
Will programs targeting underrepresented students lessen racial inequalities in test scores? Evidence from a California school district

Sara Ji

Primary Advisor: Geoff Clarke

Secondary Advisor: Nelson Sa

Third Advisor: Joshua Goodman

Abstract Closing the disturbingly large and stubbornly persistent racial achievement gap could dramatically narrow the racial divide. However, the achievement gap is deeply embedded in American society, and, many past efforts have not paid off. This paper uses an empirical approach to examine whether a program implementing cultural relevant pedagogies (CRP) could be more effective for student academic achievement. Fixed effects regression results suggest that the program doesn't have a statistical significant positive effect on closing the black-white achievement gap, while synthetic control model shows a small positive effect of the program on improving black students' test scores on elementary and middle school levels. Nevertheless, academic performance shouldn't be the sole standard when evaluating student success and late life outcome.

Introduction

Racial achievement gap is deeply ingrained in the United States. Before the Brown vs. Board of Education decision in 1954, school segregation by race was supported by laws throughout the South, where the great majority of blacks lived or from where they had recently emigrated. Although the achievement gap has declined significantly over the past 40 years, it remains quite large (see Figure 1) and failed to close further (Magnuson and Waldfogel, 2008).

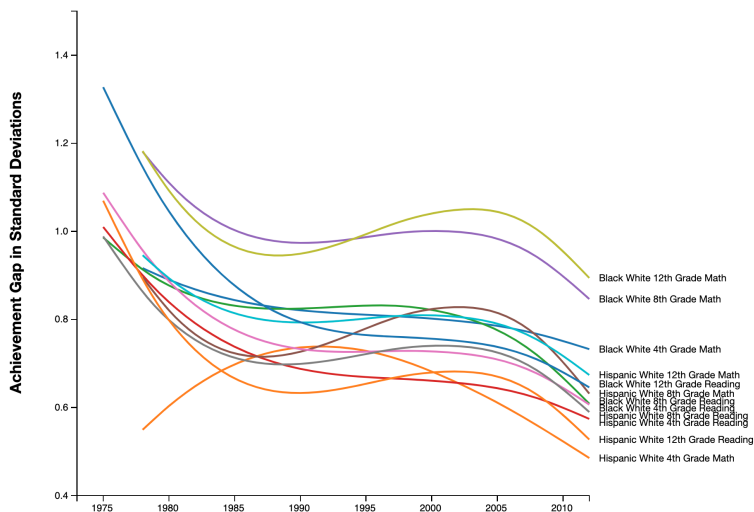


FIGURE 1. *The achievement gap, while narrowing significantly, remains quite large*

Source: The Educational Opportunity Project, Stanford University

The Educational Opportunity Monitoring Project at Stanford University tracked the white-black achievement gap since 1970. The Project assesses performance using the National Assessment of Educational Progress (NAEP) math and reading tests of 9-, 13-, and 17-year-olds from around

the United States. As Figure 1 shows, white-black achievement gaps have narrowed substantially since the 1970s, in all grades, and in both math and reading. As of the most recent data, the gaps were 30-40 percent smaller than they were in the 1970s. Regardless, very large differences between black and white students remain, ranging from 0.6 to 0.9 standard deviations, especially in math performance. Therefore, it is worth examining novel approaches proposed to close the achievement gap.

My research look at closing the achievement gap using culturally relevant pedagogy (CRP) that has been proposed by Ladson-Billings (1995) but haven't received public's attention until recently. I will contribute to a larger empirical literature on how effective CRP is on closing the racial achievement gap. I will first examine how implementation of the program is related with math percentage of proficiency; then I will focus on finding out which school level will generate the greatest effect, if any.

Figure 2 provides a clearer idea of how serious the issue is in school districts in the US. The Stanford researchers also provide a more intuitive measure of achievement gap. They use school district level data to compare the academic performance of black and white 3-8 graders across the US. As recently as 2016, they find the difference in standardized test scores rises, by the time students are in the 8th grade, to approximately two years of schooling.

In the figure below, each circle represents a school district, with the size of the circle proportional to the number of students enrolled in that district. The black linear line crossing the origin indicates "no white/black disparity in test scores." Circles below the line are districts where black students perform worse than white students; circles above the line represents the opposite. The farther a district sits away from the diagonal line, the greater the gap.



FIGURE 2. *In most school districts, black students in 2016 perform worse than white students*

Source: The Educational Opportunity Project, Stanford University

This figure clearly shows that black students under-perform in the great majority of school districts. The achievement gap is systemic, not individual. Even decades after the end of legal segregation, a large and persistent achievement gap remains.

Literature Review

In the past few decades, policy makers have tried various kinds of ways to close the racial achievement gap. Three of the things that are most commonly tried include racial integration, increased funding, and increased racial awareness. However, evidence of their impact on test scores is mixed.

Racial Integration

When it comes to closing the racial achievement gap, one approach is to

address racial segregation in schools. Hanushek et al. (2009) finds evidence to support this approach. The study finds that a higher percentage of black schoolmates reduces achievement for blacks, while having a much smaller and generally insignificant effect on whites. Hoxby (2000) also found that racial diversity in the classroom is good for students' academic achievement, especially for black students. Surprisingly, black, Hispanic, and white third graders all tend to perform worse in reading and math when they are in classes that have a larger share of black students. The more striking result is that the effect of black peers appears to have the greatest negative effect on other black students.

The black share of school enrollment for black students is usually higher than that of white students. This suggests that distributing black students to white-majority schools is the most effective way to create a more racially diversified school environment. However, the success of such bussing initiatives is achieved by dragging another group of students down. Angrist and Lang (2004) studied the Metco bussing program in the Boston Area and found out that while Metco students' grades had been improved between third and seventh grades, a higher percentage of black schoolmates reduced achievement for non-Metco black students. Therefore, while bussing might close the gap, it did so by increasing the performance of the black students who were bussed and reducing the performance of those non-Metco black students who became the classmates of the bussed.

Another example is from Wilmington-New Castle County, Delaware. Via bussing, city students—mostly black—would spend nine years of their K-12 schooling in the suburbs, and suburban students—mostly white—would spend three years in the city. As a result, in all four school districts in the county, both city and suburban schools have been well-integrated since 1976. Despite having some of the most racially integrated schools in the US, the racial achievement gap in these schools is still high and comparable to the national gap (Armor, 2001), indicating

the limited effect of school desegregation.

Even if desegregation could completely close the achievement gap, it's easier said than done. After the Brown vs. Board of Education decision which banned school segregation, white people moved (for various reasons) to suburban areas too far removed from urban black communities to allow bussing to significantly desegregate the schools. Black students now predominantly attend black urban schools with few resources and white students go to primarily white suburban schools with significantly more funding.

Increased funding

This brings us to the question: what is more important in driving this divergence in educational outcomes, racial segregation or economic segregation? These factors are highly correlated since a much higher proportion of black people have low incomes. A recent study by Reardon et al. (2019) addressed this question. It constructed measures of student performance using test scores in math and English Language Arts (ELA) of students from grade 3-8, from 2009 through 2016, in a variety of school districts nationwide. The regression results show racially segregated classrooms are positively and significantly associated with black under-achievement. The result remained significant even after controlling for socioeconomic status (SES)¹ and residential segregation – some of the factors that are commonly regarded as contributing to black students' underperformance. However, when the study controlled for racial differences in school poverty, racial segregation no longer had a statistically significant effect. In other words, the relationship between racial segregation and the achievement gap seems to operate through differences in exposure to poor schoolmates. It adversely affects

1. SES indicators include the log of median family income, the proportion of adults with a bachelor's degree, the poverty rate, the unemployment rate, the SNAP receipt rate, and the single female-headed household rate.

performance because it gathers together black and Hispanic students who are poor themselves, not because of racial segregation per se. This explains why in the Metco bussing program, Angrist and Lang (2004) obtained negative effects of desegregation on non-Metco black students.

If school poverty is the problem, would an increased funding help? When we leave race out of the conversation, funding clearly improves achievement. Baker (2012) reviews past empirical studies and concludes that they invariably find a statistically significant positive relationship between student achievement and financial inputs. Baker (2012) tersely concludes, "To be blunt, money does matter." An example of this would be the Kansas statewide school district finance reforms in the 1990s, which involved primarily a leveling up of low-spending district. According to the estimation by Deke (2003), a 20 percent increase in spending was associated with a 5 percent increase in the likelihood of students going on to postsecondary education.

