



Research Brief

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Office of Shared Accountability

An Examination of March SAT Taken by MCPS Juniors in 2015 and 2016

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Purpose of the Study

March 2016 marks the first administration of the redesigned SAT that features a departure from the structure, timing, and scoring of the pre-March-2016 SAT. The redesigned SAT focuses on the knowledge, skills, and understanding deemed important for college and career readiness, with emphasis placed on the meaning of words in extended contexts and points awarded for correct answers. The redesigned SAT is composed of two section tests: evidence-based reading and writing (EBRW) and math. These two tests range in scoring from 200 to 800 each. The total score of the two section tests ranges from 400 to 1600. The redesigned SAT also provides the scores of reading, writing and language, and math tests. These three scores range from 10 to 40 each. The redesigned SAT essay, scores ranging from two to eight points, is an optional test starting from March 2016. It tests reading, analysis, and writing skills of a provided source text.

Colleges and universities nationally recognize the SAT as one of the standardized measurements of students' preparation for postsecondary education. Because the redesigned SAT differs greatly from its predecessor, it is beneficial for Montgomery County Public Schools (MCPS) to examine the results of the first administration of the redesigned SAT. The finding provides a glimpse of students'

readiness for college and career with the new test.

Methodology

Study Questions

The following four questions are addressed in this brief:

1. What was the participation and performance of MCPS Grade 11 students on the redesigned SAT administered in March 2016?
2. How does March 2016 SAT test takers' participation compare to those in March 2015?
3. How did Grade 11 students who took March SAT in 2015 and 2016 perform on Grade 10 Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT) and SAT?
4. How does March 2016 SAT test takers' performance compare to that of March 2015 using a matched sample?

Study Sample and Measures

MCPS Grade 11 students who took the pre-March-2016 SAT in March 2015 (n=2,147) and those who took the redesigned SAT in March 2016 (n=1,349) were included in the analytical sample (Table A1 and A2 in Appendix). The SAT scores of March administration and the Grade 10

PSAT/NMSQT scores were used to investigate the differences between junior SAT test takers in March 2015 and 2016.

Study Design

A nonrandomized and quasi-experimental comparison design (Isaac & Michael, 1995) was used to assess the performance of SAT test takers in March 2015 and 2016.

Analytical Procedures

Descriptive analyses were used to examine SAT participation and performance, as well as the PSAT/NMSQT performance of the two cohorts. The results were disaggregated by student groups.

Propensity score matching was used to balance the bias of the Grade 11 March SAT test takers in 2015 and 2016 (Rosenbaum & Rubin, 1984). The propensity score was generated based on race/ethnicity, participation in special education or Free and Reduced-priced Meals System (FARMS) services, and Grade 10 PSAT/NMSQT composite score. Only test takers with information on all measures received a propensity score. Junior test takers in March 2016 were then matched to their peers in 2015 by the scores. After matching, a T-test was conducted to detect the differences on Grade 10 PSAT/NMSQT and March SAT scores between 2015 and 2016 cohorts. Effect size was calculated with Cohen's *d* when significant differences on the scores were found. Using Cohen's guidelines, an effect of .2 is small, .5 is medium, and .8 or greater is large (Cohen, 1988).

Research Question 1: What was the participation and performance of MCPS Grade 11 students on the redesigned SAT administered in March 2016?

Out of 1,349 Grade 11 students who took the redesigned SAT in March 2016, there were 243 Asian, 198 Black or African American, 203 Hispanic/Latino, 634 White, and 70 juniors who identified themselves as Two or More Races (Figure 1). American Indian and Native Hawaiian or Other Pacific Islander were not reported because of small number of test takers. Among groups who received services, 157 and 32 of Grade 11 students who received FARMS and special education services took the redesigned SAT in March 2016, respectively. Because fewer than five students who received English for Speakers of Other Languages (ESOL) services took the first redesigned SAT test, the performance information was not reported.

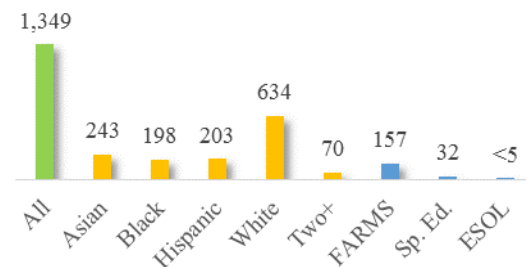


Figure 1. Number of March 2016 Redesigned SAT test takers by student group

Out of the total SAT score (1600), the mean redesigned SAT total score for all junior test takers is 1203 (Figure 2). White students scored the highest at 1257 and the students who received FARMS services scored the lowest at 1043.

