American Educational Research Journal
Month XXXX, Vol. XX, No. X, pp. 1–45
DOI: 10.3102/00028312211001810
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Coming Soon to a Neighborhood Near You? Off-Campus Recruiting by Public Research Universities

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Scholarship on college choice largely focuses on how students search for colleges but less is known about how colleges recruit students. This article analyzes off-campus recruiting visits for 15 public research universities. We Web-scrape university admissions websites and issue public records requests to collect data on recruiting visits. Analyses explore the similarities and differences in off-campus recruiting patterns across universities in the study. Results reveal socioeconomic, racial, and geographic disparities in recruiting patterns. In particular, most universities made more out-of-state than in-state visits, and out-of-state visits systematically targeted affluent, predominantly White localities. We recommend that future research should exploit new data collection methodologies to develop a systematic literature on marketing and recruiting practices in higher education.

Keywords: admissions, case studies, colleges, descriptive analysis, diversity, educational policy, higher education, organization theory/change

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College access is an outcome that depends on interactions between students looking for colleges and colleges looking for students. How do students and colleges find one another? Most scholarship analyzes the process by which students search for colleges. A massive "college choice" literature highlights many factors that influence students' decisions about where to apply and where to enroll, including financial costs (Avery & Kane, 2004), sociocultural predispositions (Hossler & Gallagher, 1987; McDonough, 1997), information asymmetries (Hoxby & Avery, 2013), and proximity to home (Hillman, 2016; Turley, 2009). By focusing on the characteristics and behaviors of students, families, and K–12 schools (the "demand side" of higher education), the college choice literature largely views colleges and universities (the "supply side") as passive recipients of students.

However, analyses of organizational behavior show that colleges and universities are very purposeful about which prospective students they search for. A literature within the economics of education analyzes enrollment management behavior, with a particular focus on selective private institutions (Clotfelter, 1996, 2017; Winston, 1999; Zimmerman, 2003). This literature highlights financial aid as a lever to influence student decisions but ignores marketing and recruiting interventions that target prospective students at earlier stages in the college choice process. A case study literature in sociology analyzes the full range of enrollment management behaviors (Cottom, 2017; Posecznick, 2017; Stevens, 2007) but does not systematically document which prospects are being targeted by which marketing and recruiting interventions from which postsecondary institutions.

Developing such a literature is an important task for organizational analyses of college access. Postsecondary institutions expend considerable resources on marketing and recruiting, just as they do on admissions and financial aid (Clinedinst et al., 2015). These behaviors affect student access and reveal insights about the processes by which colleges and universities "also choose students through strategic enrollment management practices" (Rhoades, 2014, p. 920). However, marketing and recruiting are understudied relative to scholarship on admissions and financial aid in part because data on marketing and recruiting behavior are often difficult to collect.

This study takes an initial step toward a systematic literature on recruiting by investigating off-campus recruiting visits of public research universities. Off-campus recruiting visits are one of the most widely used enrollment management practices to identify prospective students (Ruffalo, 2018). Admissions representatives travel across the country to host hotel receptions, attend college fairs, and visit high schools in efforts to generate student interest. Recruiting is not only a costly enrollment management practice but also one of the most efficient in soliciting admissions applications and persuading students to enroll (Ruffalo, 2018). University admissions websites often post off-campus recruiting schedules advertised as colleges and universities "coming soon to a neighborhood near you." We utilized Web-scraping and public records requests to

track off-campus recruiting visits for the 15 public research universities analyzed in the study.

We draw on academic capitalism (Slaughter & Leslie, 1997; Slaughter & Rhoades, 2004) to ground recruiting visits as part of the marketization of public research universities and explore whether recruiting efforts "serve more privileged segments of the student market" (Slaughter & Rhoades, 2004, p. 292). Given that more privileged segments of the student market tend to be made up of affluent and predominately White students, we analyze the socioeconomic and racial characteristics of schools and neighborhoods that receive a recruiting visit in comparison with those that do not. Additionally, we investigate broader similarities and differences in off-campus recruiting patterns across the 15 universities in the study.

The study's findings suggest that universities focus their efforts on recruiting out-of-state, affluent, White students. These findings exemplify what Slaughter and Rhoades (2004) characterize as public universities moving away from broadening access for underserved student populations and toward devoting more enrollment management energies on serving already privileged students. The study contributes to the discussion of how universities also choose students and lays the foundation for new scholarship that investigates how colleges search for and recruit prospective students.

Scholarship on Supply-Side Enrollment Behavior

We position analyses of off-campus recruiting vis-à-vis scholarship from economics and sociology that describe behaviors of postsecondary institutions designed to exert control over enrollment. Within the economics of education, a supply-side literature theorizes the goals of (selective) colleges and universities, the contribution of student characteristics to these goals, and how universities attract students with desired characteristics (e.g., Brewer et al., 2002; Clotfelter, 1996, 2017; Doyle, 2010; Epple et al., 2003; Epple et al., 2006; McPherson & Schapiro, 1998; Winston, 1999, 2004). The most influential account of organizational goals is Bowen's (1980) "revenue theory of costs," which states that universities generate as much money as they can and expend all the money they make on the pursuit of "educational excellence" or prestige.[1]

Winston (1999) develops insight about the mechanisms linking student characteristics to the revenue theory of costs. He describes higher education as an industry that relies on a "customer-input technology" (Rothschild & White, 1995) in that student "quality" is an essential input to the pursuit of educational excellence by colleges. For example, SAT and ACT scores are a determinant of rankings and, because students educate one another, "the quality of the education any student gets from college depends . . . on the quality of that student's peers" (Winston, 1999, p. 17).[2] Amid this customer-input technology, the "student-as-customer" pays a price for education and the "student-as-supplier" is awarded a "subsidy" for contributions to

educational excellence. Subsidy is defined as the difference between university expenditure on the student and the net price paid by the student. Universities that offer students a greater subsidy are more successful in the competition for "high-quality" students. Therefore, universities have an incentive to make as much money as they can in order to attract the "best students" and, by consequence, move up the prestige hierarchy.[3]

This notion of subsidy as a means of attracting desired students helped motivate scholarship on "financial aid leveraging," which found that universities can strategically allocate institutional aid offers in order to influence application and enrollment decisions (e.g., DesJardins et al., 2006; Ehrenberg & Sherman, 1984; Epple et al., 2006; Hurwitz, 2012; Van der Klaauw, 2002). The burgeoning enrollment management profession applied these findings to develop institutional aid formulas that served university enrollment goals. Historically, selective institutions used institutional aid to meet the need of low-income admits (Ehrenberg, 2000; McPherson & Schapiro, 1998). As rankings became important in the 1990s, scholars found that selective institutions increased expenditure on merit aid—disproportionately awarded to high-income admits—as a means of increasing academic profile (e.g., Doyle, 2010; McPherson & Schapiro, 1998). By contrast, nonselective private institutions depended entirely on tuition revenue and used "tuition discounting" to fill the class (Lapovsky, 2001). As public universities became tuition reliant in the 2000s following declines in state appropriations, scholars analyzed financial aid models designed to maximize tuition revenue (e.g., Bosshardt et al., 2010; Hillman, 2012). Because nonresident tuition price is often more than double the price of resident tuition, many public universities developed institutional aid policies designed to attract nonresident students who are denied admission to their own state flagship university (e.g., Burd, 2015; DesJardins, 2001; Leeds & DesJardins, 2015).

A limitation of the supply-side economics literature is the near-total focus on subsidies (i.e., financial aid) as a lever to attract students and an indicator of the value universities place on students. By contrast, the "enrollment funnel"—a hueristic used by enrollment managers, depicted in Figure 1—decomposes the enrollment process into the stages of prospects, inquiries, applicants, admits, and enrolled students (Campbell, 2017). The purpose of the enrollment funnel is to inform interventions at each stage. Financial aid is an intervention that primarily targets the enrollment decisions of admitted applicants. However, the enrollment management industry expends substantial resources on marketing and recruiting interventions that target earlier stages of the funnel. Universities host off-campus recruiting visits to identify prospects and to convert prospects and inquiries into applications (Ruffalo, 2018). These recruiting interventions are the means by which universities search for students and craft the composition of their applicant pool. Although several analyses by economists evaluate the enrollment effects of specific recruiting interventions (e.g., Andrews et al., 2020; Dynarski et al., 2018; Miller & Skimmyhorn, 2018),

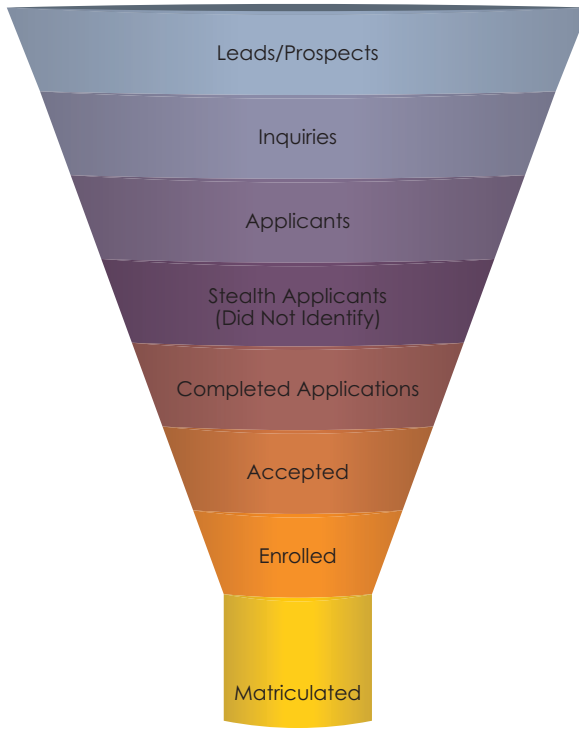

Figure 1. **Enrollment funnel.**

few describe recruiting behaviors in the wild (but see Hanson, 2017; Hill & Winston, 2010). Therefore, the supply-side economics literature provides limited insight about which students universities choose to pursue.

Within sociology, qualitative case study literature contributes holistic analyses of enrollment management that highlight the importance of recruiting (e.g., Cottom, 2017; Holland, 2019; Karabel, 2005; Khan, 2010; Killgore, 2009; Posecznick, 2017; Stevens, 2007). Analyses of selective institutions often build on "Max Weber's core insight that education has a dual character" (Stevens et al., 2008, p. 129), serving social mobility by redistributing access to privileged positions and simultaneously serving social reproduction by granting wealthy families access to colleges that confer privilege. Stevens's (2007) ethnography of the admissions office at a selective private liberal arts college reveals the mechanisms by which enrollment management serves social reproduction. Charged with moving up the rankings, the admissions office attempted to enroll students who raise academic profile and contribute

to the tuition and donation revenue necessary for the pursuit of prestige. During the autumn "travel season," admissions officers visited selected high schools across the country "to spread word of the institution and maintain relationships with guidance counselors" because "the College's reputation and the quality of its applicant pool are dependent upon its connections with high schools nationwide" (Stevens, 2007, p. 53). The high schools they visited tend to be affluent schools—in particular, private schools—that enroll high-achieving students who can afford tuition and had the resources and motivation to host a successful visit. The college tended to visit the same schools year after year because recruiting depends on long-term relationships with high schools. Additionally, students are more likely to attend a college if their high school has a strong "feeder legacy" of enrolling students in the college (Wolniak & Engberg, 2007).

Several studies analyze enrollment management at open-access institutions (e.g., Brint & Karabel, 1989; Clark, 1956; Cottom, 2017; Posecznick, 2017). Posecznick (2017) studied the "Ravenwood College," a private nonprofit college founded to serve working Black women. Consistent with analyses of tuition discounting by Lapovsky (2001), the survival of Ravenwood depends on the success of admissions officers in identifying prospects (e.g., through on- and off-campus recruiting events) and "converting" these prospects to enrolled students. Cottom (2017) studied for-profit institutions. Her book is simultaneously an ethnography of for-profit enrollment management and a political economy analysis of how the contemporary for-profit sector emerged vis-à-vis the broader higher education industry. Cottom (2017) argues that for-profits found a niche because "traditional" colleges and universities largely ignored communities of color and working adults. The for-profit sector viewed tight labor markets and military expansion—not traditonal colleges—as their primary competition for enrollment growth. The expansion and deregulation of federal student loans also enabled for-profits to earn considerable profit by expending substantial resources on recruiting and little on education.

