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The Impact of a College Readiness Initiative in a Large, Urban School District

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Abstract

The first in a series of studies, this paper describes the effect of a large, urban district implementing a PSAT/NMSQT (PN) fee waiver initiative in the 2006-07 school year in an effort to increase students' access to feedback on their readiness for college. The results suggest that the fee waiver increased access for underrepresented and lower skill students. However, this information did not appear to translate into increased SAT participation which would be a logical next step in the college application process. Additional outreach seems needed to push students to that next level.

Introduction

The 1970's brought an end to a "golden age" of employment and earnings for workers of all educational groups, especially those without a college degree (Danziger & Ratner, 2010). Since then, the need for young adults to attain postsecondary education has risen in order for them to be financially independent from their parents and also to support their own family (Danziger & Ratner, 2010). Indeed, estimates of lifetime earnings by educational attainment clearly reflect the financial benefits of attaining a college degree; high school dropouts are projected to earn $1 million whereas college graduates are projected to earn more than twice that at $2.1 million (U.S. Census Bureau, 2002).

As the sense of urgency builds for more students in the United States to get on the path toward college success, state and district policy makers are searching for metrics to measure college readiness. The Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT®) is a rigorous, national assessment that measures the critical reading, mathematics, and writing skills students will need for higher education and careers after high school (The College Board, 2010). Each year, more than 3.5 million high school juniors, sophomores, and younger students take the PSAT/NMSQT to prepare for the SAT, enter competitions for scholarships, receive information from colleges, begin college and career planning, and help assess academic skills necessary for college-level work.

The PSAT/NMSQT (PN) is an assessment that educators and students themselves can use to measure where students' academic strengths and weaknesses are early in their high school career. The exam alone is not an intervention, beyond giving students a sense of what the SAT assessment will be like. However, when information collected from the exam is used for educators and students to focus preparation based on the results of the test, this assessment can be a key tool to help students during their high school career. The PN offers various reporting tools, including the Skills Insight which highlight students' strengths and weaknesses on specific skills at each score level, and the Summary of Answers and Skills (SOAS) which provides aggregate feedback for all students taking the PN within the school, helping identify skill gaps at this level. PN scores can also help school staff to target students who are likely to be successful

in AP courses through the AP Potential tool. Research has shown that students who are challenged with rigorous coursework in high school are more likely to enroll and persist in college (Adelman, 2006; Engberg, 2010; Trusty, 2004).

The College Board and a large, urban public school district began joint research collaboration in early 2010 to conduct research on their students' college readiness. The first in a series of studies, this paper describes the effect of this district implementing a PN fee waiver initiative in the 2006-07 school year in an effort to increase students' access to feedback on their readiness for college. The initiative provided a fee waiver to all sophomores and juniors in the district. Figure 1 presents a schematic of the graduating cohorts that were affected by the fee waiver. As can be seen in the figure, the class of 2009 was the first class to be able to take advantage of the fee waiver in both their sophomore and junior years. The class of 2008 was able to take the PN for free in their junior year but not their sophomore year. No prior graduating classes were eligible for the initiative.

Figure 1 Graduating cohorts impacted by the PN Fee Waiver Initiative

Entering Freshman	Sophomore	Junior	Matched Senior Cohort
2005-06	X	X	2009
2004-05		X	2008
2003-04			2007
2002-03			2006
2001-02			2005

*Shaded boxes represent when students could have utilized the PN fee waiver

The College Board was asked to examine the relationships between the PN initiative and student assessment participation and performance trends. Thus, by following PN test-taking

trends prior to and after the policy implementation, we can begin to see whether there were participation rate changes and if so, which students took advantage of the fee waiver. Beyond the test initiative, no information was available on whether or how the results of the PSAT/NMSQT assessments were used by schools, school staff, and students to develop skills in between PSAT/NMSQT testing in the beginning or middle of students' high school experience and SAT testing towards the end of the high school years.

Research Questions:

- Did the district initiative to waive fee for PSAT/NMSQT (PN) to all sophomores and juniors affect PN and SAT participation? If so, which students?
- Did the district PN fee waiver affect PN and SAT performance?

