

My Brother's Keeper? The Impact of Targeted Educational Supports

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Abstract

The My Brother's Keeper (MBK) Challenge developed by President Obama supports communities that promote civic initiatives designed to improve the educational and economic opportunities specifically for young men of color. In Oakland, California, the MBK educational initiative features the African American Male Achievement (AAMA) program. The AAMA focuses on regularly scheduled classes exclusively for Black, male students and taught by Black, male teachers who focus on social-emotional training, African-American history, culturally relevant pedagogy, and academic supports. In this study, we present quasi-experimental evidence on the dropout effects of the AAMA by leveraging its staggered scale-up across high schools in the Oakland Unified School District (OUSD). We find that AAMA availability led to a significant reduction in the number of Black males who dropped out as well as smaller reductions among Black females, particularly in ninth grade. © 2021 by the Association for Public Policy Analysis and Management

INTRODUCTION

Social policies across a wide set of domains (e.g., labor, housing, social services, healthcare, urban development, and education) frequently rely on broad eligibility rules and generic design features that are applied universally to the diverse population of participants. However, the “My Brother's Keeper” (MBK) initiative introduced in 2014 by President Obama (and continuing under the aegis of the Obama Foundation) embeds a different approach. The MBK initiative is a public-private partnership that engages local communities in multifaceted efforts specifically designed “to address persistent opportunity gaps facing boys and young men of color” (My Brother's Keeper, 2016). The explicit focus of this initiative on Black males has been a source of controversy from observers across the political spectrum. For example, critics have argued that this initiative is discriminatory either because it singles out Black males for attention or because it deprioritizes equity-related challenges among other demographic subgroups (Clegg, 2014; Crenshaw, Ocen, & Nanda, 2015; Jacobs & Fulwood III, 2014).

In response, supporters of the MBK initiative (e.g., powell & Rockey Moore, 2014) have appealed to “targeted universalism” as a salient conceptual framework. Advocates of targeted universalism argue that targeted policies often suffer from a lack of enduring political support (e.g., race-based affirmative action; Andrews & Swinton, 2014) while universal policies can actually exacerbate inequity (powell, 2008; powell,

Menendian, & Reece, 2009).¹ In contrast, targeted universalism calls for combining the clear articulation of universal goals that can sustain political support with targeted approaches for achieving those goals. Authors Powell, Menendian, and Reece (2009) note that “this approach targets the varying needs of each group while reminding us that we are all part of the same social fabric.” From this perspective, the MBK initiative can be viewed as a proof point for the kinds of differentiated strategies that could support other subgroups as well as an approach that may generate unanticipated benefits.²

The ongoing debate about the MBK initiative raises fundamental issues about both how we engage diversity in pluralistic societies and how we can best design policies that support the universal goals we have for all its members. Emerging evidence on the design, theoretical framing, and impact of specific MBK initiatives may meaningfully inform the ongoing consideration of these issues. In this study, we seek to provide such evidence by examining the African American Male Achievement (AAMA) initiative in the Oakland Unified School District (OUSD). The AAMA is “an ambitious project designed to dramatically improve academic and ultimately life outcomes for African American male students in Oakland.” As we describe in more detail below, the AAMA centers on regularly scheduled classes taught by Black, male teachers and emphasizes social-emotional development, African American history, and culturally relevant pedagogy. The AAMA also features academic and social supports and enrichment activities. The City of Oakland’s MBK plan prominently features the AAMA as “a leading example of Oakland’s willingness to confront racial equity locally, and be a national model of change” (City of Oakland, 2016). However, it should also be noted that the correspondence between the MBK initiative and the AAMA program is not a complete one. The AAMA actually preceded the MBK initiative by several years. Furthermore, some observers of the MBK initiative have strongly criticized the framing of young Black males as “problems” to be fixed (Dumas, 2016; Johnson & Philoxene, 2019; Laymon, 2014) whereas the AAMA program prioritizes Black male empowerment, asset-based perspectives, and critical engagement with larger structural inequities in society.

After describing the AAMA’s programmatic features and the varied theoretical and empirical literatures in which it is situated, we turn to examining its impact. Our panel-based approach leverages the staggered expansion of the AAMA across grades and over time in different OUSD high schools to examine the reduced-form effects of program access on counts of Black males who dropped out of high school. Specifically, we examine difference in differences (DD) specifications based on event dropout data at the school-grade and year level. We also examine contemporaneous data on dropout counts among Black female students both to examine possible spillover effects and to assess difference-in-difference-in-differences (DDD) specifications under the conservative assumption of no spillover effects. We find that access to the AAMA significantly reduced the number of Black male dropouts, particularly in ninth grade. Our main estimates imply that, in the average pre-AAMA school-grade cohort of 61.3 Black males, AAMA access reduced the number who dropped

¹ A contrary design perspective (i.e., “targeting within universalism”) argues for politically stable universal policies that also embed some targeting. The Social Security Act of 1935 is offered as a leading example (Skocpol, 1991). However, Powell, Menendian, and Reece (2009) note that Social Security initially excluded domestic and agricultural workers to garner Southern support, effectively excluding 65 percent of Blacks from its benefits. Racial gaps in Social Security benefits also exist currently, partly due to differential mortality. Veghte, Schreur, and Waid (2016) note the median White non-Hispanic household has over twice the Social Security wealth as the median Black household.

² Advocates of targeted universalism often point to the “curb cut effect” (Blackwell, 2017) as an example of such unanticipated benefits. This refers to how the broad adoption of curb cuts, narrowly intended to support the mobility of people with disabilities, soon came to be appreciated by most pedestrians.

out over the next year from 5.2 to 3.0 (i.e., a 43 percent reduction). This implies that AAMA access increased the one-year school-persistence rate of Black males by 3.6 percentage points (i.e., from 91.5 percent to 95.1 percent).³ We also find evidence of smaller but statistically significant reductions in the dropout counts of Black females.

The AAMA program and these results have broader relevance for the theory, policy, and practice of current efforts to improve the equity of educational outcomes in at least five distinct ways. First, our study of the AAMA provides leading evidence on the impact of the Obama Foundation's MBK initiative. Nearly 250 communities from all 50 states have committed to the MBK Community Challenge and have received over \$600 million in grants and in-kind resources as well as \$1 billion in low-interest financing (My Brother's Keeper, 2016). However, we know of no prior evidence on the effectiveness of these recent investments. Second, our finding that the AAMA had positive effects on Black males (and the suggestive evidence of its spillover benefits for Black females) provides novel evidence consistent with the promise of "targeted universalism" as a broader policy design and political strategy.

Third, we are emerging from a period of limited federal influence on education policies, including those related to equity. In particular, civil-rights groups have argued (Klein, 2019) that some state accountability plans under the federal Every Student Succeeds Act (ESSA) serve vulnerable students poorly (e.g., by not reporting performance data clearly). In this context, local innovations in educational practice (i.e., such as the AAMA) have an enhanced relevance for guiding our current evidence-based school-improvement strategies (e.g., Petrilli, 2019). Fourth, several recent studies (e.g., Jackson & Makarin, 2018; Whitehurst, 2009) have motivated enthusiasm for high-quality curricula as a compellingly low-cost and scalable reform strategy. Because the AAMA centers in part around an innovative curriculum, this study adds to the evidence on the promise of highly effective curricula. Finally, our study of the AAMA adds to other recent quasi-experimental evidence (e.g., Dee & Penner, 2017) that suggests that culturally relevant pedagogy can be a particularly potent combination of curricula and teaching practice for students that schools have historically underserved. Further research that examines the theorized psychological mediators mentioned in this study will provide important guidance on how the active ingredients of culturally relevant pedagogy can be instantiated in everyday school practices.

However, the evidence presented in this study also has several important limitations that should inform further research in this area. First, though dropping out of high school is a highly consequential outcome with important long-run consequences, advocates argue that programs like the AAMA also influence a diverse array of other near- and long-term outcomes, which data and design limitations prohibited us from studying. Second, the character of the AAMA's expansion across grades within schools implies we cannot cleanly distinguish different types of dynamic treatment effects (e.g., the lagged effects of initial exposure, spillover effects to adjacent grades, and the effects of additional years of "dosage").⁴ Third, the real-world challenges of supporting teachers' capacity to deliver an innovative curriculum with fidelity and at scale also need to be kept in mind (Blazar et al., 2019). The

³ Alternatively, using the grade-transition rates of Black males during the pre-AAMA period, we estimate that AAMA access in ninth and tenth grades would increase the implied rate of on-time high school completion by 3.2 percentage points.

⁴ However, we do find evidence that the AAMA program is particularly effective in ninth grade. This design-relevant finding is consistent with theoretical perspectives that emphasize the unique capacity of culturally relevant pedagogy to promote student engagement when a student's identity in a new environment is at its most malleable.

groundbreaking AAMA program in Oakland likely benefited from the continuity of its foundational leadership as well as multiple social and historical features of the Oakland context. The impact of conceptually similar programs adapted and implemented in other contexts is currently an important and open empirical question.

AFRICAN AMERICAN MALE ACHIEVEMENT (AAMA) PROGRAM

Program Features and History

The centerpiece of the AAMA program is the Manhood Development Program (MDP). The MDP is a class that meets during regularly scheduled school hours.⁵ Embedding the program in a regular class is an intentional design feature that seeks to provide participating students with sustained engagement in a caring community (i.e., changing students' experience of the schooling system) rather than episodic instruction in an after-school or pull-out program. To further support the MDP's emphasis on unity and to create "a powerful peer-based support system" (Watson, 2014), the course also emphasizes a "heterogeneous cohort model" in which students with higher and lower-performing academic results are mixed together in each class. MDP instruction draws in part on the "180 Degrees" social-emotional curriculum and includes units such as "The Emotional Character of Manhood" and "How Do I See Myself/Life's Hard Questions." Other MDP units focus on culturally relevant perspectives on history and society. These units include "The African American Holocaust," "The Struggle for Liberation and Dignity," and "The Black Male Image in American Media." The course also includes community-based projects (e.g., oral histories of Black residents in Oakland).

