



Who Leaves? Interdistrict Magnet School Openings and Enrollment Dynamics in Nearby Schools

Yerin Yoon

Boston College

Connecticut expanded interdistrict magnet schools (IMS) intending to reduce racial and socioeconomic segregation across districts, yet the potential unintended effects on student composition in nearby schools remains unclear. Leveraging the staggered rollout of IMS openings, this study finds that IMS openings reduce enrollment by about 5 percent in nearby private K8 and traditional public high schools (TPHS). In private K8, the share of White students declines, increasing racial isolation of Black and Hispanic students, with effects driven by Catholic schools. In TPHS, higher-income students are more likely to exit, with larger effects in a region under court-ordered desegregation. These findings suggest that policies designed to reduce segregation may unintentionally generate new forms of isolation within local education markets.

VERSION: May 2026

Suggested citation: Yoon, Yerin. (2026). Who Leaves? Interdistrict Magnet School Openings and Enrollment Dynamics in Nearby Schools. (EdWorkingPaper: 26-1482). Retrieved from Annenberg Institute at Brown University: <https://doi.org/10.26300/k0tk-jw24>

Who Leaves? Interdistrict Magnet School Openings and Enrollment Dynamics in Nearby Schools*

Yerin Yoon[†]

Abstract

Connecticut expanded interdistrict magnet schools (IMS) intending to reduce racial and socioeconomic segregation across districts, yet the potential unintended effects on student composition in nearby schools remains unclear. Leveraging the staggered rollout of IMS openings, this study finds that IMS openings reduce enrollment by about 5 percent in nearby private K8 and traditional public high schools (TPHS). In private K8, the share of White students declines, increasing racial isolation of Black and Hispanic students, with effects driven by Catholic schools. In TPHS, higher-income students are more likely to exit, with larger effects in a region under court-ordered desegregation. These findings suggest that policies designed to reduce segregation may unintentionally generate new forms of isolation within local education markets.

Keywords: Interdistrict Magnet School, School Choice, Enrollment, Racial Composition

* This project is generously supported by the Catholic Education Research Initiative (CERI) at Boston College. I am deeply grateful for the guidance of my advisor, Shaun M. Dougherty, and my committee members, Joshua Goodman, Henry Braun, and Emily Gates. I also appreciate the thoughtful feedback received from participants at the 2024 Association for Education Finance and Policy (AEFP), the 2024 Society for Research on Educational Effectiveness (SREE), and the 2024 Association for Public Policy Analysis and Management (APPAM) annual conferences. Any remaining errors, opinions, or conclusions are solely my own.

[†] [Corresponding author] Ph.D. Candidate, Lynch School of Education and Human Development, Boston College (yerin.yoon@bc.edu).

1. Introduction

In the United States, magnet schools emerged in the late 1960s as a strategy to promote voluntary racial and socioeconomic integration by attracting students across traditional attendance boundaries through specialized academic curriculums or themes (George & Darling-Hammond, 2021). As of 2016, approximately 4,340 public elementary and secondary magnet schools served nearly 3.5 million students nationwide (Bifulco, 2025; Magnet Schools of America, 2017). Connecticut’s interdistrict magnet schools represent one of the most notable examples of this approach, developed in response to *Sheff v. O’Neill* (1989) to reduce racial and economic isolation between Hartford (i.e., Sheff region)—one of the most segregated and economically disadvantaged cities in the United States—and its surrounding suburban districts.

While the policy’s primary goal is to foster racial and socioeconomic desegregation across district lines, the expansion of interdistrict magnet schools may also reshape local schooling dynamics. When a new magnet school opens nearby, families may adjust their choices, affecting the demographic and enrollment composition of surrounding public and private schools, as shown in studies of charter school expansion (Alcaino & Jennings, 2020; Dougherty et al., 2025; Slungaard-Mumma, 2022; Hicks & Lens, 2022; Winters, 2012). Yet most evaluations of these schools have focused on their success in promoting interdistrict integration or academic achievement (Bifulco et al., 2009a; Bifulco et al., 2009b; Bush et al., 2001; Gersti-Pepin, 2002; Sohoni & Saporito, 2009; Saporito, 2003; Yon et al., 1998), with limited attention to their unintended local effects—particularly for nearby elementary and secondary schools, where students typically enroll close to home and thus might be most immediately affected by new public school choice options.

This paper provides causal evidence on how interdistrict magnet school openings affect enrollment dynamics in nearby traditional public and private schools. Connecticut offers a unique setting for this analysis, as participation in interdistrict magnet schools is entirely voluntary and students' race is not used as an admissions criterion. Consequently, local enrollment patterns may reflect parental preferences, geographic accessibility, and the availability of nearby schooling options. Leveraging the staggered rollout of interdistrict magnet school openings in Connecticut between 1998 and 2020, this study employs a difference-in-differences and event-study design to address three research questions:

1. What is the impact of interdistrict magnet school openings on total enrollment in proximal traditional public and private schools?¹
2. What is the impact of interdistrict magnet school openings on the share of low-income students and racial composition in proximal traditional public and private schools?
3. Do these impacts differ for schools in the Sheff region and for Catholic private schools?

This study uses the National Longitudinal School Database (NLSD)—which includes annual enrollment, demographic, and geographic data for public schools and biannual data for private schools nationwide—and merge it with the full list of interdistrict magnet schools in Connecticut, compiled from the Comprehensive Statewide Interdistrict Magnet School Plan (Connecticut State Department of Education, 2016). To more precisely capture enrollment shifts among schools serving overlapping grades, I estimate effects separately for K8 and high schools (Slungaard-Mumma, 2022; Dougherty et al., 2025).

¹ For public schools, I focus on traditional public schools, excluding other types of magnet schools and charter schools. Although these schools may serve student populations who already in the public school system and actively engaged in school choice, their numbers in Connecticut are too limited to provide reliable estimates of treatment effects, as shown in Figure 1.

On average, interdistrict magnet school openings reduce enrollment in nearby private K8 schools by 12.5 students (6.1 percent relative to the baseline) and in traditional public high schools by 64.5 students (5.3 percent), suggesting that patterns of student exit vary by school level and type. I find no statistically significant enrollment changes in nearby traditional public K8 schools or private high schools.

In private K8 schools, the share of White students declines by 2.2 percentage points (3.5 percent), increasing the isolation of Black and Hispanic students. However, I find no evidence that openings affect the share of low-income students eligible for free or reduced-price lunch. Heterogeneity analyses show that these exits of White students are largely driven by Catholic schools. In non-Catholic private K8 schools—which, on average, are more expensive than Catholic schools—two years after exposure to a new interdistrict magnet school, the shares of Black and Hispanic students decline by 2.5 and 1.8 percentage points, respectively, while the share of White students increases.