Methods

A list of all district schools was shared with The College Board to match College Board assessment data with each graduating cohort in the district. For each school, five years of matched cohort data were extracted from The College Board data files, 2005-2009. The matched cohort data links students across all programs (SAT, PN, and AP) and allows for the tracking of individual students' test-taking histories in high school. The district also provided enrollment counts for each graduating cohort in order to determine the total population of students in the district. All analyses are at the district level, not individual school level.

Descriptive trend analyses were conducted for each graduating cohort to track the distribution of students taking the PN over time as well as students' PN & SAT scores. Overall participation rates on the PN, AP, and SAT were calculated using the total enrollment counts as the denominator. Because of the important link with PN as the preparation test for the SAT college admission test, PN participation rates for all SAT takers were calculated for each cohort.

Results

Figure 2 presents overall district level trends in participation by cohort on the AP, PN, and SAT. As can be seen in the figure, increasing percentages of students took at least one AP

exam sometime during their high school career, from 16% of the 2005 cohort to 20% of the 2009 cohort. Similarly, there was an increase in the percent of students who took the SAT from 48% of the cohort in 2005 to 53% of the 2009 cohort. We can also see a large increase in PN participation after the implementation of the fee waiver. While PN participation rates were gradually increasing from 2005 to 2007 (from 32% to about 39%), in 2008 and 2009 there were very large increases (to about 70% in 2008 and 90% of the cohort in 2009).