The MDP instructors who deliver this curriculum are carefully selected and trained Black men who have a history of involvement in the Black community and are expected to take on a nurturing, familial relationship with students.⁶ AAMA leaders identify potential instructors in the community, including among existing OUSD teachers and principals, local community college instructors, and community leaders. Candidates undergo a multi-step screening process to identify whether there is a sense of connection with the program team and a desire and commitment to encourage and empower students (Bakari, 2019; Gourdine, 2019; Jahi, 2019; McKinney de Royston & Vakil, 2019). The general ethos of this process is to "Hire for Attitude; Will Train for Skill" (Gourdine, 2019, p 84). All instructors begin with a week-long, 40-hour intensive training session in the core AAMA principles and pedagogies (Gourdine, 2019). The MDP instructor training emphasizes culturally relevant teaching methods, fostering students' critical engagement, and equipping students with "identity resources" to counter the pervasive negative stereotypes and low expectations of Black males (Bakari, 2019). During the school year, the AAMA leadership visits and supports AAMA instructors during site visits throughout the year and the instructors participate in a bi-weekly professional learning community

⁵ The MDP course is an elective, fulfilling area "G" of the A-G admissions requirements for the University of California and the California State University systems. MDP often functions as an alternative for a variety of other electives including student support courses, such as AVID, college-prep study skills, or a visual and performing arts course. More recently, additional AAMA-affiliated and college-approved courses in other A-G subject areas, such as history and English language arts, were available in some schools such as "African-American Power in the U.S.," "The World's Great Men and Women of Color," and "Revolutionary Literature," which would replace more conventional courses such as 9th-grade English (Bakari, 2019).

⁶ Details of this selection and training process can be found in *We Dare Say Love* (Nasir, Givens, & Chatmon, 2019).

(PLC). MDP instruction also seeks to support a college-going culture through personalized guidance (e.g., transcript evaluation, college and career counseling) and field trips that emphasize culture and awareness of colleges and careers. Additionally, the MDP course itself satisfies California's "A-G" requirements for admission to the University of California and California State University systems. The broader AAMA program also includes community events and annual celebrations that highlight the successes of Black male students throughout the District.

In sum, the AAMA is a multifaceted initiative with at least five distinct design features. These include (1) culturally relevant curricula, (2) social-emotional curricula including elements specific to manhood, (3) carefully selected and trained Black male instructors, (4) distinctive teaching methods (e.g., including classroom management and ethos of community and care), and (5) personalized guidance and communal encouragement in support of a college-going culture. Our reduced-form evidence cannot credibly isolate the distinctive impact of any one of these design elements. However, we also believe that advocates of the AAMA would deprecate any tacit assumption that these program features are, in fact, additively separable. In contrast, the theory of change among AAMA supporters is that the complementarities across these program features meaningfully amplify their overall impact. From a program-evaluation perspective, the costs of the AAMA also merit special note. New programmatic initiatives often require entirely new sources of funding. However, AAMA instructors and leadership are OUSD employees and the program operations are part of the District's normal academic operations. Therefore, the primary costs of this program (i.e., staff salaries and benefits) are, in the long run, simply reallocations of District budget items from other courses in which these students would otherwise be enrolled. Additional program events (e.g., field trips, "Man Up!" youth conferences) are also supported by local and regional community partners.

The AAMA began operations among ninth graders in three regular, comprehensive OUSD high schools during the 2010/2011 school year. The program soon expanded to serve students in other grade levels and schools throughout the district.⁷ The factors that preceded the creation and sustained operations of the AAMA are notable in that they appear to reflect unique determinants both within Oakland and at the federal level. Specifically, the AAMA program grew out of Oakland's long-standing position "at the forefront of national and local efforts to reverse negative trends as they pertain to this group of youths" (Ginwright, Chatmon, & Hodge, 2019). However, in spite of repeated efforts to change schooling experiences and outcomes for Black students, educational advocates argued OUSD was failing to serve Black students well and brought a lawsuit against the district. In 1998, The U.S. Department of Education's Office of Civil Rights (OCR) agreed, finding the district out of compliance with Title VI of the Civil Rights Act of 1965. A subsequent court order required the district to provide Black students equal access to educational resources.

However, a district review in 2010 found that "past initiatives had done little to transform the experiences, access, or educational attainment" of Black males (Watson, 2014). For example, despite being 16 percent of the student population, Black males represented 42 percent of suspensions annually and 75 percent of arrested students on campus (Ginwright, Chatmon, & Hodge, 2019). Roughly 20 percent of Black male students were chronically absent across all grade levels, and in spite of accountability mandates, just 28 percent of Black males met state standards in English and 30 percent did so in math (Watson, 2018). Moreover, 55 percent of Black

⁷ In some cases, the program operated in a school for several years before discontinuing. Currently, the AAMA is active in six OUSD high schools. AAMA programming has also recently expanded to four middle schools and four elementary schools.

males were off-course from graduating on-time or were at-risk of doing so compared with 37.5 percent of students in the district overall (Lin, 2012; Marxer et al., 2012; Oakland Unified School District, 2011). Students often fell off track very early in high school and never recovered. These struggles mirrored national challenges in meeting the needs of Black male students (Ginwright, 2010; Noguera, 2008).

Then OUSD Superintendent, Tony Smith, collaborated with community leaders, parents, educators, and local philanthropists to launch the AAMA Taskforce and to explore new approaches to supporting OUSD's Black male students. Crucially, the prior ruling on the lack of compliance with Title VI enabled the district to focus resources specifically on Black male students (Ginwright, Chatmon, & Hodge, 2019). The AAMA Taskforce sought to create a program grounded in recognizing the educational potential of Black males (Ginwright, Chatmon, & Hodge, 2019; Givens & Nasir, 2019). The overarching goal for AAMA was to improve academic and life outcomes for Black male students, by reducing the number of high school dropouts, decreasing exclusionary discipline, increasing attendance, decreasing incarceration rates, and increasing academic achievement and attainment (Ginwright, Chatmon, & Hodge, 2019). The district partnered with Chris Chatmon, who designed and continues to lead the AAMA program, now in its tenth year of operations under *five* different OUSD superintendents.

Theoretical Frameworks

Fundamentally, the AAMA program seeks to reshape school environments into ones that nurture academic excellence among Black boys and adolescents rather than ones that alienate them. This broad approach is consistent with several economic and sociological models of motivation and engagement. For example, Benabou and Tirole (2003) present a model in which intrinsic motivation is formed in the presence of asymmetric information. That is, individuals do not fully understand their own capacity for achievement and so rely on cues provided by their environment (i.e., the “looking-glass self”; Cooley, 1902). In this setting, educational initiatives that strongly and credibly signal students’ capacity to excel may promote academic identification and catalyze intrinsic motivation for sustained achievement.

Another relevant body of theoretical scholarship focuses on social identities and their role in shaping varied behaviors including engagement in school (Akerlof & Kranton, 2002, 2010). That is, the character of a student’s social identity in the school setting can have implications for how intensively a student chooses to engage in learning. A motivation for the AAMA is that Black boys too often experience schools as environments that frame their identities in pejorative, stereotyped terms. This formulation closely tracks with a long-standing and influential insight from W.E.B. DuBois’ 1903 book, *The Souls of Black Folk*. DuBois (1903) introduced the term “double consciousness” to explain the internal “strife” marginalized people can experience when they simultaneously understand both their self-worth and how they are viewed by a racist environment.⁸ The basic theoretical insight here is that programs like the AAMA may reduce the psychological strife associated with double consciousness in school settings by changing the learning environment into one that instead emphasizes belongingness, affirmation, and high expectations.

⁸ Dubois (1903) wrote, “It is a peculiar sensation, this double-consciousness, this sense of always looking at one’s self through the eyes of others, of measuring one’s soul by the tape of a world that looks on in amused contempt and pity. One ever feels his two-ness,—an American, a Negro; two souls, two thoughts, two unreconciled strivings; two warring ideals in one dark body, whose dogged strength alone keeps it from being torn asunder. The history of the American Negro is the history of this strife,—this longing to attain self-conscious manhood, to merge his double self into a better and truer self.”

The design of the AAMA also has clear links to other prominent conceptual frameworks. Most obviously, the AAMA explicitly embraces “culturally relevant pedagogy” (CRP) as part of its design. Several decades of prominent, qualitative scholarship in education research have stressed the promise of CRP (i.e., culturally aligned content and classroom practices) to unlock the educational potential of historically marginalized students (e.g., Ladson-Billings, 1992b, 1994, 1995; Ladson-Billings & Tate, 1995). A fundamental motivation for CRP is that marginalized students often experience alienating school and classroom practices that are mis-aligned with their cultural knowledge and out-of-school experiences (Banks, 1991; Gay, 1988; Ladson-Billings, 1992a; Nasir & Saxe, 2003; Valenzuela, 1999). CRP instead advocates for instructional practices (and school environments) that are intentionally aligned with the cultural priors of students, validate and affirm their cultural identities and intellectual capacity, and that cultivate critical engagement with their surrounding environments (Gay, 2010; McKinney de Royston & Vakil, 2019).

The key features of CRP and the AAMA program also appear to have a strong correspondence with a more recent and independent body of social-psychological evidence on specific mediators (and brief, targeted interventions) that promote academic motivation and performance. For example, classroom exercises that encourage students to identify and affirm their personal values (e.g., Cohen et al., 2006) and that promote belongingness in school (e.g., Walton & Cohen, 2011) show promise and are consistent with CRP’s emphasis on promoting learning environments that are affirming rather than marginalizing. Similarly, “growth mindset” interventions that promote students’ belief in their latent capacity to learn (e.g., Yeager et al., 2019) parallel CRP’s emphasis on stressing students’ assets and strengths rather than framing them as problems to be “fixed.” Furthermore, interventions that forewarn (and forearm) students about stereotypes (e.g., Johns, Schmader, & Martens, 2005) or underscore external attributions for their life challenges (e.g., Ben-Zeev, Fein, & Inzlicht, 2005) are consistent with CRP’s emphasis on a heightened and highly critical engagement with both personal experiences and social history.