In traditional public high schools, in contrast, the share of students eligible for free or reduced-price lunch increases by about 7.7 percentage points (18.3 percent) following nearby magnet school openings, with no significant change in racial composition. This suggests that relatively higher-income students are more likely to exit traditional public high schools when new choice options become available, a pattern more pronounced in schools located within the Sheff region (Hartford County).

These findings highlight who exits, who remains, and how students re-sort in response to the expansion of interdistrict magnet schools. Together, they suggest that policies designed to reduce segregation, while expanding access and diversity across districts, may unintentionally generate to new forms of isolation within local education markets.

2. Literature Review

2.1. Magnet Schools and Racial and Socioeconomic Desegregation

Early studies find that magnet schools enrolled more racially diverse student bodies than other public schools, increasing interracial exposure among students (Goldring & Smrekar, 2000; Harris, 2022; Steel & Levine, 1994). In Connecticut, Bifulco et al. (2009a) also shows that interdistrict magnets allowed students of color from the state's most segregated cities to attend substantially less isolated schools.

Yet, as Bifulco (2025) notes, greater diversity within magnets may come at the expense of increased segregation in surrounding schools. Using application data from Philadelphia, Saporito (2003) finds that White students from schools with higher shares of non-White students and higher-income students from high-poverty schools were the most likely to apply to new magnet high schools. In Tennessee and North Carolina, Kho et al. (2022) also show that magnet schools provide the most evidence of cream skimming, attracting high-performing students from traditional public schools who are more likely to be white and not economically disadvantaged. Similar concerns have been raised for magnets housed within regular schools, where the students participating in the magnet-school programs, who are more likely to be White and nonpoor, may be largely separated from students attending from the neighborhood attendance zone (Yon et al., 1998; Bush et al., 2001; Gersti-Pepin, 2002). More recent comparisons of school segregation patterns across large districts show that, even when magnets are included, schools remain substantially more segregated than their geographic attendance zones would predict (Sohoni & Saporito, 2009; Bifulco, Ladd, & Ross, 2009).

Together, this evidence suggests that while magnet schools promote diversity within participating schools, their ability to reduce systemwide segregation is limited. Nevertheless,

little rigorous evidence exists on how magnet school openings affect the racial and socioeconomic composition of nearby schools, particularly across public and private sectors and between K8 and high schools.

2.2. Public School Choice Expansion and Local Enrollment Dynamics

Prior studies examining how public school choice expansion affects local enrollment and segregation have concentrated on charter schools. Much of this work investigates how charter growth influences nearby traditional public schools. Studies in diverse contexts—including North Carolina and Massachusetts (Slungaard-Mumma, 2022), Los Angeles (Hicks & Lens, 2022), and New York City (Winters, 2012)—consistently find that charter openings reduce enrollment in local traditional public schools. Earlier studies similarly report negative impacts on overall district-level public school enrollment (Bettinger, 2005; Garcia, 2008).

Findings on racial segregation, however, are more mixed. Several studies suggest that charter growth intensifies segregation across districts or counties. Alcaino and Jennings (2020) provide evidence that the expansion of charter school enrollment has increased racial and socioeconomic segregation at the county-level across the United States. Monarrez et al. (2022) similarly find that charter schools contribute modestly to school segregation, decreasing the likelihood that Black and Hispanic students are exposed to peers from other racial or ethnic groups. However, they also show that charters can reduce segregation between districts in metropolitan areas. Ritter et al. (2014) likewise find that student transfers from traditional public to charter schools often improve racial integration in the schools students leave behind.

Charter expansion also affects private education markets. Using Michigan elementary school data, Chakrabarti and Roy (2016) find no causal evidence that charter expansion reduces private school enrollment. In contrast, Waddington (2012)—drawing on data from ten large U.S.

cities in the Great Lakes and Rust Belt regions—shows that charter schools located near Catholic schools accelerate declines in Catholic school enrollment and closures, particularly in elementary grades. Buddin (2012) supports this view using national data, finding that students entering charter schools often come from private schools across grade levels. More recently, Alcaino and Jennings (2020) report that charter enrollment growth exerts a significant negative effect on private school enrollment overall.

Collectively, these studies demonstrate that charter expansion generates substantial enrollment shifts across both public and private education sectors. Despite these insights, causal evidence on magnet schools remains remarkably limited—even though magnets serve roughly seven percent of U.S. public school students and pursue fundamentally different policy goals. Unlike charters, magnet schools are explicitly designed to promote diversity and desegregation through specialized curricula, innovative themes, and high-quality college preparatory programs that often attract high-achieving students. Although both charter and magnet schools provide free public choice options, their distinct missions and student populations may produce divergent patterns of local enrollment and demographic change.

3. Interdistrict Magnet School in Connecticut

Connecticut's interdistrict magnet school policy is a central component of the state's long-term strategy to reduce racial and socioeconomic segregation in public education. The program originated in response to *Sheff v. O'Neill* (1989), a landmark civil rights lawsuit in which the Connecticut Supreme Court ruled in 1996 that the state had failed to provide Hartford students with equal educational opportunities, due in large part to racial and economic isolation. Hartford is the fourth poorest city in the United States with over 100,000 residents (World Population Review, 2025) and 34.4 percent of its population lives below the poverty line. In contrast, the

surrounding suburban counties—largely affluent and predominantly white—have a combined poverty rate of just 12.1 percent (Quick, 2016). Subsequent settlement agreements, spanning from 2003 through 2017, therefore outlined state responsibilities to expand access to integrated educational environments, particularly for Hartford-resident students (Connecticut State Department of Education, 2016).

To comply with these mandates, Connecticut has built a robust system of public school choice programs. Among these, interdistrict magnet schools have emerged as the most significant and widely scaled intervention. These schools are publicly funded and operated by local or regional school districts, regional education service centers, or through partnerships with higher education institutions (School and State Finance Project, 2024). Each interdistrict magnet school is organized around a distinctive curricular theme—such as STEM, global studies, the arts, or early college—and is designed to attract voluntary enrollment from racially and geographically diverse student populations. Admission is application-based and, when oversubscribed, determined by lottery.

The state provides substantial support for the development and operation of interdistrict magnet schools, especially for the schools located in the Sheff region. This includes grants for planning, capital construction, and enhanced per-pupil operating and transportation funding. For example, interdistrict magnet schools located in the Sheff region may receive up to 95 percent reimbursement for eligible capital expenses, compared to approximately 80 percent for interdistrict magnet schools located outside the region.