Complementing these analyses of recruiting from the perspective of colleges, Holland (2019) analyzes recruiting from the perspective of students at two racially and socioeconomically diverse public high schools. High school visits—including college fairs, instant decision events, and small-group representative visits—influenced where students applied and where they enrolled. This finding was weaker for affluent students with college-educated parents, who tended to be more concerned about college prestige and less taken with overtures from colleges, but was strong for first-generation students and students of color, who often said that high school counselors had low expectations for their college prospects and were too quick to recommend community college. This trust vacuum created opportunities for colleges that made these students "feel wanted." Therefore, Holland (2019) suggests

that underserved student populations are particularly affected by which colleges and universities take the time to visit their high school.

Despite generating important insights, the sociological literature on enrollment management has not systematically analyzed which student populations receive which recruiting interventions from which postsecondary institutions. Our study takes an initial step in this direction by investigating off-campus recruiting events by public research universities. Jaquette and Curs (2015) found that public research universities dramatically increased nonresident enrollment from 2002 to 2012 in response to declines in state appropriations. Apart from the adoption of "merit" aid programs for nonresident students (e.g., Burd, 2015), little is known about what public research universities do to attract nonresident students. Compared with resident students, nonresident students are more likely to be affluent, non–first generation, and identify as White or Asian (Jaquette et al., 2016). However, prior research has not investigated whether out-of-state recruiting efforts are explicitly targeting these student populations. Furthermore, prior research has not investigated how extensive or how equitable in-state recruiting efforts are.

Conceptual Framework

Academic Capitalism

We draw on academic capitalism (Slaughter & Leslie, 1997; Slaughter & Rhoades, 2004) to frame our analysis of university recruiting visits within higher education's shift toward an academic capitalist knowledge regime and the push to "serve more privileged segments of the student market" (Slaughter & Rhoades, 2004, p. 292). Slaughter and Rhoades (2004) define academic capitalism as a higher education regime in which the logics of profit, privatization, and marketization influence the behavior of colleges and universities. Originally addressing how colleges and universities aim to generate revenue via patenting and technology transfer (Slaughter & Leslie, 1997), the theory has developed to explain how market and market-like behaviors "permeate almost all aspects of colleges and universities" (Slaughter & Rhoades, 2004, p. 305).

The shift toward an academic capitalist knowledge regime is partly a function of changes in the external environment. Following World War II, during the height of the "national service" political economy (Stevens & Gebre-Medhin, 2016), higher education experienced decades of growth, government investment, and public support that expanded access for historically underserved students and encouraged the free flow of knowledge produced by scientific research (Stevens & Gebre-Medhin, 2016). This stability of student demand and government-provided resources contributed to a higher education system characterized by providing social mobility opportunities and serving the public good. However, the 1980s saw the emergence of

external forces—including the decline in the college age population, erosion of state funding, and the expansion of federal student loan programs and federal legislation that commercialized university research—associated with the "market" political economy (Stevens & Gebre-Medhin, 2016). This configuration incentivizes colleges and universities to prioritize revenue concerns and engage in market activities to offset financial losses.

Scholarship on the economics of education reviewed above (e.g., Clotfelter, 1996; Winston, 1999) suggests that elite colleges engage in self-interested admissions practices in order to remain competitive in the higher education positional arms race, such as leveraging institutional aid in order to attract high-achieving students that can increase institutional prestige. This prestige orientation toward students perpetuates the historical social reproduction function of higher education by granting privileged students disproportionate access to elite universities (Stevens et al., 2008). Consistent with this scholarship, academic capitalism suggests that public colleges and universities have also adopted a market orientation toward students as the result of economic, political, and social changes in the "new economy" (Slaughter & Rhoades, 2004, p. 280).

While the prestige orientation targets high-achieving prospective students for institutional prestige, academic capitalism suggests a market orientation targets prospective students for "the extraction of revenue" (Slaughter & Rhoades, 2004, p. 279). The expansion of enrollment management as a core university structure has developed since the early 1990s primarily as an effort to craft incoming classes (Duffy & Goldberg, 1997; Hossler & Bean, 1990). This core structure integrates and leverages the activities of admissions, financial aid, marketing, and recruiting to achieve desired student enrollment outcomes (Cheslock & Kroc, 2012; Hossler & Bean, 1990). The economics literature describes many of these enrollment management practices (e.g., tuition discounting, "need-conscious" admissions, targeted recruiting) as part of selective colleges' efforts to enhance institutional prestige by seeking out and "buying the best" students (Clotfelter, 1996). However, these practices are increasingly used to craft incoming classes that contribute to the revenue interests of universities by commodifying and marketing the higher education experience toward the consumption culture of students from upper-middle-class families (Armstrong & Hamilton, 2013).

In turn, Slaughter and Rhoades (2004) argue that the revenue concerns and the consumer-focused marketization that come with academic capitalism push universities to "serve more privileged segments of the student market" (Slaughter & Rhoades, 2004, p. 292). In their efforts to increase tuition revenue, universities seek out affluent prospective students with the ability to pay full tuition without financial aid (Armstrong & Hamilton, 2013). These affluent students are already privileged in the college search process by virtue of having the financial resources to purchase advantages such as private counselors and test preparation services that can increase their probability of

admission (McDonough, 1997). The move toward an academic capitalism knowledge regime further advantages affluent students by pushing colleges and universities to also actively search for them.

Academic capitalism suggests that race and ethnicity are also related to the ways in which student markets are segmented. Slaughter and Rhoades (2004) acknowledge that more privileged segments of the student market tend to be composed of predominantly White students. However, they do not foreground how the shift to an academic capitalist knowledge regime drives universities to focus more enrollment management energies on White students and less energies on Asian, Black, Latinx, and Native American students. Rather, academic capitalism presumes that raced effects in the pursuit of tuition revenue are primarily due to the differential distribution of wealth among racial and ethnic groups.

Recruiting More Privileged Segments of the Student Market

We ground off-campus recruiting efforts within the revenue concerns and marketization central to an academic capitalism knowledge regime by analyzing whether and to what extent recruiting visits serve more privileged student markets. Drawing on Slaughter and Rhoades's (2004) conceptualization of which students make up privileged segments of the student market, we develop broad expectations about the socioeconomic and racial characteristics of schools and communities that are likely to receive a recruiting visit across universities.

We expect public research universities to focus recruiting efforts on affluent schools and communities in order to pursue prospective students who contribute to institutional revenue goals. We also expect universities to make a substantial number of out-of-state recruiting visits because nonresident students typically pay 2 to 3 times the amount of tuition that resident students pay (Zinth & Smith, 2012). Universities are also likely to disproportionately visit private high schools as these schools tend to enroll high-achieving, affluent students who can afford to pay full tuition (Stevens, 2007). Although schools in affluent communities tend to perform well on traditional metrics of academic achievement (e.g., Dixon-Roman et al., 2013), we expect that universities will recruit in affluent schools net of achievement as they seek full-pay students who do not require need-based or merit-based financial aid.

The extent to which universities visit affluent and out-of-state schools is also likely to vary across states with differing state funding generosity and demographic changes, as these are important factors triggering a market orientation toward prospective students. Following prior research on the relationship between state population trends and resident enrollment demand (Grawe, 2018; Winters, 2012), we expect that universities in states with small or declining high school graduate cohorts may focus recruiting visits to out-of-state schools and communities given lack of student demand within their respective states.

Universities with generous state appropriations and state grant aid are likely to make more in-state visits without preferences for affluent schools and communities. On the other hand, universities with weak state financial support are likely to make more out-of-state visits to recruit nonresident students and visit more affluent schools and communities to recruit full-pay students. However, we expect that universities in states with nonresident enrollment caps (e.g., California, North Carolina) will likely make fewer out-of-state visits.

We also expect universities to focus recruiting visits in predominantly White schools and communities. Academic capitalism suggests that the focus on visiting predominantly White schools and communities may be the result of universities concentrating efforts on recruiting affluent students. While schools and communities are stratified by both income and race; the racial and ethnic composition of schools and communities is a critical and independent factor from socioeconomic factors as it relates to educational opportunities (DeCuir & Dixson, 2004). To investigate whether universities may be recruiting in predominantly White schools and communities in response to the socioeconomic characteristics rather than the racial and ethnic composition of those localities, we examine whether visits are more likely to be focused in predominantly White schools and communities even after controlling for income. Given state pressures for public research universities to provide equitable access for all state residents (Gerald & Haycock, 2006), we expect out-of-state recruiting to be more disproportionately focused on White schools and communities than in-state recruiting.

Research Method

This study uses a quantitative case study design to explore off-campus recruiting visits by public research universities. While often considered a qualitative research design, case studies can focus exclusively on either quantitative or qualitative data analysis (Korzilius, 2010; Yin, 2014). A "quantitative case study" refers to a case study where quantitative data are the primary source of evidence (Korzilius, 2010). More specifically, we utilize a multiple case study design, which treats each university as a separate analysis, rather than as one observation within a large-*N* analysis (Yin, 2014).

Data Collection

Many universities advertise off-campus recruiting events on their admissions websites (e.g., "coming to a neighborhood near you" links). Python, a general purpose programming language, was used to collect recruiting visit data by Web-scraping university admissions websites. Python programs were automated to "scrape" all information from URLs containing recruiting events once a week from January 1, 2017, to December 31, 2017, thereby capturing recruitment of spring juniors and fall seniors.

As part of a broader project, our data collection sample is drawn from the population of public research-extensive universities (2000 Carnegie Classification). Out of all public research–extensive universities ($N = 101$), the project collected data for those that posted off-campus recruiting events on their admissions websites ($N = 49$). For each university in this data collection sample, we investigated the entire university website, searching for URLs that contained data on off-campus recruiting events. Since URLs containing data on off-campus recruiting events often change (e.g., a university creates a new URL or changes the formatting of an existing URL), we completed this investigation process for each university every 2 months. We also scraped data about participation in national college fairs from the National Association for College Admission Counseling website and data about participation in group travel tours.[4]

Defining Off-Campus Recruiting Events

We categorize off-campus recruiting events based on event type, host, and location. Event type includes college fairs (in which multiple colleges attend), day-time high school visits, group travel visits, formal admissions interviews, admitted student events, and committed student events. Event hosts include paid staff, paid consultants (e.g., independent "regional recruiters" contracted by universities), alumni, and current students. Event locations include high schools, community colleges, hotels, conference/convention centers, and other public places (e.g., cafes).

Our research defines off-campus recruiting events as those that focused on soliciting undergraduate admissions applications and were hosted by paid personnel or consultants at any off-campus location.[5] This definition excludes admitted and committed student events, but includes guidance counselor events. We excluded formal one-on-one interviews because these events are focused on determining the admission of one particular student rather than open events aimed at soliciting applications from many prospective students. We excluded events hosted by alumni or student volunteers as practices allocated to paid staff are better indicators of organizational priorities than those allocated to volunteers (Thompson, 1967).

Case Study Sample

We draw on purposeful sampling to identify and select the case study sample. Purposeful sampling is a strategy used to yield cases that are "information-rich" (Patton, 2002). This most often involves sampling individuals or cases that provide high-quality data about the phenomenon of interest. We selected cases from the broader data collection sample ($N = 49$) based on the completeness and quality of recruiting data collected. From prior research (Holland, 2019; Ruffalo, 2017, 2018; Stevens, 2007) and conversations with admissions professionals, we find that all universities convene three broad types of off-campus

recruiting events: (1) receptions or college fairs at hotels and convention centers, (2) evening college fairs at high schools, and (3) day-time visits at high schools. Fifteen of the 49 universities we scraped recruiting data on posted all three broad types of off-campus recruiting events on their website. These 15 universities make up our case study sample.

Table 1 shows the 15 universities in this study across various institutional characteristics.[6] While our aim is not to generalize the population of public research universities, this sample does reflect a distribution of institutional characteristics generally representative of the many different "types" of research universities. Our sample includes public research universities that are highly prestigious and selective (e.g., UC Berkeley, Georgia), as well as those that are relatively open access (e.g., Kansas, CU Boulder, Cincinnati). Some universities, like Alabama, exemplify extremes of national trends in declining state appropriations and increases in nonresident enrollment. On the other hand, other universities are located in states that provide generous state funding for public higher education (e.g., NC State) or have relatively low proportions of nonresident students (e.g., Georgia, Rutgers).

Data Quality

Based on principles of case study research, we triangulate Web-scraped recruiting data using recruiting data requested from universities. Data triangulation in case studies attempts "to collect information from multiple sources but aimed at collaborating the same finding" (Yin, 2014, p. 120). We issued requests to universities for information on all their 2017 off-campus recruiting events. As a courtesy, we first requested data from the Office of the Vice President for Enrollment Management. If our request was denied or ignored, we issued a formal public records request under the Freedom of Information Act. Public records requests were denied by some universities due to state statutes that only permit public records requests from state residents.