However, programs that increase funding for poor black schools have not had much success: Again take Kansas as an example. The Kansas City School District spent nearly 2,000,000,000 dollars on increased funding for all-black schools over 12 years. The district spent money on things like new school buildings, up-to-date materials, state-of-the-art computer labs, increased teacher salaries, and decreased class sizes, however with no noticable improvement in student achievement. Although the district's 37,000 mostly minority students enjoyed some of the best-funded school facilities in the country, student performance hadn't improved. (Ciotti, 1998) After reviewing the evidence of such initiatives, Orfield finds, "the many millions spent have yielded little conclusive evidence that achievement has improved any more than a modest degree." (Armor, 1995)

School Choice

Some researchers have proposed private schools as an effective response,

as they provide a different form of pedagogy for poor black students as well as potentially more resources (Hoffer, Greeley, and Coleman, 1985). By assigning more homework, longer school hours, and offering more advanced coursework, private school education – primarily Catholic school education – focus more on students’ academic performance. However, more studies find no support for the notion that private school education – primarily Catholic school education – can close the achievement gap for poor black students in racially segregated communities (Lubienski and Lubienski, 2006; Hallinan and Kubitschek, 2012; Simms, 2012).

Although all above initiatives aim to address the racial achievement gap, none of them has made a great progress. This is because desegregation or money or school choices can’t change the fact that black students are being adultified, criminalized, dehumanized and low-expected (Dumas and Nelson, 2016). Therefore, when Reardon et al. (2019) proposed that if we genuinely want to address racial inequality in educational opportunity, we’d still have to turn back to addressing racial segregation among schools, as “This we do know how to do, or at least we once did”, it has to be noted that this is not and should not be the only option educators have. Researchers have to find out why black students fail.

Increased Racial Awareness

This is related to a great misconception of why black students fail academically. People sometimes compare black students with Asian students, and assume that as both groups are minorities, the reason why Asians perform well academically but blacks don’t is because they don’t work hard enough and their cultural values are wrong, and hence it’s their own problem of not succeeding. This is called the Model Minority Myth. Alonso (2009) collected some of these views. He extensively referenced Patterson’s argument on why black students aren’t successful academically. According to Patterson (2006), the sense of “disconnection” that lead to racial achievement gap is “primarily root in

African Americans' cultural values and norms". Therefore, to address such problem needs a reform of their cultural values and norms rather than traditional government intervention and spending. Although, like McWhorter (2005) explicitly noted in his book *Winning the Race*, culture does play a huge part in the racial achievement gap, it's not the reason why black students aren't succeeding but rather a way that might empower black students and help them to succeed.

Leaving cultural education aside, researchers debate the effect of racial awareness, if any, on educational outcomes. Some assert that African American adolescents who recognize the systematic race-based inequality in economic and social opportunities see education as offering little help with future life and occupational pursuits. Taylor et al. (1994) support this hypothesis using a sample of 344 African American and White students attending public and Catholic high schools. As African American students become more aware of racial discrimination in American society, their motivation, engagement and effort in school declines. Studies by Hanushek et al. (2009) and Hoxby (2000) discussed above also confirmed this notion that a higher percentage of black schoolmates reduces achievement for blacks.

Other researchers argue that group affiliation and awareness of past and contemporary social inequities can be motivational. By interviewing 46 low-income African American students who attended two public high schools in Chicago, O'Connor (1999) finds that this awareness creates a strong interest in learning and motivates students to perform better at school. This argument that racial identity positively affects educational outcomes for African American adolescents is supported by Akerlof and Kranton (2002) where they presented that being in the same class with peers from one's own race has positive effects on black student's academic performance. By putting forward a conceptual framework of counting racial identity into economic analysis, In their model, Akerlof and Kranton (2002) suggested that schools would make adjustment so

that more students would identify with the school. As a result, schools with a majority of black students would establish an identity model that conforms to their black students, and vice versa. Therefore, it's more likely for black students to "dread" English and math classes in a white-majority school than in a black-majority school, with the opposite for white students. This is consistent with the argument that identifying with one's ethnic identity can positively affect black students' educational outcomes.

Interestingly, what Taylor et al. (1994) also found is that there exists no relationship between African American students' awareness of discrimination and their self-perception of their ethnic identities, and students' ethnic identity was actually positively associated with their school achievement and engagement. Therefore, in this sense racial identity theory can explain both sides of the own race peer effects discussion. The positive own race peer effect is based on cultural pedagogy and the education of racial identity, as what Akerlof and Kranton (2002) studied, otherwise it would only be counterproductive, as Hoxby (2000) proposed.

This view can be confirmed by Chavous et al. (2003)'s study. By introducing a "Profile Approach" as a guide for the model, Chavous et al. (2003) distinguished factors other than relationships between particular racial identity components and academic outcomes and labeled four clusters. Their chi-square analysis result indicated that compared with **buffering/ defensive** (individuals who held positive group beliefs and felt that society did not value African Americans) and **idealized** (people who had strong and positive group affiliation and felt that society valued African Americans) identity groups, **alienated** (individuals who had low connection to African Americans, felt that African Americans were devalued by society, and therefore felt negatively about them) racial identity group not only indicated less interest in school, but also had a higher percentage of individuals who are chronically absent. When it

comes to post-secondary education alienated group again has the lowest percentage of individuals attending these institutions. Therefore, as the African American identity is something that African Americans cannot easily escape in the society where that identity has a major effect on their life chances, they can have different relations with their identity and that would make a difference in their life outcome. As not all black kids can be identified as “idealized”, intervention is necessary to help African American students succeed.

Cultural Relevant Pedagogy

One promising intervention would be Cultural Relevant Pedagogy (CRP). Compared with traditional pedagogy, CRP specifically commits to collective empowerment of underrepresented groups like black students by providing a positive racial identity. Researchers believe that the alienating school and classroom experience for marginalized students can be alleviated by a curriculum that enhanced knowledge of African-American culture and a classroom experience that creates a positive ethnic identity (Banks, 1991; Gay, 1988; Ladson-Billings, 1992; Nasir Saxe, 2003; Valenzuela, 1999). Therefore, CRP not only focuses on academic success, but also devotes in cultural competences and critical consciousness on cultural norms and values that produce and maintain social inequities (Ladson-Billings, 1995), and advocates for instructional environments that focuses on validation and affirmation of cultural identities and intellectual capacities of marginalized students (Gay, 2010).

One example of classroom practice of cultural competence would be from Gertrude Winston, a white female teacher (Ladson-Billings, 1995). She involved parents of her students in the classroom as carpenters, professional basketball players, nurses, and church musicians. Through the first-hand experience, she helped set up the role model effect for student and reinforced the idea that their parents were knowledgeable and capable resources. As a result, her students learned that what they had and where they came from was of value. On top of that, students are

expected to develop a broader sociopolitical consciousness and be able to critique the cultural norms, social values, and structural inequities, which is the critical consciousness part in CRP advocates for. For example, some teachers encouraged students to critique controversial ideas represented in textbooks and brought in articles and newspapers stating counter-knowledge to help students develop different perspectives on a variety of social and historical phenomena.

One empirical study supports the ability of CRP to reduce the achievement gap. Dee and Penner (2017) use a quasi-experiment in the San Francisco Unified School District to measure the effect of CRP on attendance and the GPA of students whose 8th grade GPAs are below a certain threshold. Their regression discontinuity design is based on a year-long ninth-grade Ethnic Studies (ES) course implemented by three high schools that only assigned some of their ninth graders to this course. The results suggest that CRP dramatically improves the educational outcomes of at-risk students: assignment to this course increased 9th grade attendance by 21 percentage points, GPA by 1.4 grade points, and course credits earned by 23. Other studies confirm these results. Byrd (2016) surveyed 315 6th through 12th grade students across the United States. The study finds that culturally relevant courses are associated with a statistically significant increase in academic outcomes and positive ethnic identity.

For the rest of the paper, I will examine a program that implemented Cultural Relevant Pedagogy both qualitatively and quantitatively to find out more about to what extent does programs implementing CRP would affect student outcome and whether the effect of this kind of pedagogy would have different influence on different targeted age groups.

Program Description

The Manhood Development Program (MDP) was launched along with the African American Male Achievement (AAMA) initiative back in 2010. It was first launched in a few high schools in the district and gradually expanded to middle schools and elementary schools. The detailed program implementation year is summarized in the following table.