Over the past two decades, Connecticut’s interdistrict magnet schools have expanded steadily—not only in the number of schools but also in total enrollment—reflecting the state’s sustained commitment to desegregation through school choice. In the 1998–1999 school year, 16

interdistrict magnet schools received state funding. By 2015–2016, the number had grown to 89, including 84 full-time and five half-time programs.² As of 2015–2016, among the full-time interdistrict magnet schools, 26 served high school students, 47 served pre-kindergarten through grade 8, 6 served both K8 and high school grades, and 3 served only pre-kindergarten to kindergarten students. Nearly half of these schools were located in the Sheff region (Hartford County), with broad geographic distribution across urban and suburban communities. These full-time interdistrict magnet schools enrolled 38,365 students statewide, accounting for approximately 7 percent of Connecticut’s total public school enrollment (Connecticut State Department of Education, 2016).

A defining feature of Connecticut’s interdistrict magnet school policy is the enrollment cap on students from any single district. Initially, schools operating prior to July 1, 2005, were required to limit enrollment from one district to no more than 80 percent of total students. For new interdistrict magnet schools established after that date, the threshold was reduced to 75 percent. Beginning with the 2017–2018 school year, this 75 percent cap became mandatory for all interdistrict magnet schools statewide as a condition of receiving state operating grants (Connecticut General Statutes § 10-264i, 2024). While intended to ensure racially and geographically diverse student bodies, this policy also highlights that as many as three-quarters of students may still come from the resident district—underscoring the importance of understanding dynamics in proximal distances when evaluating the impacts of newly established interdistrict magnet schools.

4. Data and Sample

4.1. Data

² In Table A1, I report the list of 84 full-time interdistrict magnet schools captured in this study. It includes school name, whether a school is in the Sheff region, lowest and highest offered grade, and curricular theme.

This study uses school-by-year level data from the National Longitudinal School Database (NLSLD), which includes information on public schools from the Common Core Data (CCD) and private schools from the Private School Survey (PSS) from the 1998–1999 through 2019–2020 school years (Carroll et al., 2023). This dataset provides annual information on each school’s type, grade range, total enrollment, racial composition, geographic location, urbanicity, the share of free or reduced-price lunch eligible students, Title I eligibility, and religious affiliation.³ From their national sample, I use only schools located in Connecticut. To control potential changes in racial composition at county-level, I also merge Census 2000 and 2010 data.

Note that location data for private schools in PSS is available only from the 2005–2006 school year. Following recent studies using the same dataset (Dougherty et al., 2025), I backfill missing location information for private schools using geocoded longitude and latitude data extracted from physical addresses in the National Center for Education Statistics (NCES) Elementary and Secondary Information System. To identify the complete list of interdistrict magnet schools in Connecticut, I manually compile data from the Comprehensive Statewide Interdistrict Magnet School Plan published by the Connecticut State Department of Education (2016). I identify 84 full-time interdistrict magnet schools, which are merged into the main dataset using NCES school identifiers.

This study constructs four main analytic datasets, disaggregated by school type and grade level: traditional public K8 schools, private K8 schools, traditional public high schools, and private high schools. Splitting the sample by grade band enables more precise identification of enrollment shifts in response to new interdistrict magnet school openings, as only school with overlapping grade levels are plausibly affected (Slungaard-Mumma, 2022; Dougherty et al.,

³ Information on free or reduced-price lunch eligibility and Title I status is available only for public schools, whereas data on religious affiliation is available only for private schools.

2025). It also accounts for variation in the availability of school choice options and the curricular focus of magnet schools across grade levels. As shown in Figure 1, K8 and high schools differ substantially in the density of nearby choice options, including charter schools and Catholic private schools. Table A1 further indicates that interdistrict magnet high schools are primarily focused on STEM or college preparatory themes, whereas K8 schools offer a more diverse set of curricula, including International Baccalaureate (IB), Arts, and Montessori. Tuition levels also vary sharply between private K8 and high schools, which is likely to influence families' propensity to exit when free public school alternatives become available.⁴

4.2. Sample Restriction

This study applies a series of sample restrictions to ensure comparability across school types and validity of identification. Table A2 summarizes the sequential steps used to construct the final analytic sample. Beginning with the full set of traditional public and private schools in Connecticut from the 1997–1998 through 2019–2020 school years, I first exclude schools with missing enrollment data. These cases primarily consist of schools that were either closed or had not yet begun enrolling students. I then exclude non-regular school types, including alternative schools, career and technical schools, special education schools, early childhood programs, and Montessori schools. Next, schools whose highest grade offered is pre-kindergarten or kindergarten are dropped, as these schools fall outside the scope of enrollment responses relevant to interdistrict magnet school competition. To support spatial linkage with nearby interdistrict magnet school openings, I also exclude schools that ultimately lack valid latitude and longitude data, even after the backfilling process described in the previous section. Additionally, this study

⁴ In 2025, the average annual tuition for private elementary schools in Connecticut is \$24,573, and for private high schools, it is \$39,586. Compared to the national averages of \$13,939 for elementary schools and \$17,826 for high schools, Connecticut has the highest average tuition of any state in the U.S (Private School Review, 2025).

removes the 1997–1998 school year, which is used only to impute private school enrollment in 1998–1999. The resulting sample includes 949 traditional public K8 schools, 454 traditional public high schools, 278 private K8 schools, and 128 private high schools.

Figure 1 displays the geographic distribution of traditional public (gray) and private (orange for Catholic and black for non-Catholic) schools in the sample alongside interdistrict magnet schools (red) as of 2019. The figure shows that interdistrict magnet schools are distributed across multiple counties in Connecticut rather than concentrated in a single area, and that nearby traditional public and private schools are similarly dispersed. Among these schools, my treatment group of interest consists of those located within close proximity to a newly opened interdistrict magnet schools.

To estimate causal effects of such magnet school openings, I further drop the schools that are observed outside a symmetric event-time window of six years before to five years after their first exposure to a nearby interdistrict magnet school. This window includes the most frequently observed event times while avoiding estimates based on sparse observations from very early or very late adopters. This approach balances sample size, estimation support, and generalizability, allowing me to present dynamic treatment effects for the full $t \pm 5$ window with consistent and interpretable estimates.