Figure 2 District level PN, AP, and SAT Participation Rates

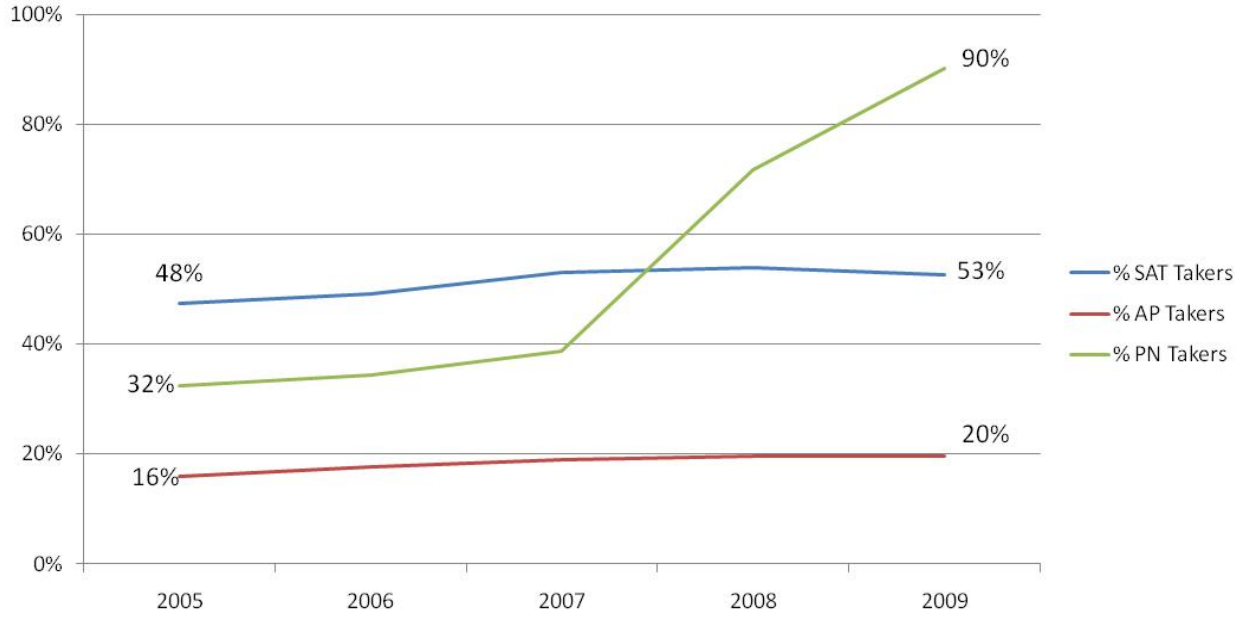
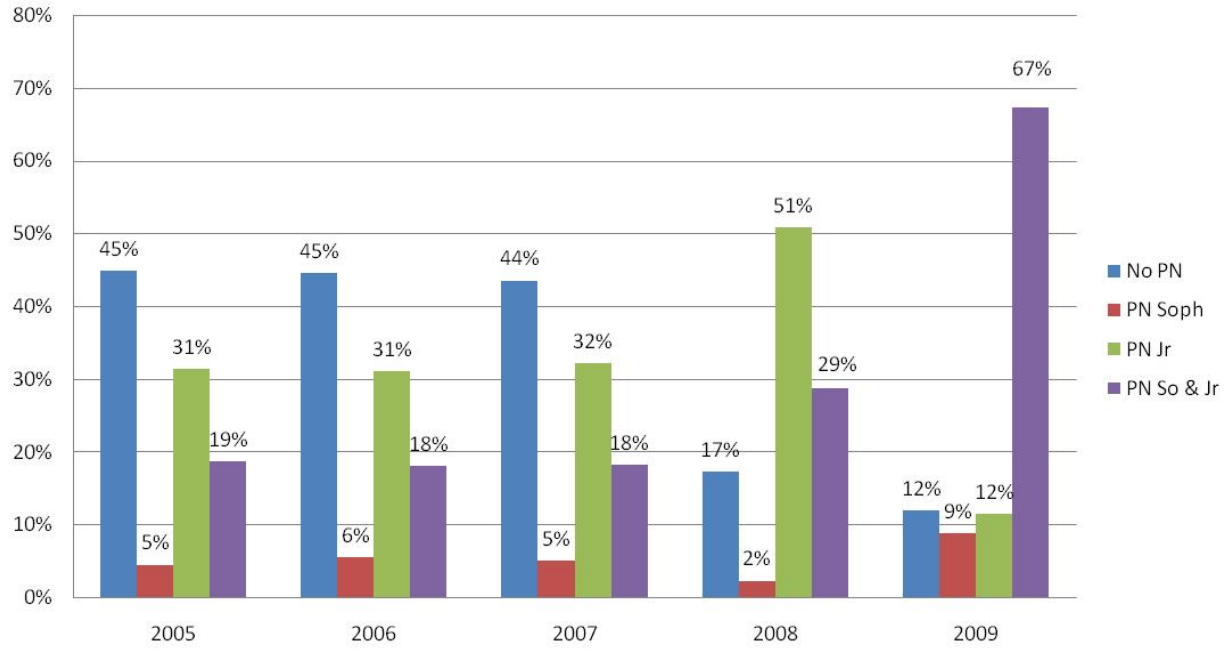


Figure 3 presents the percent of SAT takers by their PN taking trajectories for each cohort. For the 2005 to 2007 cohorts (i.e., before the PN initiative), most SAT takers did not take the PN (about 45%). Of those SAT takers who also took the PN, most took it in their junior year only (about 31%) while only about 5% took the PN in their sophomore year only, and about 18% took it in both their sophomore and junior years.

In 2008, the first cohort that was eligible to take the PN with a fee waiver in their junior year, there is an increase in the percent of SAT takers who also took the PN in their junior year,

as well as an increase in the percent of SAT takers who took the PN in both their sophomore and junior years, and a decrease in the percent of SAT takers who never took the PN.

Figure 3 Percent of SAT Students by PN Taking



The next set of analyses focuses only on those students who took the PN in both sophomore and junior years as well as the SAT. Figure 4 presents the distribution of these test takers by race/ethnicity as self-reported on College Board assessments. While there were increases in the absolute number of PN sophomore, PN junior, SAT test takers for all subgroups (not shown), Figure 4 shows that there were proportional increases in Black and Hispanic test takers across the cohorts, especially in 2008 and 2009 after the initiative was implemented. However, because we do not have enrollment counts of students by race/ethnicity, these findings may be confounded by demographic changes within the district.