However, there is an important distinction between these social-psychological interventions and CRP-based programs like the AAMA. The psychological interventions are typically quite brief (e.g., 15 minutes) and focus narrowly on a singular mechanism. In contrast, programs like the AAMA arguably integrate elements from *all* of these particular mechanisms and deliver them to students on an unusually sustained and intensive basis (i.e., in a regularly scheduled year-long class). Programs like the AAMA may also address a fundamental concern with the existing evidence on these varied interventions; namely, their failure to replicate consistently (e.g., Dee, 2015). One compelling explanation for these failed replications is that the brief, initial impetus of a psychological intervention relies on highly supportive contexts that support and amplify their proximate impact (Yeager & Walton, 2011).

Because programs like the AAMA seek to change the broad context of classrooms and schools, they may be more effective in cultivating learning environments that are necessary to sustain early improvements in motivation and engagement. Additionally, the AAMA’s emphasis on selecting and supporting highly effective teaching further adds to these potentially critical environmental moderators of individual mechanisms. Because the AAMA also relies exclusively on race and gender-congruent instructors, it may also reduce implicit teacher biases and stereotype threat while promoting role-model effects (e.g., Dee, 2004; Dee & Gershenson, 2017).

Empirical Literature

Our study of the AAMA program can also be situated within a variety of recent empirical literatures. The most directly relevant are the recent qualitative and descriptive

studies that focus specifically on the AAMA (Givens & Nasir, 2019; Watson, 2014, 2018). These studies find evidence of the AAMA's success on several fronts. For example, ethnographic studies highlight the deep connections the program fosters between participating students and instructors, with particularly noteworthy changes in how discipline is used by instructors and perceived by students (Nasir et al., 2013; Watson, 2014). Survey data indicate a large number of students believe that their MDP instructor wants them to succeed, cares for and respects them, encourages them to do well, and is someone they trust. Parents also seem to build trust and connections with schools because of AAMA (Watson, 2014). Givens and colleagues (2016) find that the program helps foster a caring community that supports the development of new definitions of Black manhood among students. The district also documented reductions in disciplinary infractions, including a 50 percent reduction in the Black male suspension rate, and improvements in academic performance for Black male students, including a 10 percentage point increase in Black students on the honor roll, and an 18 percentage point increase in cohort graduation rates. These reports were careful to note that the changes could not be directly attributed to the AAMA program, but they do suggest positive changes occurring in OUSD as the AAMA program developed (Watson, 2018).

Our quasi-experimental study seeks to complement these studies with causally credible evidence on the extent to which access to the AAMA program has influenced dropping out of high school. We know of no other such quantitative evidence on the AAMA, any other MBK-affiliated program, or indeed any initiative explicitly grounded in targeted universalism. However, our results are related to other empirical literature. One is the large body of evidence that Black students benefit from having race-congruent teachers on a broad array of short- and long-term educational outcomes (Campbell, 2012; Dee, 2004, 2005; Francis, 2012; Gershenson et al., 2018; Gershenson, Holt, & Papageorge, 2016; Holt & Gershenson, 2017; Lindsay & Hart, 2017; Nicholson-Crotty et al., 2016). Though the AAMA does feature race-congruent teachers, its key program features are also unique because the teachers are at the intersection of both race and gender and because the AAMA also focuses on distinctive design features related to curriculum, classroom culture, and instructional practices.

The AAMA also has similarities with charter academies and targeted initiatives that exclusively serve male or Black students. Qualitative studies suggest such schools and programs benefit male students of color, particularly with regard to social supports and educator relationships (Fergus & Noguera, 2010; Fergus, Noguera, & Martin, 2014; Oeur, 2018; Villavicencio, 2021). However, the AAMA also differs significantly from these initiatives because it operates within traditional, co-educational schools and does so on a district-wide scale. This study of the AAMA is also related to recent studies that provide quantitative evidence on the impact of other forms of culturally relevant pedagogy. Studies of a Mexican-American Studies course in the Tucson Unified School District (Cabrera et al., 2014) and an ethnic-studies course in the San Francisco Unified School District (Dee & Penner, 2017) provide evidence that access to these courses improves several academic outcomes. However, the AAMA differs from these courses in notable ways including the targeted focus on Black males, its comparative district-wide scale, and the program's breadth in combining culturally relevant pedagogy with social-emotional supports and academic mentoring with out-of-class social supports and cultural opportunities. In sum, OUSD's AAMA program provides a compelling opportunity to examine the efficacy of a uniquely designed and targeted approach to meeting the developmental needs of Black male students. In the next sections, we turn to the data and methods we use to examine the AAMA's educational impact.

DATA

For our key outcome variable, “event” dropouts, we relied on annual files produced by the California Department of Education (CDE). These files report counts of enrolled students and the number who dropped out by the subsequent academic year.⁹ The CDE files report the enrollment and corresponding event dropout counts annually for cells at the school, grade, race, and sex level. Our analysis relies on files from a 12-year period (i.e., AY 2005/2006 through AY 2016/2017) for the nine regular, comprehensive schools in the Oakland Unified School District (OUSD) serving students in grades 9 through 12. We excluded OUSD’s alternative high schools (e.g., “continuation” schools serving students at high risk of dropping out). We also excluded one, smaller high school (MetWest High School), which has an alternative curriculum and inconsistent data on its AAMA programming.

This study window precedes the introduction of the first AAMA programs in three OUSD high schools in academic year (AY) 2010/2011 and spans its subsequent expansion to three other OUSD high schools. The remaining three other high schools did not offer the AAMA program during this time. Five of the nine high schools in this study have balanced panel data on enrollment and dropouts (i.e., four grades observed in each of 12 years). In one of the remaining schools (i.e., Castlemont High School), the CDE only reports enrollment and dropout counts at the 12th-grade level. In another school (i.e., Fremont High School), the CDE only reports data since 2012.¹⁰ The remaining two high schools have unbalanced school-grade-year panel data because they opened during the study window and expanded to higher grades on a year-to-year basis.¹¹ Our resulting data set consists of 310 school-grade-year cells that identify the enrollment and dropout outcomes for 15,250 student-year observations of Black male high school students.

The identifying variation in this study relies on the staggered availability of the AAMA at the school-grade level across different years. That is, our reduced-form estimates identify the impact of AAMA *availability* on all Black male students.¹² The AAMA program was first available for ninth graders at three OUSD high schools during the 2010/2011 school year. Over the subsequent six years, the program expanded both to three other high schools and to higher grades within participating schools. The program also became unavailable in some schools and grades because of staffing and funding constraints or because of changes in the support of the school principal. We identified the school-grade-year cells in which the AAMA was active by relying on multiple sources. Specifically, we examined student-level roster data available from AAMA staff, OUSD course enrollment data, staffing data, and publicly available and internal archival documents on program operations in discussions with central program leaders.

Table 1 reports summary statistics for the key variables in this study. On average, the school-grade cells in our study enrolled roughly 49 Black male students. On

⁹ The CDE definition of event dropouts is consistent with the federal approach. Students who graduated, transferred to another school, died, moved to another country, or are missing school due to illness are not considered dropouts. Unsurprisingly, event dropouts are at quite high risk of failing to graduate high school. For example, estimates based on the nationally representative High School Longitudinal Study of 2009 (HSLS:09) indicate that, among students who dropped out for as little as four weeks, only about a third were poised for on-time graduation.

¹⁰ In both cases, this reporting may reflect the fact that these schools hosted a community of smaller schools during this period.

¹¹ As one of several robustness checks, we report our results using only schools with balanced panel data and find similar results.

¹² The available OUSD data suggest that, when the AAMA was available, generally 15 to 25 percent of Black male students in the school-grade cohort participated. Our reduced-form estimates reflect both the direct effects of participation and possible spillover effects on non-participating Black males.

Table 1. Descriptive statistics.

Variable	Mean	Standard Deviation
Dropouts - Black males	3.40	6.60
Enrollment - Black males	49.19	39.99
Dropouts - Black females	2.48	4.05
Enrollment - Black females	47.46	40.78
AAMA	0.17	0.37
AAMA X grade 9	0.08	0.28
AAMA X grade 10	0.05	0.21
AAMA X grade 11 or 12	0.04	0.19

Notes: This data set consists of $n=310$ school-grade-year observations of high schools in the Oakland Unified School District (OUSD) observed annually from the 2005/2006 through 2016/2017 school years. These data represent 15,250 student-year observations of Black males and 14,713 student-year observations of Black females.

average, 3.4 of these students dropped out by the following year.¹³ We also report the corresponding data for Black females who have similar enrollment numbers but a slightly lower average dropout count. We describe below how we use these data in our analysis. On average, the AAMA was available in 17 percent of the school-grade-year cells in our data set. In the first five years of our study window, the AAMA was universally unavailable. By the final year, it was available in roughly 36 percent of the school-grade observations. Table 1 also indicates that the AAMA was particularly common in ninth grade and, to a lesser extent, tenth grade.

SPECIFICATIONS

We begin with a basic fixed-effects specification that has the following structure:

$$Y_{sgt} = \alpha_{sg} + \gamma_t + \beta(AAMA_{sgt}) + \theta X_{sgt} + \varepsilon_{sgt},$$

where Y_{sgt} presents the dropout outcome for school-grade cell sg in year t . The terms α_{sg} and γ_t represent fixed effects unique to each school-grade observation and year, respectively. The term $AAMA_{sgt}$ is a binary indicator for whether the AAMA was available in that school-grade-year cell. The remaining variables represent other control variables we describe below and a mean-zero error term that accommodates clustering at the school-grade level. This specification can be understood as a difference-in-differences (DD) specification with school-grade as the cross-sectional unit of observation and year as the time dimension. We also report the results of such DD specifications that introduce grade-specific and school-specific year fixed effects. In models that condition on school-by-year fixed effects, our analysis effectively relies on the variation among grades in the same school and year, only some of which had direct access to the AAMA program. That is, these specifications condition on possible unobserved confounds (i.e., other initiatives) that are school-wide and may be coincident with the adoption or cessation of the AAMA.