Of the 15 universities analyzed in this study, we received requested data from 11 universities. The other four universities were either not required by state statutes to provide data or refused to provide data. For universities that sent us data, the analyses below use "requested" rather than "scraped" data given we consistently found that "requested" data had more events.[7] Broad patterns were similar across requested data versus scraped data, and results based on scraped data are available on request. Appendix A details the data sources collected and used for analyses across universities in the study, as well as data quality checks conducted across all sources.

Data Analysis

Following scholarship on multiple case study methodology (e.g., Eisenhardt, 1989; Yin, 2014), we conducted within-case and cross-case analyses. Our

Table 1

Characteristics of Study Sample Compared With Median Characteristics of All Public Research Universities

University	USNWR Rankings	25th Pctl SAT/ACT	75th Pctl SAT/ACT	Total Enrollment[a]	Out-of-State[a] (%)	Pell[a] (%)	In-State Tuition[b]	Out-of-State Tuition[b]	Tuition Revenue	Revenue From Tuition (%)	State Appropriations	Appropriation per Student	Revenue From Appropriations (%)
Alabama	103	1,053	1,351	7,559	68.1	17.0	$10.7	$27.5	$493,397	39.0	$158,248	$4.4	12.5
S. Carolina	107	1,135	1,321	5,110	53.2	15.4	$11.7	$31.6	$456,818	41.5	$130,516	$3.8	11.8
CU Boulder	92	1,126	1,331	6,421	47.2	14.6	$11.8	$35.9	$629,902	40.3	$0	$0.0	0.0
Kansas	118	1,070	1,300	4,233	42.8	23.4	$10.8	$26.5	$321,261	25.5	$245,642	$9.5	19.5
Rutgers	70	1,110	1,350	6,465	17.8	27.0	$14.7	$30.7	$951,233	24.1	$825,302	$12.6	20.9
Pittsburgh	68	1,202	1,395	5,644	30.6	20.3	$19.0	$30.4	$613,789	23.4	$162,400	$4.5	6.2
Nebraska	111	1,027	1,262	4,860	29.9	23.9	$8.7	$23.6	$227,792	20.3	$286,741	$12.6	25.5
Cincinnati	135	1,063	1,265	6,913	13.1	26.7	$11.2	$26.9	$475,730	36.8	$228,849	$5.9	17.7
Arkansas	135	1,057	1,283	4,972	51.0	19.5	$9.0	$23.7	$232,468	24.8	$211,320	$8.6	22.6
UMass	74	1,135	1,332	4,679	26.9	21.5	$15.3	$32.9	$382,249	30.6	$353,021	$12.6	28.2
Stony Brook	96	1,163	1,373	2,934	25.8	34.6	$9.2	$26.8	$272,502	10.9	$486,524	$19.6	19.5
Georgia	56	1,165	1,360	5,433	12.3	20.3	$11.9	$30.5	$463,142	29.6	$445,318	$11.9	28.5
UC Berkeley	20	1,316	1,527	6,252	24.4	19.4	$13.8	$41.1	$852,825	31.2	$411,179	$10.0	15.1
UC Irvine	39	1,078	1,334	6,551	25.8	37.8	$13.7	$40.9	$534,856	17.5	$329,860	$9.5	10.8
NC State	92	1,180	1,365	4,388	16.2	18.7	$9.1	$27.0	$314,213	19.8	$517,576	$17.4	32.6
Population (N = 101)	111	1,061	1,282	4,529	25.8	25.5	$10.8	$27.6	$343,839	26.7	$227,230	$8.0	18.4

Note. All dollar amounts are expressed in thousands. Author calculations based on 2016–2017 Integrated Postsecondary Education Data System. Population of universities includes universities categorized as Highest Research Activity by 2000 Carnegie Classification. USNWR = U.S. News & World Report; Pctl = percentile; Pell = Federal Pell Grant recipients; UC = University of California; CU = University of Colorado; UMass = University of Massachusetts; NC = North Carolina.

[a]Population is undergraduate freshman class.

[b]Includes tuition and fees.

within-case analyses consist of quantitative descriptive analyses, including univariate statistics of recruiting visits, bivariate descriptive statistics comparing the characteristics of schools that received a visit with those that did not, and linear probability regression models that investigate whether relationships between the probability of receiving a visit and independent variables of interest persist after controlling for other factors associated with receiving a visit.[8] After identifying broad patterns in the characteristics of schools that received a visit versus those that did not within each case, we compared results across cases to identify similarities and differences in recruiting efforts across universities in the study.

Decisions about which variables and relationships to examine were driven by our academic capitalism conceptual framework. In particular, Slaughter and Rhoades (2004) suggest that the more privileged segments of the student market tend to be made up of affluent and predominately White students. Additionally, recent research highlights nonresident enrollment growth as a revenue generation response to diminished state support (Jaquette & Curs, 2015). Therefore, we focus our analyses on understanding the economic and racial characteristics of localities that receive recruiting visits versus those that do not, with separate analyses for in-state and out-of-state recruiting.

We defined nonvisited schools for in-state analyses as all schools that did not receive a visit within the state where the university is located. Nonvisited out-of-state schools include all schools in states that received at least one visit to a public or private high school from the university. For example, Nebraska visited high schools in 13 different states besides their home state. In our out-of-state public high school analyses, only the 6,423 public high schools in those 13 states are included in the analysis sample for Nebraska, and an indicator is used to identify which schools received at least one recruiting visit by the university. Thus, the total number of out-of-state high schools differs across universities in our analyses. We made this decision because it is unhelpful to compare visited out-of-state schools with nonvisited schools in states where the university did not make a single visit.

We also conducted a robustness check of results to explore whether a more conservative approach to constructing the sample of nonvisited out-of-state schools would yield similar patterns in the characteristics of schools that received a visit in comparison with those that did not. Rather than including all out-of-state schools in a state where at least one high school visit occurred, the robustness check only included schools in the Core-Based Statistical Area (CBSA) where at least one high school visit occurred. CBSAs encompass both metropolitan (urbanized area of 50,000+ residents) and micropolitan areas (urban cluster of at least 10,000 but less than 50,000 residents; U.S. Census Bureau, 1994). This conservative approach would reason that recruiters visiting one CBSA could visit other schools in that same area but it may not be reasonable to assume that the recruiter could visit schools throughout the entire state.[9]

Broad patterns in the CBSA robustness check were largely consistent with our state-level approach to constructing the nonvisited out-of-state sample for each university. However, the CBSA analysis excluded some rural recruiting visits in localities that are not part of a metropolitan or micropolitan area. For this reason, we present main results for the state-level analysis and briefly describe notable differences between our main analysis and the CBSA robustness check within the Findings section. We also provide all figures and tables of results for the robustness check at the CBSA-level as supplemental material.[10]

Variables

We draw on various secondary sources for data on school and community characteristics. We obtained data on public high schools from the Common Core of Data, data on private high schools from the Private School Universe Survey, and data on the universities in the sample from the Integrated Postsecondary Education Data System. Achievement data for public high schools is from EdFacts Assessment Proficiency data collected by the National Center for Education Statistics. Demographic and economic data on communities were collected from the U.S. Census Bureau's American Community Survey.

Our dependent variables are visit counts and dummy indicators for whether a locality (i.e., public high school, private school, or ZIP code for nonschool visits) received a recruiting visit by each of the universities in the study. Our primary independent variables of interest measure the economic and racial characteristics of schools. We measure income for public high schools by using the average median household income of the ZIP code where the school is located.[11,12] Race variables include the percentage of student enrollments from each racial–ethnic group, as well as the cumulative percentage of Black, Latinx, and Native American students for public high schools.

Other variables are used to account for factors that would affect whether or not a school is likely to receive a visit. Because prior research on access inequality suggests that low-income students and students of color are less likely to attend college due to lower academic achievement (Howard, 2015; Reardon & Galindo, 2009; Sheperd & Sutcliffe, 2011), we include a school-level measure of achievement for public high schools. Achievement is measured by the number of students scoring at or above proficient levels in mathematics on state high school exit exams.[13]

Prior research also suggests that recruiting efforts are likely to target larger schools, which have a larger pool of prospective students (Hoxby & Avery, 2013; Ruffalo, 2018). We measure school size using the number of 12th grade students. Because some populations of students are more likely to attend colleges in closer proximity to home (Turley, 2009), we include measures of distance in miles between the location of the university and the high school. We include a categorical measure indicating whether a school is located in a city, suburb, or rural area because traveling to rural communities may be more

expensive and time-consuming. Last, we include an indicator that categorizes school type as a regular school, charter school, or magnet school because magnet schools may be more likely to have a larger number of high-achieving students and the capacity to host recruiting events.

Limitations

We acknowledge several data limitations. First, off-campus visits encompass only one university recruiting effort. Universities may also be recruiting students via other interventions (e.g., direct mailings, emails, specific outreach programs). Second, despite our best efforts to collect and triangulate off-campus recruiting data from more than one source to validate quality and completeness, our data may not capture all off-campus recruiting events by each university. Third, the National Center for Education Statistics collects high school finance data and personnel data on guidance counselors at the district level rather than at the school level. Therefore, our analyses do not account for differences in high school–level capacity to host recruiting visits. Last, we are limited in using the number of students scoring at proficient levels on state math assessments as a crude measure of school-level academic achievement because no other comprehensive, national data set reports student achievement measures at the school level.

Findings

Focus on Out-of-State Recruiting, Limited In-State Coverage

Figure 2 presents the number of off-campus recruiting visits by visit type and by in-state versus out-of-state location for each university in the study. In 12 of the 15 cases, universities made more out-of-state recruiting visits than recruiting visits within their respective states. Seven universities made more than twice as many out-of-state visits (Alabama, Arkansas, CU Boulder, Kansas, UMass Amherst, Pittsburgh, South Carolina).

Alabama showcased the upper extreme of making more out-of-state than in-state recruiting visits. Alabama's 3,900 out-of-state visits accounted for 91% of the university's total visits, a proportion higher than any other case. This coincides with shifts in the university's funding and enrollment that also represent an extreme example of trends happening at many public research universities. We describe trends in revenue sources, enrollments, and state population demographics in detail for individual cases throughout our analyses of off-campus recruiting visits and provide figures of these changes over time for each university in Supplemental Appendices D through H. Since 2008, Alabama's state funding has declined substantially, while tuition revenue has increased dramatically. These shifts are partly explained by a shrinking proportion of 18-year-olds in the state of Alabama and substantial growth in the university's nonresident enrollment over the past 10 years.

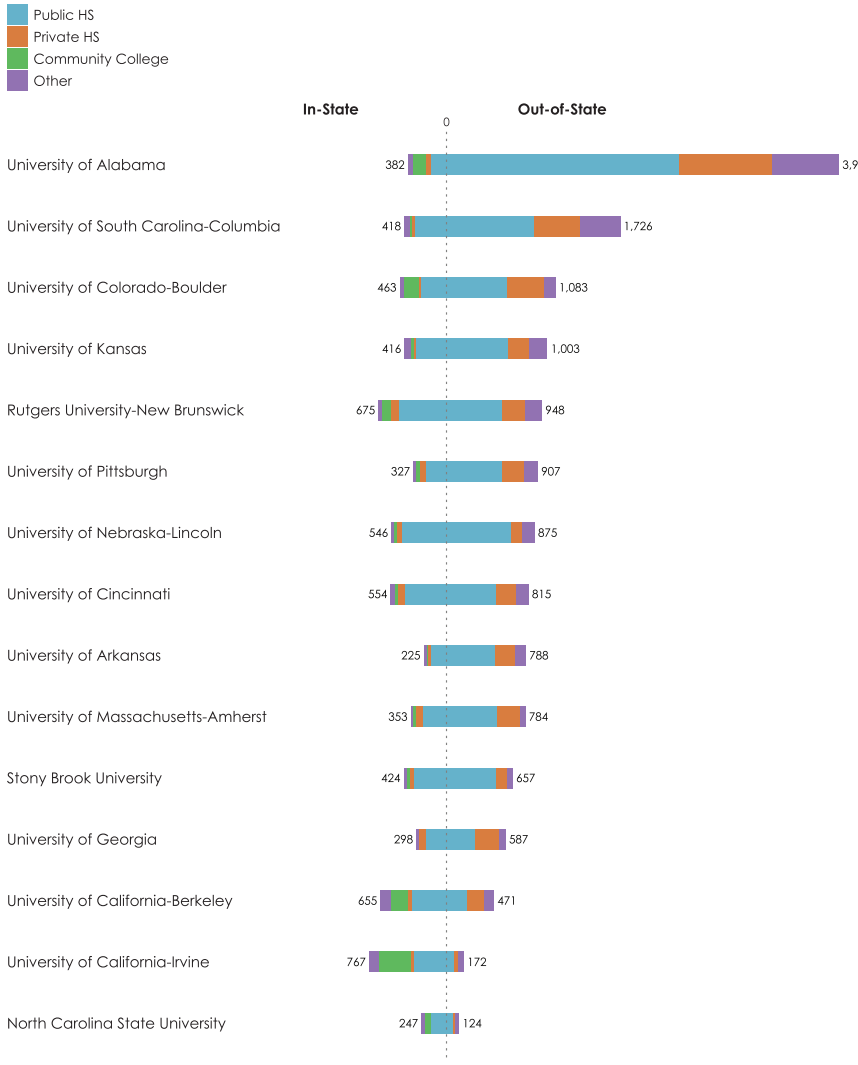

Figure 2. **Number of events by type and in-state, out-of-state.**

Three other cases also made a relatively large number of out-of-state visits that account for roughly three quarters or more of total recruiting efforts: Arkansas (78%), Pittsburgh (74%), and South Carolina (81%).

