Research Article

Educational Evaluation and Policy Analysis
Month 202X, Vol. 8, No. 1, pp. 1–27
DOI: 10.3102/01623737221113575
Article reuse guidelines: sagepub.com/journals-permissions

Public-Sector Leadership and Philanthropy: The Case of Broad Superintendents

Thomas S. Dee
Stanford University

Susanna Loeb
Brown University

Ying Shi
Syracuse University

Philanthropic initiatives incorporating prescriptive practices have become prominent in K–12 education. This study provides evidence on the reach, character, and impact of the Broad Superintendents Academy, a controversial initiative designed to transform district leadership. A novel data set on Broad trainees linked to data on large districts over 20 years shows that Broad superintendents have had extensive reach, serving nearly 3 million students at their peak, and that, for districts that hired Broad trainees, Broad superintendents were 40% more likely to be Black than non-Broad superintendents, although they had significantly shorter tenures. Estimates provide evidence that Broad-trained leaders had little effect on several district outcomes including enrollment, spending, and student completion. However, they initiated a trend toward increased charter school enrollment.

Keywords: *educational policy, educational reform, leadership, school/teacher effectiveness, policy, governance, correlational analysis, descriptive analysis, econometric analysis, longitudinal studies, policy analysis*

In 2002, the Eli and Edythe Broad Foundation of Los Angeles founded the "Broad Superintendents Academy" (BSA). The BSA aims to find dynamic leaders both inside and outside of education and place them at the head of the nation's largest school districts.[1] Its recruitment and programming also seek to identify and cultivate talent that diversifies the existing pool of district leaders. At the same time, the BSA has come under intense scrutiny, with critics alleging that Broad-trained leaders use "corporate management techniques to consolidate power, weaken teachers' job protections, cut parents out of decision-making, and introduce unproven reform measures" (Samuels, 2011). The controversial nature of the BSA may also reflect the fact that the Broad Foundation is a prominent supporter of other K–12 reform movements such as charter school networks and school districts with reform-minded leadership (Reckhow & Snyder, 2014).[2]

This study provides novel evidence on the character, reach, and impact of this prominent and controversial philanthropic initiative. Specifically, we analyze the BSA based in part on a self-constructed data set of all BSA trainees since the program's start in 2002 through 2015. The data identify key characteristics of Broad trainees and their careers as superintendents in the nation's school districts. They include individual demographic attributes (i.e., race and gender), employment spells that allow for tracking individuals throughout their careers, as well as employer characteristics. We also construct a

national panel of the largest 300 U.S. school districts over a 20-year period (1996 through 2015) with data on enrollment both in traditional public schools and in charter schools, school closures, spending by function, and high school completion. Merging these data with our data on Broad trainees allows us to examine the reach of the BSA by quantifying the number of districts and students served by participants in the program. We also examine the demographic and professional characteristics of program participants and BSA graduates who eventually lead school districts, juxtaposing their demographic attributes with non-BSA superintendents in the same districts, as well as the characteristics of the students they serve. Finally, the application of difference-in-differences (DD) and event-study frameworks allows us to examine the impact of those leaders on a variety of district and student outcomes.

We show that the reach of the BSA program was extensive, even though fewer than half of Broad trainees eventually became superintendents. Broad trainees have led 62 of the largest 300 school districts at some point during our study window. The large districts that hired Broad superintendents were significantly more likely to be in cities and to serve higher concentrations of Black students. Notably, Broad-trained leaders were more diverse and better reflected the demographics of the districts they served than non-Broad superintendents who worked in the same districts. However, we also find that Broad-trained superintendents had completed tenures that were 18% *shorter* than those of non-Broad superintendents who led the same school districts. Our panel-based analysis of the effects of the BSA program suggests that Broad superintendents generally have few detectable effects on a wide range of outcomes including school closures or openings, spending on instruction and support services, student completion rates, or student test scores. However, we do find evidence that Broad-trained superintendents initiate a trend toward more charter schools and higher charter school enrollment.

The study contributes to a long-standing but limited literature on school district leadership. The existing literature underscores the complex and political nature of the superintendency (Björk et al., 2014; Cuban, 1976). For example, Björk et al. (2014) summarize the five interconnected roles of a superintendent as teacher-scholar, organizational manager, democratic leader, applied social scientist, and communicator. This literature also identifies several important stylized facts about district leadership. In the United States, the average tenure of district superintendents is about 6 years (The Broad Center, 2018). Superintendents tend to leave for higher salaries and higher-performing districts in more urban areas (Grissom & Mitani, 2016). Superintendent turnover is also more common when the governing school board is conflict-prone and when the superintendent was an external hire rather than "homegrown" (Grissom & Andersen, 2012). The high-profile turnover of superintendents associated with reform efforts may have created a false belief that superintendents undertaking large-scale change will get forced out (Grissom & Andersen, 2012; Natkin et al., 2003). However, the implications of this turnover—and of superintendents, in general—for schools and students are unclear. Early cross-sectional studies find mixed evidence on the links between superintendent characteristics and district performance (Ehrenberg et al., 1988; Meier & O'Toole, 2002). A more recent study by Chingos et al. (2014) finds that district performance is unrelated to superintendent experience and, more generally, that superintendents account for less than 1% of the variation in student achievement.[3] Our findings that Broad superintendents have shorter tenures and no clear effects on a variety of prominent district outcomes (e.g., spending and school closings, completion rates) are generally consistent with this literature.

This study also speaks to the diffuse body of research on leadership and managerial practices.[4] The empirical literature on leadership suggests the important contributions of managerial quality to the productivity differences across organizations in both the private and public sectors (Bloom et al., 2013, 2016; Bloom & Van Reenen, 2010; Carter et al., 2019; McCormack et al., 2014; Rasul & Rogger, 2016). For example, Lazear (2012) emphasizes the role of a leader's skill set. He argues that effective leaders have strong communication skills and are generalists whose diverse skills match the unpredictability faced by the organization they lead. Treatises on successful management practices make similar arguments.[5] The BSA provides

customized leadership skill guidance on areas such as communications, political navigation, and change management.

The limited impact of Broad superintendents that we document is also in keeping with a long-standing result in leadership research that stresses the moderating role of institutional contexts (Mischel, 1973). Specifically, House and Aditya (1997) note that desirable leadership attributes have less salience in "organizations that are highly formalized and governed by well-established role expectations, norms, rules, policies and procedures." This description may well characterize most large school districts in the United States and correspondingly imply the narrowly bounded capacity of innovative district leadership to promote organizational improvement by itself.[6] Nonetheless, our evidence that Broad-trained leaders catalyze a trend toward increased charter schools and charter enrollment implies that these leaders can have important effects that last beyond their brief tenures.

District Leadership and the BSA

The governance of public elementary and secondary education in the United States is embedded in a federalist system that includes more than 13,000 local, independent school districts. The chief executive officer of each school district is the superintendent. Superintendents are typically appointed by a school board, whose members are mostly elected, rather than being directly elected themselves. As the top-ranking administrator, superintendents have a wide range of responsibilities. These include, but are not limited to, building a strategic vision for the school system, recruiting and assessing educators, evaluating curricula and district programs, overseeing district finances and other dimensions of operations, and managing relationships with stakeholders such as the teachers' union and the school board (Grissom & Mitani, 2016). The scale of these organizational responsibilities is uniquely daunting for the superintendents of the largest school districts. For example, the largest 300 school districts (i.e., only about 2% of all districts) enroll over one third of all public school students in the United States.

Although the path to the superintendency is varied, once in the role, mobility is often defined by moves from smaller to larger districts, and from poorer to wealthier districts (Ehrenberg et al., 1988; Grissom & Mitani, 2016). Most superintendents have had experience as a classroom teacher (Kowalski et al., 2011), and few superintendents have had extensive work experience outside of the education sector. However, this characteristic is changing somewhat, as states increasingly remove job restrictions to accommodate nontraditional candidates such as those from the private sector or the military. The BSA has played a prominent role in cultivating such new paths to district leadership.[7]

BSA Program Features

The BSA is a core program of the Eli and Edythe Broad Foundation, a 501(c)(3) founded in 1999 with the goal of supporting "entrepreneurship for the public good" including a commitment to transform K–12 public education.[8] By 2015, the foundation had assets totaling more than US$3 billion. As it expanded both its endowment and reach, the foundation continued to make management and governance central pillars of its investment priorities in K–12 education. It operationalized this focus with leadership academies that constitute the foundation's largest and longest-running programs (The Broad Foundation, 2016). The BSA aims to identify and provide formal management training to promising leaders both inside and outside of education who can significantly improve the performance of large school districts. An accompanying program, the Broad Residency, targets management positions below top-level leadership positions.[9]

The BSA specializes in sourcing established talent from a variety of sectors (i.e., the private sector, military, nonprofits, as well as traditional education fields) and training them for the demands of the superintendency. It began in 2002 as a 10-month executive management program that gathered participants for six extended weekends of programming in different cities. Successful applicants were expected to demonstrate potential to drive excellence and equity in school systems. Because the focus was on established leaders who had not been superintendents in the past, the curriculum aimed at familiarizing participants with functional areas relevant to the superintendency. Examples of curricular topics included labor relations, targeted student interventions, data-management systems, and

school board relations, operations, and public engagement. In addition to practical dimensions of the curriculum such as reading case studies of urban school districts and completing individual projects, participants also read texts on management theory and educational change including the values-based management approach described in *Leading Change* by James O'Toole and the well-known treatise on educational change by Theodore R. Sizer: *Horace's Compromise* (Samuels, 2011). O'Toole (1996) argues for a leadership style grounded in articulating a shared, values-based vision of the future that motivates staff while recognizing their independence, in opposition to a more autocratic and singular leadership.[10] Such a distributed governance approach is notable given the plurality of management backgrounds in the BSA talent pipeline, and stands in contrast to a more top-down system of authority that was common in the experiences of some participants, such as former military leaders.

Program revisions in 2012 expanded the length of the training to nearly 2 years and also entailed programmatic changes. Comprehensive details on BSA training are limited. However, according to an internal Broad memo made public through the Open Public Records Act (Strauss, 2012), the modified BSA curriculum shifted away from traditional functional areas of the district superintendency (i.e., operations) toward "reform priorities, reform accelerators, and systems-level management." Reform priorities refer to the four areas of school choice, educator effectiveness, innovative learning models, and accountability. The issue of school choice, for example, is consistent with the Broad Foundation's stated priorities, including Eli Broad's writings on the advantages of charter schools (Broad, 2008). Reform accelerators in this context refer to skills and strategies that enable transformational change. The memo underscores the importance of recruiting "transformational leaders with the will and skill required to lead large urban school systems through dramatic reforms." Examples given of such leaders include those who headed charter management organizations (CMOs) and Teach for America, among others.

The Broad Foundation and initiatives such as the BSA exemplify the growing prominence of wealthy and independent philanthropies in U.S. education policy over the last 20 years (Reich, 2018). One indicator of this trend is the increasing volume of grantmaking. For example, annual grantmaking by the largest 15 educational foundations grew from US$486 million in 2000 to US$843 million in 2010 (Reckhow & Snyder, 2014). Organizations such as the Broad Foundation and the Bill & Melinda Gates Foundation have prioritized the support of systemic reform efforts and shifted funding away from traditional institutions such as public schools in favor of grantees that challenge these public institutions (Reckhow & Snyder, 2014; Reckhow & Tompkins-Stange, 2015).[11] In doing so, educational foundations are increasingly using their resources to influence policymaking and the political process (Scott, 2009; Thümler, 2011).[12] Yet despite the ascendency of this form of philanthropy in public education, we have little empirical evidence on its programmatic reach or on the characteristics and consequences of its major funded initiatives.