¹³ These full-sample means mask heterogeneity over both time and grade levels. Consistent with OUSD's rising high school graduation rate, dropouts of Black males fell over this period. Furthermore, prior to the AAMA, Black males were particularly likely to drop out in twelfth grade. Consistent with this study's findings, Black males in OUSD are now substantially less likely to dropout in ninth grade where the AAMA is particularly active but remain at comparatively high risk in twelfth grade where the program is less active.

Several other analytical details of this approach merit further discussion. First, in the main results we report, our dependent variable is the natural log of the dropout counts among Black male students. Second, our set of covariates includes the natural log of the baseline enrollment of Black male students. However, because some dropout counts (and a few enrollment counts) are zero, we impute 0.5, and our covariate set also includes dummy variables for whether the dependent variable or the enrollment count is based on this imputation. We also examine approaches that do not rely on this imputation. Specifically, we find similar results in models that instead transform these count data using the inverse hyperbolic sine. Furthermore, we find similar results from conditional maximum likelihood estimate of a fixed-effects negative binomial and Poisson specifications (Hausman, Hall, & Griliches, 1984). We report the key results of these and other robustness checks in Tables A1 through A5.¹⁴

An additional concern is the reliability of the statistical inferences based on this approach. For example, because there are only 33 unique school-grade clusters in these data, the conventional clustering procedure we use may reflect some finite-sample bias. To assess the empirical relevance of this concern, we implemented several alternative procedures recommended in the recent methodological literature and found they resulted in inferences that closely resemble those based on conventional cluster adjustments. These include the procedure recently developed by Pustejovsky and Tipton (2018), which generalizes tests based on bias-reduced linearization (BRL) to fixed-effect applications like this. We also implemented the wild cluster bootstrap and randomization inference (RI). Under RI, we randomly assign treatment status within school-grade units over multiple replications (i.e., 10,000) to construct a sampling distribution for our estimates under the null hypothesis of no effect. RI focused on permutations of t-statistics rather than point estimates also generated similar results. Finally, as an additional check, we also report results that simply weight our specification by the enrollment at the school-grade level.

Another concern is the recent evidence that fixed-effects estimates like ours may not actually correspond to the average treatment effect (ATE) of interest. For example, de Chaisemartin and D'Haultfoeuille (2020) show that, when treatment effects are not constant across groups and time, our DD approach generates a weighted sum of treatment effects in each group and period where some of the weights can actually be negative. Following their procedure, we calculated the implied weights and found that they were uniformly positive, both for models based on Black males and on Black females.¹⁵ A related concern is that DD specifications like ours effectively weight the impacts associated with specific school-grade cells by the conditional variance in treatment (e.g., Angrist & Pischke, 2008). This implies that the early adopting school-grade cells (i.e., those that adopt in the middle of our study window) receive a larger weight than those that adopted nearer the end of the study window. We implemented a test recently introduced by Gibbons, Serrato, and Urbancic (2019) and found that we cannot reject the null hypothesis that our reported estimates are equivalent to an estimate reweighted to address this concern. We report this reweighted estimate in Table A1.

The binary treatment indicator in the "static" specification above also embeds an assumption that the impact of AAMA availability does not vary over time. However,

¹⁴ All appendices are available at the end of this article as it appears in JPAM online. Go to the publisher's website and use the search engine to locate the article at <http://onlinelibrary.wiley.com>.

¹⁵ Another recent study (Goodman-Bacon, 2021) proposes a decomposition and analysis of the underlying 2 X 2 DD estimates. However, that approach assumes that cross-sectional units can only move from a no-treatment condition to treatment. Therefore, it cannot be applied in this context where some cross-sectional units enter and subsequently leave the treatment condition.

there is a theoretical reason to suspect that the AAMA has larger effects in the ninth grade (i.e., when social identity in a new school setting is most malleable). Given this theoretical guidance, we focus on estimates that allow the impact of the AAMA to vary by grade. We also report tests of whether the availability of the AAMA has a common effect across grades as well as whether the effect in grade 9 is the same as the effect in grade 10. However, we also recognize that there are at least four distinct ways in which the impact of the AAMA on dropout counts could have dynamic properties. First, initial exposure to the AAMA (e.g., in grade 9) could have independent, lagged effects in later grades even if the program is unavailable.¹⁶ For example, the educational benefit of a student's initial exposure may fade over time (i.e., resulting in high school persistence but possibly attenuated effects on graduation). Alternatively, if the program catalyzed reinforcing processes of academic engagement and success, the benefits of additional exposure may sustain or even grow over time. Second, there may also be unique "dosage" effects associated with a second or third year of AAMA participation. Third, the presence of the AAMA in a particular school-grade cell may generate spillover benefits to adjacent grades through linked peer networks. Fourth, the effects of the AAMA may change over time as the program implementation matures. In the Appendix, we present the results of several semi-dynamic DD specifications that explore these possibilities.¹⁷ However, as a practical matter, our data do not provide much scope to discriminate credibly among these hypotheses. The AAMA was often introduced in grade nine and then expanded to higher grades in later years. This implies that the lagged effects associated with earlier exposure (e.g., in grade 9) often overlap with additional exposure in later grades and with being in a school and grade that is adjacent to the program.

We also highlight the results from parallel DD specifications that examine the impact of AAMA availability on the dropout counts of Black *females*. These estimates could reflect the spillover effects on females of having the AAMA available to their male peers. However, we can also view these results as a falsification exercise. That is, in the absence of specification error, we'd expect the impact of AAMA availability on females to be smaller, if not absent altogether. Alternatively, we could view any impact of the AAMA on Black females as indicative of a potential internal-validity threat (i.e., a reflection of unobserved and confounding dropout determinants unique to the school-grade-year cells as they adopted the AAMA). For example, the adoption of the AAMA could coincide with other school efforts to support all students, or all Black students. As a practical matter, we cannot distinguish the extent to which effects on Black females reflect spillover effects or an internal-validity threat.

To assess the empirical relevance of this concern, we also report the results of difference-in-difference-in-differences (DDD) specifications that assume any impact on Black females reflects a source of bias. Specifically, we stack the school-grade-year data for Black males and females ($n = 620$) to estimate a DDD specification that takes the following form:

$$Y_{sgbt} = \alpha_{sgt} + \delta_{sgb} + \gamma_{bt} + \beta (AAMA_{sgbt}) + \theta X_{sgbt} + \varepsilon_{sgbt}.$$

¹⁶ The fact that program impact in earlier grades (i.e., reducing dropouts) creates selection into other school-grade-year cells further complicates the dynamic character of the AAMA's impact. This implies that program availability is not an event as in a typical DD design and suggests privileging semi-dynamic DD specifications over static ones.

¹⁷ We also examined the empirical relevance of program maturation by replicating our key results without data from the first three high schools to implement the AAMA. The results were quite similar and provide encouraging evidence on efforts to replicate the program within the scale of OUSD. All appendices are available at the end of this article as it appears in JPAM online. Go to the publisher's website and use the search engine to locate the article at <http://onlinelibrary.wiley.com>.

The first three terms on the right-hand side of this equation represent an unrestricted set of fixed effects for all possible two-way interactions. That is, this specification conditions on fixed effects unique to each school-grade-year cell, each school-grade-gender cell, and each gender-year cell. The treatment indicator of interest, $AAMA_{sgbt}$, is a three-way interaction between being in a school-grade cell and year in which the AAMA was available and also being male. This model can condition on fixed effects specific to each school-grade-year cell because the dropout data from Black females provides a “control” group within these cells.

We also note two other ancillary sources of evidence that explore the internal validity of these approaches. First, the estimated impact of the AAMA could be biased if it catalyzes differential mobility of students into or out of schools. We explore this issue by estimating the impact of AAMA availability on the enrollment counts of Black male and female students (i.e., in DD specifications) and of Black males in DDD specifications. The null findings we report are consistent with the internal validity of these quasi-experimental designs. However, we also acknowledge that these tests are not fully dispositive because these results could also reflect offsetting patterns of treatment-endogenous mobility into and out of schools with the AAMA program. Second, as an additional robustness check, we also report DD estimates of the effect of AAMA availability on the enrollment and dropout counts of White male and White female students (Table A2).¹⁸ The uniform null findings in these specifications are also consistent with the internal validity of this study's research design. However, we also note that we view the results based on Black females as a comparatively compelling and conservative robustness check. Specifically, if our results were confounded by concurrent and equity-focused initiatives unique to school-grade-year observations that adopted the AAMA, we might expect those effects to be uniquely evident among Black female students rather than White students. At the same time, we note that the absence of effects on White students is weakly consistent with understanding the estimated effects of AAMA availability on the dropout counts of Black females as spillover benefits.

RESULTS

In Table 2, we report the key results from different versions of our basic DD specification where the natural log of dropout counts is the dependent variable. These estimates consistently indicate that, when the AAMA became available in a school and grade, the number of Black males who dropped out of school fell significantly relative to the contemporaneous changes in other school-grade observations. These results also indicate that the impact of AAMA access was particularly large in ninth (and, to a lesser extent, tenth) grade. This heterogeneity is consistent with the hypothesis that the AAMA promotes a positive social identity in the highly evaluative context of schools (i.e., because the effect is larger at a time when social identities are particularly malleable). However, the null hypothesis of a common treatment effect across grades is only rejected in models that also condition on year-grade and school-year fixed effects (i.e., column 6 in Table 2). Similarly, the results based on this specification reject the hypothesis that the AAMA program has the same effects in grades 9 and 10.

The magnitudes of the impact estimates in Table 2 merit careful interpretation. These point estimates imply quite large *percent* changes. For example, column (1) in Table 2 implies that AAMA access reduced dropout counts by 43 percent

¹⁸ All appendices are available at the end of this article as it appears in JPAM online. Go to the publisher's website and use the search engine to locate the article at <http://onlinelibrary.wiley.com>.