Figure 4 PN Initiative Students by Ethnicity

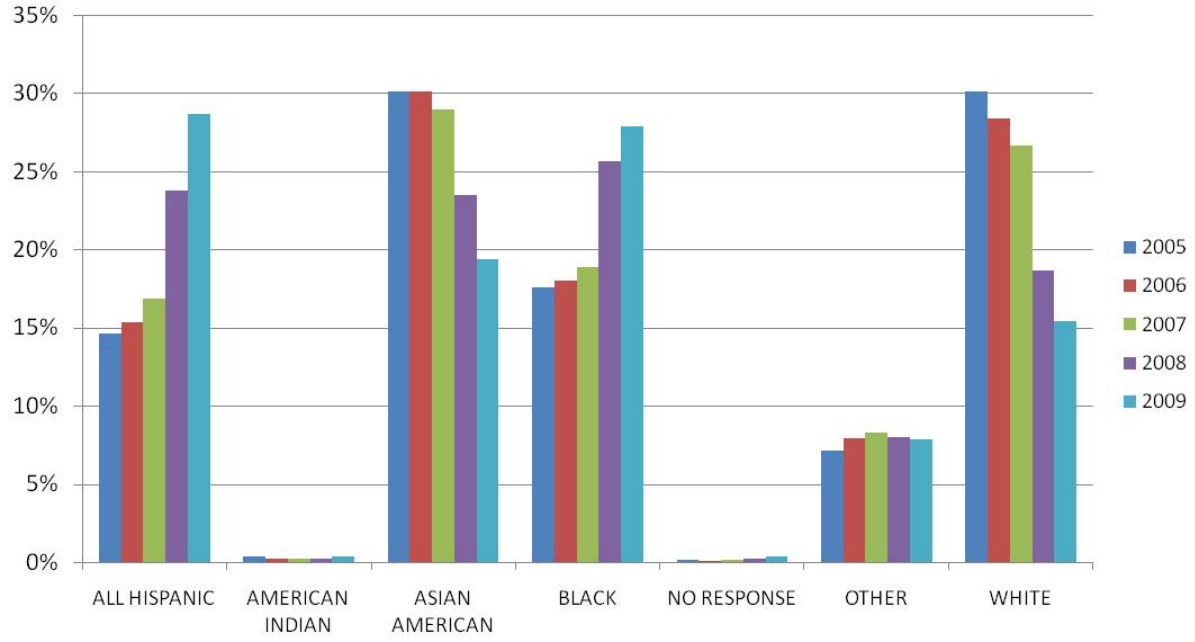


Figure 5 again focuses only on those students who took the PN in both sophomore and junior years as well as the SAT. Here we examined changes in students' skill level as measured on their sophomore PN score band. Because scores on the PN and SAT represent students' underlying knowledge and skills, by looking at the distribution of students by these skill levels at the beginning of the test taking trajectory, we can get a sense of which students are taking advantage of the PN initiative.

As can be seen in the figure, students' scores follow a normal distribution across all cohorts with most students falling in the 40-49 critical reading score band. (Math and writing

skill distributions, as well as scores for PN junior year test-takers, not shown here, were also examined and followed similar trends.) However, we see that over time, there were increasing percentages of students who fell into the lower score bands (i.e., had lower levels of skills and knowledge) and decreasing percentages of students who fell into the higher score bands. In terms of absolute numbers however (not shown here), there was an increase in the number of students in all score bands, but with a larger increase in the number at the lower ends of the skill distribution.