TABLE 1. *Manhood Development Program Implementation Year*

School Name	School Level	Implementation School Year
Oakland High	High	SY 2011-12
Oakland Technical High School	High	SY 2011-12
Skyline High School	High	SY 2011-12
McClymonds High School	High	SY 2011-12
Dewey Academy	High	SY 2012-13
Montera Middle School	Middle	SY 2013-14
Piedmont Elementary School	Elementary	SY 2013-14
Claremont Middle School	Middle	SY 2014-15
Redwood Heights Elementary	Elementary	SY 2017-18
Korematsu Elementary	Elementary	SY 2019-20
Sankofa Elementary	Elementary	SY 2019-20

MDP was created in response to the fact that past initiatives had little effect in transforming the educational attainment, academic success or school experience of African American male students in the district. Although Black students were offered these “resources”, the systematic racism, low expectations and marginalization in school have blocked them from succeeding. (Watson, 2014)

MDP, aimed as a novel academic mentoring model designed and implemented by African American males for African American males, offers an elective course during the school day taught by African American males for African American males. Black male instructors are chosen based on their understanding of black youth achievement, cultural competency, and their past teaching experience. Teacher races has been a topic that is very controversial: Because of the racial segregation history in the US, mandating segregated teachers is neither advisable or legal. However, truth is instructors in many urban school districts do not match the racial or economic backgrounds of their students and hence would have trouble understanding what students actually need. While racial identity of teachers creates challenges, it also brings opportunities, as “finding staff who can identify with students and provide a model for them can help foster trust and strong relationships.” (Knudson, 2016). The theory of the demonstration effect (role model effect) of black teachers is confirmed by Gershenson et al. (2018) by studying Tennessee’s Student Teacher Achievement Ratio (STAR) project. Their results show that black students randomly assigned to a black teacher in grades K-3 are 5 percentage points (7 percent) more likely to graduate from high school and 4 percentage points (13 percent) more likely to enroll in college than their peers in the same school who are not assigned a black teacher. Therefore, having same race teachers for black students would be motivating for black students not only because those teachers can act as role models but also because they might know better what students want.

Given these evidence, CRP can serve as a way to provide some of the same positive effects as same-race teachers. According to an interview with Brother Abdel-Qawi (Watson, 2014), he mentioned the most important trait he, as Oakland High (one of the first three schools to join the program) Principal, looked for in MDP teachers is patience. This is followed by preference for ones whose college major was African American Studies, who have worked with African American male organizations in the past, who demonstrated their connectedness to the

black community through art, faith-based work, etc., and who were connected to African American boys specifically not only on a professional level but also on a personal level. In general, MDP look for black instructors who “not see their position as merely a job, but a calling”.

Those instructors in MDP would design an elective course offered every Monday through Friday during the school day. A 20-25 students’ cohort is made up heterogeneously with one third of the class who demonstrated academic success, one third being average, and one third who are under-achieving. In the elective course, students are taught culturally relevant contents. For example, a high school freshman course, Mastering Our Identity, covers different topics like Ma’at, an analysis of ancient African civilizations; Maafa, the African American Holocaust; and Sankofa, the struggle for liberation and dignity. The class engages students by projects where students are given the chance and responsibility to discuss and design interventions to empower African Americans. These classes adopt an anti-oppression pedagogy that emphasizes open-ended questions, group discussions, cultural consciousness building and critical thinking skills. The aim of CRP is for students to have a better understanding of where they stand as African Americans in the society: academically, culturally, emotionally, and socially.

MDP offered the following resources to students in the program: (1) effective African American male instructors; (2) a curriculum that implements Culturally Relevant Pedagogy (CRP); (3) activities to develop leadership and character; (4) College/career guidance and transcript evaluation; (5) parent training and community building; (6) cultural, college and career field trips. The central idea of the program is to engage, encourage, and empower. The essence of MDP is to not only create a safe space for African American boys on campus, provide them with opportunities to experience life outside of school, but also to offer

African American male mentors and educators and to utilize a culturally relevant curriculum to learn about their identities and the legacies that they come from.

Qualitative Analysis

Other than the systematic racism deeply rooted in the society,² the image of how black male students perceive themselves plays a role in the racial achievement gap as well. Racial discrimination in education is thus intensified in this vicious cycle. Oakland Unified School District (OUSD) is a representative example of such.

Before launching the program, black male students in the school district were twice as likely to be chronically absent from elementary, middle, or high school than average. Their standardized test scores are than their white counterparts both in reading and math, with a 39 percent lower score on the English portion of California state exams in school year 2009-10. What's more, during school year 2010-11, they were five times more likely to be suspended than other students. (Klivans, 2014) Therefore, in 2011, Tony Smith, the superintendent in the school district decided that this is the time to call an end. In his words, "Enough is enough."

The Manhood Development Program, unlike any other regular programs that merely provides funding or forcefully push students into another classroom, aims to help black male students not only just survive in a racist world, but also thrive with the tools to transform themselves, their communities, and the society. The program seeks to create a safe space

2. Many studies have verified that black students are thought as lesser than white or Asian students in the classroom (McKown and Weinstein, 2008; Howard, 2013).

for black male students in school, recruit black male mentors and teachers as role models, offer a cultural relevant curriculum to help students learn who they are and what legacies that they come from, and provide opportunities to experience life outside of school.

Qualitative evidence like interviews and surveys suggest that MDP has been a success: it seems to have achieved the goals it set out for. A thorough report by Watson (2014) included interviews and surveys with program officials, parents, and students shows that the program has received great progress ever since it was launched. In a survey towards MDP students conducted by Watson, 64% of students report that their MDP peers are like a family to them, 82% report that MDP activities make them feel proud to be a black male, and 79% report that MDP makes them want to be successful in school. An MDP student wrote in the survey, “Our Manhood Development class helps us be more respectful to each other and to stay together as a brotherhood. I learned about my heritage and about myself as an African American student.” Knudson (2016) also interviewed one participant, of whom described the effect as “Before high school, I wasn’t comfortable with who I was. I was ashamed of who I was as a black kid . . . The one thing that still sticks with me is that there’s nothing wrong with who I am. There’s even greatness in my identity, and I’m really grateful for that.” What’s more, Watson’s survey shows that as opposed to the traditional stereotype of lower expectations on black students, students now report that they are being treated with respect, and they are asked to hold each other accountable to a higher standard. During Watson’s interview with students, more people begin to not be afraid of “acting white” and they think that MDP “made it cool to be black and smart”.

The Program Manager Brother Jahi told Watson a story during their interview about a student who had a break-down in his class and broke the language role due to some PTSD. Brother Jahi moved the boy out of the MDP class because he refused to apologize and said that he “didn’t care”.

However, one week later the boy was eager to rejoin the class – he admitted that he “missed the brotherhood and mentorship”. Now, this boy become one of the model students of his class. What’s more, during Watson’s interview with Nicole Wiggins, the parent of a student in the MDP program, she said, “I know my son wanted to do better in school. After signing up for MDP he began to take responsibility for his actions and he changed. Now, he’s making plans for his future.”

Promising results have also been found quantitatively on the program. Dee and Penner (2019) studied the effect of MDP on high school students in the Oakland Unified School District (OUSD) in California. The study compared the effect of assignment with non-assignment to the program. The findings show that MDP significantly reduced the number of black male dropouts, particularly in the 9th grade. When more black students stay in school, I would assume that they are performing better as well. Therefore, in the next section, I want to examine whether this positive qualitative result and the quantitative reduction in dropout rate can be confirmed by student’s increased test scores on different school levels.

Methodology and Data

The MDP (Manhood Development Program) is a central piece of the African American Male Achievement (AAMA) program. Dee and Penner (2019) already found out that high school dropout rates for black male students can be lowered by the program, and it also has spillover effects on black female students. Therefore, in this paper, I will not specify the sex factor³.

3. What’s more, school level data in the EdFacts dataset doesn’t have available data for race-sex cells.

My dataset has 321 cross-sectional school level observations over 4 school years: 2011-12, 2013-14, 2015-16, 2017-18. The outcome variable I choose is math percentage of proficiency. This is because to examine the achievement gap, academic outcome would be the best approach. For this key outcome variable, I gathered data from ED Facts data files from the U.S. Department of Education. This database has Mathematics and Reading/Language Arts percentage of proficiency of all schools in the US from grade 3 to high school from SY 2011-12 through SY 2018-19.