Table 2. The estimated effects of AAMA availability on dropout counts among Black males.

Independent variable	(1)	(2)	(3)	(4)	(5)	(6)
AAMA	-0.559*** (0.166)	-	-0.484*** (0.152)	-	-0.556*** (0.184)	-
AAMA X grade 9	-	-0.821*** (0.262)	-	-0.856*** (0.263)	-	-0.959*** (0.195)
AAMA X grade 10	-	-0.351** (0.142)	-	-0.269 (0.188)	-	-0.407 (0.256)
AAMA X grade 11 or 12	-	-0.386 (0.235)	-	-0.330 (0.238)	-	-0.166 (0.272)
p-value: (H ₀ : β ₁ = β ₂ = β ₃)	-	0.2110	-	0.1850	-	0.0174
p-value: (H ₀ : β ₁ = β ₂)	-	0.0827	-	0.0784	-	0.0342
Fixed Effects						
School X grade	Y	Y	Y	Y	Y	Y
Year	Y	Y	Y	Y	Y	Y
Year X grade	N	N	Y	Y	Y	Y
School X year	N	N	N	N	Y	Y

* p < 0.1; ** p < 0.05; *** p < 0.01.

Notes: The dependent variable is the natural log of the dropout counts in the school-grade-year cell (N = 310). All models also condition on the natural log of the corresponding enrollment count and on binary indicators for imputed dropout and enrollment counts (see text for details). Standard errors in parentheses are clustered at the school-grade level.

(i.e., $e^{-0.559} - 1$).¹⁹ However, these estimates are more clearly plausible when benchmarked against the relevant means in the data. Specifically, in the five years prior to the introduction of the AAMA, these school-grade cells averaged an enrollment of 61.3 Black males, 5.2 of whom dropped out by the start of the next year. So, a 43 percent reduction implies that AAMA access reduced the number of dropouts by 2.2 students (i.e., 0.43×5.2). Alternatively, it implies that AAMA access reduced the one-year event dropout rate from roughly 8.5 percent to 4.8 percent. A third way to frame these estimates is in terms of their impact on an imputed on-time high school graduation rate based on the grade-specific rates of school persistence during the pre-AAMA period. Using this approach and the results in Table 2, we find that access to the AAMA during ninth and tenth grades implies the high school graduation rate for Black males increased by at least 3.2 percentage points.²⁰

In Table 3, we similarly report the key results based on the dropout data are for Black females. Though Black females did not participate in the AAMA, they may have benefited from positive peer-group effects due to the participation of Black males. The results in Table 3, which indicate that AAMA access reduced dropout counts among Black females, are consistent with this hypothesis. And, plausibly, the estimated effects of AAMA access on Black females are smaller than the corresponding estimates for males. For example, column (1) in Table 3 implies that AAMA access reduced dropout counts for Black females by 29 percent (i.e., $e^{-0.340} - 1$). Furthermore, the estimated impact on Black females also appears to be concentrated in the ninth grade (i.e., column 6 in Table 3).

However, an alternative interpretation of the results in Table 3 is that they instead reflect unobserved confounds that are coincident with the introduction of the AAMA in specific schools and grades. The robustness of the results in Tables 2 and 3 to conditioning on school-by-year fixed effects (i.e., column 6) suggests this is not so. However, it may be that a school principal concerned about student performance *in a particular grade* simultaneously welcomed the AAMA program and introduced other unobserved initiatives. In this scenario, Table 3's estimated effects of AAMA access on Black females could instead reflect the impact of other unobserved but coincident interventions.

In Table 4, we present DDD estimates that embed this conservative assumption using the stacked data on Black males and females. In particular, these DDD estimates condition on fixed effects unique to each school-grade-year cell. This approach effectively relies on comparisons in the same school, grade, and year across Black males for whom AAMA is relevant and Black females for whom the presence of the program is assumed to be wholly irrelevant. Under this conservative approach, the estimated impact of the AAMA on the dropout counts is still qualitatively large and statistically significant. Specifically, column (5) in Table 4 implies that AAMA access reduced the dropout counts of Black males by 19 percent (i.e., $e^{-0.216} - 1$).

Overall, these findings suggest that the AAMA program was effective in increasing the school persistence of Black males and may have had spillover benefits for Black females. However, another potential threat to the internal validity of this evidence is the possibility that the presence of the AAMA program in a particular school, grade, and year led to mobility of students into (or out of) the school. To examine the empirical relevance of this concern, we estimated auxiliary regressions where the natural log of *enrollment* was the dependent variable. We report the key results of this analysis in Table 5. Both DD and DDD specifications consistently suggest that

¹⁹ We calculate the implied percent change in this manner because the approximation of a point estimate in a semi-log specification to percent change is poorer as the estimates are larger in absolute value.

²⁰ This conservative estimate embeds the assumption that AAMA access only influences event dropouts in grades 9 and 10 and has no dynamic effect on later dropout behavior.

Table 3. The estimated effects of AAMA availability on dropout counts among Black females.

Independent variable	(1)	(2)	(3)	(4)	(5)	(6)
AAMA	-0.340** (0.139)	-	-0.339** (0.129)	-	-0.128 (0.178)	-
AAMA X grade 9	-	-0.498** (0.239)	-	-0.572*** (0.200)	-	-0.472*** (0.152)
AAMA X grade 10	-	-0.218 (0.180)	-	-0.207 (0.242)	-	-0.016 (0.244)
AAMA X grade 11 or 12	-	-0.233 (0.168)	-	-0.238 (0.176)	-	0.254 (0.258)
p-value: (H ₀ : β ₁ = β ₂ = β ₃)	-	0.5901	-	0.3764	-	0.0307
p-value: (H ₀ : β ₁ = β ₂)	-	0.3419	-	0.2472	-	0.0787
Fixed Effects						
School X grade	Y	Y	Y	Y	Y	Y
Year	Y	Y	Y	Y	Y	Y
Year X grade	N	N	Y	Y	Y	Y
School X year	N	N	N	N	Y	Y

Notes: The dependent variable is the natural log of the dropout counts in the school-grade-year cell (N = 310). All models also condition on the natural log of the corresponding enrollment count and on binary indicators for imputed dropout and enrollment counts (see text for details). Standard errors in parentheses are clustered at the school-grade level.

Table 4. The estimated effects of AAMA availability on dropout counts.

Independent variable	Difference in Differences (DD)					
	Black males			Black females		
	(1)	(2)	(3)	(4)	(5)	(6)
AAMA	-0.559*** (0.166)	-	-0.340** (0.139)	-	-0.216** (0.091)	-
AAMA X grade 9	-	-0.821*** (0.26)	-	-0.498** (0.239)	-	-0.329** (0.121)
AAMA X grade 10	-	-0.351** (0.142)	-	-0.218 (0.180)	-	-0.141 (0.187)
AAMA X grade 11 or 12	-	-0.386 (0.235)	-	-0.233 (0.168)	-	-0.124 (0.151)
p-value: (H ₀ : β ₁ = β ₂ = β ₃)	-	0.2110	-	0.5901	-	0.4832
p-value: (H ₀ : β ₁ = β ₂)	-	0.3419	-	0.2472	-	0.3841
Fixed Effects						
School X grade	Y	Y	Y	Y	N	N
Year	Y	Y	Y	Y	N	N
Year X gender	N	N	N	N	Y	Y
School X grade X gender	N	N	N	N	Y	Y
School X grade X year	N	N	N	N	Y	Y

Notes: The dependent variable is the natural log of the dropout counts in the school-grade-year cell. All models also condition on the natural log of the corresponding enrollment count and on binary indicators for imputed dropout and enrollment counts (see text for details). The sample size for each DD specification is 310 and for each DDD specification is 620. Standard errors in parentheses are clustered at the school-grade level.

Table 5. The estimated effects of AAMA availability on enrollment counts.

Independent variable	Difference in Differences (DD)					
	Black males			Black females		
	(1)	(2)	(3)	(4)	(5)	(6)
AAMA	-0.039 (0.064)	-	0.0124 (0.064)	-	-0.050 (0.067)	-
AAMA X grade 9	-	-0.090 (0.126)	-	-0.037 (0.084)	-	-0.048 (0.093)
AAMA X grade 10	-	-0.015 (0.074)	-	0.103 (0.082)	-	-0.117 (0.073)
AAMA X grade 11 or 12	-	-0.012 (0.110)	-	-0.012 (0.144)	-	0.021 (0.106)
Fixed Effects						
School X grade	Y	Y	Y	Y	N	N
Year	Y	Y	Y	Y	N	N
School X grade X year	N	N	N	N	Y	Y
School X grade X gender	N	N	N	N	Y	Y
Year X gender	N	N	N	N	Y	Y

* p < 0.1; ** p < 0.05; *** p < 0.01.

Notes: The dependent variable is the natural log of the enrollment counts in the school-grade-year cell (n=310). All models also condition on a binary indicator for imputed enrollment counts (see text for details). The sample size for each DD specification is 310 and for each DDD specification is 620. Standard errors in parentheses are clustered at the school-grade level.

the presence of the AAMA program had small and statistically insignificant effects on the number of enrolled Black males and females. These results are consistent with the hypothesis that student mobility across schools in the community does not confound this study's main results. However, we also note an important caveat with this robustness check. These null results could reflect offsetting patterns of migration into and out of schools that offer the AAMA among other groups of students. As an additional check on the robustness of these findings, we also estimated the effects of AAMA availability on the enrollment and dropout counts of White students. Those results (see Table A2)²¹ consistently indicate null findings for both outcomes and for White male and female students.

We also explored the robustness of our results to a variety of alternative approaches to estimation, inference, and sample construction (Table A1). For example, we also examined the robustness of our inferences after correcting for the finite-sample bias that might be due to the small number of school-grade clusters through both bias-reducing linearization (Pustejovsky & Tipton, 2018) and wild cluster bootstrapping (MacKinnon & Webb, 2020). The results of these approaches are quite similar to those reported in Table 2. We also examined the statistical significance of our main result (i.e., column 1, Table 2) under randomization inference.²² That is, over 10,000 replications, we randomly assigned treatment status within school-grade observations and estimated the impact of this simulated treatment. Figure 1 shows the distribution of these simulated impact estimates. Notably, none of these simulated estimates was as large as the actual estimate in absolute value, implying a $p\text{-value} < 0.0001$.