Philanthropy has long played a prominent role in the establishment and support of institutions in U.S. society. However, several contemporary observers posit that modern philanthropy is providing wealthy plutocrats with undue, tax-advantaged political influence that is corroding democratic governance (Reich, 2018; Tompkins-Stange, 2016). The emergence of so-called "venture philanthropy" has become a focal point for such criticism. This term broadly encompasses the application of venture-capital practices to charitable endeavors (Fleishman, 2007). In his 1969 Congressional testimony, John D. Rockefeller III introduced this term with an emphasis on the role of foundations in catalyzing innovative and risky ventures (Anheier & Toepler, 2010). The Broad Foundation and BSA share several features with such "venture philanthropy." First, the Broad Foundation and venture philanthropy stress a deep and sustained engagement with grantees and potentially disruptive experimentation with a longer-term focus on improving organizational performance rather than simply supporting particular projects (Letts et al., 1997). The Broad Foundation's sustained involvement with the training and placement of district leaders situates it within this tradition. In fact, the Foundation describes its own funding

approach as, "We don't simply write checks to charities" (Uberti, 2015). Second, the BSA's emphasis on aggressively attracting nontraditional leaders from other sectors that may have less teaching experience (Broad, 2001) reflects a broader trend in this sector of promoting disruptive practices. The Broad Foundation also followed other large educational philanthropies in shifting funding away from traditional public institutions toward select nonprofits or private-sector educational institutions, in a manner consistent with venture philanthropy (Reckhow, 2012). Third, the Broad Foundation's emphasis on data systems and performance metrics reflects a common venture philanthropic practice. Scholars and observers reflecting on Eli Broad's legacy also affirm this characterization (Chu, 2021; Reckhow, 2012; Scott, 2009).[13] For example, Prothero and Vara-Orta (2017) describe Eli Broad as being "at the forefront of this highly engaged venture-style philanthropy, wanting to move quickly to achieve outcomes and holding grantees to very specific metrics." The Broad Foundation has on occasion even referred to its own operations in these terms, by stating, for instance, that "we practice 'venture philanthropy.' And we expect a return on our investment" (Uberti, 2015). While the Broad Foundation's approach shares features with some conceptions of venture philanthropy, we note that, in current discourse, venture philanthropy is often understood simply as impact investing.

Data

We construct a novel data set from multiple sources to document the number of participants in the BSA and their career trajectories. We identify the full list of BSA participants using both alumni profiles posted on the Broad Center website and archived press releases announcing each BSA cohort. Our roster includes the union of these two sources to ensure maximum coverage of all participants who enrolled in the program, regardless of completion. Information on each individual's professional experiences comes from the combination of data from LinkedIn .com, news articles, and press releases where available. Detailed work histories on the beginning and end dates of each employment spell tell us whether each participant was ever employed as a district superintendent, when they began, and the length of their tenure. Data collected on educational and employment histories enable us to identify individuals' age and professional experience (e.g., military).[14] We infer teaching experience based on information gathered through online searches. Because this source may sometimes miss Broad trainees with classroom experience, we consider estimates based on these data a lower bound on the true prevalence of teaching experience. Finally, we code gender, race, and ethnicity using information from news articles and the Broad Center website; the Broad Center then corroborated the information on gender and race with self-reported data from BSA participants.[15]

We also construct a district-by-year panel data set for public school districts using the National Center for Education Statistics Common Core of Data (CCD) from 1996 to 2015.[16] We focus on the top 300 districts by enrollment size because the BSA explicitly targeted the placement of their graduates in large urban school districts, and the preponderance of BSA graduates in our sample work in these top 300 districts. In doing so, we acknowledge that our analyses do not directly address the effects of BSA trainees in smaller school districts. To identify district superintendents, we gather names and years employed from the *Patterson's American Education* directories spanning 1996 through 2015. We supplement this information with demographic characteristics and work history data, derived from extensive online searches of superintendents' start and end dates, gender, and race using district documentation, news sites, and LinkedIn profiles. The resulting data set contains superintendent demographic and tenure attributes for the largest 300 districts over a two-decade period.

We examine several sets of outcomes to capture the operations, health, and performance of school districts. The first core measure is charter school enrollment, so that we can examine whether Broad leadership directs enrollment toward or away from traditional public schools.[17] Detailed data on catchment areas and charter school location permit us to include charter schools that are based geographically within a public school district but are authorized by other entities, as well as district-authorized charter schools.[18] Our focus on the charter sector is

motivated by the Broad Foundation's stated focus on school choice among its set of reform priorities, as well as research on the role played by philanthropic institutions in expanding charter schools and CMOs (Quinn et al., 2014; Scott, 2009). Second, we include measures of school closures taken from the CCD. These data enable us to examine whether districts headed by Broad superintendents are more or less likely to close traditional public schools.

Third, we construct a measure of each school district's annual per-pupil expenditures to assess how Broad leadership may influence district resources. Data for these measures derive from the annual local education agency finance survey (F-33) and allow us to examine the allocation of spending across particular functional areas (i.e., instruction, pupil support services, and capital expenditures).[19]

Next, we rely on grade and year-specific enrollment data to measure high school completion as a student outcome measure. We construct proxies for high school completion rates using the ratios of 12th-grade enrollment to eighth-grade enrollment 4 years prior and 10th-grade enrollment 2 years prior, respectively, electing to not use ninth-grade enrollment due to the high prevalence of repeaters (Kennedy, 2017). We furthermore use the data on district enrollment as an outcome measure. A district's capacity to sustain or increase its enrollment overall and by race and ethnicity provides an important indicator of the revealed preferences of the community it serves.[20]

Finally, we examine student achievement in math and English language arts (ELA) using the Stanford Education Data Archive (SEDA). Records permit comparisons of student performance on a common scale across districts, grades, and years.[21] Data are available beginning in the 2008–2009 school year and continue through 2015–2016 for an 8-year panel.

Characteristics of Broad Leaders

The BSA enrolled a total of 198 individuals between 2002 and 2015 (Table 1). The early years of the BSA involved approximately 20 participants annually, but cohort size decreased to 10 to 15 in recent years.[22] We begin by noting the demographic attributes and professional experiences of all BSA participants and how they compare to those who eventually worked as a superintendent during our study window (Column 2). Approximately 40% of the full samples of BSA participants are females: similar to the subset of BSA superintendents. Half of all participants identify as White, whereas 34% and 12% identify as Black and Hispanic, respectively. In comparison, BSA superintendents are more likely to form under-represented groups than the full BSA pool, with 54% coded as Black or Hispanic. BSA superintendents are markedly more diverse than a cross-section of U.S. superintendents. Only 5% of approximately 850 superintendents surveyed by the 2015 American Association of School Administrators (AASA) identified as African American or Hispanic and only 27% as female (Finnan et al., 2015).

Data on work histories allow us to determine whether participants have teaching experience in the primary sectors in which they were employed prior to enrolling in the BSA. Slightly more than half of BSA participants are coded as having teaching experience in our sample. This share increases to two thirds among Broad-trained superintendents, suggesting some selection into the superintendency based on professional background. As noted earlier, this percent may be a lower bound on teaching experience due to limited publicly available information on professional experience. Even so, the prevalence of teaching experience is significantly lower than the near universal levels reported by the 2010 AASA survey of nearly 1,900 superintendents (Kowalski et al., 2011), which is consistent with the Broad Foundation's stated goals of bringing talent from outside education into education leadership positions. One of the sectors from which the BSA sources its talent is the military. Nearly one out of every five participants in our sample have leadership experience in this sector. This estimate echoes previous estimates of the prevalence of military leaders in the BSA (Samuels, 2011). Notably, this share decreases to 11% among BSA participants who eventually become a superintendent.

The average age when beginning as a BSA-trained superintendent is 48 years, while the mean completed tenure stands at 3.8 years.[23] The latter measure aligns with an internal Broad Center study estimating the average superintendent

TABLE 1

Average Attributes of Program Participants

	All	Ever worked as superintendent
Attributes	(1)	(2)
Female	0.40	0.39
White	0.50	0.42
Black	0.34	0.42
Hispanic	0.12	0.12
Teaching experience	0.51	0.66
Military background	0.19	0.11
Age at first superintendency	—	47.94
Length of superintendent tenure	—	3.78
Observations	198	84

Note. The sample in the first column includes all individuals observed participating in the BSA up to the 2015 cohort. The sample in the second column includes all individuals who worked as BSA-trained superintendents or interim superintendents at a public school district from 2002 to 2015. Six percent of full BSA sample is missing data on teaching experience, while 1% of the superintendent sample also has missing teaching experience. Age is taken during the first year they are observed as a Broad-trained superintendent. Nineteen percent of age data are missing for the superintendent sample. There are 84 unique individuals working as superintendents in 109 districts for all variables except for superintendent tenure. Tenure is measured at the superintendent-spell level. We have tenure for 73 unique individuals spanning 102 spells because we only include those with completed tenures. BSA = Broad Superintendents Academy.

tenure length of Broad network members at 3.5 years (The Broad Center, 2018).[24] Among superintendents who completed their tenure for whom we have data on subsequent jobs, we find that more than half continued onto superintendencies in other public school districts, 8% became an assistant or regional superintendent or related central office position in another public school district, and another 14% worked at a department of education at the federal, state, or local level. As such, their managerial expertise and talent largely remained in the education sector.

The Placement of Broad Leaders

Our data show that the Broad Foundation enrolled and trained nearly 200 individuals for potential superintendencies between 2002 and 2015 (see Supplementary Table A1 in the online version of the journal). However, a more complete assessment of their influence begins with tracking their subsequent leadership of school districts and the characteristics of the institutions they serve. Toward this end, we next address three specific elements of the Broad Foundation's role in public education. The first is simply the extent to which the Broad Foundation successfully places their trainees into school districts. We document the reach of BSA in terms of both the initial and the cumulative hiring of Broad-trained superintendents by districts as well as by calculating the number of students served in a given year. In addition to assessing programmatic reach, we also examine which types of districts hire BSA-trained leaders. That is, we document how these districts vary on a variety of observed characteristics (e.g., student composition, urbanicity) from districts that never hire a Broad-trained superintendent. We assess how the demographic diversity of Broad-trained and non-BSA superintendents compares to the attributes of the students they serve. Third, we investigate how BSA superintendents differ from non-Broad leadership, looking only among the select group of districts that hire at least one Broad-trained superintendent. This analysis includes comparing demographic profiles as well as tenure length with peers' characteristics. The differences we observe in this set of districts allow us to assess the distinctiveness of Broad-trained leaders relative to the superintendents hired for the same positions.