5. Measures

5.1. Treatment: Interdistrict Magnet School Opening

My treatment of interest is the opening of the first interdistrict magnet school within a defined radius of nearby traditional public and private school locations. I measure linear distance between schools using latitude and longitude and define proximity following recent literature on school openings, particularly studies of charter school expansion (Hicks & Lens, 2022;

Slungaard-Mumma, 2022; Dougherty et al., 2025). The preferred threshold is 2.5 miles, consistent with the median distance to school reported in the 2017 National Household Travel Survey. Kontou et al. (2020) report a median of 2.7 miles overall, with variation by school level: 2.1 miles for elementary, 3.2 miles for middle, and 3.6 miles for high school students.

As shown in Table A3, 15.6 percent of K8 traditional public schools in Connecticut are eventually treated with a magnet school opening within 2.5 miles. 18.7 percent are always treated from the beginning of this study's observation window, while 65.8 percent are never treated. The distribution is similar among K8 private schools, with 16.2 percent eventually treated. For high schools—where schools are more geographically dispersed—treatment rates are lower among traditional public schools, with only 6.6 percent eventually treated, compared to 18 percent among private high schools. Across school sectors and grade levels, eventually treated schools tend to have larger enrollments, serve higher shares of Black or Hispanic students, and are more likely to be located in the Sheff region, relative to never-treated schools.

In this study, the majority of eventually treated schools are located in urban or suburban areas. Among K8 traditional public schools, 41 percent are located in urban areas and 56 percent in suburban areas, while only 3 percent are located in rural or town settings. Given this distribution, I adopt a maximum distance of 5 miles for my specification and test the sensitivity of results using alternative distance thresholds of 1, 2, 4, and 5 miles. This threshold is consistent with prior studies conducted in similar urban and suburban contexts, including Bettinger (2005) in Michigan, Hicks and Lens (2022) in Los Angeles, and Slungaard-Mumma (2022) in Massachusetts and North Carolina.⁵

5.2. Outcomes

⁵ Lidbe et al. (2020) also find that urban students typically travel shorter distances to school—ranging from 3 to 5 miles—while rural students often commute more than 6 miles.

This study focuses on three main outcomes: total enrollment, the share of low-income students, and racial composition. As shown in Table A3, traditional public schools in Connecticut have substantially larger enrollment sizes than private schools. On average, K8 traditional public schools enroll 465 students compared to approximately 200 students in private K8 schools. Similarly, traditional public high schools enroll an average of 923 students, while private high schools enroll about 345.

I use the share of students eligible for free or reduced-price lunch (FRPL) as a proxy for the share of low-income students. Although this measure has limitations—particularly following the introduction of the Community Eligibility Provision (CEP) in 2014, which allowed some schools to report 100 percent eligibility regardless of individual student income—it remains the most consistently available indicator of student socioeconomic status across the full study period. As shown in Table A4, approximately 80 percent of magnet school openings in my sample occurred prior to 2014, before widespread CEP adoption. To mitigate potential bias from CEP-related measurement error, I also conduct robustness checks using a restricted sample of pre-CEP years (1998–1999 through 2013–2014).

For racial composition, this study focuses on three major racial or ethnic groups: White, Black, and Hispanic. The CCD and PSS data provides student counts by race/ethnicity for each school year, from which the NLSD constructs proportions using total school enrollment as the denominator. I use these proportions as outcome variables.

6. Empirical Strategy

6.1. Staggered Difference-in-Differences & Event study

To estimate the impact of interdistrict magnet school openings on the enrollment composition of nearby schools, this study leverages the staggered rollout of such school openings across

Connecticut. Specifically, I compare changes in outcomes among eventually treated schools to changes among schools that have not yet been treated at a given point in time.

I restrict the comparison group to not-yet-treated schools, excluding never-treated schools due to concerns about the non-random placement of interdistrict magnet schools, echoing similar concerns in studies of charter school openings (Bifulco & Buerger, 2015; Chakrabarti & Roy, 2016; Glomm et al., 2005; Henig & MacDonald, 2002; Singleton, 2019; Slungaard-Mumma, 2022).⁶ As discussed earlier, my descriptive statistics also show that eventually treated schools (i.e., those located near a new interdistrict magnet school) differ systematically from never-treated schools in observable characteristics, supporting this decision.

An additional threat to identification arises from possible selection in treatment timing: schools treated earlier may differ from those treated later in ways that also affect enrollment trends. This undermines the validity of traditional two-way fixed effects (TWFE) models, which assume that all units can serve as valid controls for one another across time. To address this, I employ the estimator proposed by Callaway and Sant’Anna (2021), which is better suited for staggered adoption settings where treatment timing may be non-random. Their approach estimates group-time average treatment effects by comparing treated units only to units that are not-yet-treated at the same time, thereby avoiding the problematic use of already-treated units as controls. This structure makes the estimator more robust to selection bias in treatment timing and allows for treatment effect heterogeneity across cohorts and over time. While it does not eliminate all concerns about endogeneity—particularly if unobserved factors affect both treatment timing and outcomes—it is less sensitive to these biases than traditional TWFE models and is therefore the preferred specification in this study. To assess the robustness of the main

⁶ This study uses the *notyet* option in the *csdid* command in STATA 19.0 (Rios-Avila et al., 2023).

estimation, I also report results using alternative DID specifications, including the approach proposed by Sun and Abraham (2021) and traditional TWFE.

To assess the parallel trends assumption and explore dynamic treatment effects, I also implement an event study framework. This approach allows this study to test whether treated and comparison schools exhibited similar trends in outcomes prior to treatment and would have continued on parallel trajectories in the absence of the intervention. Main event study specification is as follows:

$$Y_{st} = \sum_{n=-5}^5 \phi_n (EventTime_{st} = n) + \delta_s + \lambda_t + \rho_{st} \quad (1)$$

where Y_{st} is outcome of interest for school s and year t , including total enrollment and the shares of low-income, White, Black, and Hispanic students. δ_s is the fixed effect for school, capturing time-invariant school characteristics, and λ_t is the fixed effect for year, controlling for common shocks in each time period. ρ_{st} is the error term, clustered at the school level.

$EventTime_{st}$ is a relative time indicator for the number of years since the opening of the first nearby interdistrict magnet school. Negative values represent pre-treatment years, and zero or positive values represent post-treatment years. The coefficients ϕ_n capture the average treatment effect at each relative time point, enabling this study to trace dynamic impacts of magnet school openings on the student composition of nearby traditional public and private schools.

6.2. Heterogeneity

To explore potential heterogeneity in the effects of interdistrict magnet school openings, this study conducts subgroup analyses based on (1) whether the treated school is located within the Sheff region, and (2) whether the treated private school is Catholic or non-Catholic.