Another potential concern is that, in the presence of heterogeneous treatment effects across school-grade cells, our DD estimates may not correspond to the average treatment effect (ATE) of interest. A recent study by Gibbons, Serrato, and Urbanic (2019) proposes a reweighting procedure that recovers an ATE estimate and a test for whether it differs from the conventional DD estimate. We implemented this procedure and found it generated a somewhat larger estimate (Table A1) but that this was not statistically distinguishable from the DD estimate in Table 2 ($p\text{-value} = 0.2321$). We also examined alternative approaches to modeling dropout counts. These approaches consisted of transforming dropout counts using the inverse hyperbolic sine (Bellemare & Wichman, 2020) and estimating conditional maximum-likelihood versions of Poisson and negative binomial regressions for specifications with fixed effects (Hausman, Hall, & Griliches, 1984). These approaches also generated qualitatively similar results (Table A1). We also examined our key results in estimates based on alternative sample definitions. Specifically, we conducted an analysis excluding data from three smaller high schools that were particularly likely to have a zero count for dropouts. And, in a separate analysis, we limited our approach to data from high schools with a balanced panel of grade observations across our studies. We found similar results under both of these sample restrictions (Table A1).

Finally, we also considered several alternative approaches to modeling the potentially dynamic impact of AAMA access. Guided by our underlying theoretical framework, our core analysis focused on the potential treatment heterogeneity related to the immediate effect of AAMA access by grade of exposure. However, it may also be that a student's first year of access to the AAMA has lingering effects on subsequent years. Alternatively, there may be unique effects associated with cumulative

²¹ All appendices are available at the end of this article as it appears in JPAM online. Go to the publisher's website and use the search engine to locate the article at <http://onlinelibrary.wiley.com>.

²² This permutation-based method may be particularly appropriate in quasi-experimental settings like ours where the underlying variation can be more readily understood as design-based rather than based on sampling variation.

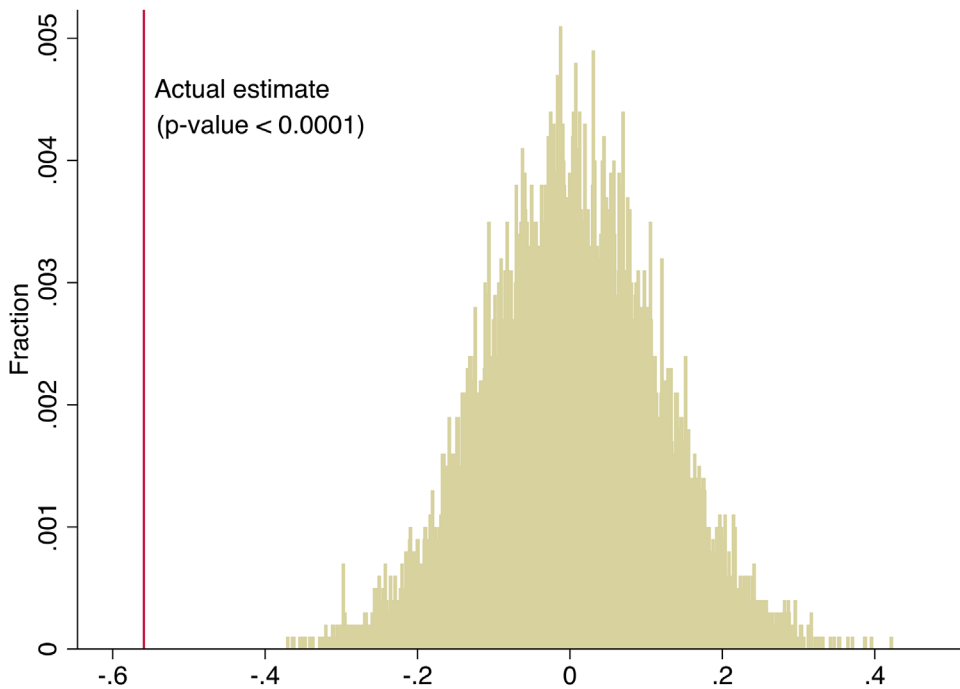


Figure 1. Distribution of Simulated Impact Estimates (10,000 replications). [Color figure can be viewed at wileyonlinelibrary.com]

access to the AAMA over time (i.e., dosage effects) or with being in a grade that is adjacent to AAMA programming. As a practical matter, the data afford little latitude to distinguish among these patterns. The AAMA was often introduced in ninth grade in a participating school and expanded to later grades thereafter. Therefore, for some cohorts, there is a collinearity between effects in later grades, lagged effects of initial exposure, being in a program-adjacent grade, and the effects of cumulative exposure. Nonetheless, in Tables A3, A4, and A5,²³ we present estimates based on alternative measurement of the dynamic effects of AAMA access. Unsurprisingly, we find results quite similar to those based on exposure by grade. While we remain agnostic regarding the true character of possibly dynamic treatment effects, one clear and design-relevant finding is that the positive effects of the AAMA are particularly large in grade 9 when students are new to their school environment.

CONCLUSIONS

The quasi-experimental evidence presented in this study indicates that access to the AAMA as it expanded its operations across Oakland's high schools led to a meaningful reduction in the dropout counts of Black males, particularly in ninth grade. Based on these event-dropout results, we estimate that access to the AAMA in ninth and tenth grades increased the on-time high school graduation rate of Black males by about 3 percentage points. As a descriptive context for these gains, we note that,

²³ All appendices are available at the end of this article as it appears in JPAM online. Go to the publisher's website and use the search engine to locate the article at <http://onlinelibrary.wiley.com>.

between the graduating classes of 2010 and 2018, the state-calculated high school graduation rate for Black males in OUSD increased from 46 to 69 percent. This targeted gain among Black males exceeded the contemporaneous districtwide improvement in OUSD's high school graduation rate by about 5 percentage points. Our results also suggest the AAMA program contributed substantially to these comparative gains and might have greater impact if it had a more robust (and similarly effective) presence in twelfth grade where dropout rates are substantially higher. Nonetheless, the social-welfare benefits of these improvements in school persistence can be substantial. A large body of empirical studies have found evidence that links improvements in educational attainment to gains on a broad array of lifelong social and economic indicators such as employment, earnings, health outcomes, the use of public assistance, incarceration, and civic engagement (e.g., Belfield & Levin, 2007).

While the results of this study are highly encouraging, two potential caveats merit further consideration. First, as with any promising intervention, the capacity of other districts to replicate the impact of this program is an open question. The fact that the impact we document occurred as the program dramatically increased its operations across OUSD schools suggests that scalability is practical. However, the AAMA program may have also benefited from the unique Oakland context and the unusual stability of its founding leadership and key staff. These key contextual resources may not be available to other districts who hope to replicate this program. The recent expansion to other school districts of programs modeled on the AAMA will provide important opportunities to assess this challenge. Furthermore, it should be noted that the MBK-branded educational initiatives in other communities did not necessarily rely on the program features of the AAMA so their impact is not yet known.

A second important consideration is how the cost effectiveness of AAMA compares to other programs that similarly show promise in promoting high school persistence. A recent practice guide on dropouts sponsored by the U.S. Department of Education (Rumberger et al., 2017) provides a variety of relevant evidentiary benchmarks. One uniquely apt point of comparison is the "Becoming a Man" program, which removes males from traditional classes once a week for 1-hour, small-group sessions grounded in cognitive behavioral therapy (CBT). A study of this program in Chicago public schools found that program access increased high school graduation rates by three percentage points (Heller et al., 2017, study 1). However, this out-of-class programming is also fairly expensive. Specifically, the direct cost of fielding the two-year program among ninth and tenth graders was nearly \$4,000 per participant in 2010 dollars. However, much of the AAMA programming is embedded in a conventional academic class that, in the absence of the AAMA, would be staffed by other OUSD teachers who also receive instructional support (e.g., professional development). Therefore, the more relevant direct costs of AAMA participation are the comparatively modest ones related to out-of-class activities (e.g., leadership activities, conferences, and administrative overhead). This comparison suggests the AAMA can be uniquely cost-effective largely because so much of the program is embedded in the reallocation of the resources funding conventional school operations.

More generally, the evidence of positive impact presented here suggests that this programmatic innovation and its conceptual foundations (e.g., targeted universalism) warrant further consideration. The ongoing efforts to adapt and replicate AAMA-like programs in other school districts will provide such opportunities. Furthermore, consistent with targeted universalism, OUSD has recently implemented educational programming that targets Black females, Latino/a, and Asian/Pacific Islander students. The broad, ongoing implementation of MBK programs in communities across the United States also provides compelling opportunities to identify effective programs that merit further replication and scrutiny.