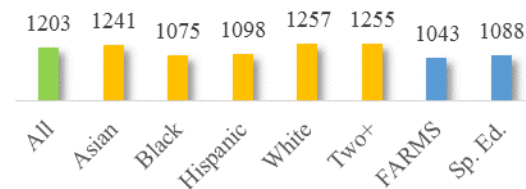


Figure 2. Mean March 2016 redesigned SAT total score by student group

The mean redesigned SAT EBRW score for all students is 606 (Figure 3). White students scored the highest at 634 and the students who received FARMS services scored the lowest at 530.

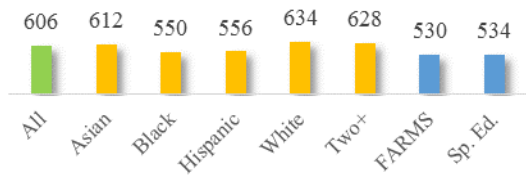


Figure 3. Mean March 2016 redesigned SAT evidence-based reading and writing score by student group

The mean redesigned SAT math score for all students is 598 (Figure 4). Asian students scored the highest at 629 and the students who received FARMS services scored the lowest at 513.

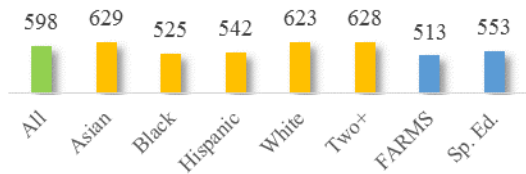


Figure 4. Mean March 2016 redesigned SAT math score by student group

Research Question 2: How does March 2016 SAT test takers’ participation compare to those in March 2015?

March SAT Participation in 2015 and 2016

To put the participation and performance of the redesigned SAT in the context, Grade 11 students who took the redesigned SAT in March 2016 were compared with their counterpart in 2015.

From March 2015 to 2016, the percentage of Grade 11 students who took SAT decreased 8.2 percentage points (Figure 5). Given March 2016 was the first administration of the redesigned SAT, the decline in SAT

participation might reflect students’ cautious approach with the new test. Instead of taking the first new SAT test in March 2016, students may have opted to take the ACT.



Figure 5. SAT participation rate in March 2015 and 2016

The same decline in participation was exhibited for all student groups. Of racial/ethnic groups, Asian (14.6 percentage points), White (11.8 percentage points) juniors and those identified themselves as Two or More Races (11.2 percentage points) had the most significant decreases from 2015 to 2016 (Figure 6).

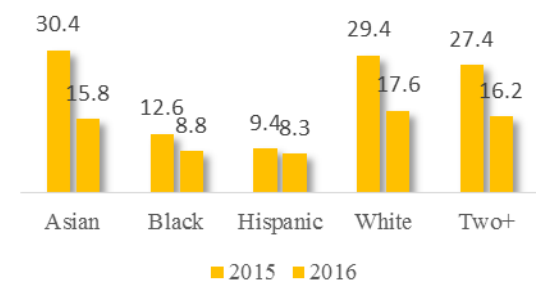


Figure 6. SAT participation rate by race/ethnicity in March 2015 and 2016

SAT participation rates in 2016 also declined for all service groups compared with the rates in 2015 (Figure 7).

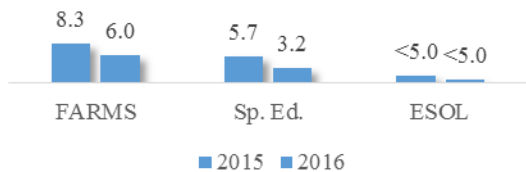


Figure 7. SAT participation rate by service group in March 2015 and 2016

Research Question 3: How did Grade 11 students who took March SAT in 2015 and 2016 perform on Grade 10 PSAT/NMSQT and SAT?