TABLE 2

Average Placement Record 1 Year After BSA by Cohort

		% Working in public school district as			% Working in
	Cohort size	Any role	Superintendent	Nonsuperintendent	CMOs or EMOs
Cohort	(1)	(2)	(3)	(4)	(5)
2002	23	61	26	35	0
2003	19	58	16	42	0
2004	22	50	14	36	5
2005	20	50	17	39	0
2006	18	72	29	47	0
2007	13	69	8	62	8
2008	12	58	17	42	0
2009	13	54	23	31	0
2010	14	50	14	36	0
2011	8	50	38	13	0
2013	11	27	18	9	27
2014	10	30	20	10	20
2015	15	33	13	20	33
Total	198	53%	18%	35%	6%

Note. Sample includes all individuals who participated in the BSA from 2002 to 2015. Professional experiences are tabulated the year after the conclusion of the BSA. For instance, jobs data come from 2006 for graduates of the 2005 cohort and from 2015 for graduates of the 2013 cohort because the latter spans 2 years. BSA = Broad Superintendents Academy; CMO = charter management organization; EMO = education management organization.

How Many Districts and Students Do Broad Leadership Programs Serve?

Table 2 examines the placement record of BSA participants shortly after graduation and their likelihood of working as a district superintendent, as an employee in a nonsuperintendent role in any public school district, or in a CMO or education management organization (EMO). Of the 198 individuals who participated in the BSA, 53% ($n = 104$) worked in a public school district 1 year following the program's conclusion. However, only a third of these ($n = 37$) were employed as a superintendent, whereas the remaining two thirds ($n = 67$) worked in other leadership roles. The 37 Broad trainees who become superintendents within just 1 year of completing the program are less than half of the Broad trainees who ever become a superintendent in our study window ($n = 84$, Table 1). Of all BSA participants, 6% ($n = 12$) found employment in a CMO or EMO. As such, CMOs and EMOs make up a minority of employment opportunities outside of traditional public school districts in the short run.

In addition to aggregate counts, Table 2 offers a view of how the short-term placement of Broad trainees has changed over time by documenting the outcomes of each BSA cohort from 2002 through 2015. A noticeable change coincides with the 2012 program redesign. The share of individuals who immediately work for a public school district dwindles from more than half for the 2002 through 2011 cohorts to no more than one third starting in 2013. Most of this change is driven by fewer participants working in *nonsuperintendent* roles in these districts. This shift away from large public school districts is compensated by increased employment in CMOs, as evident in the nearly one third of 2013 through 2015 cohorts who work in CMOs and EMOs.

Next, we examine the reach of BSA over time. Table 3 tracks the cumulative number of school districts that ever hired a BSA-trained superintendent by year and enrollment size. The initial

TABLE 3

Cumulative Districts Led by Broad Superintendent

	All districts	Top 300	Top 100
Cohort	(1)	(2)	(3)
2001	0	0	0
2002	7	3	2
2003	12	8	5
2004	17	12	7
2005	29	17	9
2006	41	24	12
2007	46	27	13
2008	55	34	15
2009	69	44	20
2010	73	46	20
2011	84	53	25
2012	93	56	27
2013	98	57	28
2014	102	57	28
2015	109	62	31

Note. District-level sample in the first three columns tabulates the cumulative number of unique districts that ever hired a BSA-trained superintendent. Column 2 includes all districts, whereas the remaining columns restrict to the top 300 and top 100 largest districts by enrollment, respectively. BSA = Broad Superintendents Academy.

placement of BSA graduates in superintendencies began modestly with the program's first graduates in 2002. By 2015, Broad-trained superintendents had led 109 different school districts. Of these, 62 were districts in the top 300 by enrollment size (in 1996), and 31 were in the top 100.[25] Put differently, nearly one third of the largest school districts in the United States have been served by Broad-trained superintendents in the 13 years since the BSA became operational. The placement of Broad superintendents also reached well beyond the nation's largest school districts.

An alternative view measures the BSA's reach in terms of students rather than districts served. Table 4 shows that while 216,000 students were enrolled in districts headed by the first Broad superintendents in 2002, the number peaked at 2.9 million in 2012. Although the corresponding number decreased to 1.8 million by 2015, this reach is nevertheless equivalent to 4% of all students attending public schools in the United States. The pervasiveness of Broad-trained leaders is particularly pronounced among large school districts. By 2011, Broad superintendents served one out of every five students in the largest 100 districts. In 2015, this number decreased to one out of every eight students as BSA participants began increasingly to work for organizations outside of traditional public school districts following the 2012 program redesign. Despite these shifts, this evidence shows that Broad leadership programs served a substantial number of school districts, and particularly a high share of large urban school districts, within just a dozen years of commencing operations.

What Types of Districts Hire Broad Superintendents?

Broad superintendents have led districts of varying sizes, while on a per-student basis their impact is concentrated, as intended, in the nation's largest school districts. In this section, we describe the characteristics of those large districts that employ Broad-trained leaders and contrast them with other large districts that do not.

In Table 5, we present district and superintendent attributes for the largest 300 districts by enrollment in the United States. We define Broad districts as those who ever hired a Broad-trained superintendent, and non-Broad districts as those that did not. A comparison of enrollment data shows that Broad districts have somewhat larger student enrollment compared to non-Broad districts though this difference is not statistically significant. More pronounced (and statistically significant) differences are apparent for racial composition. Just under a third (i.e., 30%) of Broad district students in the largest 300 district samples are White, which is 16 percentage points lower than for non-Broad districts. Nearly two thirds of students enrolled in Broad districts are either Black or Hispanic. Yet another point of difference is that 69% of Broad districts are situated in cities, relative to 54% of non-Broad districts. BSA-trained superintendents are therefore prevalent in large districts that have a distinctly more urban profile and that serve higher concentrations of Black and Hispanic students.[26]

The relative diversity of Broad districts prompts the question of whether their leadership ranks reflect their student demographics. The bottom panel of Table 5 shows some evidence of this

TABLE 4

Students Served by Broad Superintendent in Given Year

	All districts		Top 300 districts		Top 100 districts	
Cohort	Count (in 1,000s)	%	Count (in 1,000s)	%	Count (in 1,000s)	%
2001	0	0	0	0	0	0
2002	216	0	192	1	164	2
2003	476	1	454	3	363	3
2004	690	1	649	4	521	5
2005	1,037	2	938	6	728	7
2006	1,286	3	1,127	7	860	8
2007	1,360	3	1,214	7	864	8
2008	1,494	3	1,349	8	842	8
2009	1,895	4	1,720	10	1,119	11
2010	1,543	3	1,406	8	925	9
2011	2,863	6	2,674	16	2,153	21
2012	2,934	6	2,754	16	2,324	22
2013	2,600	5	2,403	14	2,064	20
2014	2,235	4	2,112	13	1,840	18
2015	1,829	4	1,686	10	1,385	13

Note. This table shows the total number of students in a given year served by BSA-trained superintendents and the share of students relative to the total number of students in public schools. The second and third sets of columns restrict to the top 300 and top 100 largest districts by enrollment, respectively. BSA = Broad Superintendents Academy.

match. Among the largest 300 school districts, Broad districts are nearly twice as likely (i.e., an increase of 15 percentage points) to hire African American superintendents. Approximately one third of Broad district superintendents in the largest 300 districts are Black, which mirrors the representation of Black students in these districts. There are no statistically meaningful differences among Broad versus non-Broad districts in the share of superintendents who are Hispanic, although Hispanic superintendents are generally under-represented relative to same-ethnicity students. Broad districts are also six percentage points more likely to have female leaders.

The attribute in which Broad districts differ most markedly from non-Broad counterparts is tenure on the job. The final row shows that the average superintendent tenure in large districts that ever had a Broad superintendent is substantially shorter (i.e., 1.5 years) than in non-Broad districts. One possibility consistent with this stylized fact is that districts hiring BSA-trained superintendents may be meaningfully different in ways that lead to shorter leadership tenures. For example, large diverse districts with more contentious school board politics and relationships between school districts and local and state government may also be more prone to hiring Broad superintendents, although the very factors that may influence the propensity to hire can also make a long-lasting tenure more difficult. Yet another explanation is that conditional on being in the same district, BSA-trained superintendents may face particular obstacles or experiences that shorten their expected tenure. To speak to these distinctions, we turn to comparisons only among superintendents in districts that ever hired a Broad-trained leader.

How Do Broad Superintendents Differ From Alternative Leaders?

To determine whether differences in superintendent characteristics observed in Table 5 are driven by the types of districts that hire Broad superintendents, we limit the analysis to only districts that ever hired a Broad superintendent. Table 6 shows that even within this selected

TABLE 5

District and Superintendent Attributes by District Broad Status

	All	Broad districts	Non-Broad districts	Difference
Attributes	(1)	(2)	(3)	(4)
District characteristics				
Student enrollment	55,053	71,094	50,869	20,225
	(4,518)	(11,704)	(4,787)	(12,576)
Percent White	0.42	0.30	0.46	−0.16***
	(0.01)	(0.03)	(0.02)	(0.03)
Percent Black	0.25	0.34	0.22	0.11***
	(0.01)	(0.03)	(0.01)	(0.03)
Percent Hispanic	0.26	0.30	0.25	0.05
	(0.01)	(0.03)	(0.02)	(0.03)
Percent charter	0.01	0.02	0.01	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
City	0.57	0.69	0.54	0.16**
	(0.03)	(0.06)	(0.03)	(0.07)
Superintendent characteristics				
Female	0.23	0.28	0.22	0.06**
	(0.01)	(0.03)	(0.01)	(0.03)
White	0.68	0.55	0.72	−0.18***
	(0.02)	(0.04)	(0.02)	(0.04)
Black	0.21	0.32	0.17	0.15***
	(0.02)	(0.04)	(0.02)	(0.04)
Hispanic	0.10	0.12	0.09	0.03
	(0.01)	(0.02)	(0.01)	(0.03)
Tenure	5.22	4.14	5.58	−1.45***
	(0.13)	(0.17)	(0.16)	(0.24)

Note. The sample consists of district-year observations from 1996 to 2015, and it includes the largest 300 public school districts in enrollment as of 1996. Broad districts refer to those districts that ever hired a BSA-trained superintendent. Non-Broad districts refer to districts that never hired such a superintendent. The top panel uses district-year observations, whereas the bottom panel uses unique district-superintendent observations. There are 5,994 total observations in the top panel across the 300 largest districts, and 4,754 and 1,240 Broad and non-Broad observations, respectively. Observations for the top 300 largest districts for the bottom panel range from 1,277 to 1,434 observations. Note that the tenure variable is only computed for superintendents with completed tenures. BSA = Broad Superintendents Academy.