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REFERENCES

- Akerlof, G. A., & Kranton, R. E. (2002). Identity and schooling: Some lessons for the economics of education. *Journal of Economic Literature*, 40, 1167–1201.
- Akerlof, G., & Kranton, R. E. (2010). *Identity economics: How our identities shape our work, wages, and well-being*. Princeton, NJ and Woodstock (Oxfordshire), UK: Princeton University Press.
- Andrews, R. J., & Swinton, O. H. (2014). The persistent myths of “Acting White” and race neutral alternatives to affirmative action in admissions. *The Review of Black Political Economy*, 41, 357–371.
- Angrist, J. D., & Pischke, J.-S. (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton, NJ: Princeton University Press.
- Bakari, B. (2019). The Khepera Curriculum and the transformative educator: A dual approach to engaging, encouraging, and empowering African American boys. In N. S. Nasir, J. R. Givens, & C. P. Chatmon (Eds.), *We dare say love: Supporting achievement in the educational life of Black boys* (pp. 42–50). New York, NY: Teachers College Press.
- Banks, J. A. (1991). A curriculum for empowerment, action, and change. In C. E. Sleeter (Ed.), *Empowerment through multicultural education* (pp. 125–141). Albany, NY: State University of New York Press.
- Belfield, C., & Levin, H. (Eds.). (2007). *The price we pay: Economic and social consequences of inadequate education*. Washington, DC: Brookings Institution Press.
- Bellemare, M. F., & Wichman, C. J. (2020). Elasticities and the inverse hyperbolic sine transformation. *Oxford Bulletin of Economics and Statistics*, 82, 50–61.
- Benabou, R., & Tirole, J. (2003). Intrinsic and extrinsic motivation. *The Review of Economic Studies*, 70, 489–520.
- Ben-Zeev, T., Fein, S., & Inzlicht, M. (2005). Arousal and stereotype threat. *Journal of Experimental Social Psychology*, 41, 174–181.
- Blackwell, A. G. (2017). The curb-cut effect. *Stanford Social Innovation Review*, Winter 2017, Accessed September 26, 2019, from https://ssir.org/articles/entry/the_curb_cut_effect.
- Blazar, D., Heller, B., Kane, T., Polikoff, M., Staiger, D., Carrell, S. ... Kurlaender, M. (2019). *Learning by the book: Comparing math achievement growth by textbook in six Common Core states*. Research Report. Cambridge, MA: Center for Education Policy Research, Harvard University.
- Cabrera, N. L., Milem, J. F., Jaquette, O., & Marx, R. W. (2014). Missing the (student achievement) forest for all the (political) trees empiricism and the Mexican American studies controversy in Tucson. *American Educational Research Journal*, 51, 1084–1118.
- Campbell, S. L. (2012). For colored girls? Factors that influence teacher recommendations into advanced courses for Black girls. *The Review of Black Political Economy*, 39, 389–402.
- City of Oakland. (2016). *My Brother's Keeper local action plan*, May 2016. Retrieved July 1, 2021, from <http://www2.oaklandnet.com/oakca1/groups/mayor/documents/report/oak063211.pdf>.
- Clegg, R. (2014, February 27). *My Brother's Keeper and government-sponsored discrimination*. National Review. Retrieved July 1, 2021, from <https://www.nationalreview.com/corner/my-brothers-keeper-and-government-sponsored-discrimination-roger-clegg/>.

- Cohen, G. L., Garcia, J., Apfel, N., & Master, A. (2006). Reducing the racial achievement gap: A social-psychological intervention. *Science*, 313, 1307–1310.
- Cooley, C. H. (1902). *Human nature and the social order*. New York, NY: Charles Scribner's Sons.
- Crenshaw, K., Ocen, P., & Nanda, J. (2015). *Black girls matter: Pushed out, overpoliced, and underprotected*. New York, NY: Center for Intersectionality and Social Policy Studies, Columbia University.
- de Chaisemartin, C., & D'Haultfoeuille, X. (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review*, 110, 2964–96.
- Dee, T. S. (2004). Teachers, race, and student achievement in a randomized experiment. *Review of Economics and Statistics*, 86, 195–210.
- Dee, T. S. (2005). A teacher like me: Does race, ethnicity, or gender matter? *The American Economic Review*, 95, 158–165.
- Dee, T. S. (2015). Social identity and achievement gaps: Evidence from an affirmation intervention. *Journal of Research on Educational Effectiveness*, 8, 149–168.
- Dee, T. S., & Gershenson, S. (2017). *Unconscious bias in the classroom: Evidence and opportunities*. Mountain View, CA: Google Inc. Available from <https://cepa.stanford.edu/content/unconscious-bias-classroom-evidence-and-opportunities>.
- Dee, T. S., & Penner, E. K. (2017). The causal effects of cultural relevance: Evidence from an ethnic studies curriculum. *American Educational Research Journal*, 54, 127–166.
- Du Bois, W. E. B. (1903). *The souls of Black folk: Essays and sketches*. Chicago, IL: A. G. McClurg & Co.
- Dumas, M. J. (2016). My brother as “Problem”: Neoliberal governmentality and interventions for Black young men and boys. *Educational Policy*, 30, 94–113.
- Fergus, E., & Noguera, P. (2010). *Theories of change among single-sex schools for Black and Latino boys: An intervention in search of theory*. New York, NY: Metropolitan Center for Urban Education.
- Fergus, E., Noguera, P., & Martin, M. (2014). *Schooling for resilience: Improving the life trajectory of Black and Latino boys*. ERIC.
- Francis, D. V. (2012). Sugar and spice and everything nice? Teacher perceptions of Black girls in the classroom. *The Review of Black Political Economy*, 39, 311–320.
- Gay, G. (1988). Redesigning relevant curricula for diverse learners. *Education and Urban Society*, 2, 327–340.
- Gay, G. (2010). *Culturally responsive teaching: Theory, research, and practice*. New York, NY: Teachers College Press.
- Gershenson, S., Hart, C., Hyman, J., Lindsay, C., & Papageorge, N. W. (2018). *The long-run impacts of same-race teachers*. Cambridge, MA: National Bureau of Economic Research.
- Gershenson, S., Holt, S. B., & Papageorge, N. W. (2016). Who believes in me? The effect of student–teacher demographic match on teacher expectations. *Economics of Education Review*, 52, 209–224.
- Gibbons, C. E., Serrato, J. C. S., & Urbancic, M. B. (2019). Broken or fixed effects? *Journal of Econometric Methods*, 8, 12.
- Ginwright, S. A. (2010). *Black youth rising: Activism and radical healing in urban America*. New York, NY: Teachers College Press.
- Ginwright, S. A., Chatmon, C. P., & Hodge, G. (2019). The roots and routes of Oakland's African American Male Achievement Initiative (AAMA). In N. S. Nasir, J. R. Givens, & C. P. Chatmon (Eds.), *We dare say love: Supporting achievement in the educational life of Black boys*. New York, NY: Teachers College Press.
- Givens, J. R., & Nasir, N. S. (2019). We dare say love: Black male student experiences and the possibilities therein. In N. S. Nasir, J. R. Givens, & C. P. Chatmon (Eds.), *We dare say love: Supporting achievement in the educational life of Black boys*. New York, NY: Teachers College Press.

- Givens, J. R., Nasir, N. S., Ross, K., & McKinney de Royston, M. (2016). Modeling manhood: Reimagining Black male identities in school. *Anthropology & Education Quarterly*, 47, 167–185.
- Goodman-Bacon, A. (2021). Difference-in-differences with variation in treatment timing. *Journal of Econometrics*, forthcoming.
- Gourdine, J. (2019). The heart of the matter: Recruitment and training of MDP instructors. We dare say love: Black male student experiences and the possibilities therein. In N. S. Nasir, J. R. Givens, & C. P. Chatmon (Eds.), *We dare say love: Supporting achievement in the educational life of Black boys*. New York, NY: Teachers College Press.
- Hausman, J., Hall, B. H., & Griliches, Z. (1984). Econometric models for count data with an application to the patents–R&D relationship. *Econometrica*, 52, 909–938.
- Heller, S. B., Shah, A. K., Guryan, J., Ludwig, J., Mullainathan, S., & Pollack, H. A. (2017). Thinking, fast and slow? Some field experiments to reduce crime and dropout in Chicago. *The Quarterly Journal of Economics*, 132, 1–54.
- Holt, S. B., & Gershenson, S. (2017). The impact of demographic representation on absences and suspensions. *Policy Studies Journal*, 47, 1069–1099.
- Jackson, K., & Makarin, A. (2018). Can online off-the-shelf lessons improve student outcomes? Evidence from a field experiment. *American Economic Journal: Economic Policy*, 10, 226–254.
- Jacobs, L. R., & Fulwood III, S. (2014, September 26). Two perspectives on *My Brother's Keeper*. Retrieved September 3, 2019, from <https://talkpoverty.org/2014/09/26/my-brothers-keeper/>.
- Jahi. (2019). *My AAMA Journey: Teaching and learning in service of young kings*. In N. S. Nasir, J. R. Givens, & C. P. Chatmon (Eds.), *We dare say love: Supporting achievement in the educational life of Black boys*. New York, NY: Teachers College Press.
- Johns, M., Schmader, T., & Martens, A. (2005). Knowing is half the battle: Teaching stereotype threat as a means of improving women's math performance. *Psychological Science*, 16, 175–179.
- Johnson, P., & Philoxene, D. (2019). It makes me feel like I'm a monster. In N. S. Nasir, J. R. Givens, & C. P. Chatmon (Eds.), *We dare say love: Supporting achievement in the educational life of Black boys*. New York, NY: Teachers College Press.
- Klein, A. (2019, April 10). Here's how well a key civil rights group think ESSA addresses equity. Retrieved July 1, 2021, from <https://blogs.edweek.org/edweek/campaign-k-12/2019/04/equity-essa-urban-league-states.html>.
- Ladson-Billings, G. J. (1992a). Liberatory consequences of literacy: A case of culturally relevant instruction for African American students. *Journal of Negro Education*, 61, 378–391.
- Ladson-Billings, G. J. (1992b). Reading between the lines and beyond the pages: A culturally relevant approach to literacy teaching. *Theory into Practice*, 31, 312–320.
- Ladson-Billings, G. J. (1994). *The dreamkeepers: Successful teachers of African American students*. San Francisco, CA: Jossey-Bass.
- Ladson-Billings, G. J. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32, 465–491.
- Ladson-Billings, G. J., & Tate, W. (1995). Toward a critical race theory of education. *The Teachers College Record*, 97, 47–68.
- Laymon, K. (2014, March 17). Hey Mama: A black mother and her son talk about language and love in the South. *Guernica*. Retrieved July 1, 2021, from <https://www.guernicamag.com/hey-mama/>.
- Lin, J. (2012, May 29). Report reveals sobering statistics about Oakland's Black male students. Retrieved September 3, 2019, from HuffPost website at https://www.huffpost.com/entry/oakland-schools-report_n_1553400.
- Lindsay, C. A., & Hart, C. M. (2017). Exposure to same-race teachers and student disciplinary outcomes for Black students in North Carolina. *Educational Evaluation and Policy Analysis*, 39, 485–510.