Figure 5 PN Initiative Distribution of Students by CR Skill Level

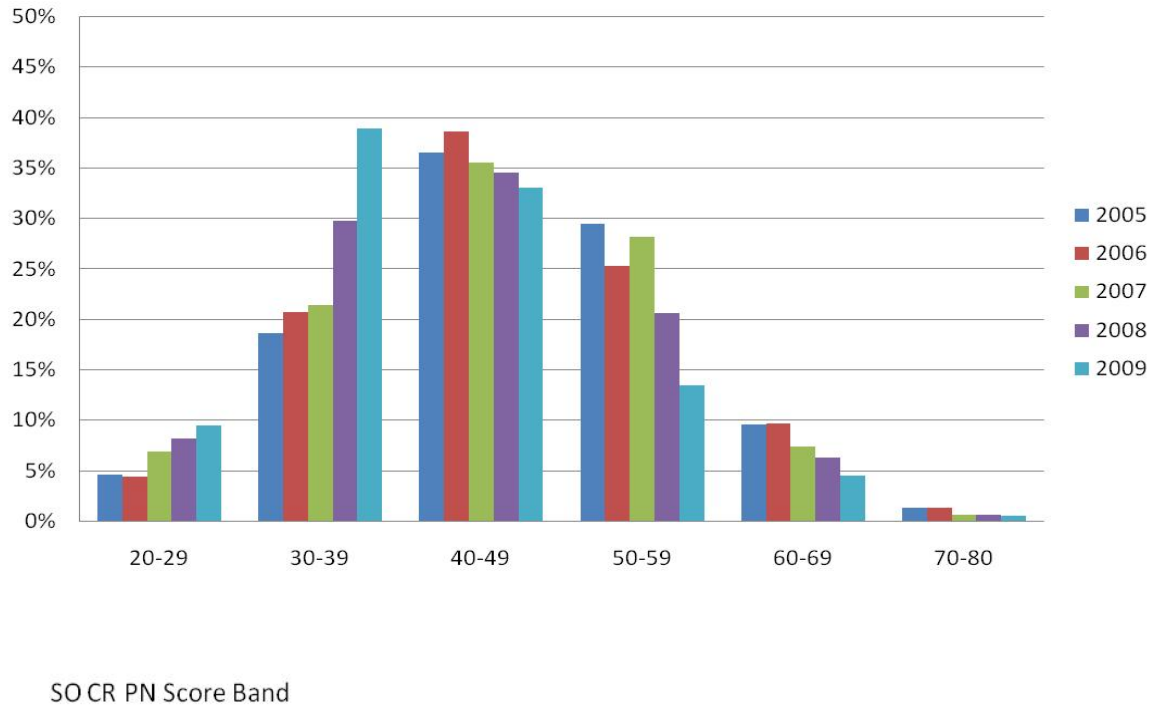
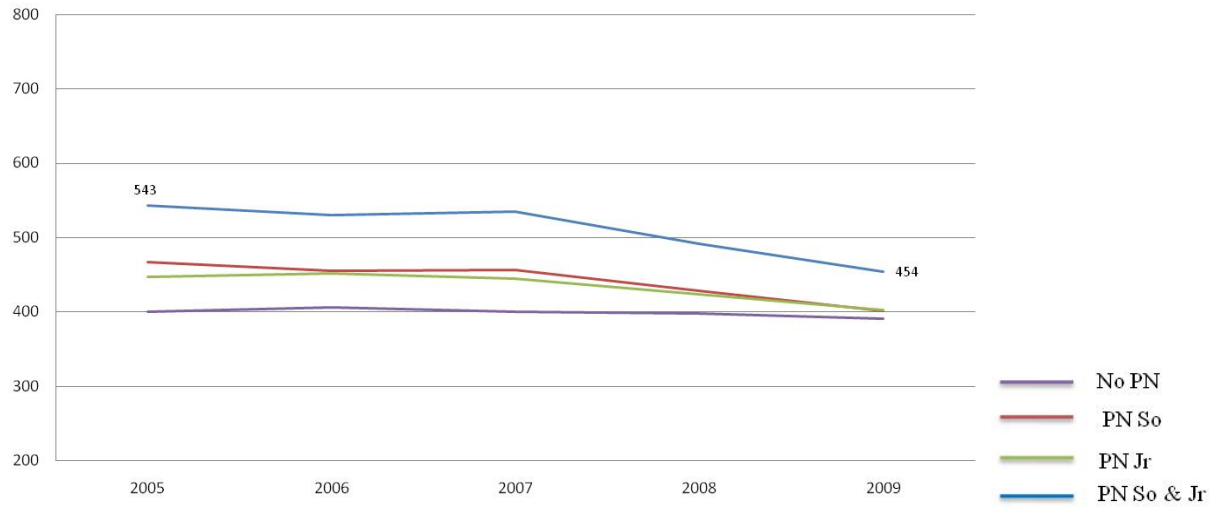