The first source of heterogeneity—Sheff versus non-Sheff regions—reflects whether the policy’s intended target area responded differently to the introduction of new school choice options. As mentioned earlier, the *Sheff v. O’Neill* case specifically addressed racial and socioeconomic segregation in the Hartford area, prompting the additional support for interdistrict magnet schools in this region. Given its distinct demographic and economic composition compared to surrounding counties, it is important to assess whether schools in the Sheff region experienced different patterns of enrollment shifts. This analysis allows me to examine whether students in historically underserved and policy-targeted communities were more likely to exit into newly available magnet school options.

The second source of heterogeneity focuses on differences between Catholic and non-Catholic private schools. These school types differ not only in terms of student demographics and religious affiliation, but also in tuition levels—a potential factor influencing family decisions about whether to transfer to a free public school alternative. As of 2025, there are 174 religiously affiliated private schools in Connecticut serving 32,752 students, accounting for 41% of all private schools. Among these, Catholic schools are the most prevalent (Private School Review, 2025). As shown in Table A5, Catholic schools in Connecticut tend to serve more White students, are more likely to be in urban or suburban areas and located near interdistrict magnet schools—19.6 percent are eventually treated, compared to 12.0 percent of non-Catholic private schools. Tuition levels further highlight the differences between these groups. The average tuition for Catholic K8 schools is \$10,132, substantially lower than the state average for all private elementary schools, which stands at \$24,573 (Private School Review, 2025). This supports that Catholic schools serve relatively more low- to middle-income families and may therefore be more sensitive to the introduction of free public school alternatives such as

interdistrict magnet schools. Given that Catholic schools are more commonly K8 institutions and that tuition disparities are most pronounced at the elementary level, I restrict this heterogeneity analysis to K8 private schools.

7. Results

7.1. Impacts on Total Enrollment

The opening of interdistrict magnet schools leads to enrollment declines in nearby private K8 schools and traditional public high schools, suggesting that patterns of student exit vary by school level and type. As shown in Figure 2 and Table A6, private K8 schools experience an average decline of 12.5 students following the opening of the first nearby K8 interdistrict magnet school within 2.5 miles, compared to not-yet treated schools. This represents a 6.1 percent decrease relative to the baseline enrollment of 203.5 students (see Table A3). The decline becomes statistically significant two years after exposure and intensifies through five years post-treatment. In contrast, no significant enrollment change is observed among traditional public K8 schools.

For high schools, the pattern reverses. Traditional public high schools experience a substantial decline of 64.5 students on average—a 5.3 percent reduction relative to the baseline enrollment of 1,214.3 students—following the opening of a nearby interdistrict magnet high school. Private high schools, however, show no significant enrollment change.

7.2. Impacts on the Share of Low-income Students

Who is leaving these schools? Figure 3 suggests that relatively higher-income students are more likely to exit traditional public high schools after the opening of a nearby interdistrict magnet school. Specifically, the share of students eligible for free or reduced-price lunch (FRPL) increases by 7.7 percentage points in treated traditional public high schools—an 18.3 percent

increase relative to the baseline FRPL rate of 42 percent—compared to not-yet-treated schools. This shift in composition occurs alongside a decline in total enrollment, implying that students not eligible for FRPL (i.e., relatively higher-income students) are disproportionately exiting, thereby increasing the isolation of low-income students.

By contrast, traditional public K8 schools, which do not experience significant changes in total enrollment post-treatment, also show no evidence of compositional shifts by student income status. As mentioned earlier, this study could not examine this outcome for private schools due to data limitations.

7.3. Impacts on Racial Composition

In private K8 schools—where enrollment declines are observed—nearby interdistrict magnet school openings induce a decrease in the share of White students and increases in the shares of Black and Hispanic students. Panels (d) through (f) in Figure 4 and Table A7 show that the White student share declines by approximately 2.2 percentage points (3.5 percent relative to the baseline), while the Hispanic share increases by 1.8 percentage points. The Black share increases by 0.9 percentage points, although this change is not statistically significant. These patterns suggest that White students are more likely to exit private K8 schools following the introduction of a new interdistrict magnet school, thereby increasing the isolation of Black and Hispanic students.

The pattern differs in traditional public K8 schools, where no significant enrollment decline is observed. Although some changes in racial composition occur, the decline in the White student share (0.7 percentage points) is not statistically significant. The Black student share decreases by 0.5 percentage points (statistically significant), while the Hispanic share increases

by about 1.0 percentage point. These patterns suggest that if any demographic group is more likely to exit, it may be Black students, though this should be interpreted with caution.

In traditional public high schools, changes in racial composition are less pronounced than changes in total enrollment or the share of low-income students. Panels (a) through (c) in Figure 5 suggest that exits may include White students, with modest declines in their shares (1.1 percentage points; not statistically significant). The decline appears to be offset by a 1.8 percentage point increase in the Hispanic student share.

Private high schools show no statistically significant changes in racial composition, consistent with the lack of enrollment effects. Interestingly, however, the Black student share declines by 1.3 percentage points, while the White and Hispanic shares increase slightly by 0.8 and 0.3 percentage points, respectively.

7.4. Heterogeneity

7.4.1. Sheff vs. Non-Sheff Regions

This study also finds heterogeneous effects by whether a school is located in the Sheff or non-Sheff region. Although the differences between the two regions are not statistically significant in all cases, Figure 6 and Table A8 suggest meaningful variation. As shown in panel (c), enrollment declines in traditional public high schools are larger in the Sheff region—85.2 students (statistically significant) in Sheff whereas 42.2 students (not significant) in non-Sheff schools.

Notably, in panel (d), private high schools in the Sheff region show a statistically significant enrollment increase of approximately 29.3 students. However, this gain is smaller than the decline observed in Sheff traditional public high schools, suggesting that some students exiting public schools may be transferring to private schools in response to new competition from magnet school openings.

Consistent with these enrollment shifts, the increase in the share of low-income students in traditional public high schools is also more pronounced in the Sheff region: 10.8 percentage points compared to a statistically insignificant 5.4 percentage points in the non-Sheff region (Figure 7, panel b). This pattern suggests that even within the Sheff region, relatively higher-income students in traditional public high schools are more likely to exit following nearby interdistrict magnet school openings. The absence of significant enrollment or economic compositional change in non-Sheff traditional public high schools further supports the robustness of this interpretation.