*$p < .1$. **$p < 005$. ***$p < .01$.

group of Broad districts, Broad superintendents meaningfully diversify the leadership ranks. Within the sample of the 300 largest districts and restricting to the period in which BSA was active, starting in 2002, Broad-trained superintendents are 27% less likely to be White (i.e., a statistically significant difference of 15 percentage points) than non-Broad superintendents in districts that ever hired Broad graduates. Analogously, Broad-trained superintendents are 32% more likely to be Black. The shift toward more diverse leadership is relevant given the small representative bureaucracy literature that studies increased minority representation among school superintendents and its relationship to managerial behaviors and district outcomes. For instance, Carroll et al. (2019) find that minority superintendents hire more same-race teachers, and Pitts (2007) documents a relationship between minority representation among superintendents and student outcomes. A related literature focuses more explicitly on the causal effects of demographic match between teachers and students, as well as between principals and teachers,

TABLE 6

Broad and Non-Broad Superintendent Attributes in Broad Districts

	All	Broad superintendents	Non-Broad superintendents	Difference
Attributes	(1)	(2)	(3)	(4)
Female	0.30	0.35	0.28	0.06
	(0.03)	(0.05)	(0.03)	(0.05)
White	0.52	0.41	0.56	−0.15***
	(0.04)	(0.06)	(0.04)	(0.06)
Black	0.34	0.41	0.31	0.10*
	(0.04)	(0.06)	(0.04)	(0.06)
Hispanic	0.12	0.13	0.12	0.01
	(0.03)	(0.04)	(0.03)	(0.04)
Tenure	4.15	3.53	4.34	−0.80***
	(0.19)	(0.25)	(0.21)	(0.27)

Note. The sample consists of unique district-superintendent observations from 2002 to 2015. There are 295 observations or unique district-spell combinations with nonmissing gender data, 293 observations with nonmissing race data, and 265 observations for tenure because this variable is only computed for superintendents with completed tenures. In Column 4, we regress each outcome (e.g., female) on an indicator for Broad superintendent and show corresponding coefficients on the indicator variable. Errors are clustered at the district level.

*$p < .1$. **$p < .05$. ***$p < .01$.

and finds benefits of racial and ethnic representation at levels below the superintendency in K–12 education (Dee, 2005; Williams & Loeb, 2012). Finally, Table 6 shows that Broad trainees also have significantly shorter tenures as superintendents than other superintendents in the same districts. On average, Broad superintendents have tenures that are 18% shorter (i.e., 0.80 fewer years) than non-Broad superintendents.

The Effects of Broad Superintendents

Empirical Strategy

The descriptive data presented in the previous section allow us to characterize Broad superintendents, their placements and tenures in school districts, and the characteristics of the districts that hired them. We now turn to using these panel data to examine the consequences of those superintendents for district outcomes. We begin with a static DD specification before augmenting it in several ways (i.e., semi-dynamic and event-study specifications as well as a two-parameter specification capturing effects on the level and trends in outcomes). The static DD approach effectively compares the changes in district outcomes following the hiring of a BSA-trained superintendent to the contemporaneous changes in districts that did not make such hires. A key assumption of this approach is that the change observed in districts that did not make such hires is a valid counterfactual for what would have happened in the districts that did in the absence of this treatment. We estimate the following regression to implement this basic approach:

$$Y_{dt} = \alpha + \beta Hire_{dt} + \gamma_d + \delta_t + \varepsilon_{dt}, \quad (1)$$

Y_{dt} is the outcome for district d at time t. $Hire_{dt}$ is an indicator variable that assumes a value of 1 for the year the district first hired a BSA-trained superintendent and all subsequent years.[27] While this treatment definition is preferable given the endogeneity of superintendent tenure, we also examine heterogeneous effects by observed tenure length. All specifications include fixed effects γ_d and δ_t to account for common differences across districts and years, respectively.

Several recent methodological studies have underscored how this static DD can be misleading in the presence of treatment heterogeneity or

dynamic treatment effects. For example, the DD design effectively applies higher weights to observations with a higher conditional variance in the treatment indicator of interest. In our context, this effect implies that the impacts of BSA-trained leaders in districts that hired them in the middle of our study window are weighted more heavily than the impacts in districts that hired toward the beginning or end of this period. Furthermore, in the presence of dynamic treatment effects, the static DD can result in some treated units receiving negative weights. To examine these concerns, we follow the guidance and procedure developed by de Chaisemartin and D'Haultfœuille (2020). Specifically, we identify the relevant weights across all of the outcomes we study. We find that none of them is negative. However, we do find some evidence for dynamic treatment effects using the specifications we describe below.

The static DD specification assumes that the effect of a BSA-trained superintendent is a one-time and constant change in the level of a given outcome. However, we might reasonably expect effects to fade over time given the short tenure of most superintendents and organizational inertia. Alternatively, the lags associated with adopting and fully implementing new policies suggest that the changes due to a Broad superintendent may only begin to manifest themselves after several years (e.g., closing traditional schools, possibly opening more charter schools and expanding their enrollment). We adopt several complementary approaches to examining these potentially dynamic effects. One is to examine semi-dynamic DD specifications in which we replace $Hire_{dt}$ with several indicator variables denoting the number of years since the initial treatment:

$$Y_{dt} = \alpha + \sum_{k=0}^{4} \beta_k Hire_{dtk} + \gamma_d + \delta_t + \varepsilon_{dt}. \quad (2)$$

In this specification, β_0 is the coefficient corresponding to the year of Broad superintendent hire, β_1 corresponds to the year after the hire, and so on until β_4, which corresponds to four or more years after the initial hire. This unrestrictive specification allows us to separately identify immediate changes after the Broad hire and those taking time to manifest. Second, we further supplement this analysis with an even more unrestrictive set of event-study graphs. Specifically, we estimate equations of the following form:

$$Y_{dt} = \sum_{q=1}^{5} \lambda_q D_{d,t+q} + \sum_{p=0}^{6+} \eta_p D_{d,t-p} + \gamma_d + \delta_t + \epsilon_{dt}, \quad (3)$$

Y_{dt} is the outcome for district *d* during time *t*. *D* represents indicators denoting the timing of the superintendent hire relative to a given year, and covers the years leading up to and following the Broad hire.[28] We chose as the reference category districts that are observed six or more years prior to their first Broad hire or never hired a Broad trainee. Then, to capture effects that precede the first Broad hire, we allow for five binary indicators (i.e., $D_{d,t+q}$), each of which assumes a value of 1 if the district hires a superintendent *q* years in the future. To model the lagging dynamic effects associated with the first Broad hire, we constructed seven binary indicators (i.e., $D_{d,t-p}$). These variables assume a value of 1 if an observation is observed *p* years since the district hired its first Broad leader. The final lagging indicator equals 1 for districts observed six or more years after their first Broad hire. The estimated values of λ_q and η_p represent the changed outcomes unique to Broad districts in the years before and after their first hire of a BSA-trained leader.

A third and more parsimonious way of modeling dynamic treatment effects is a specification that allows both a level change in outcomes and a linear trend uniquely associated with the hiring of a Broad superintendent. Specifically, we estimate the following DD model, which includes both an indicator for hiring a BSA-trained leader (i.e., $Hire_{dt}$) and a variable measuring the years elapsed since the initial Broad hire (i.e., $YearsSinceHire_{dt}$):

$$Y_{dt} = \alpha + \theta Hire_{dt} + \pi YearsSinceHire_{dt} + \gamma_d + \delta_t + \varepsilon_{dt}. \quad (4)$$

We constructed $YearsSinceHire_{dt}$ so that it equals zero in the year of the first Broad hire and increases up to four for four or more years since then. θ identifies differences in outcomes during the first year under a BSA-trained superintendent, while π captures additional trend changes.

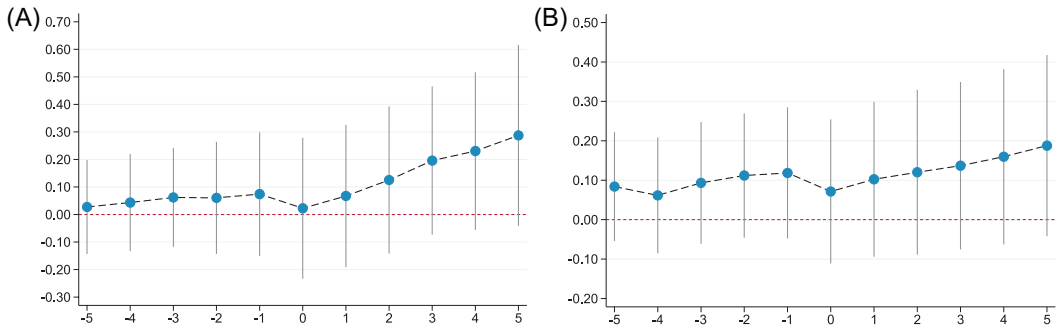

FIGURE 1. *Estimated effects of Broad superintendents on charter outcomes: (A) Log(Charter enrollment) and (B) Log(Total charters).*

Note. The figure shows coefficients corresponding to leading and lagged years relative to Broad superintendent hire. The reference category includes six or more years prior to the Broad hire as well as control districts that never hired a Broad superintendent. The figures are computed using geographic local education agencies, such that enrollment counts take into consideration charter schools located within the same catchment area but are managed under a different LEA code in CCD data.

We estimate all of these models using a panel of the 300 largest school districts observed annually for up to two decades from 1996 through 2015. We defined the 300 largest school districts using enrollment at baseline (i.e., in 1996). Because a new superintendent can influence multiple dimensions of district policies, we examine several sets of outcomes. These include charter school enrollment, the number of charter schools, the closure of traditional public schools, per-pupil expenditures, student completion rates, student achievement, and student enrollment. Due to limitations in data availability, we observe some of these outcomes over 18 years rather than 20 years.[29]

Difference-in-Differences Results

We begin by examining the effect of Broad superintendents on the size of the charter school sector using two measures: charter enrollment and the number of charter schools. Because the BSA is focused on system changes and distributed governance, we might expect to see a growth in charter schools that operate independently of many of the institutional structures relevant to traditional public schools. Moreover, the Broad Foundation invests heavily in charter schools and aims to accelerate the charter sector footprint through fundraising and public awareness campaigns (Blume, 2015). The foundation contributed more than US$144 million into developing and scaling public CMOs by 2016 (The Broad Foundation, 2016). As such, Broad-trained superintendents are often perceived as both reform-minded and amenable to growth in the charter sector. While these associations are prevalent in the public discourse, empirical evidence on the influence of Broad-trained leaders on the charter sector is lacking.

Figure 1 focuses on the two measures of charter presence (i.e., charter enrollment and the number of schools) and presents results from the event-study approach. The year of the first Broad superintendent hire is indexed at 0, while the omitted category is six or more years prior to the Broad hire. We show coefficients up to 6 years before and after the hire to accommodate the expected length of superintendent tenures and provide sufficient time for any policies undertaken by new superintendents to take effect.[30] The estimated coefficients for both enrollment and the number of charter schools are relatively flat in the years leading up to a Broad superintendent hire but trend consistently upward afterwards.[31] In Table 7, we present the key results from static and dynamic DD specifications. The static DD specifications suggest that a Broad hire led to large but statistically insignificant increases in charter enrollment (i.e., nearly 14%) and in the number of charter schools (i.e., nearly 10%). The

TABLE 7

Estimated Effects of Broad Superintendents on Charter Schools and Enrollment

	Log(Charter enrollment)			Log(Total charters)		
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Broad hire	0.138		−0.022	0.095		0.002
	(0.100)		(0.092)	(0.071)		(0.066)
Year of Broad hire		−0.010			0.015	
		(0.092)			(0.060)	
1 year after Broad hire		0.034			0.043	
		(0.094)			(0.066)	
2 years after Broad hire		0.091			0.061	
		(0.102)			(0.075)	
3 years after Broad hire		0.161			0.076	
		(0.103)			(0.077)	
4 or more years after Broad hire		0.234*			0.158*	
		(0.132)			(0.094)	
Years since Broad hire			0.063**			0.037*
			(0.030)			(0.022)

Note. The sample consists of district-year observations from 1998 to 2015. The panel begins in 1998 because this is the earliest year in which the Common Core of Data starts collecting data on charter schools. Note that there are a total of 5,394 observations covering the largest 300 public school districts by enrollment. Six observations are missing because the Memphis City School District and Shelby County School District merged and seceded during the final 3 years. Broad hire is an indicator variable that assumes a value of 1 for the year of Broad superintendent hire and all ensuing years. Years since Broad hire is 0 for the year of Broad hire and up to 4 for four or more years after the Broad hire. All models include district and year fixed effects. Standard errors are clustered at the district level.