NC State, UC Berkeley, and UC Irvine were the only cases in the study to deviate from making more out-of-state than in-state recruiting visits. NC State made the fewest total visits across all universities, 33% of which were to

schools and communities outside of North Carolina. UC Berkeley's 471 and UC Irvine's 172 visits to states outside of California accounted for 42% and 18% of total recruiting efforts, respectively.

It may not be a coincidence that the three universities with more in-state than out-of-state recruiting visits are the only cases in the study that face strong legislative pressures to cap nonresident enrollment. The University of North Carolina system has an 82–18 enrollment cap that has been in place since the late 1980s. In order to avoid a reduction in operating budgets, at least 82% of new freshmen at the University of North Carolina system schools must be state residents. Along with a cap on nonresident enrollment, state funding for public colleges and universities in North Carolina has kept pace with growing student enrollments over the past 10 years. More so, North Carolina is one of the top-ranked states in per-student funding (Leins, 2020), providing nearly $19,000 per full-time equivalent (FTE) student in 2017.

UC cases in the study also face strong legislative pressures to cap nonresident enrollment, although these pressures are coupled with dramatic declines in state funding over the past 10 years. After the California legislature introduced a bill in 2017 to cap nonresident enrollment, the UC system voluntarily implemented an 18% nonresident enrollment cap for campuses that enrolled less than 18% nonresident undergraduates and a nonresident enrollment freeze for campuses with more than 18%. With the highest nonresident enrollment cap (24%) and most dramatic declines in state funding per FTE student over the past 10 years (from $22,000 in 2004 to $12,000 in 2017), UC Berkeley made more than twice the number of out-of-state visits than UC Irvine, which has a lower enrollment cap (19%) and experienced less dramatic declines in state funding per FTE student (from $13,000 in 2004 to $10,000 in 2017).

Out-of-state visits by all universities in the study were concentrated in metropolitan areas. Figure 3 shows maps of national recruiting patterns for each university. Out-of-state recruiting visits were clustered in large metropolitan areas around the country, such as New York City, Los Angeles, Chicago, Dallas, and Washington, D.C. Rural areas within these states were largely ignored. For example, UMass Amherst made 72 visits to the Los Angeles and 23 visits to the San Francisco metropolitan areas but made no visits to schools in the Central Valley or to any noncoastal area of California. Other metro areas that were also frequently visited across cases include Houston, Boston, San Francisco, Denver, Atlanta, Philadelphia, Orlando, Baltimore, and Miami. Figure 4 presents out-of-state and in-state recruiting visits by rural versus urban location and suggests that the majority of out-of-state visits across all cases were less likely to be located in rural areas in comparison with in-state visits.

While visits to public high schools made up the largest proportion of both out-of-state and in-state recruiting efforts, out-of-state recruiting included a large number of private high school visits for most universities. Do out-of-state visits include a disproportionate number of visits to private high schools?

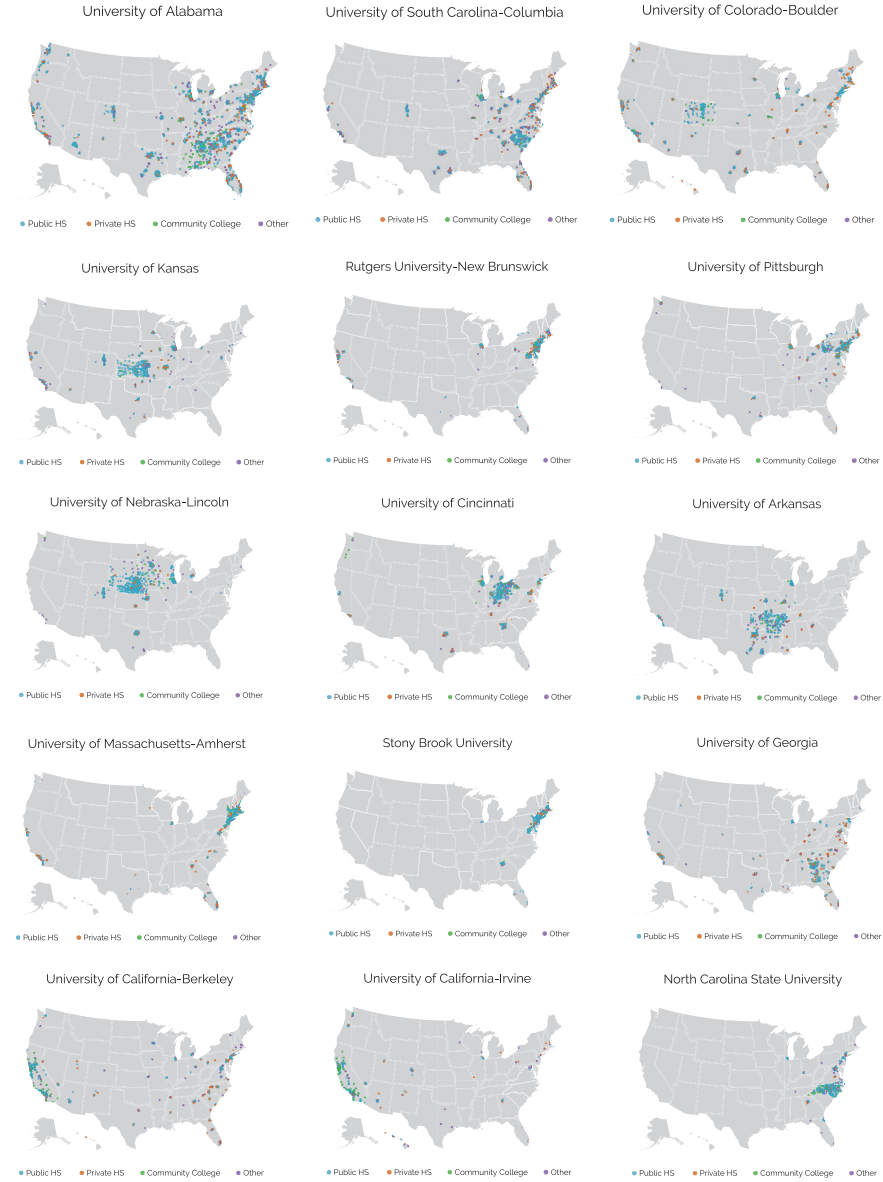

Figure 3. **Map of visits.**

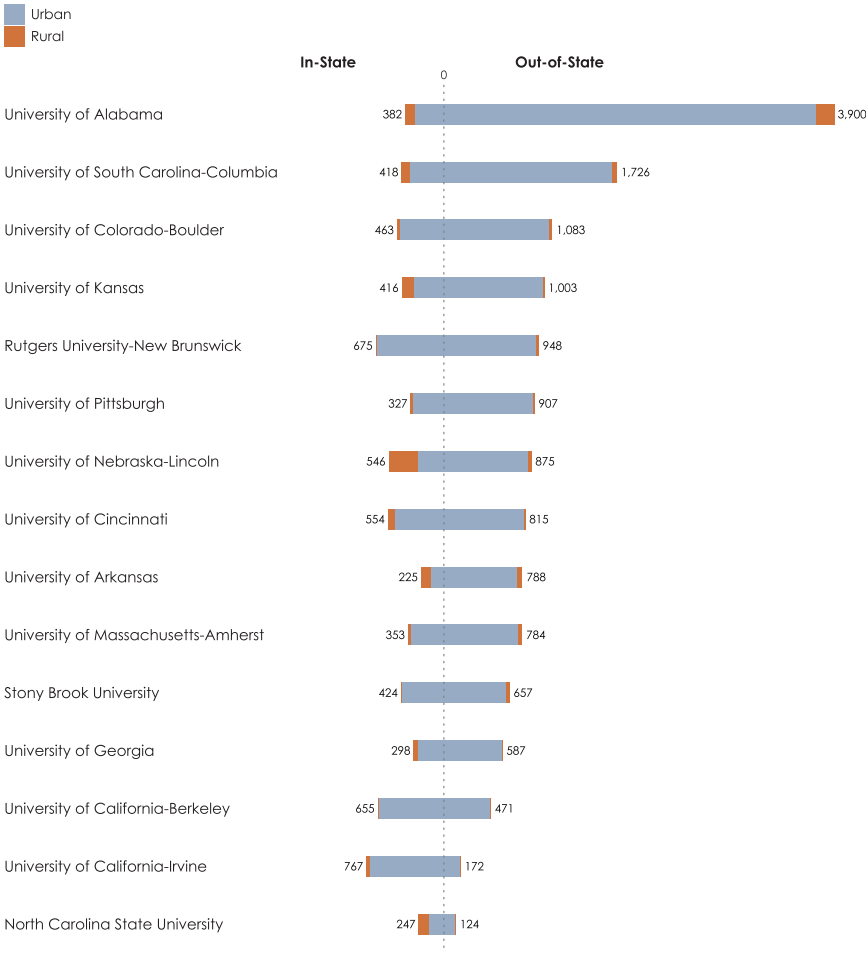

Figure 4. **Number of events by urban versus rural locations and in-state, out-of-state.**

To answer this question, we compared the actual number of out-of-state private and public high schools visited with the hypothetical number of private and public high schools that would have been visited if each school had an equal probability of receiving a visit. For example, if public and private high schools had an equal probability of receiving a visit, 353 of Georgia's 441 total out-of-state school visits would have been to public high schools versus 88 visits would have been to private schools.[14] Yet Georgia's 192 private school visits were more than double this number.

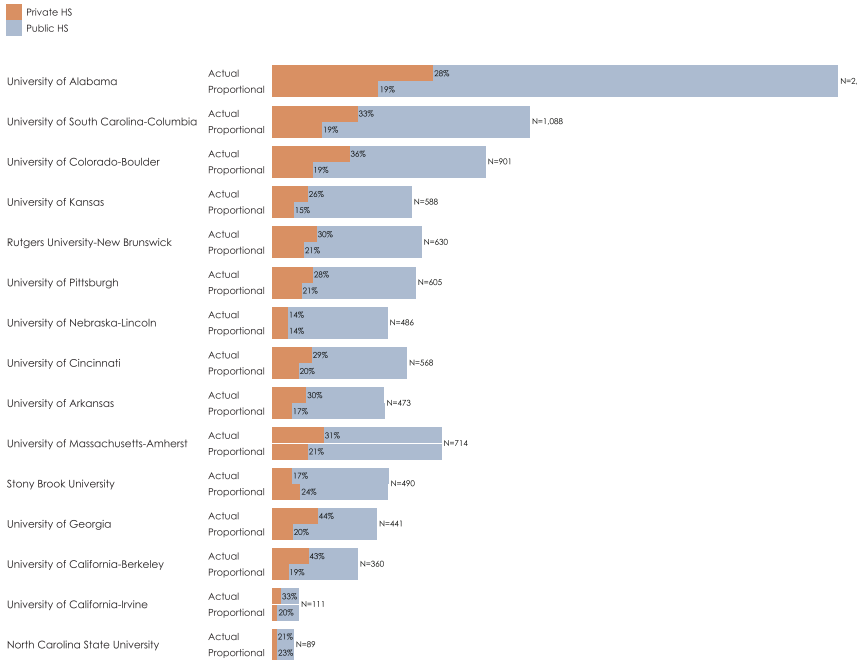

Figure 5. **Actual versus proportional visits to out-of-state private high schools.**

Applying this calculation to all universities, Figure 5 shows the actual number of out-of-state visits to public and private schools compared with our calculated, proportional number of visits under equal probability of receiving a visit. For 12 of the 15 universities, the actual number of out-of-state private school visits exceeded the estimated number of visits under equal probability.