- MacKinnon, J. G., & Webb, M. D. (2020). Clustering methods for statistical inference. In K. F. Zimmermann (Ed.), *Handbook of labor, human resources and population economics* (pp. 1–37). Springer International Publishing.
- Marxer, S., Brown, R., Spiker, S., Williams, J., Budi, E., Feldman, A., & Chang, A. (2012). African American Male Achievement Initiative: A deeper look at African American males in OUSD. Retrieved January 21, 2015, from <https://www.issueab.org/resource/african-american-male-achievement-initiative-a-deeper-look-at-african-american-males-in-ousd.html>.
- McKinney de Royston, M., & Vakil, S. (2019). What it means to do this work: The voices of Manhood Development Program (MDP) instructors and “politicized care.” In N. S. Nasir, J. R. Givens, & C. P. Chatmon (Eds.), *We dare say love: Supporting achievement in the educational life of Black boys*. New York, NY: Teachers College Press.
- My Brother's Keeper. (2016). *My Brother's Keeper 2016 progress report: Two years of expanding opportunity and creating pathways to success*. Washington, DC: The White House. Retrieved June 24, 2019, from <https://obamawhitehouse.archives.gov/my-brothers-keeper#section-resources>.
- Nasir, N. S., Ross, K. M., McKinney de Royston, M., Givens, J., & Bryant, J. N. (2013). Dirt on my record: Rethinking disciplinary practices in an all-Black, all-male alternative class. *Harvard Educational Review*, 83, 489–512.
- 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, 14–18.
- Nicholson-Crotty, S., Grissom, J. A., Nicholson-Crotty, J., & Redding, C. (2016). Disentangling the causal mechanisms of representative bureaucracy: Evidence from assignment of students to gifted programs. *Journal of Public Administration Research and Theory*, 26, 745–757.
- Noguera, P. A. (2008). Creating schools where race does not predict achievement: The role and significance of race in the racial achievement gap. *The Journal of Negro Education*, 77, 90–103.
- Oakland Unified School District. (2011). Investing in innovation application. Retrieved June 24, 2019, from <https://www2.ed.gov/programs/innovation/2011/u411c110360narrative.pdf>.
- Oeur, F. B. (2018). *Black boys apart: Racial uplift and respectability in all-male public schools*. Minneapolis, MN: University of Minnesota Press.
- Petrilli, M. J. (2019, June 20). Toward a golden age of educational practice. Retrieved September 13, 2019, from the Thomas B. Fordham Institute website at <https://fordhaminstitute.org/national/research/toward-golden-age-educational-practice>.
- powell, j. a. (2008). Post-racialism or targeted universalism. *Denver Law Review*, 86, 785.
- powell, j. a., Menendian, S., & Reece, J. (2009). The importance of targeted universalism. *Poverty & Race Journal*, 18. Washington, DC: Poverty & Race Research Action Council.
- powell, j. a., & Rockey Moore, M. (2014, July 8). Obama's plan to aid Black men and boys will help everyone. Retrieved September 3, 2019, from The Chronicle of Philanthropy website at <https://www.philanthropy.com/article/Obama-s-Plan-to-Aid-Black/152903/>.
- Pustejovsky, J. E., & Tipton, E. (2018). Small-sample methods for cluster-robust variance estimation and hypothesis testing in fixed effects models. *Journal of Business & Economic Statistics*, 36, 672–683.
- Rumberger, R., Addis, H., Allensworth, E., Balfanz, R., Bruch, J., Dillon, E. ... Tuttle, C. (2017). *Preventing drop-out in secondary schools (NCEE 2017–4028)*. Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. Available at <https://whatworks.ed.gov>.
- Skocpol T. (1991) Targeting within Universalism: Politically viable policies to combat poverty in the United States. In C. Jencks, P. E. Peterson, *The Urban Underclass* (pp. 411–436). Washington, DC: The Brookings Institution.
- Valenzuela, A. (1999). *Subtractive schooling: US-Mexican youth and the politics of caring*. Ithaca, NY: State University of New York Press.

- Veghte, B. W., Schreur, E., & Waid, M. (2016, December). Social security and the racial gap in retirement wealth. *National Academy of Social Insurance*, 48.
- Villavicencio, A. (2021). *Am I My Brother's Keeper: Educational opportunities and outcomes for Black and Brown boys*. Cambridge, MA: Harvard Education Press.
- Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*, 331, 1447–1451.
- Watson, V. M. (2014). *The black sunrise: Oakland Unified School District's commitment to address and eliminate institutionalized racism*. Oakland, CA: Oakland Unified School District.
- Watson, V. M. (2018). *Transformative schooling: Towards racial equity in education*. Routledge.
- Whitehurst, G. (2009). *Don't forget curriculum (Brown Center Letters on Education)*. Washington, DC: Brookings Institution.
- Yeager, D. S., Hanselman, P., Walton, G. M., Murray, J. S., Crosnoe, R., Muller, C. ... Dweck, C. S. (2019, September). A national experiment reveals where a growth mindset improves achievement. *Nature*, 573, 364–369.
- Yeager, D. S., & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of Educational Research*, 81, 267–301.

APPENDIX

Table A1. The estimated effects of AAMA availability on dropout counts of Black males, alternative specifications.

Description	Overall Estimate	Estimates by grade		
		9th grade	10th grade	11th/12th grade
Baseline specification (Table 2)	-0.559*** (0.166)	-0.821*** (0.262)	-0.351** (0.142)	-0.386 (0.235)
Finite-sample cluster adjustment (Pustejovsky & Tipton, 2018)	-0.559*** (0.169)	-0.821** (0.284)	-0.351* (0.154)	-0.386 (0.252)
Weighted Least Squares (WLS)	-0.439** (0.183)	-0.702** (0.260)	-0.191 (0.168)	-0.289 (0.254)
Reweighted estimates (Gibbons et al., 2018)	-0.721*** (0.203)	-	-	-
Inverse hyperbolic sine	-0.501** (0.205)	-0.833** (0.365)	-0.337 (0.234)	-0.171 (0.247)
Fixed effects negative binomial	-0.473*** (0.171)	-0.831*** (0.239)	-0.367 (0.289)	0.062 (0.263)
Fixed effects Poisson	-0.383*** (0.132)	-0.867*** (0.207)	-0.487* (0.260)	0.141 (0.185)
Omitting smaller high schools (n = 222)	-0.387** (0.152)	-0.614*** (0.206)	-0.190 (0.171)	-0.254 (0.232)
Balanced panel (n = 240)	-0.634*** (0.193)	-0.914*** (0.277)	-0.365** (0.163)	-0.446 (0.293)

Notes: See text for specification details. Standard errors are reported in parentheses.

Table A2. The estimated effects of AAMA availability on dropout and enrollment counts among White students.

Dependent variable	White males			White females		
	(1)	(2)	(3)	(4)	(5)	(6)
Dropout counts	-0.076 (0.089)	-0.022 (0.067)	0.068 (0.076)	-0.038 (0.060)	0.014 (0.042)	0.032 (0.048)
Enrollment	0.050 (0.128)	0.164 (0.143)	-0.144 (0.199)	0.052 (0.176)	0.188 (0.178)	0.108 (0.131)
Fixed Effects						
School X grade	Y	Y	Y	Y	Y	Y
Year	Y	Y	Y	Y	Y	Y
Year X grade	N	Y	Y	N	Y	Y
School X year	N	N	Y	N	N	Y

Notes: The dependent variable is the natural log of the count variable in the school-grade-year cell (N = 310). All dropout models also condition on the natural log of the corresponding enrollment count and on binary indicators for imputed dropout and enrollment counts. All enrollment models condition on a binary indicator for imputed enrollment counts (see text for details). Standard errors in parentheses are clustered at the school-grade level.

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Table A3. The estimated effects of AAMA availability on dropout counts.

Independent variable	Black males	Black females
AAMA X first exposure	-0.827*** (0.254)	-0.545** (0.224)
AAMA X 1 year after first exposure	-0.432** (0.160)	-0.159 (0.117)
AAMA X 2 years after first exposure	-0.489** (0.196)	-0.134 (0.171)
AAMA X 3 years after first exposure	-0.049 (0.248)	-0.102 (0.138)
p-value: ($H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4$)	0.1906	0.3987

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Notes: The dependent variable is the natural log of the dropout counts in the school-grade-year cell. All models also condition on the natural log of the corresponding enrollment count and on binary indicators for imputed dropout and enrollment counts, school-grade fixed effects, and year fixed effects. The sample size for each DD specification is 310. Standard errors in parentheses are clustered at the school-grade level.

Table A4. The estimated effects of AAMA availability on dropout counts.

Independent variable	Black males	Black females
AAMA X 1st year	-0.754*** (0.253)	-0.524** (0.225)
AAMA X 2nd year	-0.350** (0.164)	-0.239 (0.211)
AAMA X 3rd or 4th year	-0.388 (0.289)	-0.129 (0.176)
p-value: ($H_0: \beta_1 = \beta_2 = \beta_3$)	0.3123	0.3814

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Notes: The dependent variable is the natural log of the dropout counts in the school-grade-year cell. All models also condition on the natural log of the corresponding enrollment count and on binary indicators for imputed dropout and enrollment counts, school-grade fixed effects, and year fixed effects. The sample size for each DD specification is 310. Standard errors in parentheses are clustered at the school-grade level.

Table A5. The estimated effects of AAMA availability on dropout counts.

Independent variable	Black males	Black females
AAMA	-0.598*** (0.169)	-0.353** (0.138)
AAMA - Adjacent grade	-0.278** (0.124)	-0.086 (0.161)

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Notes: The dependent variable is the natural log of the dropout counts in the school-grade-year cell. All models also condition on the natural log of the corresponding enrollment count and on binary indicators for imputed dropout and enrollment counts, school-grade fixed effects, and year fixed effects. The sample size for each DD specification is 310. Standard errors in parentheses are clustered at the school-grade level.