Because of the Family Educational Rights and Privacy Act (FERPA), a Federal law that protects the privacy of student education records, when data is released on groups of students, it can't disclose the individual identity of a student. Therefore, to protect students' privacy, the US Department of Education used techniques to censor the data for groups that are made up of very few students, since it's easy to identify specific individuals when the sample size is relatively small; or blur the data reported for all other students to further protect the privacy of students and to prevent the possibility that data for small groups being recalculated by subtracting other reported groups data from the reported totals. In order to protect data for small groups, the EdFacts dataset censors all cells with only 1-5 students, and those cells are identified by 'PS'. To blur data for medium-sized groups, EdFacts reports the percentage of proficiency for all medium-sized groups as a range (e.g., < 20% or 70 – 74%). The magnitude of the range is determined by how big the size of the reported group is. For example, cells with 6-15 students (the fewest above the censoring "5 students" cutoff) are reported with the widest ranges like < 50% or ≥ 50%. The magnitude of the range decreases as the number of students in the reported group increases, until there are more than 300 students in a group, when the percentage of proficiency is reported as a whole number. Since raw data in ED Facts are either 'PS', or all in a form of a range or LE (<=), LT (<), GE (>=), I replace 'PS' with 'NA' and take the mean of the range to make it easier for my analysis. In order to cope

with the Civil Rights Data Collection (CRDC)⁴ database, which only collects data every second year, I only included SY 2011-12, SY 2013-14, SY 2015-16 and SY 2017-18.

For the dependent variable, I choose Mathematics percentage of proficiency over that of Reading/Language Arts because interventions usually have a stronger effect on math score than reading score (Cronin, Kingsbury, McCall, and Bowe, 2005). An article from Brookings offers possible explanation: children learn math primarily from school (specifically, in math classes), while they develop reading skills through a broader combination of in-school and out-of-school experiences (Hansen, Levesque, Valant, and Quintero, 2018). However, the different effect of policy impact between Mathematics and Reading/Language Arts is an interesting question and I will compare the different impact of this program on Mathematics scores and Reading/Language Arts scores in a future study.

My variable of interest is a dummy variable that equals to 1 if a school is in the program in a specific school year, and equals to 0 otherwise. Control variables include out-of-school suspension rate and drop out rate. Out-of-school suspension rate data is collected from the Civil Rights Data Collection (CRDC) database, with school level data including SY 2011-12, SY 2013-14, SY 2015-16 and SY 2017-18. Drop out rate data is collected from DataQuest produced by California Department of Education (CDE). Since drop out rate is only available in high school, I will run regressions for high schools and middle and elementary schools respectively, where the former regression would have two control variables, and the latter would have one control variable. I excluded alternative schools, continuation schools and charter schools.

Table 2 reports summary statistics for the key variables in this study. The

4. Link: <https://ocrdata.ed.gov/>.

gap between black and white math percentage of proficiency is 45.92 percentage points; when it comes to middle school, the gap became as around 40.06 percentage points; and for high schoolers, the gap is approximately 34.06 percentage points. Black Grade 9-12 Dropout Rate is on average 3.2% higher than white Grade 9-12 Dropout Rate. In terms of Out-of School Suspension rate, the difference between black and white students on average is around 8.4%.

TABLE 2. *School Level Descriptive Statistics*

Variable	Mean	Standard Deviation
Black math percentage of proficiency - Elementary school	35.25%	24.09
White math percentage of proficiency - Elementary school	81.16%	36.56
Black math percentage of proficiency - Middle school	13.96%	6.99
White math percentage of proficiency - Middle school	54.02%	16.46
Black math percentage of proficiency - High school	16.58%	6.55
White math percentage of proficiency - High school	50.65%	10.07
Grade 9-12 Dropout Rate - Black	10.38%	0.19
Grade 9-12 Dropout Rate - White	7.16%	0.17
Out-of School Suspension rate - Black	12.45%	0.19
Out-of School Suspension rate - White	4.02%	0.11

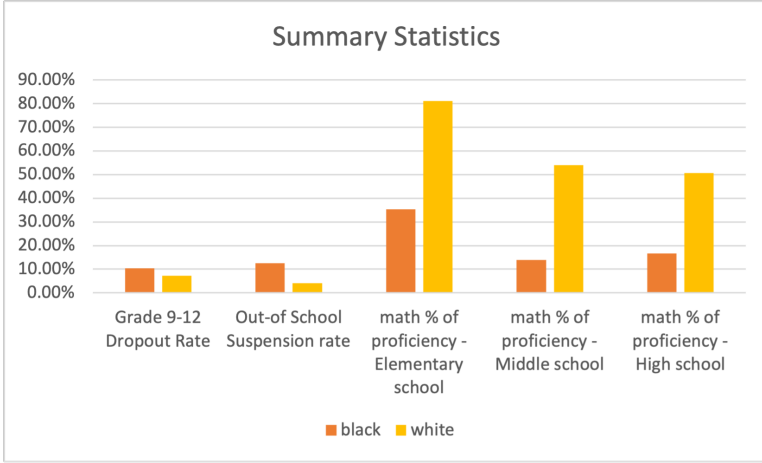


FIGURE 3. *Summary Statistics*

The above figure shows a clearer view of the gap between black and white students in the Oakland Unified School District.

To realize this, I begin with an OLS specification of the following structure (fixed effects regression):

$$Y_{st} = \beta_0 + \beta_1(MDP)_{st} + \beta_2 Z_i + \theta X_{st} + u_{st}$$

In the above model, Y_{st} represents the math percentage of proficiency for school cell s in year t , and β_0 is the overall intercept. The term, MDP_{st} , is a binary variable that stands for whether or not MDP is available at the school in a particular year. Z_s is an unobserved variable that varies from one school to the next but does not change over time. X_{st} represent other control variables that varies both across schools and over time, like drop out rate and out-of-school suspension rate, and u_{st} is an error term.

Apart from the OLS method, I also report the effect of MDP on the school level using the synthetic control approach as a quasi-experiment evaluate the impact of the program on student academic performance.

The synthetic control model I build is referenced from Abadie, Diamond and Hainmueller (2015).

To start with, I assume that there are $J + 1$ units in total, among which $j = 1$ is the treated unit, and $j = 2$ to $j = J + 1$ are potential comparison units (which is often referred to as the "donor pool"). Suppose time periods are represented as follows: $t = 1, \dots, T$. In this case, I assign SY 2011-12 as $t = 1$, SY 2013-14 as $t = 2$, SY 2015-16 as $t = 3$, and SY 2017-18 as $t = 4$. I also assume that the sample includes a positive number of pre-intervention periods T_0 , and a positive number of post-intervention periods T_1 where $T = T_0 + T_1$. In the OUSD case, although schools didn't launch the program all at the same time, the window was very close. So I take SY 2013-14 as $T_0 + 1$ for high schools and SY 2015-16 as $T_0 + 1$ for elementary schools and middle schools. By assumption, $j = 1$ is only exposed to the treatment in periods $T_0 + 1, \dots, T$ and units $j = 2$ to $j = J + 1$ receive no treatment at all whatsoever.

After identifying basic definitions, I define a synthetic control as a weighted average of units in the comparison group. In other words, the synthetic control can be represented by a weight vector

$$W = (w_2, \dots, w_{J+1})$$

where

$$0 \leq w_j \leq 1 \text{ for } j = 2, \dots, J \text{ and } w_2 + \dots + w_{J+1} = 1.$$

Here, a synthetic control is equivalent to a particular value for W . Therefore, I need to find the value of W that is closest to the characteristics of the treated unit during the pre-intervention period. Call X_1 as a $(k \times 1)$ vector that contains values of the characteristics of the treated unit pre-intervention. Now, suppose X_0 , a $(k \times J)$ matrix, collects values of the same variables for units in the comparison group. I want to select the synthetic control W^* that minimizes the difference between the

pre-intervention characteristics of the treated unit and the synthetic control $X_1 - X_0W$.

This can be realized as follows: let X_{1n} be the value of the n -th variable of the treated unit and X_{0n} be a $(1 \times J)$ vector composed of values of the n -th variable of the comparison unit (i.e., the donor pool). Choose W^* as the value of W that minimizes

$$\sum_{n=1}^k v_n (X_{1n} - X_{0n}W)^2,$$

where v_n is a weight that reflects the relative importance level of the n -th variable when measuring the difference between X_1 and X_0W .