*$p < .1$. **$p < .05$. ***$p < .01$.

semi-dynamic specifications in Columns 2 and 5 suggest that these charter measures grew at a fairly constant rate following a Broad appointment, becoming weakly significant by the fourth year and later. The dynamic specifications in Columns 3 and 6 impose the assumption of a distinct linear trend following a Broad hire. These statistically significant results indicate that charter enrollment and the number of charter schools grew, respectively, by about 6% and 4% for each additional year after the Broad hire.[32] Overall, these results provide strongly suggestive evidence that hiring a Broad superintendent led to an expanded charter sector in the largest U.S. school districts.

The scope of superintendent responsibilities extends to discretion over accountability-based interventions such as school closures. We examine whether the hiring of a Broad superintendent induces changes in the likelihood of such closures, and find small and imprecise estimates in Table 8.[33] Event-study results in Figure 2 suggest that the hiring of a Broad superintendent had no clear, sustained effects of the number of traditional public schools that were closed annually. The results from our static and dynamic DD specifications provides further evidence that Broad-trained superintendents are not substantially impacting the likelihood of school closures.[34] However, we do note that our event-study results suggest that, in the fourth year following the hiring of a Broad superintendent, the number of traditional public schools closed jumped by about 14% (i.e., a weakly significant effect). Because such school closures are more likely to be one-time events than a sustained year-to-year change, this finding may reflect the impact of Broad leaders.

Another key dimension of superintendent responsibility involves district budgets. To realize transformative change as sought by venture-philanthropic organizations such as the Broad Foundation, BSA superintendents may seek to modify expenditures in ways that align with their

TABLE 8

Estimated Effects of Broad Superintendents on School Closures

	Log(No. closed)		
Variables	(1)	(2)	(3)
Broad hire	−0.018		−0.012
	(0.026)		(0.043)
Year of Broad hire		−0.046	
		(0.055)	
1 year after Broad hire		−0.015	
		(0.062)	
2 years after Broad hire		0.052	
		(0.074)	
3 years after Broad hire		−0.014	
		(0.060)	
4 or more years after Broad hire		−0.031	
		(0.038)	
Years since Broad hire			−0.002
			(0.014)

Note. The sample consists of district-year observations from 1998 to 2015. There are a total of 5,394 observations covering the largest 300 public school districts by enrollment. Six observations are missing due to Memphis City and Shelby County School Districts merging and seceding. Broad hire is an indicator variable that assumes a value of 1 for the year of Broad superintendent hire and all ensuing years. Years since Broad hire is 0 for the year of Broad hire and up to 4 for four or more years after the Broad hire. All models include district and year fixed effects. Standard errors are clustered at the district level.
*$p < .1$. **$p < .05$. ***$p < .01$.

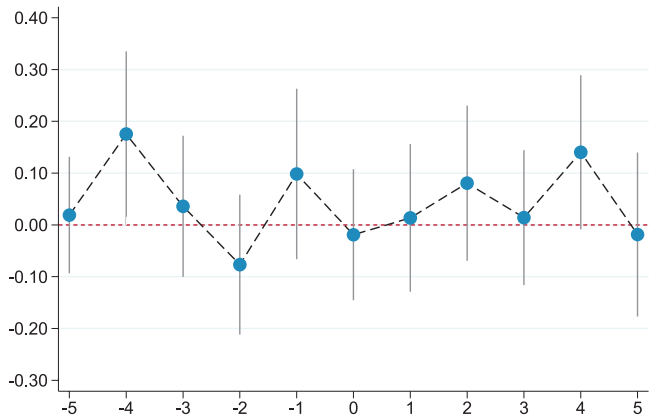

FIGURE 2. *Estimated effects of Broad superintendents on school closures: Log(School closures).*
Note. The figure shows coefficients corresponding to leading and lagged years relative to Broad superintendent hire. The reference category includes six or more years prior to the Broad hire as well as control districts that never hired a Broad superintendent. Note that schools are defined as noncharter public schools.

strategic priorities. To examine this possible effect, we rely on spending data defined both overall and for broad functional areas. Specifically, Figure 3 presents event-study results for four sets of per-pupil spending: overall expenditures, instructional expenditures, expenditures on support services,

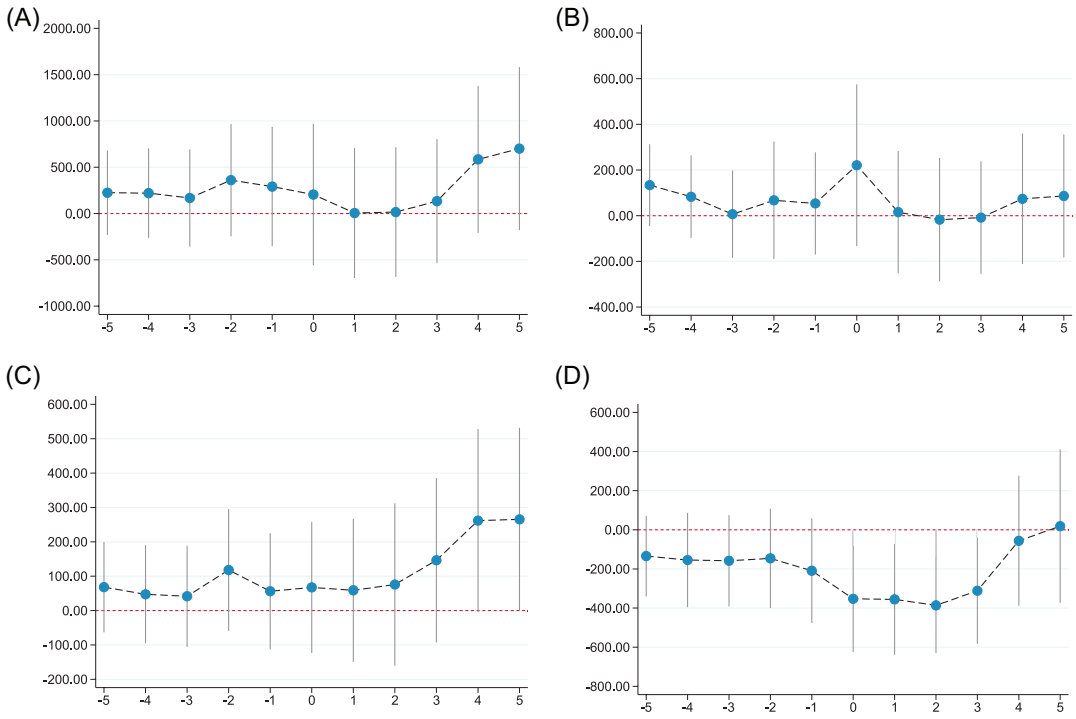

FIGURE 3. *Estimated effects of Broad superintendents on expenditure outcomes: (A) per-pupil expenditures; (B) per-pupil expenditures: instruction; (C) per-pupil expenditures: support services; and (D) per-pupil expenditures: capital outlays.*

Note. The figure shows coefficients corresponding to leading and lagged years relative to Broad superintendent hire. The reference category includes six or more years prior to the Broad hire as well as control districts that never hired a Broad superintendent. Expenditure outcomes are expressed in 2015 constant dollars.

and capital outlays. Panel (A) shows a pace of overall per-pupil expenditure that remains close to the reference period throughout years leading up to and immediately following the Broad hire, but possibly increasing four or more years after the hire. Next, we disaggregate overall expenditures into the three core components. Approximately, half of overall spending goes into current expenditures on instruction, nearly 30% into current expenditures on support services, and a little more than 10% into capital outlays (see Supplementary Table A3 in the online version of the journal). Panel (B) of Figure 3 shows that instructional spending maintains a relatively flat profile both before and after the hiring year. Spending on support services remains steady prior to hire and through at least the first 2 years after the Broad superintendent hire. The event-study results suggest a weakly significant increase in spending on support services by the fourth year and later; however, neither the static nor the dynamic DD results (Table 9) suggest a statistically significant impact on support services. In contrast, the event-study and DD evidence suggest that the hiring of a Broad leader led to a new pattern in capital expenditures. Specifically, we document a significant decrease in the level of per-pupil expenditures on capital outlays of US$262 per student during the year of the Broad hire (Table 9). This decline persists through the first 3 years, and then is followed by a trend toward increased capital spending. Therefore, the delay and subsequent recovery of capital outlays could reflect the desire of new leadership to redirect, though not ultimately reduce, investments in the district's infrastructure. The data available do not allow for detailed analysis of resource allocation but do suggest only weak overall changes in large spending categories.

TABLE 9

Estimated Effects of Broad Superintendents on Expenditure Outcomes

	Per-pupil expenditures: total current			Per-pupil expenditures: instruction		
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Broad hire	132.605		−167.278	21.648		68.766
	(267.550)		(285.263)	(94.052)		(118.729)
Year of Broad hire		63.255			183.069	
		(293.274)			(147.621)	
1 year after Broad hire		−137.953			−22.830	
		(270.055)			(103.649)	
2 years after Broad hire		−128.882			−56.040	
		(276.880)			(108.279)	
3 years after Broad hire		−12.016			−47.198	
		(264.693)			(94.214)	
4 or more years after Broad hire		412.147			25.676	
		(342.526)			(114.194)	
Years since Broad hire			122.270			−19.211
			(81.396)			(32.641)
	Per-pupil expenditures: support services			Per-pupil expenditures: capital outlays		
	(7)	(8)	(9)	(10)	(11)	(12)
Broad hire	82.009		9.615	−115.196		−369.769***
	(85.354)		(80.935)	(93.360)		(124.065)
Year of Broad hire		32.404			−262.414**	
		(69.294)			(113.156)	
1 year after Broad hire		23.579			−264.398**	
		(81.487)			(123.811)	
2 years after Broad hire		40.565			−294.243***	
		(96.421)			(109.857)	
3 years after Broad hire		111.551			−218.191*	
		(99.059)			(123.108)	
4 or more years after Broad hire		130.568			103.662	
		(110.954)			(129.901)	
Years since Broad hire			29.517			103.796**
			(25.567)			(40.283)

Note. The sample consists of district-year observations from 1997 to 2014. We restrict to these years due to availability of F-33 data. There are a total of 5,395 observations covering the largest 300 public school districts by enrollment. Missing observations are due to Memphis City and Shelby County School Districts merging and seceding. Broad hire is an indicator variable that assumes a value of 1 for the year of Broad superintendent hire and all ensuing years. Years since Broad hire is 0 for the year of Broad hire and up to 4 for four or more years after the Broad hire. All models include district and year fixed effects. Standard errors are clustered at the district level.

*$p < .1$. **$p < .05$. ***$p < .01$.

