320	240	320	270	340	300	370	310	380	340	400	360	420	390	450	400	460	420	470	440	490	460	510
33	220	310	230	310	260	340	290	360	310	370	330	400	350	420	380	440	390	450	410	470	440	490	460	500
32	220	300	230	310	260	330	280	350	300	370	330	390	350	410	380	440	390	450	410	460	430	480	450	500
31	220	300	220	300	250	320	280	350	290	360	320	380	340	400	370	430	380	440	400	450	420	470	440	490
30	220	290	220	290	250	320	270	340	290	350	310	380	330	400	360	420	370	430	390	450	400	470	420	480
29	210	280	220	290	240	310	270	340	280	350	310	370	330	390	350	420	360	430	380	450	400	460	420	480
28	200	280	200	280	220	290	250	320	270	330	300	360	320	380	350	410	360	420	380	430	400	450	420	460
27	200	270	200	280	210	290	240	310	260	330	290	350	310	380	340	400	350	410	370	420	400	440	420	460
26	200	270	200	270	200	280	240	310	250	320	280	350	310	370	340	400	350	410	370	420	390	430	410	450
25	200	260	200	260	200	270	230	300	240	310	270	340	300	360	330	390	340	400	360	410	380	430	410	440
24	200	250	200	260	200	260	220	290	240	310	270	330	290	360	320	380	330	390	350	400	380	420	400	440
23	200	250	200	250	200	260	210	290	230	300	260	320	280	350	320	380	330	390	350	400	370	410	390	430
22	200	240	200	240	200	250	210	280	220	290	250	320	280	340	310	370	320	380	340	390	360	410	390	420
21	200	230	200	230	200	240	200	270	220	280	250	310	270	340	300	360	310	370	340	380	360	400	380	420
20	200	220	200	230	200	240	200	260	210	280	240	300	260	330	290	360	310	370	330	380	350	390	380	410

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The College Board
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