While racial composition shifts in Sheff traditional public high schools are less pronounced than the observed enrollment and economic status-based changes, they still show modest declines in the share of White students and increases in the share of Hispanic students (Table A9 and panels (a) through (c) in Figure A1). By contrast, racial composition changes in Sheff private high schools—which experienced enrollment gains—suggest that the increase may be concentrated among White students. Panels (d) through (f) in Figure A1 indicate that the White student share increases by about 2.2 percentage points, while the Black and Hispanic shares decrease by 1.9 and 0.8 percentage points, respectively. However, none of these changes are statistically significant.

In private K8 schools located in the non-Sheff region—where enrollment declines are pronounced—the decrease in the White student share is also more substantial (2.9 percentage points), alongside increases of 1.3 percentage points for Black students and 1.5 percentage points for Hispanic students (Table A10 and panels (d) through (f) in Figure A2). These results reinforce the earlier finding that White students are more likely to exit private K8 schools

following the proximal interdistrict magnet school opening, and suggest that this pattern is particularly concentrated in the non-Sheff region.

7.4.2. Catholic vs. Non-Catholic K8 Private schools

Figure 8 and Table A11 show that enrollment composition changes in private K8 schools also vary by religious affiliation—specifically, whether a school is Catholic or non-Catholic. While the overall enrollment decline is slightly more pronounced in non-Catholic private K8 schools (an average drop of 14.3 students, or 6.4 percent relative to the baseline; Table A5) compared to Catholic schools (a decline of 9.4 students, or 4.7 percent), the racial composition shifts differ notably across the two groups.

In Catholic schools, the enrollment decline is accompanied by clear evidence of White student exit. On average, the White student share decreases by 3.9 percentage points, while the shares of Black and Hispanic students increase by 2.1 and 2.8 percentage points, respectively. In contrast, the enrollment decline in non-Catholic private K8 schools is not concentrated among White students. Rather, it is primarily driven by decreases in the shares of Black and Hispanic students. On average, the Black student share declines by 1.3 percentage points, with the most pronounced decreases occurring one to two years after exposure to a new interdistrict magnet school—1.9 and 2.5 percentage points, respectively. During the same period, the Hispanic student share also declines by 0.4 to 1.8 percentage points, while the White student share increases by approximately 2.4 to 3.9 percentage points.

This divergent pattern between Catholic and non-Catholic private schools could reflect differences in their baseline racial composition. For example, across all K8 private schools, Catholic schools have a White student share approximately 11 percentage points higher than that of non-Catholic schools (80 percent in Catholic and 69 percent in non-Catholic; Table A5).

However, among the eventually treated schools—that is, those located near a newly opened interdistrict magnet school—this gap is notably smaller, at just 4 percentage points (64 percent in Catholic and 50 percent in non-Catholic). This suggests that the observed divergence in response is unlikely to be driven solely by initial differences in racial composition.

7.5. Robustness

To ensure the robustness of the main findings, I conduct four supplementary analyses: (a) a placebo test using proximal schools without overlapping grade levels, (b) alternative DID specifications, (c) alternative distance thresholds, and (4) additional covariates of racial composition change at county-level.

First, as a placebo test, I estimate the effects of interdistrict magnet high school openings on nearby K8 schools, and vice versa. This test is based on the assumption that new interdistrict magnet schools serving non-overlapping grade levels are unlikely to influence short-term enrollment dynamics in proximal schools. To isolate this mechanism, interdistrict magnet schools serving both K8 and high school grades are excluded from the analysis. The results, presented in Table A12, show null or modest effects, supporting the identifying assumption and reinforcing the robustness of the main findings—that the opening of new interdistrict magnet schools reshapes enrollment patterns among nearby public and private schools that serve overlapping grade levels.

Second, Figures A3–A6 demonstrate that the main results obtained using Callaway and Sant’Anna (2021) remain robust under alternative DID estimators, including Sun and Abraham (2020) and the traditional two-way fixed effects specification.

Third, Tables A13–A16 present results using alternative distance thresholds of 1, 4, and 5 miles. Overall, the patterns remain consistent with the main findings. As expected, changing the

distance threshold also alters the number of treated and comparison schools, thereby influencing the precision of the estimates. This issue is particularly evident among private schools and high schools, where the number of treated schools becomes very small within a 1-mile radius, and the number of not-yet-treated schools (comparison group) diminishes at larger distances. These shifts result in wider confidence intervals and greater sampling variability, although the overall patterns remain directionally consistent.

Despite these broadly consistent results, a noteworthy pattern emerges at closer distances for K8 traditional public schools, which retain a sufficiently large number of treated schools for estimation. Within a 1-mile radius, total enrollment effects remain insignificant, and the decline in the share of Black students persists—consistent with the baseline 2.5-mile results. However, the share of low-income students decreases and the share of White students increases, while both outcomes show null effects in the baseline analysis. These findings suggest that although the overall patterns are robust, closer proximity reveals an additional layer of demographic change, indicating that not only Black students but also low-income students eligible for free or reduced-price lunch may be more likely to exit K8 traditional public schools following the opening of a new interdistrict magnet school.

Lastly, Table A17 presents results that include additional covariates—the changes in the shares of White, Black, and Hispanic populations at the county level. I calculated the percentage-point changes in each racial composition between 2000 and 2010 and incorporated them into the main models to account for potential enrollment dynamics driven by local demographic changes. Although some estimates are less precise, the overall pattern of findings remains consistent, and the magnitude of the enrollment decline in proximal K8 private and traditional public high schools is even larger when county-level demographic changes are controlled for.

8. Discussion and Conclusion

Leveraging the staggered roll-out of interdistrict magnet schools in Connecticut, this study estimates their impact on total enrollment and student composition in nearby traditional public and private schools. The findings provide causal evidence on the unintended consequences of equity-driven magnet school expansion on racial and economic student sorting within local education markets.

A key question emerging from the main findings is why enrollment declined in private K8 schools and traditional public high schools but was more muted or less precise in traditional public K8 schools and private high schools. First, this pattern may reflect structural differences between private K8 and high schools. Bedrick et al. (2023) show that school choice subsidies tend to generate larger cost savings for parents whose children are enrolled in private elementary schools than for those in private high schools. This suggests that private elementary schools are more cost-sensitive and responsive to market changes, positioning them to react more competitively to the expansion of tuition-free public choice options. In contrast, private high schools in Connecticut and elsewhere are often elite or boarding institutions that serve higher-income families with strong preferences for selective peer environments and established college-preparatory reputations, rendering them less likely to perceive magnet schools as close substitutes.