Rather than focusing solely on the number of in-state recruiting visits, we analyze universities' "coverage" of public high schools in their respective states. Public universities hold unique responsibilities in providing educational opportunities to state residents. Some universities in populous states and those that are part of centralized higher education systems distribute this responsibility geographically, but we begin by defining coverage as the proportion of visited public high schools to the total number of schools within the state. For example, there are a total of 400 public high schools in New Jersey, 63% of which received at least one recruiting visit by Rutgers.

Figure 6 shows coverage of in-state public high schools across all universities in the study. Not surprisingly, universities in less populous states had better coverage of public high schools (e.g., South Carolina, Nebraska,

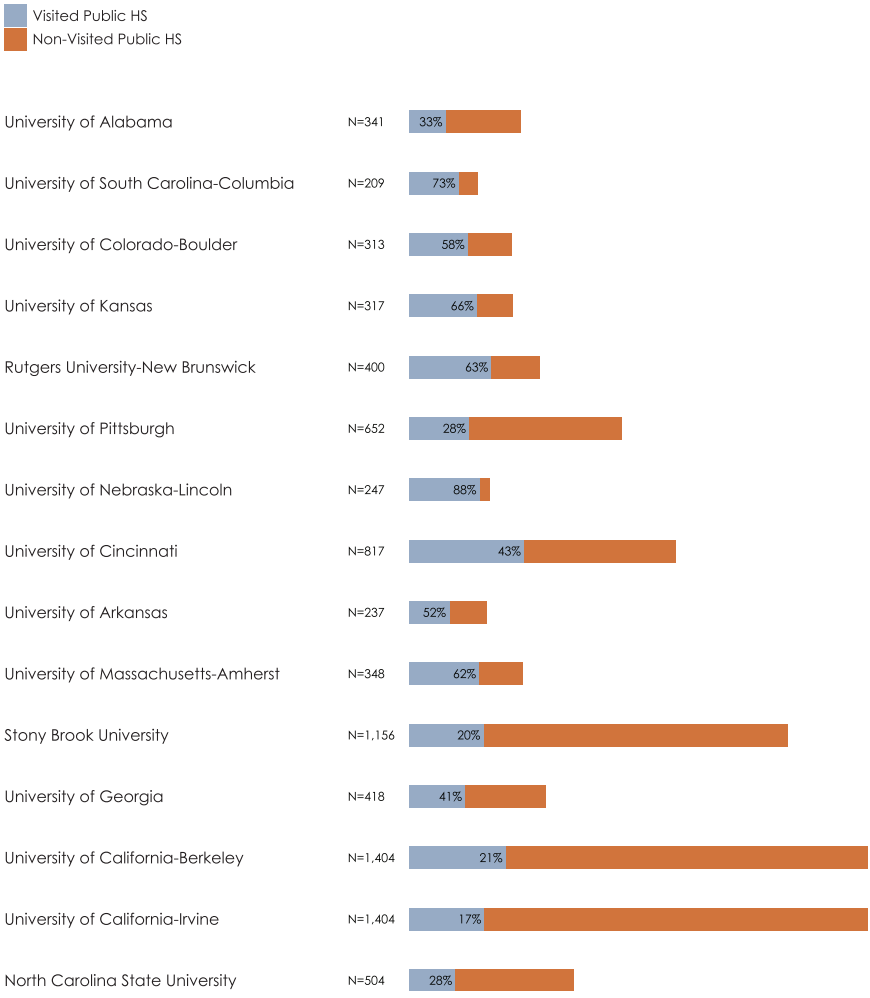

Figure 6. **Coverage of in-state public high schools.**

Kansas) than universities in very populous states (e.g., UC Irvine, UC Berkeley, Stony Brook). Nebraska was the only university in the study with extensive in-state coverage. The university visited nearly nine of every 10 public high schools in the state, suggesting that making substantial out-of-state recruiting visits and having good in-state coverage of public high schools may not be mutually exclusive.

For cases in large, populous states, we also consider coverage of public high schools in their local metropolitan area. Restricting coverage to local

in-state public high schools in the San Francisco and Los Angeles metropolitan areas, we find that UC Berkeley and UC Irvine had 45% and 26% coverage, respectively. Stony Brook visited 35%, Pittsburgh visited 50%, and NC State visited 31% of in-state schools in their local metropolitan areas. These figures suggest that some universities in larger states may be focusing in-state recruiting efforts within their local metropolitan areas rather than across their respective states.

Because visits to public high schools comprise the vast majority of recruiting efforts across all universities, we focus on analyzing the economic and racial characteristics of public high schools that receive a visit versus those that do not.

Economic Characteristics of Recruiting Visits

Figure 7 presents the average median income of public high schools that received and did not receive visits by in-state versus out-of-state location for each university in the study. For nearly all universities, visited schools tended to be located in more affluent communities than nonvisited schools. However, the magnitude of this disparity tended to be much greater for out-of-state visits than in-state visits.

Out-of-state recruiting visits to public high schools were concentrated in highly affluent areas, a finding that is true across all cases in the study. For example, UMass Amherst visited out-of-state public high schools in ZIP codes where the average median household income was $115,000, whereas schools that did not receive a visit were located in areas with an average median income of $64,000.

This income disparity between visited and nonvisited out-of-state schools was highest for NC State, which visited schools in ZIP codes where the average median income was $121,000 in comparison with $67,000 for schools that did not receive a visit. This relatively large disparity may be a function of NC State making the fewest out-of-state visits across all universities in the study. By contrast, the income disparity for Alabama's extensive out-of-state recruiting efforts was relatively smaller ($90,000 for visited schools compared with $60,000 for nonvisited schools). Recruiting by Nebraska exhibited the lowest income disparity between out-of-state public high schools that received a visit ($85,000) and those that did not ($61,000), likely the result of focusing visits to states in the Midwest region as opposed to visiting the wealthiest metropolitan areas across the country like most of the other universities in the study.

We test whether the relationship between income and receiving an out-of-state recruiting visit persists after controlling for other factors that could affect whether a school receives a visit. Appendix B reports linear probability models predicting the likelihood of receiving a visit for out-of-state public high schools. These models include measures of public high schools' income, the racial composition of the student body, academic achievement,

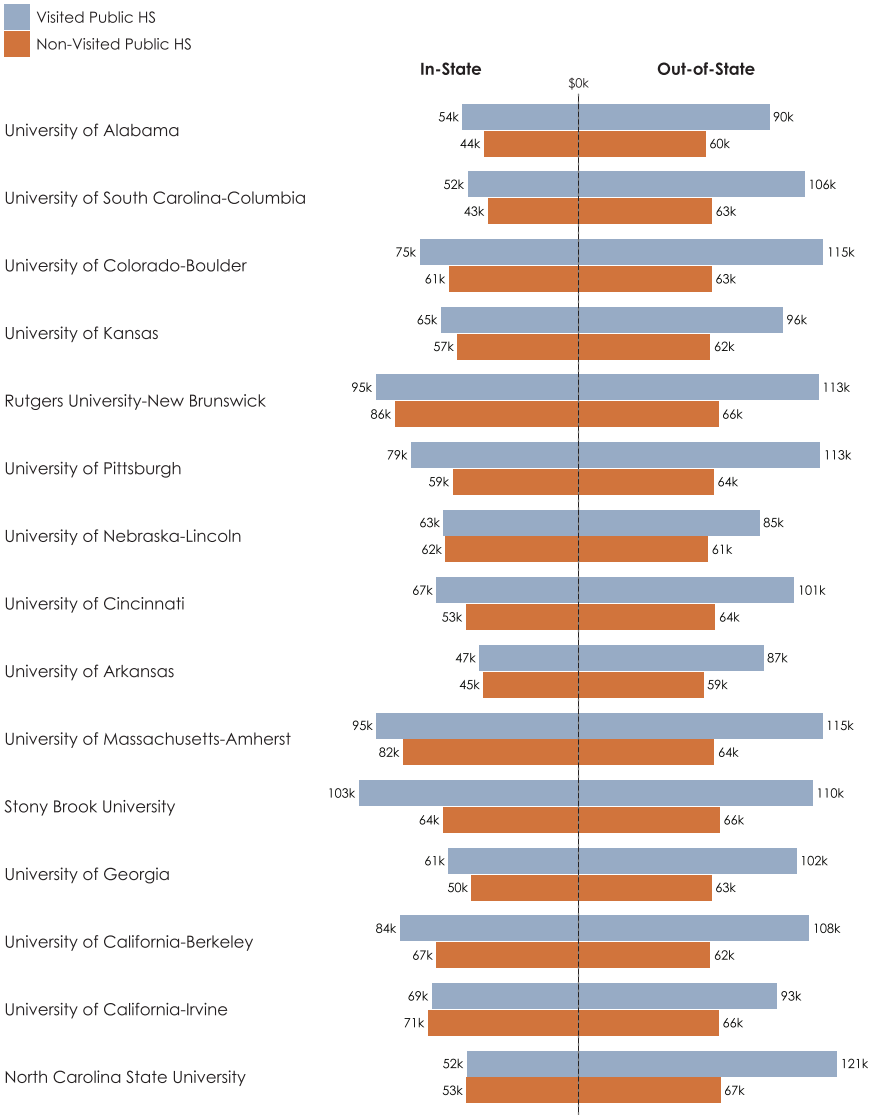

Figure 7. **Average median household income of visited versus nonvisited public high schools.**

size, school type, locale, and distance from the university (although coefficients are only shown for independent variables of interest for space considerations).[15,16]

Across all universities, public high schools in wealthier communities were significantly more likely to receive an out-of-state recruiting visit than schools in low-income communities even after controlling for factors that may influence the likelihood of receiving a visit. For example, looking at the column of results for Rutgers in Appendix B, out-of-state public high schools located in communities with average median incomes greater than $200,000 were nearly 40% ($p < .001$) more likely to receive a recruiting visit by Rutgers than schools located in communities with average median incomes less than $50,000 (reference category). Generally, the magnitude of the relationship between income and the probability of receiving a visit across all universities in the study was larger for higher income bands than lower income bands. This pattern indicates that public high schools in the wealthiest communities had the greatest probability of receiving a visit.

Results from the CBSA-level robustness check exhibited a similar income disparity between visited and nonvisited schools when only out-of-state schools in CBSAs that received at least one visit were included.[17] However, the income disparity between visited and nonvisited schools was not quite as large as the state-level analysis. For example, the CBSA-level analysis for NC State shows a $44,000 average median income disparity between visited and nonvisited schools ($121,000 average median income for visited schools compared with $77,000 average median income for nonvisited schools), whereas the state-level analysis resulted in a $54,000 disparity (Figure 7). This pattern was consistent across all universities in the study. Regression results also exhibited this general pattern where the CBSA-level robustness check produced coefficients slightly lower in magnitude than the state-level analyses.

Figure 7 suggests that recruiting visits to in-state public high schools also demonstrated similar patterns of income bias for most universities in the study. With the exception of NC State and UC Irvine, the average median income of visited in-state public high schools was greater than that of nonvisited schools, although the income disparity was relatively smaller in comparison with out-of-state recruiting visits. For example, CU Boulder visited in-state public high schools in ZIP codes where the average median income was $75,000, whereas schools that did not receive a visit were located in areas with an average median household income of $61,000. In-state recruiting efforts by NC State and UC Irvine included visits to high schools that were on average slightly less affluent than schools that did not receive a visit.

As seen in Appendix C, the relationship between income and receiving an in-state visit persisted for most universities in the study even after controlling for other factors, although regression coefficients are smaller in magnitude than for out-of-state visits (Appendix B). For example, the column for South Carolina in Appendix C shows that in-state public high schools located in communities with average median incomes between $100,000 and $149,000 were about 27% ($p < .01$) more likely to receive a recruiting visit than schools

located in communities with average median incomes less than $50,000. However, we find that in-state public high schools in wealthier communities were not significantly more likely than lower income schools to receive a visit by Alabama, Rutgers, Arkansas, and Nebraska after controlling for racial composition, achievement, size, locale, and distance from the university. In addition, consistent with descriptive results (Figure 7), schools in more affluent communities were significantly less likely to receive a visit by NC State and UC Irvine.

Racial Characteristics of Recruiting Visits

Across all cases, out-of-state recruiting visits were concentrated in public high schools with lower percentages of Black, Latinx, and Native American students than nonvisited schools. Figure 8 shows the racial composition of the average visited and nonvisited out-of-state public high school. Visited high schools had a substantially lower percentage of Black, Latinx, and Native American students than nonvisited high schools. For example, Georgia visited out-of-state public high schools where Black, Latinx, and Native American students made up, on average, 31% of total student enrollments, whereas Black, Latinx, and Native American students made up, on average, 45% of total enrollments at schools that did not receive a visit. This is particularly troubling as the state of Georgia has experienced steady increases in high school graduates since the early 2000s, partly a factor of the rapid growth in the number of Latinx high school graduates in the state (see Supplemental Appendix G). These findings coincide with research that finds that public research universities become less racially diverse as they increase nonresident enrollment, as nonresident students are less likely to identify as Black or Latinx compared with resident students (Jaquette et al., 2016).