With that, I can predict the effect of the program by comparing characteristics of the treated unit and the synthetic control post intervention. Define Y_{st} as the outcome of unit s at time t . Suppose $Y_1 = (Y_{1T_0+1}, \dots, Y_{1T})$ is a $(T_1 \times 1)$ vector that collects post-intervention values of the outcome for the treated unit, and Y_0 is a $(T_1 \times S)$ matrix where column s contains the post-intervention values of the outcome for unit $s + 1$. For the post-intervention period t , where $t \geq T_0$, the effect of the treatment is estimated by the synthetic control as the disparity between the outcome of the treated unit and the outcome of the synthetic control:

$$Y_{1t} - \sum_{s=2}^{S+1} w_s^* Y_{st}.$$

Results

I use fixed effects regression and synthetic control model to report whether enrollment in the program can improve black students' test scores on different school levels.

I first run a state-fixed effect regression of black students' math percentage of proficiency against enrollment in the program and a list of control variables. The regression result is summarized in the table below.

Having a positive coefficient on the variable "enrolled" indicates that the program improved black student's test scores, while a negative coefficient on enrolled means that enrollment in the program decreases black students' math percentage of proficiency.

The regression result in the two tables below is unexpected. Literature and past empirical studies seem to suggest that the implementation of the program will be positive and statistically significantly correlated with an increase in math percentage of proficiency, regardless of school levels. However, my regression result tells a different story.

TABLE 3. *Regression table: black students without control*

Dependent Variable:	(1)	(2)	(3)
black Math Percentage of Proficiency	elementary level	middle school level	high school level
enrolled	-38.25*** (10.464)	7.286 (6.191)	-15*** (0.000)
constant	27.5*** (1.491)	8 (4.995)	25 (0.000)
Fixed Effects	Y	Y	Y
<i>N</i>	140	53	30
adjusted <i>R</i> ²	0.3490	0.0664	0.4019

Robust standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

When not including control variables⁵, on both elementary and high school levels, the coefficient on elementary level is statistically significant but negative, which suggests that the program actually has negative effect

5. I include regressions without controls because I worry that some of the controls are affected by the intervention themselves.

on students' academic performance on the elementary level. What's more, coefficient on "enrolled" in the middle school level is statistically insignificant.

After including control variables, while coefficients on "enrolled" are either close to zero or positive, none of the three coefficients is statistically significant. In other words, data can't detect that enrollment in the program has an effect on black student's math performance being significantly different from zero in all three school levels.

TABLE 4. *Regression table: black students with control*

Dependent Variable:	(1)	(2)	(3)
black Math Percentage of Proficiency	elementary level	middle school level	high school level
enrolled	-0.0616 (3.800)	5.597 (6.164)	33.85 (38.955)
Out of School Suspension rate	13.28 (21.665)	-28.73** (5.474)	-6.977 (11.741)
Math Percentage of Proficiency: ECD (Economically Disadvantaged students)	0.712*** (0.087)	-0.0370 (0.172)	0.119 (0.123)
Math Percentage of Proficiency: LEP (Limited English Proficient students)	-0.178 (0.091)	-0.0856 (0.207)	0.546*** (0.239)
Dropout Rate			-38.72 (56.899)
constant	8.614 (6.810)	16.59*** (5.234)	8.647 (16.387)
Fixed Effects	Y	Y	Y
<i>N</i>	140	53	30
adjusted <i>R</i> ²	0.574	0.241	0.648

Robust standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In order to track how the achievement gap changes along with launch of the program, I run another state-fixed effect regression on all school levels

of the white-black gap as well. Here, I derive the white-black gap by subtracting black math percentage of proficiency from white math percentage of proficiency, so in most cases, the value should be positive.

Now, instead of regressing black student's math percentage of proficiency on enrollment of the program and control variables, I regress the white-black gap on the enrollment of the program and a list of control variables that also describe the gap.

In the regression below, a positive coefficient on the variable "enrolled" indicates that the program works well on closing the achievement gap, while a negative coefficient on enrolled means that enrollment in the program cause the white-black gap to actually be greater.

Tables 5 and 6 still show similar results as the first set of regressions. Before including control variables, on high school level enrollment in the program expands the achievement gap, while on elementary and middle school level there isn't a statistically significant effect.

TABLE 5. *Regression table: white-black gap without control*

Dependent Variable:	(1)	(2)	(3)
black Math Percentage of Proficiency	elementary level	middle school level	high school level
enrolled	18 (13.120)	-1.929 (14.187)	27.5*** (0.000)
constant	-27.5*** (2.470)	29.5*** (9.373)	-5 (0.000)
Fixed Effects	Y	Y	Y
<i>N</i>	140	53	30
adjusted <i>R</i> ²	0.5549	0.7306	0.8493

Robust standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

After including control variables, there is no evidence that MDP helps closer the black-white achievement gap on any of the three school levels,

as all coefficients on the variable "enrolled" are statistically insignificant. If this is the case, does it suggest that the Manhood Development Program, or the Cultural Relevant Pedagogy, just as past initiatives, doesn't work well in improving black students' academic performance (in this case, math test scores) either?

TABLE 6. *Regression table: white-black gap with control*

Dependent Variable:	(1)	(2)	(3)
Math Percentage of Proficiency gap	elementary gap	middle school gap	high school gap
enrolled	-6.321 (11.406)	-4.913 (8.021)	16.23 (8.560)
Out of School Suspension rate gap	-62.27 (66.880)	-45.01 (30.773)	14.84 (20.043)
Math Percentage of Proficiency: White	1.258*** (0.165)	0.872*** (0.225)	
Math Percentage of Proficiency: ECD (Economically Disadvantaged students)	-0.787*** (0.236)	-0.191 (0.468)	0.693 (0.610)
Math Percentage of Proficiency: LEP (Limited English Proficient students)	0.297 (0.227)	0.296 (0.522)	0.611 (0.736)
Dropout Rate gap			225.1 (138.602)
constant	-13.15 (14.541)	-10.01 (10.032)	-15.55 (7.949)
Fixed Effects	Y	Y	Y
<i>N</i>	57	26	14
adjusted R^2	0.783	0.917	0.966

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In order to try to establish a causal relationship between the enrollment in the program and black student's math test scores, I run a synthetic control model on different school levels.

On the elementary school level, I chose Piedmont Elementary School as the treated unit as this was the first elementary school that MDP was made available to in school year 2013-14.

The pre-treatment periods are therefore 2011 and 2013, and the post-treatment periods are 2015 and 2017. The donor pool is made up of all other elementary schools in the district that have available data from all school years 2011, 2013, 2015, and 2017.

Predictors included to construct the synthetic Piedmont Elementary include black Out of School Suspension rate, math Percentage of Proficiency for ECD students and math Percentage of Proficiency for black students in year 2011 and 2013.

The predictor table for Piedmont Elementary against the synthetic Piedmont Elementary in the pre-treatment period is summarized below.

TABLE 7

	Treated	Synthetic	Sample Mean
black Out of School Suspension rate	0.004	0.004	0.062
Math Percentage of Proficiency: ECD	77.250	65.276	50.636

As we can see, the synthetic Piedmont Elementary is very similar to the actual Piedmont Elementary in the pre-treatment period. Table 6 summarizes schools that construct the donor pool and the weight distribution inside the donor pool.

The above table shows that Glenview Elementary and Peralta Elementary make up of most of the weight in the donor pool.

TABLE 8

School Name	School ID	Weight
Allendale Elementary	62805004238	0.002
Chabot Elementary	62805004239	0.003
Bella Vista Elementary	62805004241	0.002
Brookfield Elementary	62805004243	0.003
Burckhalter Elementary	62805004245	0.001
Howard Elementary	62805004249	0.002
Cleveland Elementary	62805004251	0.003
Emerson Elementary	62805004260	0.002
Franklin Elementary	62805004261	0.018
Fruitvale Elementary	62805004264	0.003
Glenview Elementary	62805004266	0.602
Grass Valley Elementary	62805004269	0.002
Kaiser Elementary	62805004273	0.003
Hoover Elementary	62805004276	0.002
Horace Mann Elementary	62805004277	0.004
Joaquin Miller Elementary	62805004280	0.003
Laurel Elementary	62805004287	0.002
Lincoln Elementary	62805004289	0.002
Manzanita Community	62805004294	0.001
Markham Elementary	62805004296	0.003
Martin Luther King Jr. Elementary	62805004297	0.003
Parker Elementary	62805004306	0.003
Peralta Elementary	62805004307	0.312
Redwood Heights Elementary	62805004310	0.001
Sequoia Elementary	62805004314	0.002
Madison Park Academy tk-5	62805004316	0.001
Reach Academy	62805011556	0.001
Sankofa Academy	62805011558	0.002
Rise community	62805011559	0.001
Fred T. Korematsu Discovery Academy	62805011977	0.004
Futures Elementary	62805012057	0.001
Community United Elementary	62805012058	0.003
East Oakland Pride Elementary	62805012059	0.001

Now, we can take a look at how the black math percentage of proficiency would behave if it had not received the treatment. I first report a table of the period by period comparison between the treated unit and synthetic unit.