PSAT/NMSQT Performance of March SAT Test Takers

Although SAT participation rates for all student groups declined from March 2015 to 2016, some groups of SAT test takers decreased drastically more than the others, an indicator of the shifting demographics among test takers. Before examining the influence of changing demographics, it was prudent to estimate the academic difference of the two cohorts. Because PSAT/NMSQT is highly and positively correlated with the SAT (Proctor, Wyatt, & Wiley, 2010), an analysis was conducted to gauge March SAT test takers’ academic ability prior to the SAT. The mean Grade 10 PSAT/NMSQT composite score for March SAT test takers decreased from 154 in 2015 to 149 points in 2016 (Figure 8).

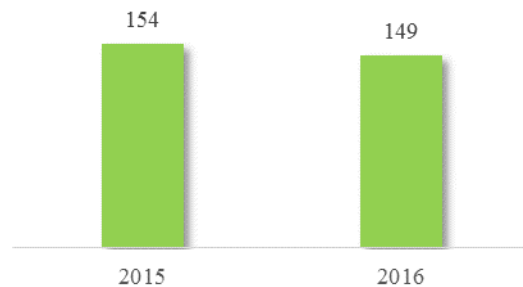


Figure 8. Mean Grade 10 PSAT/NMSQT composite score for March SAT test takers in 2015 and 2016

The similar decline of mean Grade 10 PSAT/NMSQT scores for racial/ethnic groups was observed from 2015 to 2016 (Figure 9). Hispanic/Latino March SAT test takers had the highest decrease by 6 points on the mean Grade 10 PSAT/NMSQT composite score, while their White peers had the least decrease by 3 points.

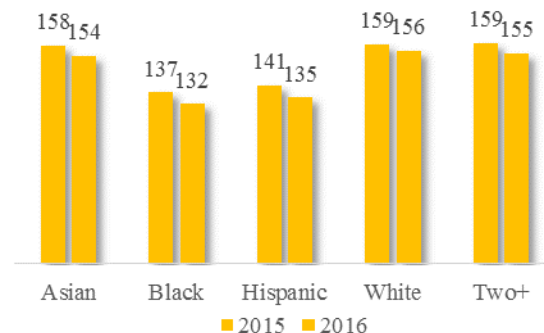


Figure 9. Mean Grade 10 PSAT/NMSQT composite score by race/ethnicity for March SAT test takers in 2015 and 2016

The mean PSAT/NMSQT composite scores for March SAT test takers who received FARMS and special education services declined 6 and 2 points, respectively (Figure 10).

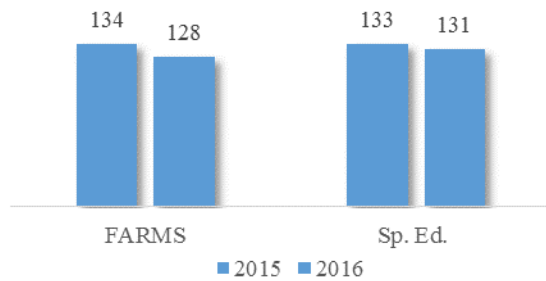


Figure 10. Mean Grade 10 PSAT/NMSQT composite score by service group for March SAT test takers in 2015 and 2016

SAT Performance of March SAT Test Takers

To compare scores between the 2015 SAT and the redesigned SAT, the scores on the redesigned SAT were converted to the old scale according to SAT concordance tables provided by the College Board (College Board, 2016). The SAT performance mirrored the decreasing trend of the PSAT/NMSQT scores with a decline of 75 points on the mean SAT combined critical reading, math, and writing score from 2015 to 2016 (Figure 11).

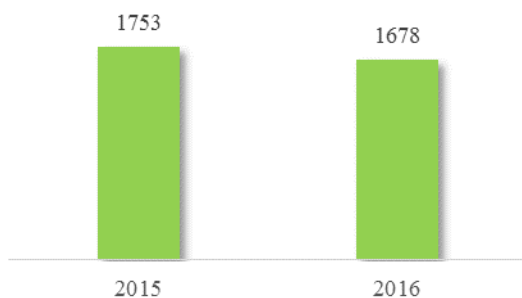


Figure 11. Mean SAT combined critical reading, math, and writing score for March SAT test takers in 2015 and 2016

From March 2015 to March 2016, the largest decrease on mean SAT combined scores was observed for Hispanic/Latino test takers (85 points), while White test takers

had the smallest decrease (48 points) (Figure 12).