This racial disparity between visited and nonvisited out-of-state public high schools was the highest for Rutgers, which visited public high schools where Black, Latinx, and Native American students made up only 27% of total enrollments in comparison with 51% of total enrollments at nonvisited schools. However, this difference was relatively modest for some universities (e.g., NC State, UC Irvine, Nebraska).

We find a significant and negative relationship between enrollment from Black, Latinx, and Native American students and the probability of receiving an out-of-state recruiting visit for most universities in the study even after controlling for other factors (Appendix B). This negative relationship tended to be larger for schools with higher percentages of Black, Latinx, and Native American students. For example, Appendix B shows that out-of-state public high schools with 40% to 59% enrollment from Black, Latinx, and Native American students were 3% ($p < .001$) less likely to receive a visit from UMass Amherst than schools with less than 20% enrollment from these students. This probability increased to 4% ($p < .001$) less likely for schools

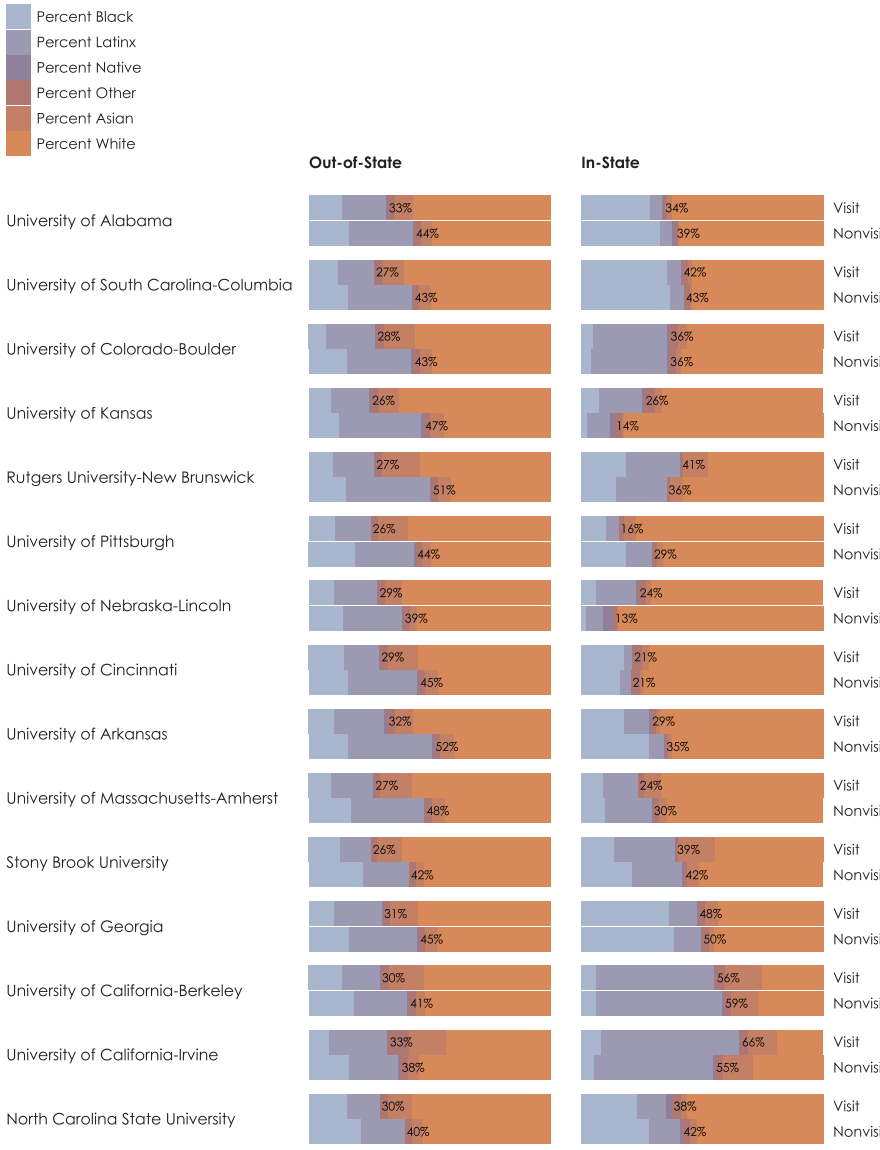

Figure 8. **Average racial composition of visited versus nonvisited public high schools.**

with 60% to 79% enrollment, to 6% ($p < .001$) less likely for schools with more than 80% enrollment from Black, Latinx, and Native American students.

However, the magnitude of coefficients on racial composition were generally smaller than the magnitude of coefficients on income. Probability changes on the likelihood of out-of-state schools receiving a visit ranged from 1% to 9% for race coefficients, whereas income coefficients ranged from 1% to 77%. Nebraska and Cincinnati were the only cases in the study for which the relationship between Black, Latinx, and Native American student enrollment and the probability of receiving an out-of-state recruiting visit was not significant after controlling for other factors.

However, the CBSA-level robustness check—where only out-of-state schools in CBSAs that received at least one visit were included in the analysis—found larger racial disparities between schools that received a visit and those that did not across all universities in the study.[18] For example, Georgia visited out-of-state public high schools where Black, Latinx, and Native American students, on average, still made up 31% of total student enrollments. However, the average percentage of Black, Latinx, and Native American students at nonvisited schools increased to 50% (compared with 45% at the state level, as seen in Figure 8). CBSA-level regression models also produced coefficients higher in magnitude than the state-level robustness checks. For example, out-of-state high schools with more than 80% enrollment from Black, Latinx, and Native American students were 18% ($p < .001$) less likely to receive a visit from UMass Amherst than schools with less than 20% enrollment from these students (in contrast to 6% less likely in the state-level analysis shown in Appendix B). Additionally, the relationship between Black, Latinx, and Native American student enrollment and the probability of receiving an out-of-state recruiting visit remained statistically significant ($p < .05$) after controlling for other factors for both Nebraska and Cincinnati in the CBSA-level analysis.

Figure 8 also suggests that racial characteristics of in-state recruiting visits differ across universities. Nine of the 15 universities visited in-state public high schools with, on average, smaller proportions of Black, Latinx, and Native American students than nonvisited schools. However, in comparison with out-of-state visits, the difference in racial composition of visited schools versus nonvisited schools was relatively modest. For example, Pittsburgh exhibited the highest racial disparity for in-state recruiting by visiting public high schools where Black, Latinx, and Native American students made up only 16% of total enrollments in comparison with 29% of total enrollments at nonvisited schools. However, for the other universities, the difference in Black, Latinx, and Native American student enrollments between visited and nonvisited public high schools was less than 3 percentage points (South Carolina, CU Boulder, Cincinnati, Stony Brook, Georgia, Berkeley). Four cases in the study visited in-state public high schools that were, on average, more racially diverse than schools not visited (Rutgers, UC Irvine, Kansas, Nebraska). Additionally, we find that the negative relationship between the racial composition of high schools and the probability of receiving an in-state

visit persisted for four universities (Alabama, Pittsburgh, Stony Brook, NC State) after controlling for other factors (see Appendix C).

Conclusions and Discussion

Twelve of the 15 universities in our sample made more out-of-state than in-state visits. While universities differ from one another in terms of which regional markets they visit, all universities focused out-of-state visits on affluent, predominantly White public high schools and private schools in populous metropolitan areas. The relationship between income and the probability of an out-of-state high school receiving a visit persisted across all universities even after controlling for other factors that could affect whether a school receives a visit. The relationship between the percentage of Black, Latinx, and Native American student enrollment and the probability of receiving an out-of-state visit also persisted for all but two universities in the study (Nebraska and Cincinnati).

In-state recruiting visits also tended to privilege affluent communities, although income differences between visited and nonvisited schools were relatively modest in comparison with the income disparity found in out-of-state visits. More than half of the universities in the study also visited in-state high schools with smaller proportions of Black, Latinx, and Native American students than schools that did not receive a visit. While the relationship between income and the probability of an in-state high school receiving a visit persisted across most universities in the study after controlling for other factors, the relationship between the percentage of Black, Latinx, and Native American students and the probability of receiving an in-state visit diminished for all but four cases.

Our analyses revealed substantial variations across universities' recruiting efforts, some of which appears to be related to external factors. For example, having a nonresident enrollment cap was associated with making fewer out-of-state visits (UC Berkeley, UC Irvine, NC State). For UC Irvine and NC State, more generous state funding appears to be associated with fewer out-of-state visits and greater socioeconomic and racial equity in in-state visits. Results also suggest that strong out-of-state recruiting efforts are not necessarily associated with weak in-state recruiting. For example, Nebraska and South Carolina made a large number of out-of-state recruiting visits and also visited the majority of public high schools in their respective states.

However, a great deal of variation across universities is not clearly connected to external factors. For example, UC Irvine and UC Berkeley face similar external environments, but in-state visits by UC Irvine demonstrate greater socioeconomic and racial equity. Although they are similarly prestigious, Kansas made a substantial number of visits to California, while Nebraska did not. Several universities in our sample face the same dual challenge of declining state support and challenging demographics, but Alabama stands alone in the number of out-of-state recruiting visits, the number of regions

visited across the country (e.g., Northeast, Midwest, South, Southwest), and the number of metropolitan statistical areas visited within each region.

The study's findings extend the economics of education literature. Beyond just leveraging financial aid to buy the best students (Clotfelter, 1996, 2017; Winston, 1999; Zimmerman, 2003), our study suggests postsecondary institutions also craft their incoming classes by focusing recruiting efforts in visiting affluent, predominantly White prospective students across the country. Findings from this study also support previous research that draws on the integration of the national college market to explain the sorting of students among colleges. Hoxby (1997, 2009) argues that declines in costs of travel and information have shifted students' college choices to be driven less by distance or rising selectivity and more by a college's resources and student body. Our study makes a supply-side contribution to this research by investigating how public research universities, institutions that do not have the most resources and are not the most selective, incite student demand by taking advantage of the integration of student markets. The focus on recruiting affluent, out-of-state students across the majority of university cases in the study also suggests public research universities may be recruiting prospective students for resources rather than prestige.

These findings also forward the discussion of how strategic enrollment management practices shape student markets. Slaughter and Rhoades (2004) argue that "colleges and universities are not simply subject to the power of consumer choice; they engage in aggressive marketing to strategically shape those consumer choices" (p. 292). Findings exemplify what Slaughter and Rhoades (2004) characterize as a college market that is segmented by which prospective students are preferred and which are overlooked. Universities in this case study devote a greater share of enrollment management energies on recruiting out-of-state, affluent, White students and a lesser share on recruiting rural, in-state, low-income, Black, Latinx, and Native American students. Through an academic capitalist lens, results suggest that universities in the study prefer to recruit prospective students in more privileged segments of the student market and overlook segments made up of historically undeserved student populations. These findings provide new empirical detail on how universities' recruiting efforts segment and sharpen class and racial divisions in prospective student markets.

Our findings also contribute to the modest literature that analyzes recruiting behavior. The schools and communities visited by public research universities were dissimilar to those visited by for-profits (Cottom, 2017) and a private nonprofit adult education college (Posecznick, 2017). However, out-of-state visits by public research universities were broadly similar to visits by a selective private liberal arts college (Stevens, 2007) in that they focused on affluent, predominantly White, and disproportionately private high schools. Though not analyzed for this article, we also collected off-campus recruiting visit data for a sample of selective private colleges and universities (https://map.emraresearch.org/). This interactive map of recruiting visits

shows broad similarities between high schools visited by selective private institutions and out-of-state high schools visited by public research universities. By contrast, in-state recruiting visits by public research universities—although they skew somewhat toward affluent communities—are much more racially and socioeconomically representative than visits by selective private institutions.

Future Research

The findings and limitations of this study motivate future research. As the first study in a larger project examining off-campus recruiting by colleges and universities, we sought to investigate broad similarities and differences in recruiting patterns across a large number of public research universities. However, the purposeful sample of 15 universities analyzed in this study is, on one hand, inappropriate for making claims beyond our analysis sample and is, on the other hand, too large for deep analyses of particular universities. Future research could utilize public records requests to collect data from a representative sample in order to make claims about a broader population of public universities. The variation in findings across universities in the study, such as the dramatic differences in recruiting by Alabama compared with any other university in the study, calls for a more in-depth case study analysis with fewer universities. Future research, using purposeful or representative samples, should also examine how recruiting patterns vary across types of colleges and universities (e.g., regional universities and public research universities).