TABLE 10

Year	Treated Unit	Synthetic Unit
2011	74.50	72.42
2013	54.50	56.58
2015	15.00	25.10
2017	24.50	27.95

The following graph shows the path of math percentage of proficiency change for black students over the years.

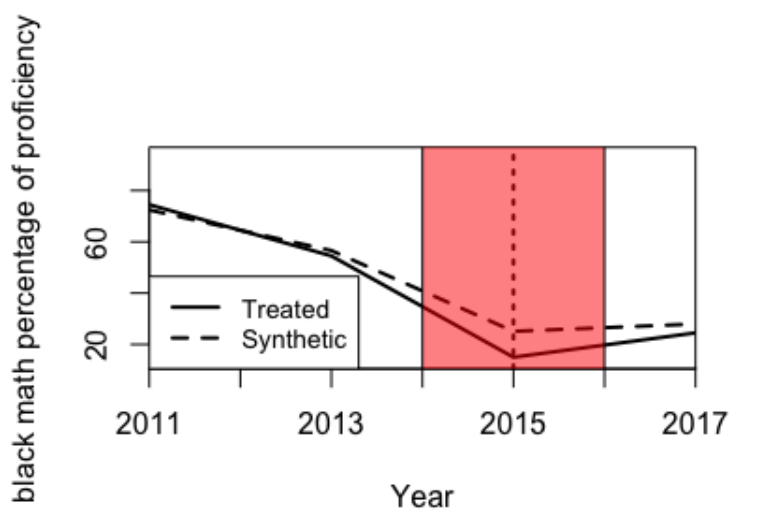


FIGURE 4. *Elementary School Level black student math performance*

In Figure 4, the solid line stands for the treat unit, in this case Piedmont Elementary; the dotted line stands for the synthetic control unit, a synthetic Piedmont Elementary as if it hadn't received the treatment⁶. The figure shows that after 2015, the slope of the treated unit is steeper than the synthetic control unit, which means the program increase black math percentage of proficiency faster than the synthetic unit, a very similar school that didn't receive the treatment. However, I have to admit that there are potential threats to establishing the causal relationship, which I will elaborate in the limitation section.

Next, I move on to the middle school level to investigate whether the synthetic control method can provide a clearer view of the program's impact on black students' math percentage of proficiency. On the middle school level, the treatment unit I chose is the Montera Middle School, the first middle school to launch MDP in school year 2013-2014. By 2015, the program was available to black boys who were in the 8th grade. Therefore, the pre-treatment periods are 2011 and 2013, and the post-treatment periods are 2015 and 2017. Like the elementary school level, the donor pool is made up of middle schools in the district with available data from all school years.

Predictors included to construct the synthetic Piedmont Elementary include black Out of School Suspension rate, math Percentage of Proficiency for ECD students, Percentage of Proficiency for LEP students, and math Percentage of Proficiency for black students in year 2011 and 2013. The predictor table for Montera Middle against the synthetic "Montera Middle" in the pre-treatment period is summarized below.

6. The shaded areas means it's uncertain what happened between 2014 and 2016 since I don't have data for 2014 and 2016. Same with the graph for middle school level.

TABLE 11

	Treated	Synthetic	Sample Mean
black Out of School Suspension rate	0.139	0.200	0.292
Math Percentage of Proficiency: ECD	27	27	19.182
Math Percentage of Proficiency: LEP	25	13.380	13

Table 12 below summarizes schools composing the donor pool and the weight distribution of schools inside the donor pool. Clearly, Madison Park Academy and Edna Brewer Middle make up of most of the weight in the donor pool, while the weight of other schools in are almost trivial when making up the synthetic Montera Middle.

TABLE 12

School Name	School ID	Weight
Bret Harte Middle	62805004242	0.039
Claremont Middle	62805004250	0.033
Frick Middle	62805004263	0.034
Madison Park Academy	62805004278	0.308
Edna Brewer Middle	62805004299	0.415
Roosevelt Middle	62805004312	0.038
Westlake Middle	62805004323	0.031
Roots International Academy	62805011907	0.025
United For Success Academy	62805011909	0.025
Elmhurst Community Prep	62805011961	0.028
Alliance academy	62805012027	0.025

After establishing the synthetic "Montera Middle", I can compare the trend of how the black math percentage of proficiency behaves had it received or not received the treatment. Again, I first report a table of the period by period comparison between the treated unit and synthetic unit.

TABLE 13

Year	Treated Unit	Synthetic Unit
2011	0.00	0.00
2013	17.00	17.00
2015	12.00	14.65
2017	12.00	12.33

The solid line in Figure 5 stands for the treat unit, in this case Montera Middle, while the dotted line stands for the synthetic control unit, a synthetic Montera Middle as if it hadn't received the treatment. In Figure 4, we can see both the treated and synthetic control unit have a downward sloping trend after year 2015. This means black students' math percentage of proficiency has a general decreasing trend in those years.

However, the slope of the treated unit is flatter than the synthetic control unit, which means for the school that has received the treatment suffers from less decline in black students' math percentage of proficiency than the synthetic unit, a very similar hypothetical school that hasn't received the treatment.

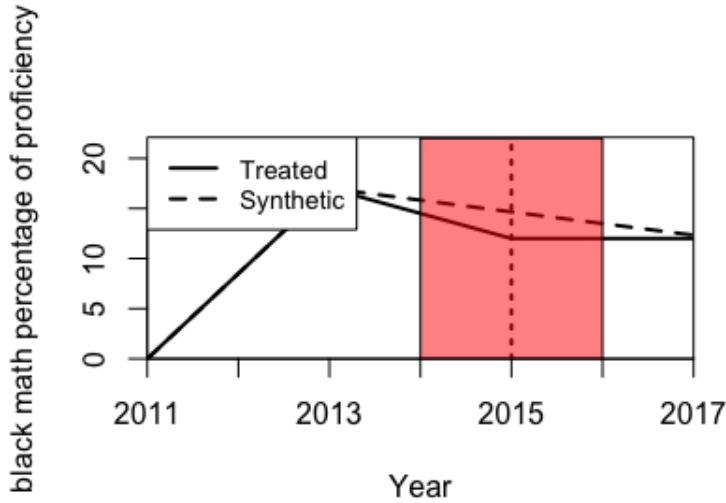


FIGURE 5. *Middle School Level black student math performance*

Through the synthetic control method, I find that on both the elementary school and middle school level, MDP has positive impact on black students' math test scores. Finally, I reciprocate the procedure at the high school level to see if there's a similar pattern.

On the high school level, the treatment unit I chose is McClymonds High School, one of the first four high schools to launch MDP in the very beginning. The program was launched first in school year 2011-12 towards the 9th grade cohort. By 2015, the then 9th grade cohort reached the grade to take the state standardized test. Therefore, the pre-treatment periods are 2011 and 2013, and the post-treatment periods are 2015 and 2017. The donor pool is made up of high schools in the district that didn't receive the treatment with available data from all school years. Since there are less high schools in general in the district compared with elementary and middle schools, and there are a lot more high schools in the district that have received the treatment (i.e., implemented MDP), the

donor pool doesn't have a lot of choices like the elementary and middle school level. The predictor table for McClymonds High against the synthetic "McClymonds High" in the pre-treatment period is summarized below.

TABLE 14

	Treated	Synthetic	Sample Mean
black Out of School Suspension rate	0.236	0.206	0.172
Math Percentage of Proficiency: ECD	11	39.750	40.833
black dropout rate	0.076	0.024	0.015

Unfortunately, the synthetic "McClymonds High" isn't very similar to the actual McClymonds High during the pre-treatment period since there are only three high schools in the donor pool (as shown in Table 14), and all of the weight in the donor pool is put on Metwest High⁷.

TABLE 15

School Name	School ID	Weight
Life Academy	62805008676	0
Metwest High	62805011350	1
Coliseum College Prep Academy	62805011920	0

I won't report the figure here but when plotting the path overtime, I see that after 2015 both the treated and synthetic control unit have a horizontal line, implying that whether a school receive the treatment or not does not have any impact on black students' math percentage of

7. Next step of extending this paper is to include more schools outside of OUSD and I'm confident that in that case synthetic control on the high school level will have a much better result.

proficiency. However, I won't read too much into this because the result generated by donor pool is clearly biased.