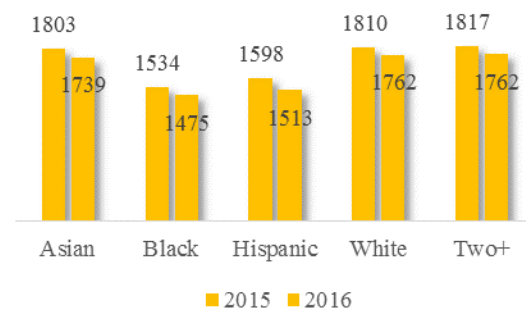


Figure 12. Mean SAT combined critical reading, math, and writing score by race/ethnicity for March SAT test takers in 2015 and 2016

The mean SAT combined score for March test takers who received FARMs services decreased by 63 points, while the score for those who received Special Education services increased five points from 2015 to 2016 (Figure 13).

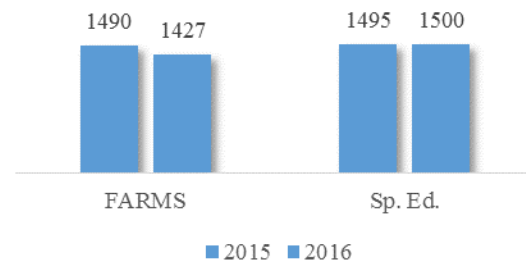


Figure 13. Mean SAT combined critical reading, math, and writing score by service group for March SAT test takers in 2015 and 2016

Research Questions 4: How does March 2016 SAT test takers' performance compare to that of March 2015 using a matched sample?

After matching March 2016 SAT test takers (1,349) with the March 2015 test takers (2,147) by propensity scores, there were 1,237 juniors selected for each cohort (Table A5 in Appendix). In the sample, the composition of demographics was similar.

Asian and White test takers together made up 68.4 and 67.0 percent of the 2015 and 2016 cohorts, respectively (Table 1). The 2016 cohorts had higher percentages of female (55.6 percent) and Hispanic/Latino (12.8 percent) test takers compared with their peers in 2015 (53.8 and 11.4 percent, respectively). The percentage of male (44.4 percent), Asian (18.2 percent) test takers and those test takers who received FARMS services (10.1 percent) in 2016 were approximately 2 percentage points lower than their counterparts in 2015.

Table 1
Characteristics of MCPS Grade 11 Students Who Took the March Administration of SAT in 2015 and 2016 After Propensity Score Matching

	2015 %	2016 %
All	100.0	100.0
Female	53.8	55.6
Male	46.2	44.4
Asian	20.1	18.2
Black or African American	14.8	15.0
Hispanic/Latino	11.4	12.8
White	48.3	48.8
Two or More Races	5.3	5.2
FARMS	12.4	10.1
Special Education	≤5.0	≤5.0
ESOL	≤5.0	≤5.0

Note. FARMS=Free and Reduced-priced Meals System; ESOL=English for Speakers of Other Languages. Any percentage rates less than or equal to 5.0% will be noted as ≤5.0.

A T-test was conducted to estimate the differences between the 2015 and 2016 samples. Table 2 presented the results of T-test on PSAT/NMSAT composite score. The difference in performance of 2015 and 2016 sampled cohorts was not statistically significant (p value=.601), a validation that the 2016 sample was comparable to 2015 matched sample.

Table 2. Mean PSAT/NMSQT Composite Scores of March SAT Test Takers After Propensity Score Matching

	N	Mean	SD	t	p value
2015	1,237	150	25	-0.523	.601
2016	1,237	150	26		

Note. SD=Standard Deviation. When p value is less or equal to .05, it indicates the difference is statistically significant (*).

Furthermore, the T-test confirmed that there were no statistically significant differences on March SAT scores for most of the student groups between 2015 and 2016 sampled cohorts (Table A6 in the Appendix). The mean SAT writing scores for all students and female test takers were significantly different in the two cohorts but the effect sizes for all (0.09) and female (0.15) test takers were small, an indication of negligible effect.

A 15-point decrease of the mean SAT combined critical reading, math, and writing score was observed among sampled March SAT test takers from 2015 to 2016 (Figure 14).