Figure 6 presents mean critical reading SAT scores by their PN taking trajectory. For the three cohorts prior to the Fee Waiver initiative (2005, 2006, 2007), we can see that students who take the PN in both sophomore and junior year score higher on average than students who never take the PN and those who take the PN in only their sophomore or junior years. This would be expected if we assume that without a fee waiver, those students who take the PN twice and the

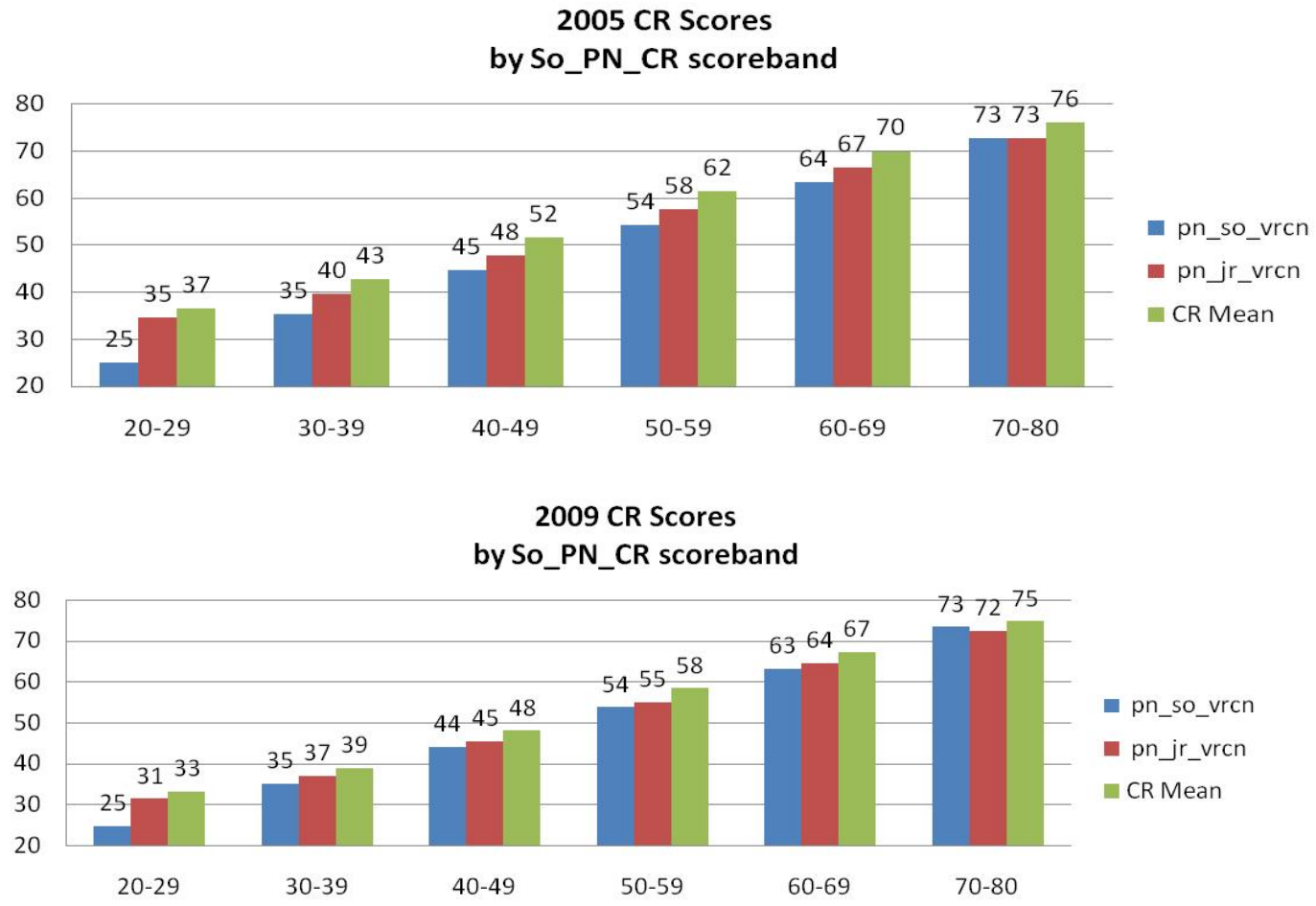
SAT are more motivated and higher achievers in general. What we see after the implementation of the initiative is that while mean scores go down on average, students who take the PN in both sophomore and junior year score higher on the SAT than their peers, despite the dramatic increase in participation rates. We would expect the mean scores to go down since the newly participating students had lower overall skill levels as seen in their sophomore PN score band distributions. Similar trends were seen in both math and writing mean scores.