To sum up, while Fixed Effects regressions suggest no statistically significant evidence on the causal relationship between the launch of the program and black student's math percentage of proficiency, the synthetic control model shows a positive effect of the Manhood Development Program on black student's test scores on the elementary and middle school level. However, there are limitations to both models and I will briefly discuss them in the next section.

Limitations

There are a few limitations of both the data and the two models I presented in the previous sections.

First of all, data on the dependent variable, math percentage of proficiency, provided by EdFacts from the US Department of Education, is inaccurate to protect students' personal information. Therefore, I can only drop the censored 'PS' cells and take the average of the ranges that are blurred, and this may lead to inaccurate fixed effects regression results and synthetic control model plots. In my future research, I will try to access the restricted student level data and perform a more accurate analysis. Another approach can be the Niche database, of which the data is only accessible to licensed users. However, this database may have good academic performance indicators on the school level and also has more control variables.

Second, in the fixed effects model, the potential Omitted Variable Bias (OVB) problem can be a threat to the internal validity. Although fixed effects regressions control for all unidentifiable variables that vary across schools but not over time, or any variable that varies over time but not

across schools (In this case I examined in Stata using the "testparm" command - since the F-stats is > 0.05 , I failed to reject the null that the coefficients for all years are jointly equal to zero, therefore no time fixed effects are needed), it can't control for unidentifiable variables that vary both across schools and over time. This is also why I used the synthetic control models after that. However, this leads to the third problem.

Third, a problem with the synth control method is that my data has a gap between years, and too few years in both the pre-treatment period and post-treatment period make the model less convincing in terms of establishing a causal relationship. Instead of having years 2011 to 2017, I only have 2011, 2013, 2015, 2017. This is because the critical control variable *out of school suspension rate* from the CRDC database only provides data from every other years. Nevertheless, similar to the first problem, this problem can be solved if I can get access to the restricted Niche database and replace it with another control variable that is of high collinearity with the *out of school suspension rate* variable.

Regardless of the above limitations, I do see some evidence that suggests the positive effect of CRP on the academic performance of black students. At the very least, even though quantitative evidence can't prove that the program is beneficial in terms of raising black student's test scores, it is not a reason to invalidate the program. I will elaborate this in the discussion section.

Discussion

My study, unlike other empirical studies that have shown that CRP is a practical approach to closer the achievement gap, doesn't find compelling evidence that suggest the Manhood Development Program (MDP) in Oakland Unified School District (OUSD) have a positive effect on raising

the academic performance of poor black students. However, besides the limitations above, there are two reasons that may bias the study downward.

First, every MDP class is made up of a third of under-performing students, a third of average students, and a third of over-performing students. What's more, a report by Watson (2014) clearly states that this program disproportionately helps under-performing students. Even though the academic performance of this group of students may be improved as a result of MDP, their test scores may still haven't reached the threshold of "proficient", which is why we can't see a huge effect of the program when using the math percentage of proficiency as the response variable - some of the improvement may not have been picked up by the dependent variable. Similarly, the improvement of academic performance for high-achieving students might not be picked up by the dependent variable either: their math scores are already above the proficiency threshold before the treatment, and even though their math scores have been improved, the improvement isn't shown on data. Therefore, there are sensitivity issues on both sides and the effect of the program is likely underestimated.

Second, as Dee and Penner (2019) found, MDP reduces the dropout rate for black students in the high school. If this is true, then it can create a potential downward bias for this study. Low-performing students tend to drop out of high school, but with MDP lowering the dropout rate, now those who were to drop out actually stayed in school and although their test scores might have been improved by the program, the overall math performance is lower. Therefore, this is a potential reason why we can't see the program improving students' test scores. Since now the sample selection would be different and the sample size is actually larger, there exists a sample selection bias, causing the effect of the program to be biased downwards.

Nevertheless, even though MDP really does have zero effects on test

scores, it wouldn't necessarily be a reason to invalidate the program and the Cultural Relevant Pedagogy since the curriculum emphasizes things other than the tested subjects. Rather, it gets us thinking: what is the real purpose of schooling? Is standardized test scores the only or right way to evaluate the success of a pedagogy and educational effectiveness? According to Popham (1999), "Employing standardized achievement tests to ascertain educational quality is like measuring temperature with a tablespoon." The purpose of MDP and CRP is to empower underrepresented students by developing cultural competence and critical consciousness on cultural norms that produce social inequalities, and this mindset will benefit students more than test scores later in life. Although students in the program come from different academic backgrounds, they form a bond of brotherhood inside MDP classrooms and motivate and learn from each other. All-black schools are not new and they were even thought of as a form of racism and therefore inappropriate in the past. However, creating an identity and gender-specific program within a diverse large urban school district is groundbreaking. Additionally, the program provides students with motivated and devoted black male teachers. By serving as role models, understanding black boys' struggles, listening to students' voices, and conveying them to the school and outside world, black teachers in the program provide a safe space for black boys to be themselves and thrive, without worrying about the systematic racism and marginalization from the outside world. More importantly, cultural relevant pedagogy is an effective way for black boys to foster positive self-esteem and critical thinking for school, life, and the whole society. Through these classes, students learn about the invaluable legacy their ancestors left them, and therefore realize the power of personal and collective agency to help them overcome social barriers to succeed. Therefore, it's obviously not comprehensive enough to evaluate this program merely by test scores.

However, programs like this may face challenges as it highly depends on teacher effectiveness. Young (2010) reports the results of an exploratory

study of CRP in urban schools using interviews, classroom observations, participant reflections, administrative documents, and online discussions. It found significant variation in what teachers consider as “cultural relevant” teaching, in what they expect students to know, and the topics considered important, and that these differences reflect the teachers’ cultural biases. As an example, Amy, the only non-White teacher in the study, is the only one who is willing to engage her students in discussions on race and racism. Sleeter (2012) argues that most teachers have a faulty and simplistic conception of what CRP is. Other issues affecting the success of CRP include the nature of racism in school settings and the support provided to implement the program.

Furthermore, there are more interesting research questions about CRP that is yet to be answered. Does same race teacher play a role in the classroom? How does the program influence students in different school levels?

I would further investigate the effectiveness of the program on different school levels. According to some researchers, “The early educational experiences of African American boys are by far the most important in the developmental trajectory of achievement throughout school.”(James Earl Davis, 2008) Although this study can’t provide a strong support to the theory, I plan to do another study in the future on the program’s impact on different school levels, when more post-intervention years are available. I think this is as important as whether CRP is effective since it can help give policy makers a clearer idea when is the best time should they direct schools to implement CRP, hence bringing out a more efficient outcome.

Another potential research direction would be on long-term effects of these programs. Deming’s (2009) finding about Head Start, a program of the US Department of Health and Human Services that provides comprehensive early childhood education, health, nutrition, and parent involvement services to low-income children and families, indicates that the short-term effects would fade out, especially for black people. When

Chetty (2018) was interviewed about education and neighborhood, he mentioned that even we compare white man and black man who come from similar family income backgrounds and live in the same neighborhood, black men have much higher rates of downward mobility than white man. It's more likely for black people to fall back to poverty and even if they climb up the income ladder in one generation, they tend to fall back down in the next generation. Therefore, I'm curious about whether the nature of the MDP program (that focuses on self-esteem boost and cultural awareness) can bring a change. Although most programs that involved CRP haven't been implemented for long, future researchers should study the long-term effects of MDP and I believe the result will be important for sociologists and economists who are interested education inequality and social segregation. Therefore, future research needs to be done to further explore the CRP approach.

Conclusion

How to lessen racial inequality in education has long been a question researchers and policy makers try to figure out. This paper looked back to past initiatives that have been taken to closer the racial achievement gap, and explored the new promising approach: Cultural Relevant Pedagogy (CRP).

Fixed effects regression show whether or not enrolled in the Manhood Development Program (MDP) has no statistical significant difference on black students' math percentage of proficiency. While the synthetic control approach does show a positive effect of MDP on black students' math percentage of proficiency on the elementary and middle school level, I would be rather careful to draw a causal conclusion because my data doesn't show what happened between 2014 and 2016, so there might be other factors other than the program affecting student performance.

Although school level evaluation can't provide an effective support that the implementation of CRP can narrow the racial achievement gap, according to the interview and survey on parents and students who are involved in the program, it has been a great success on helping black male students rebuild their self-esteem and their values of themselves and the world around them.