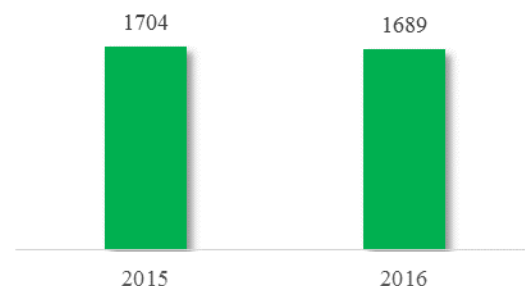


Figure 14. Mean SAT combined critical reading, math, and writing score for March SAT test takers in 2015 and 2016 after propensity score matching

From 2015 to 2016, Asian juniors who took the March SAT increased five points, while the other racial/ethnic groups decreased at least 11 points (Figure 15).

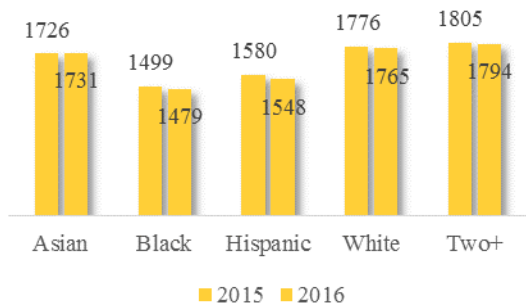


Figure 15. Mean SAT combined critical reading, math, and writing score by race/ethnicity for March SAT test takers in 2015 and 2016 after propensity score matching

The mean SAT combined score for sampled March test takers who received FARMS services decreased 18 points, while the score for those who received special education services increased nine points from 2015 to 2016 (Figure 16).

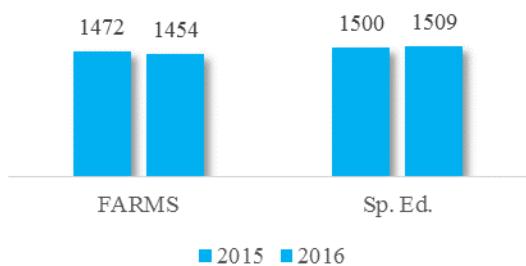


Figure 16. Mean SAT combined critical reading, math, and writing score by service group for March SAT test takers in 2015 and 2016 after propensity score matching

Discussion

The results of the March 2016 SAT administration provided an initial analysis of the redesigned SAT. The redesigned SAT scores were converted to the pre-March-2016 SAT scale to gauge the performance of the first redesigned SAT. Comparing with the same administration in 2015, a declining trend was observed for both SAT participation and performance in 2016. The decrease of the participation could be

students' voluntary avoidance for the new test.

To investigate why March SAT scores declined from 2015 to 2016, the PSAT/NMSQT performance was used to estimate the March SAT test takers' academic ability prior to the SAT. Given the high correlation between the PSAT/NMSQT and the pre-March-2016 SAT, the results indicated that there was a declining trend for PSAT/NMSQT from 2015 to 2016 as it was shown for the March SAT performance.

To investigate whether the demographic changes influenced the SAT performance, propensity score matching was applied to create two statistically equivalent sampled groups. Therefore, March SAT test takers in 2016 were matched to their counterpart in 2015 with similar traits in demographics and prior achievement. The T-test on PSAT/NMSQT composite score confirmed that the matching procedure was successful because there were no statistically significant differences between 2015 and 2016 matched samples. The second T-test on SAT scores indicated that the mean SAT combined scores were also not statistically significantly different between matched 2015 and 2016 March SAT test takers. This implied that Grade 11 March SAT test takers in 2016 performed at the similar level on those who took the test in the prior year.

Limitations

Because this study employed a quasi-experimental design, the study group and the comparison group may have some preexisting differences on non-measured factors despite the rigorous statistical control. Therefore, this may consequently threaten the internal validity of the findings

(Gay & Airasian, 2000; Shadish, Cook, & Campbell, 2002).

Acknowledgements

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Appendix

Table A1

Number of MCPS Juniors Who Took Redesigned SAT and Mean SAT Total, Evidence-based Reading and Writing and Math Section Test, Reading, Writing, and Math Test, and Essay Scores in March 2016

	N Took Redesigned SAT	Total Score	Evidence- based Reading and Writing	Math	Reading Test	Writing Test	Math Test	Essay: Reading	Essay: Analysis	Essay: Writing
All	1,349	1203	606	598	30	30	29.9	5	5	5
Female	749	1191	606	585	30	30	29.3	6	5	6
Male	600	1219	605	613	30	30	30.7	5	4	5
Asian	243	1241	612	629	30	31	31.5	6	5	6
Black or African American	198	1075	550	525	28	27	26.3	5	4	5
Hispanic/Latino	203	1098	556	542	28	28	27.1	5	4	5
White	634	1257	634	623	32	32	31.1	6	5	6
Two or More Races	70	1255	628	628	32	31	31.4	6	5	6
FARMS	157	1043	530	513	27	26	25.7	5	4	5
Special Education	32	1088	534	553	27	26	27.7	5	4	5
ESOL	--	--	--	--	--	--	--	--	--	--