At the same time, because there are generally more choice options available at the K8 level than at the high school level, families already seeking distinctive academic or value-based programs may have previously opted into private or charter K8 schools, which often market similar specialized curricula. Consequently, the introduction of magnet K8 schools may have generated greater choice appeal for families already participating in the local choice market,

rather than for those remaining in traditional public schools. The dynamics differ in high school settings, where switching into interdistrict magnet schools presents clearer academic and instrumental benefits for students enrolled in traditional public schools. Many interdistrict magnet high schools emphasize college-preparatory, STEM, or early college programs that directly enhance students' postsecondary opportunities (Connecticut Department of Education, 2016). Such programs—less commonly offered in nearby traditional public high schools—provide tangible advantages that may outweigh the costs of longer commutes or school transitions, making high school students and families more likely to switch.

This study also extends prior evidence that White and higher-income students are more likely to transfer into new magnet schools (Yon et al., 1998; Bush et al., 2001; Gersti-Pepin, 2002; Saporito, 2003), creating new forms of isolation in the schools they leave behind. While prior research has primarily been descriptive, correlational, or case-based, this study provides causal evidence of such dynamics at scale. Moreover, the results reveal that White flight is concentrated in Catholic K8 schools, whereas higher-income flight is concentrated in traditional public high schools. Importantly, the effects are strongest among traditional public high schools located within the Sheff region, where educational opportunities were already constrained. In these settings, relatively higher-income students within low-income communities may have been better informed about new school options and more able to absorb the costs of changing schools, making them more likely to transfer to magnet high schools and leaving behind peers who were already more disadvantaged. Thus, this pattern suggests that, even as magnet schools expand opportunities for interdistrict integration, their localized market effects may inadvertently deepen inequality among those who remain, particularly within low-income areas.

Taken together, this study has two key implications for policy and future research. First, given that magnet school expansion may unintentionally generate new forms of student isolation in nearby schools, policymakers designing or scaling choice-based integration strategies should anticipate these distributional consequences and incorporate systematic evaluation of market spillovers into future planning and accountability frameworks. Doing so would help ensure that magnet school policy remains aligned with its founding purpose: expanding opportunity and integration rather than unintentionally reinforcing existing disparities or segregation.

Second, although magnet schools serve roughly 4.9 percent of K–12 students nationwide—slightly fewer than charter schools, which enroll 6.6 percent as of 2024—they have received far less policy and research attention (Ritter, 2024). Policymakers and scholars have tended to focus on vouchers and charters when discussing school choice, overlooking the fact that magnets represent one of the oldest and most widespread forms of public school choice in the United States (Polikoff & Hardaway, 2017). However, the findings of this study underscore the need for sustained scholarly and policy attention to magnet schools when we aim to maximize the benefits of choice-based reforms, minimize their unintended consequences, and ensure that school choice truly advances—rather than undermines—the broader goal of equity in education.

References

- Alcaino, M., & Jennings, J. L. (2020). *How Increased School Choice Affects Public School Enrollment and School Segregation*. Annenberg Institute at Brown University.
<https://eric.ed.gov/?id=ED671186>
- Bedrick, J., Greene, J., & Burke, L. (2023). *Does School Choice Affect Private School Tuition?* The Heritage Foundation.
- Bettinger, E. P. (2005). The effect of charter schools on charter students and public schools. *Economics of Education Review*, 24(2), 133–147. [10.1016/j.econedurev.2004.04.009](https://doi.org/10.1016/j.econedurev.2004.04.009)
- Bifulco, B. (2025). Magnet Schools. *Live Handbook of Education Policy Research*.
<https://livehandbook.org/k-12-education/market-based-schooling/magnet-schools/>
- Bifulco, R., & Buerger, C. (2015). The Influence of Finance and Accountability Policies on Location of New York State Charter Schools. *Journal of Education Finance*, 40(3), 193–221. <https://dx.doi.org/10.1353/jef.2015.a577214>
- Bifulco, R., Cobb, C. D., & Bell, C. (2009). Can Interdistrict Choice Boost Student Achievement? The Case of Connecticut's Interdistrict Magnet School Program. *Educational Evaluation and Policy Analysis*, 31(4), 323–345.
<https://doi.org/10.3102/0162373709340917>
- Bifulco, R., Ladd, H. F., & Ross, S. L. (2009). Public school choice and integration evidence from Durham, North Carolina. *Social Science Research*, 38(1), 71–85.
<https://doi.org/10.1016/j.ssresearch.2008.10.001>
- Buddin, R. (2012). *The Impact of Charter Schools on Public and Private School Enrollments* (SSRN Scholarly Paper No. 2226597). Social Science Research Network.
<https://papers.ssrn.com/abstract=2226597>

- Bush, L., Burley, H., & Causey-Bush, T. (2001). Magnet schools: Desegregation or resegregation? Students' voices from inside the walls. *American Secondary Education*, 29(3), 33.
- Callaway, B., & Sant'Anna, P. H. C. (2021). Difference-in-Differences with multiple time periods. *Journal of Econometrics*, 225(2), 200–230.
<https://doi.org/10.1016/j.jeconom.2020.12.001>
- Carroll, J. M., Harris, D. N., Nair, A., & Nordgren, E. (2023, November 28). *National Longitudinal School Database (NLSD) Data Description*. National Center for Research on Education Access and Choice (REACH).
- Chakrabarti, R., & Roy, J. (2016). Do charter schools crowd out private school enrollment? Evidence from Michigan. *Journal of Urban Economics*, 91, 88–103.
<https://doi.org/10.1016/j.jue.2015.10.004>
- Connecticut State Department of Education. (2016). *Comprehensive Statewide Interdistrict Magnet School Plan*.
- Corcoran, S. P. (2018). *School Choice and Commuting: How Far New York City Students Travel to School*. Urban Institute.
- Cordes, S. A., & Laurito, A. (2024). The effects of charter schools on neighborhood and school segregation: Evidence from New York City. *Journal of Urban Affairs*, 46(10), 2064–2083. <https://doi.org/10.1080/07352166.2022.2155525>
- Dougherty, S. M., Miller, A., & Yoon, Y. (2024). *Charter School Expansion, Catholic School Enrollment, & the Equity Implications of School Choice*. Annenberg Institute at Brown University. <https://edworkingpapers.com/ai24-1027>