Next, we turn to student outcomes, with the set of available measures limited by the geographic and temporal scope of the study. We rely primarily on districts' student completion rates. Figure 4 examines secondary schooling completion rates, using the ratio of 12th-grade enrollment to both 8th-grade and 10th-grade enrollment as proxies for high school graduation. In both

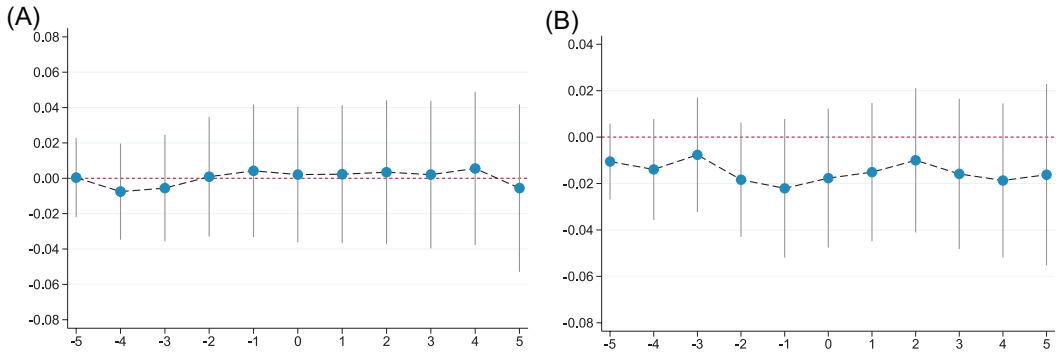

FIGURE 4. *Estimated effects of Broad superintendents on completion outcomes: (A) 12th- to 8th-grade enrollment and (B) 12th-to 10th-grade enrollment.*
Note. The figure shows coefficients corresponding to leading and lagged years relative to Broad superintendent hire. The reference category includes six or more years prior to the Broad hire as well as control districts that never hired a Broad superintendent.

cases, we see no evidence of either a pre-trend or a post-trend following a Broad superintendent hire. High school completion rose steadily across the nation during this period, with the public high school average freshmen graduation rate increasing from 73.9 in 2002–2003 to 81.9 in 2012–2013 (Snyder, 2016). Analogous estimates using U.S. Census, American Community Survey, and GED Testing Service data estimate adjusted status completion rates increased by more than six percentage points within a 10-year period spanning the 1990s and 2000s (Murnane, 2013). However, both our event-study and DD designs suggest that the hiring of Broad superintendents did not contribute differentially to these increases. According to both Figure 4 and Table 10, completion rates do not show observable discontinuities or trend breaks around the time of hire. We supplement these findings on attainment with analyses of student achievement effects using district-grade-year test scores from the SEDA. The shortened panel (2008–2009 through 2015–2016 school years) limits us to examine only up to two or more years after the Broad hire in our dynamic DD specifications. Supplementary Table A7 (online version of the journal) shows no evidence of differences in math or reading scores following a Broad superintendent hire. The point estimates are negative and not significantly different from zero.

Another variable that might reflect the effectiveness of the district leader is district enrollment, a measure of students' and families' revealed preferences for the district. The event-study results in Figure 5 suggest that the enrollment in Broad districts was in moderate decline prior to the Broad hire and that the hiring of a Broad leader did little to change this trend. However, disaggregating enrollment by student race/ethnicity reveals a more nuanced view. In particular, the declining enrollment in Broad districts is more modest, in percent terms, for White and Hispanic students and larger for Black students. These overall trends imply that the *share* of White and Hispanic students grew in Broad-hiring districts while the share of Black students fell.[35] Regardless, these results suggest that the hiring of a Broad superintendent did not strongly affect enrollment or racial-ethnic composition. As a complement to these enrollment results, we also examined the impact of Broad leadership on the extent of racial segregation in the district. We compute the Theil Index as an entropy-based measure of how diverse individual schools are relative to the diversity of the school district as a whole on a 0 to 1 scale, with 1 denoting complete segregation by racial group. Supplementary Table A9 (online version of the journal) shows no evidence that the hiring of Broad leadership significantly affected the extent of segregation in our observed school districts. Overall, our results indicate no substantial effect of BSA superintendents on student enrollment.

Finally, while we see few effects on spending or outcomes, these results could result from the short tenures of many Broad superintendents. Those who were able to stay longer

TABLE 10

Estimated Effects of Broad Superintendents on High School Completion Outcomes

	Ratio: Grade 12 to 8 enrollment			Ratio: Grade 12 to 10 enrollment		
Variables	(1)	(2)	(3)	(4)	(5)	(6)
Broad hire	0.008		−0.000	−0.005		−0.010
	(0.016)		(0.015)	(0.013)		(0.012)
Year of Broad hire		0.003			−0.011	
		(0.014)			(0.012)	
1 year after Broad hire		0.003			−0.008	
		(0.015)			(0.012)	
2 years after Broad hire		0.004			−0.002	
		(0.016)			(0.013)	
3 years after Broad hire		0.002			−0.008	
		(0.017)			(0.014)	
4 or more years after Broad hire		0.014			−0.002	
		(0.021)			(0.018)	
Years since Broad hire			0.003			0.002
			(0.005)			(0.005)

Note. The sample consists of district-year observations from 1996 to 2015. It covers the largest 300 public school districts by enrollment. There are 5,543 observations in the first three columns and 5,623 observations in the final three columns. We observe fewer than 6,000 observations due to missing data from 23 districts for the Grade 12 to 8 enrollment outcome and missing data from 19 districts for the Grade 12 to 10 enrollment outcome. Broad hire is an indicator variable that assumes a value of 1 for the year of Broad superintendent hire and all ensuing years. Years since Broad hire is 0 for the year of Broad hire and up to 4 for four or more years after the Broad hire. All models include district and year fixed effects. Standard errors are clustered at the district level.

*$p < .1$. **$p < .05$. ***$p < .01$.

in their positions could have been more or less impactful. To assess this possibility, we separately define Broad hires who stayed for less than the median tenure of 3.78 years and those who stayed for at least as long as the median. The evidence in Supplementary Appendix Tables A10 through A13 (online version of the journal) suggest that, in fact, our results are driven by BSA-trained superintendents who turn over more quickly, not the ones who stayed longer. For example, those with *shorter* tenures led districts that saw a particularly rapid increase in the size of the local charter sector. We see no evidence of district process or outcome changes for Broad superintendents with longer tenures. While we do not observe school board composition or boards' relationships with their superintendent, this evidence is compatible with the increased political conflict that can accompany accelerated change and that could also lead to superintendent turnover.

Conclusion

The recent and growing influence of venture philanthropy in civil society has understandably attracted considerable, and often critical, attention. The case in favor of venture-philanthropic initiatives turns on their unique capacity both to encourage risky innovations and to drive meaningful improvements in the performance of the organizations in which such efforts are embedded (e.g., Letts et al., 1997). However, their influence also raises legitimate questions about both transparency and the character of accountability in philanthropy (e.g., Fleishman, 2007; Reich, 2018). These governance concerns are uniquely salient when venture philanthropies engage with democratically governed entities like U.S. school districts. In this study, we have sought to bring new empirical evidence to this debate by examining the reach, character, and impact of a particularly prominent and controversial venture-philanthropic initiative: the BSA.

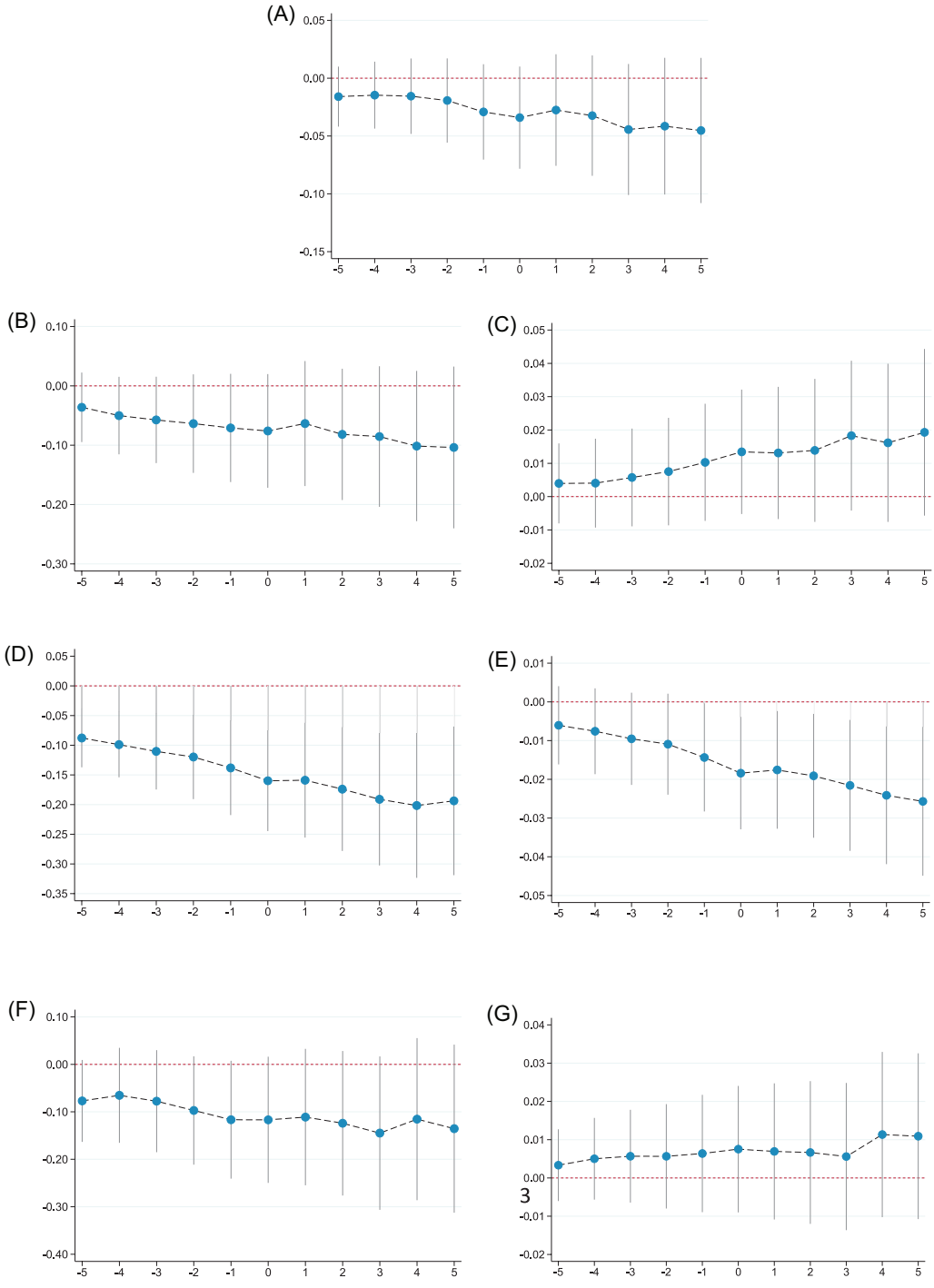

FIGURE 5. *Estimated effects of Broad superintendents on enrollment outcomes: (A) Log(enrollment); (B) Log(White enrollment); (C) % White students; (D) Log(Black enrollment); (E) % Black students; (F) Log(Hispanic enrollment); and (G) % Hispanic students.*

Note. The figure shows coefficients corresponding to leading and lagged years relative to Broad superintendent hire. The reference category includes six or more years prior to the Broad hire as well as control districts that never hired a Broad superintendent.