Note. FARMS=Free and Reduced-priced Meals System; ESOL=English for Speakers of Other Languages. Number of SAT test takers is based on the juniors who took the redesigned SAT in March 2016. Results for MCPS American Indian and Native Hawaiian or Other Pacific Islander students are included with all students but are not reported separately. The sums of rounded subtest score means may differ by one point from the combined score calculated with unrounded sums. To comply with federal requirements, any percentage rates greater than or equal to 95.0% or less than or equal to 5.0% will be noted as ≥ 95.0 or ≤ 5.0 , respectively, and the number of juniors enrolled and the number of test takers will not be reported (--). Additionally, results are not reported (--) for groups with fewer than 10 students. For groups of between 10 and 20 students, only the mean scores will be reported.

Table A2
 Number of MCPS Juniors Enrolled in March and the Number and Percentage of Juniors Who Took the SAT/Redesigned SAT of
 March Administration in 2015 and 2016

	<u>N of Junior Enrolled</u>		<u>N Took SAT</u>		<u>% Took SAT</u>	
	2015	2016	2015	2016	2015	2016
All	10,069	10,301	2,147	1,349	21.3	13.1
Female	5,039	5,038	1,149	749	22.8	14.9
Male	5,030	5,263	998	600	19.8	11.4
Asian	1,567	1,539	477	243	30.4	15.8
Black or African American	2,184	2,242	275	198	12.6	8.8
Hispanic/Latino	2,241	2,460	210	203	9.4	8.3
White	3,628	3,610	1,066	634	29.4	17.6
Two or More Races	431	432	118	70	27.4	16.2
FARMS	2,517	2,617	209	157	8.3	6.0
Special Education	970	998	55	32	5.7	≤5.0
ESOL	354	388	--	--	≤5.0	≤5.0

Note. FARMS=Free and Reduced-priced Meals System; ESOL=English for Speakers of Other Languages. SAT participation is based on the juniors who took the SAT of March administration in 2015 and those who took the redesigned SAT in March 2016. Results for MCPS American Indian and Native Hawaiian or Other Pacific Islander students are included with all students but are not reported separately. To comply with federal requirements, any percentage rates greater than or equal to 95.0% or less than or equal to 5.0% will be noted as ≥95.0 or ≤5.0, respectively, and the number of juniors enrolled and the number of test takers will not be reported (--). Additionally, results are not reported (--) for groups with fewer than 10 students. For groups of between 10 and 20 students, only the percentage rate will be reported.

Table A3

Number of MCPS Juniors Who Took SAT and PSAT/NMSQT, and Mean PSAT/NMSQT Composite, Critical Reading, Math, and Writing Score as of March Administration in 2015 and 2016

	<u>N Took SAT</u>		<u>N Took PSAT/NMSQT</u>		<u>Composite</u>		<u>Critical Reading</u>		<u>Math</u>		<u>Writing</u>	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
All	2,147	1,349	2,060	1,288	154	149	52	50	53	52	50	48
Female	1,149	749	1,109	717	154	148	52	49	52	51	51	48
Male	998	600	951	571	154	150	52	50	54	53	49	47
Asian	477	243	462	233	158	154	52	50	56	55	50	48
Black or African American	275	198	258	188	137	132	46	44	46	45	45	42
Hispanic/Latino	210	203	202	185	141	135	47	45	48	46	46	43
White	1,066	634	1,022	613	159	156	54	52	54	54	52	50
Two or More Races	118	70	115	69	159	155	54	52	55	54	51	49
FARMS	209	157	196	147	134	128	45	42	46	45	43	41
Special Education	55	32	51	31	133	131	45	43	46	48	43	40
ESOL	--	--	--	--	--	--	--	--	--	--	--	--

Note. FARMS=Free and Reduced-priced Meals System; ESOL=English for Speakers of Other Languages. Number of SAT test takers is based on the juniors who took the SAT of March administration in 2015 and those who took the redesigned SAT in March 2016. PSAT/NMSQT scores are the results taken at Grade 10. Results for MCPS American Indian and Native Hawaiian or Other Pacific Islander students are included with all students but are not reported separately. The sums of rounded subtest score means may differ by one point from the combined score calculated with unrounded sums. To comply with federal requirements, any percentage rates greater than or equal to 95.0% or less than or equal to 5.0% will be noted as ≥ 95.0 or ≤ 5.0 , respectively, and the number of juniors enrolled and the number of test takers will not be reported (--). Additionally, results are not reported (--) for groups with fewer than 10 students. For groups of between 10 and 20 students, only the mean scores will be reported.