Additional research is also needed to understand the spatial and racial dynamics of recruiting visits. Recent scholarship on the geography of college opportunity applies a spatial lens to a well-established college choice literature (Dache-Gerbino et al., 2018; Hillman, 2016), finding that the location of colleges and universities varies widely along the racial and socioeconomic characteristics of neighborhoods. Given universities are not immobile in their efforts to provide access, a spatial analysis of recruiting visits would make a significant contribution to exploring whether and to what extent the enrollment management behaviors of colleges and universities reinforce the geography of unequal college opportunity. Future research should also ground the enrollment management practices of universities within more critical frameworks that do not neutralize or deracialize the location of recruiting visits (e.g., assuming visiting predominantly White schools and communities as the result of the differential distribution of wealth among racial and ethnic groups). Given that results from the out-of-state CBSA-level robustness check indicated larger racial disparities between visited and nonvisited schools compared with the state-level analysis, future research would benefit from exploring recruiting visits in metropolitan areas and ground analyses within the historical disenfranchisement of people of color through neighborhood segregation and stratification.

Perhaps the most important contribution of our study is demonstrating the feasibility of new approaches to collecting data on recruiting behavior. Access to data has been a barrier to empirical research on recruiting, particularly quantitative analyses. Our study is the first to use Web-scraping and public records requests to collect quantitative data on recruiting visits. Recent scholarship also utilizes experimental audit designs to analyze how admissions officers respond to inquiry emails from fictitious prospects (Hanson, 2017; Thornhill, 2018). Other feasible data collection strategies include streaming data from social media (e.g., Twitter) and purchasing data on digital advertising. Scholarship on enrollment management can flourish by embracing these, and other, innovations in data collection.

Given the abundance of data and the dearth of empirical research, we close by calling for the development of a systematic literature on marketing (which includes scholarship on recruiting). Scholarship on marketing is valuable for two broad reasons. First, marketing decisions by colleges affect access for students, as demonstrated by prior research (e.g., Cottom, 2017; Dynarski et al., 2018; Stevens, 2007). Over the past 20 years, advances in marketing and market research have permeated all consumer industries, including higher education. Because most higher education programs are open access or close to it (even prestigious universities offer relatively open access programs, in addition to their selective programs), one could argue that marketing affects student access more than admissions.

Second, marketing behavior reveals insights about organizational priorities. Scholarship on organizational behavior in economics and sociology argues that organizations expend resources on goals they care about. Within economics, Bowen (1980) argues that research universities care most about the pursuit of prestige and Winston (1999) argues that universities pursue prestige, in part, by enrolling students that contribute to the academic profile. Universities expend considerable resources wooing students with desired characteristics (Hossler & Bean, 1990), for example, offering generous financial aid packages (Epple et al., 2003). Within sociology, theories of organizational behavior argue that organizations expend substantial resources on the goals they care most about (Meyer & Rowan, 1977; Thompson, 1967; Weber et al., 2009). On the other hand, organizations "symbolically adopt" goals demanded by external stakeholders by engaging in highly visible actions (e.g., speeches, formal policy adoption) without substantively affecting how resources are allocated (Meyer & Rowan, 1977). Postsecondary institutions expend substantial resources on marketing. Theories of organizational behavior suggest that knowing how universities allocate marketing resources among prospective students indicates which student characteristics they are pursuing. By systematically investigating the diverse set of marketing interventions used by different postsecondary institutions, we can make assertions about organizational priorities.

Scholarship on marketing will be more impactful if it is informed by practice within the enrollment management industry. The enrollment funnel

(depicted in Figure 1) identifies the stages of leads/prospects, inquiries, applicants, admits, and enrolled students, in order to inform targeted interventions. One topic for future research is the "student list" business. Universities identify prospects (and their contact information) by purchasing "student lists" from College Board, ACT, and other vendors. Once identified, prospects are targeted with direct mail, email, text messages, social media, and other marketing and recruiting interventions. Future research should investigate which student characteristics postsecondary institutions prioritize when purchasing these student lists and which combinations of recruiting interventions are received by prospects.

Scholarship within economics privileges institutional financial aid, an intervention that primarily targets the enrollment decisions of admitted applicants. By contrast, the enrollment management industry expends substantial resources on interventions that target earlier stages in the funnel (Clinedinst et al., 2015). Economists should investigate these interventions, who is receiving them, and how they affect students. In a similar vein, scholarship within the sociology of education can build on qualitative case studies of marketing behavior (e.g., Kirp, 2003) by using data science and public records request data collection strategies to develop systematic accounts. Finally, the interdisciplinary "college choice" literature has focused mostly on how students choose colleges (e.g., Hossler & Gallagher, 1987; McDonough, 1997). By collecting data on the behavior of students and colleges, scholars can develop new insights about how students and colleges find and choose one another.

Appendix A

Summary of Data Collection Sources and Quality Checks Performed

	Alabama	S.Carolina	CU Boulder	Kansas	Rutgers	Pittsburgh	Nebraska	Cincinnati	Arkansas	UMass	Stony Brook	Georgia	UC Berkeley	UC Irvine	NC State
Web-scrape data collection															
Scraped data on off-campus recruiting events?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Manually checked each scraped event?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Public records request data collection															
Requested data from Enrollment Management VP from university?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Received data from Enrollment Management VP?	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
State law allows nonresidents to request from public universities?	Ambiguous	Y	Y	Y	N	N	Y	Y	N	Y	Y	N	Y	Y	Y
Made public records request to university?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Received public records data from university (by 10/1/2019)?	N	Y	Y	Y	Y	N	N	Y	N	Y	Y	-	Y	Y	Y
Manually checked each visit from requested data?	-	Y	Y	Y	Y	-	-	Y	-	Y	Y	Y	Y	Y	N
Data used in report analyses															
Web-scrape data is primary data source?	Y	N	N	N	N	Y	Y	N	Y	N	N	N	N	N	Y
Public records data used as primary data source?	N	Y	Y	Y	Y	N	N	Y	N	Y	Y	Y	Y	Y	N

Appendix B

Linear Probability Models Predicting Receiving a Visit for Out-of-State Public High Schools

	Alabama	S.Carolina	CU Boulder	Kansas	**Rutgers**	Pittsburgh	Nebraska
Income							
(ref=<$50k)							
$50k-$74k	0.004	0.003	–0.008***	-0.003	–0.011**	–0.010**	0.001
	(0.004)	(0.003)	(0.002)	(0.004)	(0.004)	(0.003)	(0.005)
$75k-$99k	0.081***	0.038***	0.024***	0.051***	0.019*	0.032***	0.049***
	(0.009)	(0.006)	(0.005)	(0.008)	(0.008)	(0.008)	(0.010)
$100k-$149k	0.207***	0.200***	0.169***	0.182***	0.171***	0.153***	0.191***
	(0.014)	(0.012)	(0.011)	(0.017)	(0.014)	(0.014)	(0.025)
$150k-$199k	0.414***	0.422***	0.500***	0.230***	0.393***	0.480***	0.224*
	(0.041)	(0.043)	(0.044)	(0.051)	(0.050)	(0.050)	(0.089)
$200k+	0.481***	0.437***	0.765***	0.385**	0.398***	0.550***	0.084
	(0.075)	(0.086)	(0.066)	(0.118)	(0.090)	(0.095)	(0.129)
BL, LX, NA Enrollment							
(ref=<20%)							
20-39%	0.029***	0.026***	0.007	0.027***	0.002	–0.001	0.022*
	(0.008)	(0.007)	(0.005)	(0.007)	(0.010)	(0.008)	(0.009)
40-59%	–0.011	–0.011	–0.016**	–0.016*	–0.039***	–0.020*	0.001
	(0.008)	(0.007)	(0.006)	(0.007)	(0.010)	(0.009)	(0.011)
60-79%	–0.046***	–0.028***	–0.037***	–0.032***	–0.048***	-0.040***	0.010
	(0.009)	(0.007)	(0.006)	(0.008)	(0.011)	(0.008)	(0.012)
80-89%	–0.042***	–0.038***	–0.052***	–0.034***	–0.070***	–0.042***	–0.023
	(0.011)	(0.008)	(0.006)	(0.009)	(0.011)	(0.010)	(0.014)
90%+	–0.073***	–0.039***	–0.051***	–0.033***	–0.075***	–0.050***	–0.007
	(0.008)	(0.006)	(0.005)	(0.007)	(0.010)	(0.008)	(0.011)
Constant	0.073***	0.053***	0.048***	0.108***	0.059***	0.060***	0.146***
	(0.010)	(0.007)	(0.007)	(0.010)	(0.009)	(0.009)	(0.014)
Observations	14,966	12,496	13,395	8,528	7,080	7,749	6,423
Adjusted R^2	0.241	0.219	0.230	0.249	0.201	0.213	0.259
F Statistic	159.598***	117.575***	134.317***	95.176***	60.426***	70.836***	75.838***
	(df = 30; 14935)	(df = 30; 12465)	(df = 30; 13364)	(df = 30; 8497)	(df = 30; 7049)	(df = 30; 7718)	(df = 30; 6392)
% Correct Predictions	0.89	0.94	0.95	0.95	0.93	0.94	0.94

(continued)

Appendix B **(continued)**

	Cincinnati	Arkansas	UMass	Stony Brook	Georgia	UC Berkeley	UC Irvine	NC State
Income								
(ref=<$50k)								
$50k-$74k	0.001	0.002	–0.012***	–0.020**	–0.004	-0.003	–0.001	–0.001
	(0.003)	(0.004)	(0.003)	(0.007)	(0.003)	(0.002)	(0.002)	(0.002)
$75k-$99k	0.030***	0.044***	0.022**	0.016	0.008	0.008	0.006	0.005
	(0.007)	(0.010)	(0.007)	(0.013)	(0.006)	(0.004)	(0.004)	(0.005)
$100k-$149k	0.115***	0.184***	0.178***	0.185***	0.068***	0.072***	0.042***	0.047***
	(0.012)	(0.023)	(0.013)	(0.021)	(0.011)	(0.010)	(0.008)	(0.009)
$150k-$199k	0.276***	0.066	0.444***	0.433***	0.168***	0.262***	0.033	0.166***
	(0.045)	(0.047)	(0.049)	(0.057)	(0.041)	(0.049)	(0.020)	(0.047)
$200k+	0.248***	0.398**	0.654***	0.482***	0.361***	0.366***	0.005	0.104
	(0.075)	(0.141)	(0.078)	(0.120)	(0.108)	(0.099)	(0.005)	(0.077)
BL, LX, NA Enrollment								
(ref=<20%)								
20-39%	0.012	0.025**	–0.017*	–0.010	0.002	-0.009*	–0.004	0.001
	(0.007)	(0.008)	(0.008)	(0.015)	(0.005)	(0.004)	(0.004)	(0.006)
40-59%	0.012	0.0001	–0.031***	–0.028	–0.012*	-0.015***	0.002	–0.012**
	(0.008)	(0.008)	(0.008)	(0.016)	(0.005)	(0.004)	(0.005)	(0.005)
60-79%	–0.001	–0.007	–0.041***	–0.054**	–0.027***	-0.017***	–0.004	0.007
	(0.009)	(0.009)	(0.008)	(0.017)	(0.005)	(0.005)	(0.005)	(0.008)
80-89%	–0.006	–0.022*	–0.057***	–0.077***	–0.035***	-0.022***	-0.011*	0.005
	(0.009)	(0.009)	(0.008)	(0.020)	(0.006)	(0.006)	(0.005)	(0.009)
90%+	–0.012	–0.026**	–0.063***	–0.087***	–0.036***	-0.029***	–0.012**	–0.001
	(0.007)	(0.008)	(0.007)	(0.015)	(0.005)	(0.004)	(0.004)	(0.005)
Constant	0.052***	0.080***	0.080***	0.136***	0.008	0.014*	0.011	0.020*
	(0.008)	(0.012)	(0.009)	(0.016)	(0.006)	(0.007)	(0.007)	(0.008)
Observations	9,118	6,630	9,293	4,020	9,582	11,123	7,595	5,255
Adjusted R^2	0.148	0.176	0.205	0.222	0.112	0.107	0.063	0.069
F Statistic	53.754***	48.344***	80.769***	39.299***	41.199***	45.407***	17.944***	14.042***
	(df = 30; 9087)	(df = 30; 6599)	(df = 30; 9262)	(df = 30; 3989)	(df = 30; 9551)	(df = 30; 11092)	(df = 30; 7564)	(df = 30; 5224)
% Correct Predictions	0.95	0.94	0.94	0.91	0.96	0.97	0.98	0.98

Note. Robust standard errors in parentheses. Coefficients and errors for school type, locale, and distance are not shown in table. Schools that satisfied the following criteria were included in the sample: offers grades 9-12 and enrolls at least ten students in each grade; located in the 50 U.S. states, the District of Columbia, or land regulated by the Bureau of Indian Affairs; is not a special education school, alternative school, virtual school, or independent school; is an open status school and reports enrollment to the Federal Department of Education. Nonvisited schools include only out-of-state schools in states that received at least one high school visit.