The BSA has sought to source, develop, place, and support innovative and reform-minded new leaders at the head of the largest U.S. school districts. We find that, though only 42% of the participants in the superintendent training program worked as a superintendent during our 20-year study window, the reach of the program was still considerable. BSA-trained superintendents have, at some point, led roughly one fifth of the largest 300 school districts in the United States (and one third of the largest 100 districts). At the peak of the program's reach in 2012, Broad superintendents led school districts serving nearly 3 million students (and one out of every five students in the largest 100 districts).

We find that the observed characteristics of Broad-trained leaders are distinctive. Unlike non-BSA superintendents, Broad trainees are commonly viewed as having managerial experience outside of traditional public schools. Our evidence is consistent with this characterization. For example, we show that 19% of participants in the superintendent training program have spent extensive time in the military. However, at least half of participants have previous teaching experience, even though BSA organizers often target skilled executives outside of public education (Samuels, 2011). Our evidence also indicates that Broad superintendents contributed substantially to the diversity of district leadership. Among large districts hiring Broad superintendents, Broad trainees were 27% less likely to be White than their non-Broad peers. However, we also find that, on average, Broad superintendents serve a comparatively short 3.8 years in a given district.

Using a unique panel data set on the 300 largest school districts, we examined the impact of Broad superintendents on a broad array of district outcomes. Our results indicate that the hiring of a Broad superintendent had no clear effects on outcomes such as student completion rates, enrollment, the closure of traditional public schools, and per-pupil spending on instruction or on support services. However, one exception to this pattern is particularly notable. We do find evidence that the hiring of a Broad superintendent results in a growing charter school sector. Specifically, we find that the hiring of Broad superintendents is associated with a trend toward increased charter school enrollment and a growth in the number of charter schools that extends beyond the short tenure of the typical Broad trainee.

We view the overall implications of these findings as nuanced. On the one hand, this Broad Foundation initiative was successful in placing new leaders with distinctive characteristics and training in a substantial number of U.S. school districts. Yet, we also find that these leaders had unusually short tenures and no clear effects on a variety of district outcomes. Given the shorter tenure of Broad superintendents and the complex nature of the large school districts they typically lead, their apparent lack of impact is not necessarily surprising. It accords with a long-standing theme in leadership research which argues that high-quality leaders have less scope to be effective in highly institutionalized and rule-bound organizations.

We should also express some caveats about our general findings. While we follow standard quasi-experimental methods to infer the effects of Broad superintendents, the scope of our approach is limited by available data. In particular, our understanding would be enriched with more information on the content of the hiring decision and how it relates to factors such as school board dynamics, district fiscal health, and community engagement. A complementary qualitative analysis would be fruitful. We also cannot rule out the hypothesis that the Broad-trained leaders are shaping public education in other meaningful ways. For example, our finding that Broad superintendents appear to catalyze a longer-term trend toward charter schools suggests they may have other longer-term (and not easily detectable) effects. Furthermore, the development of these new leaders and support of their subsequent advocacy may exert an ongoing influence on both federal and state education-policy agendas that is outside the scope of our study. Regardless, the apparent lack of direct, organizational impact implied by these venture-philanthropic leaders suggests future efforts to improve the performance of U.S. school districts should focus not only on leaders but also on how district governance and institutional design either amplifies or attenuates efforts at organizational improvement.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Thomas S. Dee https://orcid.org/0000-0001-7524-768X

Notes

1. The Broad Foundation also supports a 2-year training program, the Broad Residency in Public Education, for high-level central office staff below the superintendent. Because our focus is on district superintendents, we do not report data on this program and its participants. We also note that the Broad-sponsored leadership training is currently transitioning to the Yale School of Management, which received a US$100 million gift from the Broad Foundation (Murdock, 2019).

2. An internal Broad memo from 2012 that was made public through the Open Public Records Act (Strauss, 2012) describes the four components of their reform priorities as school choice, educator effectiveness, innovative learning models, and accountability.

3. In contrast, the literature on *school*-level leadership suggests that there is substantial variation in principal quality and practices that contribute to meaningful differences in student test scores and school outcomes (Bloom et al., 2015; Branch et al., 2012; Grissom & Loeb, 2011).

4. See Lazear (2012) and House and Aditya (1997) for reviews and discussions of leadership research.

5. For example, in a book featured in the Broad Superintendents Academy (BSA) curriculum, O'Toole (1996) argues for a leadership style grounded in articulating a shared, values-based vision of the future that motivates staff while recognizing their independence (i.e., in opposition to a more autocratic and singular leadership). Collins (2006) similarly argues that effective public-sector leaders combine both humility and will with an emphasis on identifying collaborative staff. Goldsmith and Kleiman (2017) also advocate for a form of motivational public-sector leadership that cultivates collaborative, distributed governance among staff and agencies instead of centralized, top-down authority.

6. A long-standing literature has underscored the distributed nature of school systems, characterizing them as "loosely coupled and weakly controlled" (Gamoran & Dreeben, 1986). However, over the last two decades, the movement toward more prescriptive standards-based education policy that seeks to shape classroom practice may have encouraged tighter organizational coupling (e.g., Spillane et al., 2011).

7. Efforts to find leaders from nontraditional talent pools are not limited to the superintendency. For instance, New Leaders locates potential urban school principals from sectors outside of K–12 education in addition to more traditional sources, and many Teach for America Corps members lack traditional certification when beginning their tenures as teachers. Notably, both of these nonprofit organizations are grantees of the Broad Foundation.

8. The foundation also has grantmaking priorities in the arts and sciences (e.g., art museums and genomics research; The Broad Foundation, 2016).

9. Both the BSA and The Broad Residency in Urban Education are funded by the Broad Foundation but managed by the Broad Center. The 2-year Broad Residency program began in 2003 and places primarily private-sector talent with master's degrees and several years of work experience into central office functions such as operations, finance, and human resources. While we focus on the BSA program to study the highest echelons of district leadership, we also examined the characteristics and reach of the Broad Residency Program. These results are available upon request.

10. Collins (2006) similarly argues that effective public-sector leaders combine both humility and will with an emphasis on identifying collaborative staff. Goldsmith and Kleiman (2017) also advocate for a form of motivational public-sector leadership that cultivates collaborative, distributed governance among staff and agencies instead of centralized, top-down authority.

11. In the 10 years between 2000 and 2010, Reckhow and Snyder (2014) show that the largest educational foundations shifted funding away from traditional institutions (i.e., public schools, state departments of education, and universities) toward so-called "jurisdictional challengers" (i.e., Teach for America, New Leaders for New Schools, and KIPP charters). Specifically, 39% of funding went to traditional institutions in 2000, compared with 16% in 2010. The share going to jurisdictional challengers increased sharply from 4% in 2000 to 34% in 2010.

12. The fact that several major philanthropies have recently opened 501(c)(4) policy lobbying operations (e.g., Gangitano, 2019) is another leading indicator of this phenomenon (Reckhow, 2016).

13. While we prioritize the term "venture philanthropy," we also acknowledge that scholars also refer to this form of giving alternatively as "outcome-oriented philanthropy," "results-oriented giving,"

or "high-engagement philanthropy," among others (Reckhow, 2012; Scott, 2009).

14. In cases where birth year is not available, we approximate age using the year of undergraduate degree under the assumption that the individual is 22 years during graduation. Age is the only variable for which we have a substantive share of missing data (19%). In contrast, we have no missing data for the length of superintendent tenure or participants' professional experiences in the military. We also have a very small share of missing data on teaching experience amounting to approximately 1% of BSA participants who ever worked as a superintendent.

15. The Broad Center relied on confidential race and ethnicity information to verify our coding, but did not share any private individual data. We have no missing data across these demographic variables.

16. This construction precedes and spans our collection of data on Broad trainees. Throughout this article, a specified year refers to the fall of the school year unless otherwise noted. For example, 2015 refers to the 2015–2016 school year.

17. The Common Core of Data begins collecting charter school information in 1998, so we expect to have 600 fewer district-year observations relative to the other set of enrollment outcomes that begin in 1996.

18. Because a superintendent may influence the prevalence of charter schools authorized by others in their area (e.g., through political opposition), we view this as our preferred measure. However, we found broadly similar, though less precise, results if we limit to charter schools authorized by the public school district.

19. We express all expenditures on a per-pupil basis and in constant 2015 dollars. We also expect 600 fewer district-year observations relative to the first set of enrollment outcomes because we do not have F-33 data for 1996 or 2015.

20. While enrollment numbers can also reflect conditions such as the changing age compositions of the local population, we do not expect such factors to influence the take-up of BSA leadership.

21. To ensure that test scores are comparable across states utilizing different standardized assessments, the data are placed on a common scale using state-level estimates from the National Assessment of Educational Progress.

22. See Supplementary Table A1 (online version of the journal) for participants by cohort. Our list matches the number of BSA alumni listed on the Broad Center website every year in 2002–2015 except for 2004 and 2007–2011, when our cohort sizes modestly exceed what is officially reported. These differences reflect BSA trainees who did not complete the program. We code the small number of noncompleters as Broad trainees though our findings are robust to not doing so.

23. Completed tenures refer to superintendencies that are no longer in process. This measure excludes current ongoing tenures.

24. The Broad Center measure includes all Broad-trained superintendents in the largest 100 school districts between 2003 and 2017 while our statistic of 3.8 years includes all districts led by BSA participants regardless of enrollment size. The Broad Center (2018) shows that Broad-trained superintendents tend to remain on the job for significantly fewer years than their peers. The average completed tenure for non-Broad superintendents during 2003–2017 was 6.2 years in the largest 100 districts. This figure is consistent with other studies documenting average superintendent tenure as between 6 and 7 years (Natkin et al., 2003). As we discuss below, the difference in completed superintendent tenure is less stark, but still evident, when we compare Broad superintendents to other superintendents hired by the same districts.

25. As shown in Table 1, 84 unique Broad-trained individuals worked as superintendents in 109 school districts. The full list of the 62 largest 300 districts that ever hired a Broad-trained superintendent is available in Supplementary Appendix Table A2 (online version of the journal) with accompanying size rank and enrollment figures.

26. We examined mayoral control as a potential mediator of Broad hiring by compiling a list of 16 districts under mayoral control during our study window based on Wong and Shen (2013) and media reports. Overall, we do not find strong evidence that this form of governance predicts the hiring of Broad-trained superintendents. Five of the districts in this sample hired a Broad trainee while under mayoral control. Among the three districts that switched to mayoral control during this window, none hired Broad-trained superintendents.

27. In districts hiring two Broad superintendents, the treatment variable assumes a value of 1 starting from the year of initial hire. Among the 109 districts that hired a BSA-trained superintendent, only 12 did so more than once during our study window.

28. In the case of multiple Broad hires within the same district, we center the data at the first time the district hired a Broad-trained superintendent. In several cases, a district hired a superintendent who began BSA training during their tenure. For these districts, we code the event as beginning the year of BSA training. Note that we interpret treatment effects as a bundling of Broad superintendent characteristics and the training they receive.