Table A4
 Number of MCPS Juniors Who Took SAT/Redesign SAT and Mean SAT Combined, Critical Reading, Math, and Writing Score as of
 March Administration in 2015 and 2016

	N Took SAT		Combined Score		Critical Reading		Math		Writing	
	2015	2016	2015	2016 ^a	2015	2016 ^a	2015	2016 ^a	2015	2016 ^a
All	2,147	1,349	1753	1678	579	564	598	570	575	546
Female	1,149	749	1744	1658	578	562	583	557	584	548
Male	998	600	1762	1703	581	566	615	587	566	543
Asian	477	243	1803	1739	580	566	634	604	589	557
Black or African American	275	198	1534	1475	511	511	518	493	506	482
Hispanic/Latino	210	203	1598	1513	532	520	537	510	529	490
White	1,066	634	1810	1762	603	591	611	597	595	577
Two or More Races	118	70	1817	1762	606	591	622	602	590	564
FARMS	209	157	1490	1427	491	492	510	480	488	464
Special Education	55	32	1495	1500	500	501	509	522	485	474
ESOL	--	--	--	--	--	--	--	--	--	--

Note. FARMS=Free and Reduced-priced Meals System; ESOL=English for Speakers of Other Languages. Number of SAT test takers is based on the juniors who took the SAT of March administration in 2015 and those who took the redesigned SAT in March 2016. Results for MCPS American Indian and Native Hawaiian or Other Pacific Islander students are included with all students but are not reported separately. The sums of rounded subtest score means may differ by one point from the combined score calculated with unrounded sums. To comply with federal requirements, any percentage rates greater than or equal to 95.0% or less than or equal to 5.0% will be noted as ≥ 95.0 or ≤ 5.0 , respectively, and the number of juniors enrolled and the number of test takers will not be reported (--). Additionally, results are not reported (--) for groups with fewer than 10 students. For groups of between 10 and 20 students, only the percentage rate will be reported.

^a2016 redesigned SAT scores are converted to SAT test before March 2016.

Table A5
 Characteristics of MCPS Juniors Who Took the SAT/Redesigned SAT of March Administration in 2015 and 2016 After Propensity
 Score Matching

	2015 March SAT Test Taker		2016 March SAT Test Taker	
	N	%	N	%
All	1,237	100.0	1,237	100.0
Female	666	53.8	688	55.6
Male	571	46.2	549	44.4
Asian	249	20.1	225	18.2
Black or African American	183	14.8	186	15.0
Hispanic/Latino	141	11.4	158	12.8
White	597	48.3	604	48.8
Two or More Races	66	5.3	64	5.2
FARMS	153	12.4	125	10.1
Special Education	37	≤5.0	30	≤5.0
ESOL	--	≤5.0	--	≤5.0

Note. FARMS=Free and Reduced-priced Meals System; ESOL=English for Speakers of Other Languages. SAT participation is based on the juniors who took the SAT of March administration in 2015 and those who took the redesigned SAT in March 2016. Results for MCPS American Indian and Native Hawaiian or Other Pacific Islander students are included with all students but are not reported separately. To comply with federal requirements, any percentage rates greater than or equal to 95.0% or less than or equal to 5.0% will be noted as ≥95.0 or ≤5.0, respectively, and the number of juniors enrolled and the number of test takers will not be reported (--). Additionally, results are not reported (--) for groups with fewer than 10 students. For groups of between 10 and 20 students, only the percentage rate will be reported.