Figure 6 Mean Critical Reading SAT Scores by PN Taking



We were interested to know whether there were any differences in skill gains across the exams by the skill level students started at in their sophomore year. Figure 7 presents gains in mean scores in critical reading in 2005 and 2009 by students' sophomore PN score band. As can be seen in the figure, students of all skill levels show gains in mean scores over time, but students who are in the lowest score bands show larger gains than students in the highest score bands. (It should be noted, that for students in the highest score band (70-80), we would expect there to be ceiling effects on gains in scores.) In comparing before (2005) and after (2009) the initiative with the large increase of students in the lowest score bands, we see the same trends. The same trends also hold true for math and writing (not shown).

Figure 7 PN Initiative Gains in Skills over Time by Sophomore PN Critical Reading Score Band before (2005) and after (2009) the PN Initiative



Note: To put the PN and SAT scores on the same scale, the last zero was removed from the SAT scores. This is not how SAT scores are reported; rather this approach was solely for research purposes.

Summary and Conclusions

The results indicate that the district-wide PN fee waiver initiative increased students' PN participation rates, such that the percent of SAT takers who also took the PN both sophomore and junior year increased from about 19% to 67%. Most of that participation increase came from Black and Hispanic students who tended to score in the lower PN score bands in their sophomore year (i.e., they had less knowledge and skills than students who had previously taken this exam trajectory). While PN participation increased among lower skill level students, there was not a numerical loss of higher skill level students, even though the mean scores went down. The initiative has not had a noticeable impact on SAT and AP test-taking patterns, though only one cohort of students has been able to take full advantage of the fee waiver thus far. Students who took the PN in both sophomore and junior years scored higher on the SAT than students who never took the PN or who only took the PN in their sophomore or junior year. In addition, students mean scores on the PN and SAT increase over time, from sophomore PN, to junior PN, to SAT, even after the large increase in participation rates. These score gains are most dramatic for students who start at the lowest end of skill distribution (sophomore PN score band of 20-29).

Taken together, these results suggest that the fee waiver increased access for underrepresented students. However, this information did not appear to translate into increased SAT participation which would be a logical next step in the college application process. Additional outreach seems needed to push students to that next level.

Study Limitations

There are several study limitations that should be mentioned. First, no causal inferences can currently be made about the impact of the policy initiative since the analyses conducted to date are descriptive in nature. However, our next steps include working to identify comparison schools that did not implement a fee waiver policy in order to develop better statistical controls for the outcomes we see in the descriptive data presented herein. Second, because we did not have access to district data on enrollment counts by ethnicity, it is not clear how well the assessment participation rates we documented matched the representation of student enrollment rates by ethnicity. We assume that the district was becoming more diverse over time as we see in national trends, but cannot verify ethnic representation for this report. Finally, we do not

know whether teachers were changing instruction based on the data they got back about students strengths and weaknesses from the PN, whether they used these data to help target students for AP coursework, nor do we know how the results were communicated back to the students. Having detailed information about these implementation details would help us better understand the outcomes we see.

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