29. Student achievement records from the Stanford Education Data Archive are only available for 8 years.

30. As Table 6 shows, the average completed tenure for Broad district superintendents is over 4 years.

31. Using the joint F-test, we cannot reject that all pre-period coefficients are equal to 0.

32. In our panel data set, the mean charter enrollment is 2,756, and districts have an average of 7.5 charter schools (see Supplementary Table A3 in the online version of the journal).

33. For highly skewed outcome variables like counts of charter schools and school closures, we use the natural log transformation as our dependent variable. In cases where the count is 0, we rely on an imputation of 0.5 and also condition on an indicator for this imputation. Our results are robust to the use of inverse hyperbolic sine transformations for zero-valued observations (see Supplementary Tables A4 and A5 in the online version of the journal).

34. A similar analysis of school openings provides no evidence of differential patterns around when Broad-trained superintendents assume leadership of school districts (see Supplementary Table A6 in the online version of the journal).

35. Supplementary Appendix Table A8 (online version of the journal) shows that at $t = 0$, the share of enrolled Black students declined by 1.8 percentage points relative to base observations. These trends persist during the 5 years post Broad hire, such that the Black student population and share of overall enrollment decrease by 19.4% and 2.6 percentage points relative to the reference district-year observations.

References

Anheier, H. K. & Toepler, S. (Eds.). (2010). *International encyclopedia of civil society*. Springer.

Björk, L. G., Kowalski, T. J., & Browne-Ferrigno, T. (2014). *The school district superintendent in the United States of America*. Educational Leadership Faculty Publications.

Bloom, N., Eifert, B., Mahajan, A., McKenzie, D., & Roberts, J. (2013). Does management matter? Evidence from India. *The Quarterly Journal of Economics*, *128*(1), 1–51.

Bloom, N., Lemos, R., Sadun, R., & Reenen, J. V. (2015). Does management matter in schools? *The Economic Journal*, *125*(584), 647–674.

Bloom, N., Sadun, R., & Van Reenen, J. (2016). *Management as a technology?* (Working paper 22327). National Bureau of Economic Research.

Bloom, N., & Van Reenen, J. (2010). Why do management practices differ across firms and countries? *Journal of Economic Perspectives*, *24*(1), 203–224.

Blume, H. (2015, September 21). Backers want half of LAUSD students in charter schools in eight years, report says. *Los Angeles Times*. https://www.latimes.com/local/lanow/la-me-ln-broad-draft-charter-expansion-plan-20150921-story.html

Branch, G. F., Hanushek, E. A., & Rivkin, S. G. (2012). *Estimating the effect of leaders on public sector productivity: The case of school principals* (Working paper 17803). National Bureau of Economic Research.

Broad, E. (2001). Preparing leaders for the new economy. *School Administrator*, *58*(3), 46–49.

Broad, E. (2008, February 5). Charters' competitive edge. *Los Angeles Times*. https://www.latimes.com

The Broad Center. (2018). *Hire expectations: Big-district superintendents stay in their jobs longer than we think*.

The Broad Foundation. (2016). *The Broad Foundation report 2015-16*.

Carroll, K., Wright, K., & Meier, K. J. (2019). Minority public administrators: Managing organizational demands while acting as an advocate. *The American Review of Public Administration*, *49*(7), 810–824.

Carter, S. P., Dudley, W., Lyle, D. S., & Smith, J. Z. (2019). Who's the Boss? The effect of strong leadership on employee turnover. *Journal of Economic Behavior & Organization*, *159*, 323–343.

Chingos, M. M., Whitehurst, G. J., & Lindquist, K. M. (2014, September 3). *School superintendents: Vital or irrelevant*. Brown Center on Education Policy at Brookings.

Chu, D. (2021). *Was Eli Broad right to try to improve urban districts or should he have focused solely on charter schools?* Thomas B. Fordham Institute.

Collins, J. C. (2006). *Good to great and the social sectors: A monograph to accompany good to great*. Random House.

Cuban, L. (1976). *Urban school chiefs under fire*. University of Chicago Press.

de Chaisemartin, C., & D'Haultfœuille, X. (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review*, *110*(9), 2964–2996.

Dee, T. S. (2005). A teacher like me: Does race, ethnicity, or gender matter? *The American Economic Review*, *95*(2), 158–165.

Ehrenberg, R. G., Chaykowski, R. P., & Ehrenberg, R. A. (1988). Determinants of the compensation and mobility of school superintendents. *Industrial and Labor Relations Review*, *41*(3), 386–401.

Finnan, L. A., Mccord, R. S., Stream, C. C., Mattocks, T. C., Petersen, G. J., & Ellerson, N. M. (2015). *Study of the American superintendent: 2015 mid-decade update*. American Association of School Administrators.

Fleishman, J. L. (2007). *The foundation: A Great American secret; how private wealth is changing the world*. Public Affairs.

Gamoran, A., & Dreeben, R. (1986). Coupling and control in educational organizations. *Administrative Science Quarterly*, *31*(4), 612–632.

Gangitano, A. (2019, June 13). Bill and Melinda Gates launch lobbying shop. *The Hill*.

Goldsmith, S., & Kleiman, N. (2017). *A new city O/S: The power of open, collaborative, and distributed governance*. Brookings Institution Press.

Grissom, J. A., & Andersen, S. (2012). Why superintendents turn over. *American Educational Research Journal*, *49*(6), 1146–1180.

Grissom, J. A., & Loeb, S. (2011). Triangulating principal effectiveness: How perspectives of parents, teachers, and assistant principals identify the central importance of managerial skills. *American Educational Research Journal*, *48*(5), 1091–1123.

Grissom, J. A., & Mitani, H. (2016). Salary, performance, and superintendent turnover. *Educational Administration Quarterly*, *52*(3), 351–391.

House, R. J., & Aditya, R. N. (1997). The social scientific study of leadership: Quo Vadis? *Journal of Management*, *23*(3), 409–473.

Kennedy, K. (2017). Hidden schooling: Repeated grades and the returns to education and experience. *SSRN Electronic Journal*. https://ssrn.com/abstract=3117180

Kowalski, T. J., McCord, R. S., Peterson, G. J., Young, P. I., & Ellerson, N. M. (2011). *The American school superintendent: 2010 decennial study*. R&L Education.

Lazear, E. P. (2012). Leadership: A personnel economics approach. *Labour Economics*, *19*(1), 92–101.

Letts, C. W., Ryan, W. P., & Grossman, A. S. (1997, March–April). Venture capital: Virtuous capital: What foundations can learn from venture capitalists. *Harvard Business Review*. https://hbr.org/1997/03/virtuous-capital-what-foundations-can-learn-from-venture-capitalists

McCormack, J., Propper, C., & Smith, S. (2014). Herding cats? Management and university performance. *The Economic Journal*, *124*(578), F534–F564.

Meier, K. J., & O'Toole, L. J. (2002). Public management and organizational performance: The effect of managerial quality. *Journal of Policy Analysis and Management*, *21*(4), 629–643.

Mischel, W. (1973). Toward a cognitive social learning reconceptualization of personality. *Psychological Review*, *80*(4), 252–283.

Murdock, Z. (2019, December 6). With $100 million gift, Yale to offer tuition-free master's degree program for public education leaders. *Hartford Courant*.

Murnane, R. J. (2013). U.S. High school graduation rates: Patterns and explanations. *Journal of Economic Literature*, *51*(2), 370–422.

Natkin, G. L., Cooper, B. S., Alborano, J. A., Padilla, A., & Ghosh, S. K. (2003). Predicting and modeling superintendent turnover. *Journal of School Leadership*, *13*(3), 328–346.

O'Toole, J. (1996). *Leading change: The argument for values-based leadership*. Ballantine Books.

Pitts, D. W. (2007). Representative bureaucracy, ethnicity, and public schools: Examining the link between representation and performance. *Administration & Society*, *39*(4), 497–526.

Prothero, A., & Vara-Orta, F. (2017, October 13). As Eli Broad steps down, will his influence on K-12 education last? *Education Week*.

Quinn, R., Tompkins-Stange, M., & Meyerson, D. (2014). Beyond grantmaking: Philanthropic foundations as agents of change and institutional entrepreneurs. *Nonprofit and Voluntary Sector Quarterly*, *43*(6), 950–968.

Rasul, I., & Rogger, D. (2016). Management of bureaucrats and public service delivery: Evidence from the Nigerian Civil Service. *The Economic Journal*, *128*(608), 1–34.

Reckhow, S. (2012). *Follow the money: How foundation dollars change public school politics*. Oxford University Press.

Reckhow, S. (2016). More than patrons: How foundations fuel policy change and backlash. *Political Science & Politics*, *49*(3), 449–454.

Reckhow, S., & Snyder, J. W. (2014). The expanding role of philanthropy in education politics. *Educational Researcher*, *43*(4), 186–195.

Reckhow, S., & Tompkins-Stange, M. (2015, February 5). "Singing from the same hymnbook": Education policy advocacy at gates and Broad. In E. Hess & J. Henig (Eds.), *The new education philanthropy: Politics, policy, and reform* (pp. 55–78). Harvard Education Press.

Reich, R. (2018). *Just giving: Why philanthropy is failing democracy and how it can do better*. Princeton University Press.

Samuels, C. A. (2011, June 7). Critics target growing army of Broad leaders. *Education Week*.

Scott, J. (2009). The politics of venture philanthropy in charter school policy and advocacy. *Educational Policy*, *23*(1), 106–136.

Snyder, T. (2016). *Digest of education statistics, 2015* (pp. 1–1042). Institute of Education Sciences.

Spillane, J. P., Parise, L. M., & Sherer, J. Z. (2011). Organizational routines as coupling mechanisms: Policy, school administration, and the technical core. *American Educational Research Journal*, *48*(3), 586–619.

Strauss, V. (2012, August 21). Broad memo outlines plans to expand influence. *The Washington Post*. https://www.washingtonpost.com

Thümler, E. (2011). Foundations, schools and the state. *Public Management Review*, *13*(8), 1095–1116.

Tompkins-Stange, M. E. (2016). *Educational Innovations Series: Policy patrons: Philanthropy, education reform, and the politics of influence*. Harvard Education Press.

Uberti, D. (2015, November 4). A billionaire, a fired publisher, and a spectacle at the LA Times. *Columbia Journalism Review*. https://www.cjr.org

Williams, I., & Loeb, S. (2012). *Race and the principal pipeline: The prevalence of minority principals in light of a largely white teacher workforce*. Stanford Center for Education Policy Analysis.

Wong, K. K., & Shen, F. X. (2013). *Mayoral governance and student achievement: How Mayor-Led districts are improving school and student performance*. Center for American Progress.

Authors

THOMAS S. DEE is the Barnett Family Professor at Stanford University's Graduate School of Education and a senior fellow at the Stanford Institute for Economic Policy Research. His research focuses largely on the use of quantitative methods to inform contemporary issues of policy and practice in the fields of education and health.

SUSANNA LOEB is the director of the Annenberg Institute and professor of education and international and public affairs at Brown University. Her research focuses on education policy broadly including school finance and governance and educator recruitment, development, and retention.

YING SHI is an assistant professor in the public administration and international affairs department at Syracuse University. Her work in the economics of education primarily focuses on racial inequality, as well as the role of school boards and district leadership.

Manuscript received October 13, 2020
First revision received October 30, 2021
Second revision received May 27, 2022
Accepted June 15, 2022