Table A6
 Mean SAT Combined, Critical Reading, Math, and Writing Scores of MCPS Juniors Who Took the SAT/Redesigned SAT of March Administration in 2015 and 2016 by Student Group After Propensity Score Matching

	2015 March SAT Test Taker			2016 March SAT Test Taker			<i>t</i>	<i>p value</i>	<i>Effect Size</i>
	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>			
SAT Combined Critical Reading, Math, and Writing									
All	1,237	1704	281	1,237	1689	278	1.278	.201	
Female	666	1696	284	688	1670	267	1.778	.076	
Male	571	1713	277	549	1714	290	-0.100	.921	
AS	249	1726	303	225	1731	281	-0.173	.863	
BL	183	1499	240	186	1479	230	0.800	.424	
HI	141	1580	267	158	1548	270	1.010	.314	
WH	597	1776	246	604	1765	244	0.783	.434	
MU	66	1805	253	64	1794	285	0.245	.807	
FARMS	153	1472	230	125	1454	248	0.647	.518	
Sp. Ed.	37	1500	357	30	1509	410	-0.092	.927	
ESOL	--	--	--	--	--	--	--	--	
SAT Critical Reading									
All	1,237	563	104	1,237	568	93	-1.267	.205	
Female	666	562	104	688	566	91	-0.688	.492	
Male	571	564	105	549	571	96	-1.142	.254	
AS	249	554	112	225	565	95	-1.146	.252	
BL	183	499	93	186	511	79	-1.418	.157	
HI	141	526	100	158	536	89	-0.881	.379	
WH	597	591	93	604	592	87	-0.159	.874	
MU	66	604	92	64	601	94	0.212	.832	
FARMS	153	489	90	125	503	82	-1.327	.185	
Sp. Ed.	37	502	140	30	503	130	-0.051	.959	
ESOL	--	--	--	--	--	--	--	--	

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Table A6
 Mean SAT Combined, Critical Reading, Math, and Writing Scores of MCPS Juniors Who Took the SAT/Redesigned SAT of March Administration in 2015 and 2016 by Student Group After Propensity Score Matching

	2015 March SAT Test Taker			2016 March SAT Test Taker			<i>t</i>	<i>p</i> value	Effect Size
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>			
SAT Math									
All	1,237	581	103	1,237	574	103	1.862	.063	
Female	666	567	105	688	561	99	1.008	.314	
Male	571	599	98	549	590	107	1.486	.137	
AS	249	608	113	225	601	102	0.748	.455	
BL	183	509	89	186	495	88	1.543	.124	
HI	141	531	96	158	519	103	1.005	.316	
WH	597	600	90	604	598	89	0.470	.639	
MU	66	617	91	64	613	110	0.225	.822	
FARMS	153	502	91	125	486	95	1.346	.179	
Sp. Ed.	37	510	127	30	525	145	-0.460	.647	
ESOL	--	--	--	--	--	--	--	--	
SAT Writing									
All	1,237	559	102	1,237	550	103	2.248	.025*	0.09
Female	666	568	101	688	552	102	2.729	.006*	0.15
Male	571	549	101	549	547	104	0.437	.663	
AS	249	564	106	225	555	107	0.920	.358	
BL	183	491	86	186	484	87	0.804	.422	
HI	141	523	97	158	503	97	1.779	.076	
WH	597	584	94	604	578	95	1.054	.292	
MU	66	584	96	64	572	94	0.677	.500	
FARMS	153	482	81	125	475	90	0.653	.515	
Sp. Ed.	37	488	116	30	475	136	0.424	.673	
ESOL	--	--	--	--	--	--	--	--	

Note. SD=Standard Deviation; AS=Asian; BL=Black or African American; HI=Hispanic/Latino; WH=White; MU=Two or More Races; FARMS=Free and Reduced-priced Meals System; Sp.Ed.=Special Education; ESOL=English for Speakers of Other Languages. SAT participation is based on the juniors who took the SAT of March administration in 2015 and those who took the redesigned SAT in March 2016. Results for MCPS American Indian and Native Hawaiian or Other Pacific Islander students are included with all students but are not reported separately. To comply with federal requirements, any percentage rates greater than or equal to 95.0% or less than or equal to 5.0% will be noted as ≥ 95.0 or ≤ 5.0 , respectively, and the number of juniors enrolled and the number of test takers will not be reported (--). Additionally, results are not reported (--) for groups with fewer than 10 students. For groups of between 10 and 20 students, only the percentage rate will be reported. When *p* value is less or equal to .05, it indicates the difference is statistically significant (*). Effect size is only calculated when the difference is significant (*p* value $\leq .05$).