*$p < .05$. **$p < .01$. ***$p < .001$.

Appendix C

Linear Probability Models Predicting Receiving a Visit for In-State Public High Schools

	Alabama	S.Carolina	CU Boulder	Kansas	Rutgers	Pittsburgh	Nebraska
Income							
(ref=<$50k)							
$50k-$74k	–0.043	0.143*	0.147*	0.079	–0.153	0.007	–0.020
	(0.057)	(0.059)	(0.060)	(0.070)	(0.106)	(0.034)	(0.076)
$75k-$99k	0.018	0.191*	0.164*	0.254***	–0.140	0.203***	–0.115
	(0.118)	(0.093)	(0.077)	(0.073)	(0.114)	(0.056)	(0.107)
$100k-$149k		0.274**	0.129	0.264**	–0.067	0.323***	–0.049
		(0.105)	(0.085)	(0.093)	(0.121)	(0.074)	(0.104)
$150k-$199k					0.131	0.422***	
					(0.146)	(0.126)	
$200k+					0.192		
					(0.156)		
BL, LX, NA Enrollment							
(ref=<20%)							
20-39%	–0.042	0.155	-0.021	0.016	0.079	0.034	0.052
	(0.061)	(0.089)	(0.052)	(0.070)	(0.072)	(0.062)	(0.056)
40-59%	–0.084	0.090	0.051	–0.009	0.189*	–0.043	–0.172
	(0.083)	(0.093)	(0.076)	(0.107)	(0.093)	(0.073)	(0.133)
60-79%	0.054	0.158	-0.032	–0.003	0.252**	–0.179*	–0.136
	(0.103)	(0.119)	(0.079)	(0.116)	(0.087)	(0.085)	(0.200)
80-89%	0.051	0.420**	0.130	0.132	0.073	–0.107	–0.272
	(0.130)	(0.131)	(0.108)	(0.097)	(0.154)	(0.082)	(0.144)
90%+	–0.241***	0.122	-0.054		0.100	0.003	-0.217
	(0.066)	(0.132)	(0.103)		(0.113)	(0.067)	(0.298)
Constant	0.313**	0.027	0.183	0.349***	0.352	0.276***	0.657***
	(0.117)	(0.148)	(0.107)	(0.099)	(0.181)	(0.058)	(0.164)
Observations	341	209	313	317	400	652	247
Adjusted R^2	0.283	0.267	0.511	0.224	0.097	0.427	0.039
F Statistic	7.096***	3.912***	13.084***	4.653***	2.533***	18.304***	1.387
	(df = 22; 318)	(df = 26; 182)	(df = 27; 285)	(df = 25; 291)	(df = 28; 371)	(df = 28; 623)	(df = 26; 220)
% Correct Predictions	0.79	0.82	0.86	0.75	0.71	0.84	0.90

(continued)

Appendix C **(continued)**

	Cincinnati	Arkansas	UMass	Stony Brook	Georgia	UC Berkeley	UC Irvine	NC State
Income (ref=<$50k)								
$50k-$74k	0.090*	0.038	0.181	–0.025	–0.058	0.089***	–0.056*	–0.131**
	(0.035)	(0.078)	(0.103)	(0.021)	(0.062)	(0.023)	(0.024)	(0.042)
$75k-$99k	0.319***	0.144	0.114	–0.023	–0.009	0.137***	–0.059*	0.081
	(0.051)	(0.274)	(0.111)	(0.035)	(0.115)	(0.030)	(0.030)	(0.102)
$100k-$149k	0.420***		0.206	0.112***	0.096	0.129**	–0.092*	–0.145
	(0.064)		(0.112)	(0.031)	(0.133)	(0.044)	(0.041)	(0.135)
$150k-$199k			0.288*	0.347***	0.433***	0.305**	–0.251***	
			(0.141)	(0.087)	(0.118)	(0.094)	(0.062)	
$200k+			–0.625***	–0.009		–0.137	–0.292***	
			(0.137)	(0.175)		(0.130)	(0.056)	
BL, LX, NA Enrollment (ref=<20%)								
20-39%	0.098	–0.157	0.024	0.165***	0.045	0.019	0.019	–0.157**
	(0.058)	(0.084)	(0.085)	(0.038)	(0.078)	(0.045)	(0.032)	(0.059)
40-59%	0.058	–0.123	0.033	0.143*	0.063	0.089	0.088*	–0.064
	(0.072)	(0.110)	(0.119)	(0.055)	(0.083)	(0.047)	(0.034)	(0.073)
60-79%	0.020	–0.041	0.053	0.063	0.134	0.063	0.116**	–0.068
	(0.082)	(0.191)	(0.132)	(0.061)	(0.098)	(0.047)	(0.038)	(0.077)
80-89%	0.039	–0.320	–0.088	–0.009	–0.064	0.111*	0.124**	–0.117
	(0.079)	(0.171)	(0.146)	(0.060)	(0.112)	(0.051)	(0.047)	(0.107)
90%+	0.249***	–0.136	–0.172	–0.116*	0.248*	0.237***	0.192***	–0.108
	(0.074)	(0.168)	(0.152)	(0.055)	(0.104)	(0.050)	(0.043)	(0.086)
Constant	0.340***	0.336	0.227	0.423***	–0.066	0.125*	0.062	0.195
	(0.065)	(0.193)	(0.157)	(0.045)	(0.126)	(0.054)	(0.053)	(0.100)
Observations	817	237	348	1,156	418	1,404	1,404	504
Adjusted R^2	0.389	0.165	0.107	0.532	0.135	0.228	0.134	0.151
F Statistic	20.267***	2.859***	2.480***	44.783***	3.334***	15.279***	8.482***	4.304***
	(df = 27; 789)	(df = 25; 211)	(df = 28; 319)	(df = 30; 1125)	(df = 28; 389)	(df = 29; 1374)	(df = 29; 1374)	(df = 27; 476)
% Correct Predictions	0.81	0.72	0.69	0.92	0.70	0.83	0.84	0.75

Note. Robust standard errors in parentheses. Coefficients and errors for school type, locale, and distance are not shown in table. Schools that satisfied the following criteria were included in the sample: offers grades 9-12 and enrolls at least ten students in each grade; located in the 50 U.S. states, the District of Columbia, or land regulated by the Bureau of Indian Affairs; is not a special education school, alternative school, virtual school, or independent school; is an open status school and reports enrollment to the Federal Department of Education.
*$p < .05$. ** $p < .01$. ***$p < .001$.

Notes

This material is based on work supported by a National Academy of Education/Spencer Foundation Postdoctoral Fellowship, an American Educational Research Association Dissertation Grant, and the Joyce Foundation. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of these organizations. The authors would also like to thank Gary Rhoades for providing critical feedback on earlier versions of this work and three anonymous reviewers whose valuable insights and recommendations substantially improved this article.

[1]Clotfelter (1996) finds empirical support for the revenue theory of costs based on an analysis of department-level expenditures at four prestigious institutions from 1976 to 1992. Suspected cost drivers (e.g., lower teaching loads, more administrators) could not explain the dramatic rise in expenditures. Instead, universities upgraded or created new programs, services, and facilities whenever revenue circumstances allowed for increased expenditure.

[2]Zimmerman (2003) supports this claim empirically, finding that being assigned a roommate with high SAT scores positively affected the GPA of freshman students at Williams College.

[3]Consistent with Winston (1999), Clotfelter (2017) found that American colleges and universities became more unequal from 1970 to 2009, with elite colleges using superior financial resources to compete for high-achieving students from wealthy families who can pay high tuition prices and can contribute donation revenue.

[4]Data collected from admissions Web pages were stored in a structured query language database on a remote server. Python scripts were written to turn the raw HTML data into tabular format and the Google Maps Application Program Interface was queried to obtain location information for each recruiting event.

[5]Or, event may be a virtual event (e.g., webinar, video call) with a target audience at a specific off-campus location (e.g., students from a particular high school).

[6]From here forward, we use the following abbreviated university names: North Carolina State University (NC State); Rutgers University (Rutgers); State University of New York at Stony Brook (Stony Brook); University of Alabama (Alabama); University of Arkansas (Arkansas); University of California, Berkeley (UC Berkeley); University of California, Irvine (UC Irvine); University of Cincinnati (Cincinnati); University of Colorado Boulder (CU Boulder); University of Georgia (Georgia); University of Kansas (Kansas); University of Massachusetts Amherst (UMass Amherst); University of Nebraska–Lincoln (Nebraska); University of Pittsburgh (Pittsburgh); and University of South Carolina (South Carolina).

[7]NC State was the only university for which we used scraped rather than requested data because data from the public records request seemed incomplete and had substantially fewer recruiting visits than scraped data.

[8]We used linear probability models because our primary dependent variable is a binary indicator for whether or not a public high school received a recruiting visit by each of the universities in the study. While this first study focuses only on understanding relationships between independent variables of interest and the probability of receiving a visit, future studies will focus on exploring characteristics of public high schools that are more likely to receive multiple visits.

[9]For example, if CU Boulder visited at least one school in the Houston metropolitan area but did not visit any schools in the San Antonio metropolitan area, then all nonvisited Houston schools would be included and all San Antonio schools would be excluded from the nonvisited sample for CU Boulder.

[10]See Supplemental Material in the online version of the journal available at https://journals.sagepub.com/home/aer.

[11]ZIP code–level income data for homeowners between 25 and 64 years old are used. These were calculated by taking the average of the median income for age-group 25 to 44 years and age-group 45 to 64 years, as reported in the 2016 American Community Survey 5-year estimates. However, disaggregated income data are not available for all ZIP codes. Because we treat income as a categorical variable, all observations are used but ZIP codes with missing income data are included in a "missing" category.

[12]Given that private school students are not likely to live in the same community where the school is located like public high school students, and that data sources provide no other measures of income for students enrolled in private schools (e.g., tuition prices, parental income), we do not analyze the income of private high school visits.

[13]Because these data come from the only comprehensive, national data set that compiles student outcomes on high school exit examinations and only reports student performance for public high schools, our achievement measure is limited to public high schools.

[14]We use Georgia to detail how this hypothetical visit count is calculated. There are 9,582 public high schools and 2,344 private schools in visited states by Georgia. Proportionately, public schools make up 80% (9,582 of 11,926) and private schools make up 20% (2,344 of 11,926) of total schools in these states. We use this proportion to hypothetically estimate how many of Georgia's 441 total out-of-state school visits (these are visits to unique schools and excludes multiple visits to the same school) would be to private and public schools if each school had an equal probability of receiving a visit. Georgia would have made 353 public high school visits (80% of 441 total visits) and 88 private school visits (20% of 441 total visits) if each school had an equal probability of receiving a visit.

[15]Because the only comprehensive, national data set on student academic achievement reports performance outcomes from state-required high school exit examinations that vary from state to state, this is likely to be a limited and conservative measure of achievement for schools across different states. Even so, we included this measure to control for the probability that schools with larger numbers of high-achieving students are more likely to receive a visit by admissions recruiters. Because the relationship between receiving a visit and several independent variables—income, race, enrollment, math proficiency—is highly nonlinear, the models utilized categorical measures of these variables rather than high-order polynomials for ease of interpretation.

[16]Given that the regressions in Appendices B and C model the linear probability of our dichotomous outcome variable indicating whether or not schools received a visit, we rely on correctly predicted probability ratios as a measure of predictive accuracy in lieu of R^2 (i.e., the total number of correct predictions divided by the total number of predictions made by each model). Predictive accuracy was determined by a 0.5 cut score for the prediction. Regression models for the universities in our study predicted whether or not an out-of-state and in-state public high school received a visit with an average of 95% and 80% accuracy, respectively.

[17]All tables and figures of results for the robustness check are provided as Supplemental Material in the online version of the journal.

[18]All tables and figures of results for the robustness check are provided as Supplemental Material in the online version of the journal.

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Manuscript received April 5, 2019
Final revision received January 5, 2021
Accepted February 8, 2021