It's debatable whether CRP is an effective approach to help lift up black male students. For one, students' success shouldn't be merely evaluated by their test scores; What's more, CRP may offer students a life-long impact, which is not captured by the measure in this paper. According to one of the MDP instructors brother Jahi (Watson, 2014), "We are not teaching Math or Science or English, those are just the subjects. We are first and foremost teaching human beings." Success is not necessarily a clear result, but a lifelong process.

Reference

- Abadie, A., Diamond, A., & Hainmueller, J. (2015). "Comparative politics and the synthetic control method." *American Journal of Political Science*, 59(2), 495-510.
- Akerlof, G. A., & Kranton, R. E. (2002). "Identity and schooling: Some lessons for the economics of education." *Journal of economic literature*, 40(4), 1167-1201.
- Alonso, G. (2009). *Culture trap: Talking about young people of color and their education*. Our schools suck: Students talk back to a segregated nation on the failures of urban education, 31-67.
- Angrist, J. D., & Lang, K. (2004). "Does school integration generate peer effects? Evidence from Boston's Metco Program." *American*

- Economic Review*, 94(5), 1613-1634.
- Armor, D. J. (1995). "Can desegregation alone close the achievement gap." *Education Week*, 14, 41.
- Armor, D. J. (2001). "The end of school desegregation and the achievement gap." *Hastings Constitutional Law Quarterly*, 28(3), 629-654.
- Banks, J. A. (1991). "A curriculum for empowerment, action, and change." *Empowerment through multicultural education*, 125-141.
- Baker, B. D. (2012). "Revisiting the age-old question: Does money matter in education?" Washington, DC: Albert Shanker Institute.
- Byrd, C. M. (2016). "Does culturally relevant teaching work? An examination from student perspectives." *Sage Open*, 6(3), 2158244016660744.
- Center for Education Policy Analysis, Stanford University. Racial and Ethnic Achievement Gaps. Retrieved from <https://cepa.stanford.edu/educational-opportunity-monitoring-project/achievement-gaps/race/second>
- Chavous, T. M., Bernat, D. H., Schmeelk-Cone, K., Caldwell, C. H., Kohn-Wood, L., & Zimmerman, M. A. (2003). "Racial identity and academic attainment among African American adolescents." *Child development*, 74(4), 1076-1090.
- Chetty, Raj, et al. "Zipcode Destiny: The Persistent Power Of Place And Education." NPR, NPR, 12 Nov. 2018, www.npr.org/2018/11/12/666993130/zipcode-destiny-the-persistent-power-of-place-and-education.
- Ciotti, P. (1998). America's Most Costly Educational Failure. Retrieved

from <https://www.cato.org/publications/commentary/americas-most-costly-educational-failure>.

Cronin, J., Kingsbury, G. G., McCall, M. S., Bowe, B. (2005). "The impact of the No Child Left Behind Act on student achievement and growth: 2005 edition." *Portland, OR: Northwest Evaluation Association*.

Dee, T. S., & Penner, E. K. (2017). "The causal effects of cultural relevance: Evidence from an ethnic studies curriculum." *American Educational Research Journal*, 54(1), 127-166.

Dee, T., & Penner, E. (2019). My Brother's Keeper? The Impact of Targeted Educational Supports (No. w26386). National Bureau of Economic Research.

Deke, J. (2003). "A study of the impact of public school spending on postsecondary educational attainment using statewide school district refinancing in Kansas." *Economics of Education Review*, 22(3), 275-284.

Deming, D. (2009). "Early childhood intervention and life-cycle skill development: Evidence from Head Start." *American Economic Journal: Applied Economics*, 1(3), 111-34.

Dumas, M. J., & Nelson, J. D. (2016). "(Re) Imagining Black boyhood: Toward a critical framework for educational research." *Harvard Educational Review*, 86(1), 27-47.

Gay, G. (1988). "Redesigning relevant curricula for diverse learners." *Education and Urban Society*, 2(4), 327-340.

Gay, G. (2010). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.

Gershenson, S., Hart, C., Hyman, J., Lindsay, C., & Papageorge, N. W.

- (2018). The long-run impacts of same-race teachers (No. w25254). National Bureau of Economic Research.
- Hansen, M., Levesque, E., Valant, J., amp; Quintero, D. (2018). "2018 Brown Center report on American education: Trends In NAEP math, reading, and civics scores." Retrieved April 07, 2021, from <https://www.brookings.edu/research/2018-brown-center-report-on-american-education-trends-in-naep-math-reading-and-civics-scores/footnote-7>
- Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2009). "New evidence about Brown v. Board of Education: The complex effects of school racial composition on achievement." *Journal of labor economics*, 27(3), 349-383.
- Hoffer, T., Greeley, A. M., & Coleman, J. S. (1985). "Achievement growth in public and Catholic schools." *Sociology of Education*, 74-97.
- Howard, T. C. (2013). "How does it feel to be a problem? Black male students, schools, and learning in enhancing the knowledge base to disrupt deficit frameworks." *Review of Research in Education*, 37(1), 54-86.
- Hoxby, C. (2000). Peer effects in the classroom: Learning from gender and race variation (No. w7867). National Bureau of Economic Research.
- Klivans, L. (2014). "After 4 Years, Oakland Schools' African American Male Achievement Initiative Assesses How It's Doing." Oakland North. Retrieved April 28, 2021, from oaklandnorth.net/2014/12/17/after-4-years-oakland-schools-african-american-male-achievement-initiative-assesses-how-its-doing/.
- Knudson, J. (2016). "Integrating Academic, Social, and Emotional

- Learning to Advance Equity and Achievement. Meeting 31 Summary (Oakland, California, December 6-7, 2016)." California Collaborative on District Reform.
- Ladson-Billings, G. J. (1992). "Liberatory consequences of literacy: A case of culturally relevant instruction for African American students." *Journal of Negro Education*, 378–391.
- Ladson-Billings, G. (1995). "But that's just good teaching! The case for culturally relevant pedagogy." *Theory into practice*, 34(3), 159-165.
- Magnuson, K., & Waldfogel, J. (Eds.). (2008). *Steady gains and stalled progress: Inequality and the Black-White test score gap*. Russell Sage Foundation.
- McKown, C., & Weinstein, R. S. (2008). "Teacher expectations, classroom context, and the achievement gap." *Journal of school psychology*, 46(3), 235-261.
- McWhorter, J. (2005). *Winning the race: Beyond the crisis in Black America*. Penguin.
- Nasir, N. S., & Saxe, G. B. (2003). "Ethnic and academic identities: A cultural practice perspective on emerging tensions and their management in the lives of minority students." *Educational Researcher*, 32(5), 14–18.
- O'Connor, C. (1999). "Race, class, and gender in America: Narratives of opportunity among low-income African American youths." *Sociology of education*, 137-157.
- Patterson, O. (2006). "A poverty of the mind". *New York Times*, 26, 27.
- Popham, W. J. (1999). "Why standardized tests don't measure educational quality." *Educational leadership*, 56, 8-16.
- Reardon, S. F., Weathers, E., Fahle, E., Jang, H., & Kalogrides, D.

- (2019). "Is separate still unequal? New evidence on school segregation and racial academic achievement gaps."
- Reardon, S. F. What Explains White-Black Differences in Average Test Scores? Retrieved from <https://edopportunity.org/discoveries/white-black-differences-scores/>.
- Simms, K. (2012). "Is the Black-White Achievement Gap a Public Sector Effect? An Examination of Student Achievement in the Third Grade." *Journal of At-Risk Issues*, 17(1), 23-29.
- Sleeter, C. E. (2012). "Confronting the marginalization of culturally responsive pedagogy." *Urban Education*, 47(3), 562-584.
- Taylor, R. D., Casten, R., Flickinger, S. M., Roberts, D., & Fulmore, C. D. (1994). "Explaining the school performance of African-American adolescents." *Journal of Research on Adolescence*, 4(1), 21-44..
- Valenzuela, A. (1999). *Subtractive schooling: US-Mexican youth and the politics of caring*. Ithaca, NY: State University of New York Press.
- Watson, V. M. (2014). *The black sunrise: Oakland Unified School District's commitment to address and eliminate institutionalized racism*. Oakland Unified School District.
- Young, E. (2010). "Challenges to conceptualizing and actualizing culturally relevant pedagogy: How viable is the theory in classroom practice?" *Journal of Teacher Education*, 61(3), 248-260.