- Dur, U., Hammond, R. G., Lenard, M. A., Morrill, M., Morrill, T., & Paepflow, C. (2025). The attraction of magnet schools: Evidence from embedded lotteries in school assignment. *Economics of Education Review*, *107*, 102663. [10.1016/j.econedurev.2025.102663](https://doi.org/10.1016/j.econedurev.2025.102663)
- Garcia, D. R. (2008). The Impact of School Choice on Racial Segregation in Charter Schools. *Educational Policy*, *22*(6), 805–829. <https://doi.org/10.1177/0895904807310043>
- George, J., & Darling-Hammond, L. (2021). *Advancing Integration and Equity Through Magnet Schools*. Learning Policy Institute.
- Gersti-Pepin, C. (2002). Magnet Schools: A Retrospective Case Study of Segregation. *High School Journal*, *85*(3), 47–52.
- Glomm, G., Harris, D., & Lo, T.-F. (2005). Charter school location. *Economics of Education Review*, *24*(4), 451–457. <https://doi.org/10.1016/j.econedurev.2004.04.011>
- Goldring, E., & Smrekar, C. (2000). Magnet Schools and the Pursuit of Racial Balance. *Education and Urban Society*, *33*(1), 17–35. <https://doi.org/10.1177/0013124500331003>
- Grants for the Operation of Interdistrict Magnet School Programs. Transportation. Enrollment of Students; Notice. Special Education; Section 504 Plans. Financial Audits. Tuition, Connecticut General Statutes § 10–264l (2024).
- Harris, D. N., & Martinez-Pabon, V. (2023). Extreme Measures: A National Descriptive Analysis of Closure and Restructuring of Traditional Public, Charter, and Private Schools. *Education Finance and Policy*, *19*(1), 32–60. https://doi.org/10.1162/edfp_a_00386
- Harris, J. C. (2022). Integrating Urban Schools in a Modern Context: Roadblocks and Challenges with the Use of Magnet Schools. *Urban Education*, *57*(3), 365–400. <https://doi.org/10.1177/0042085918802616>

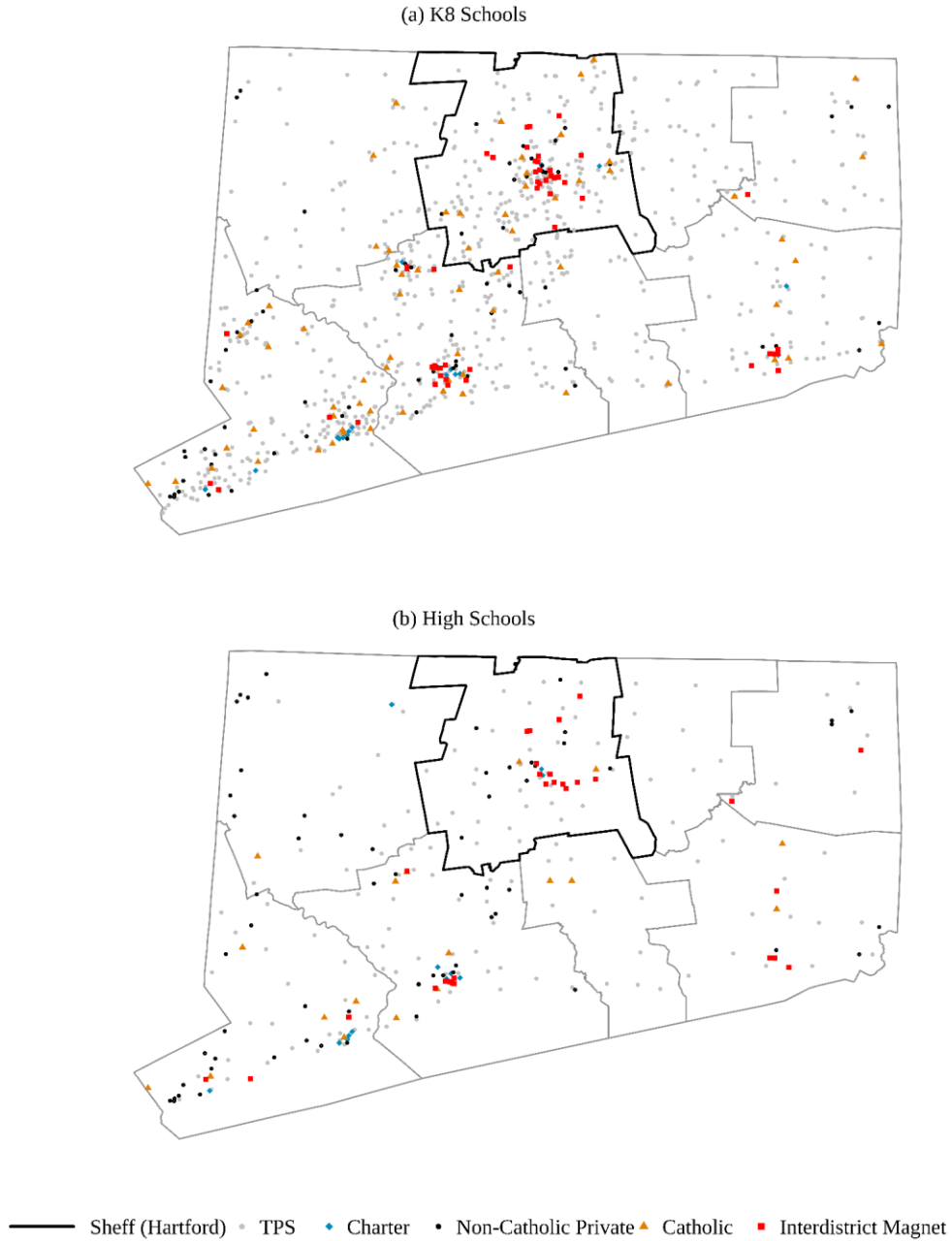
- Henig, J. R., & MacDonald, J. A. (2002). Locational Decisions of Charter Schools: Probing the Market Metaphor. *Social Science Quarterly*, 83(4), 962–980.
<https://doi.org/10.1111/1540-6237.00126>
- Hicks, B., & Lens, M. C. (2022). Incoming! Spatial Enrollment Competition between Charter Schools and Traditional Public Schools. *Education and Urban Society*, 001312452211067. <https://doi.org/10.1177/00131245221106708>
- Kho, A., Zimmer, R., & McEachin, A. (2022). A Descriptive Analysis of Cream Skimming and Pushout in Choice versus Traditional Public Schools. *Education Finance and Policy*, 17(1), 160–187. https://doi.org/10.1162/edfp_a_00333
- Kontou, E., McDonald, N. C., Brookshire, K., Pullen-Seufert, N. C., & LaJeunesse, S. (2020). U.S. active school travel in 2017: Prevalence and correlates. *Preventive Medicine Reports*, 17, 101024. <https://doi.org/10.1016/j.pmedr.2019.101024>
- Lidbe, A., Li, X., Adanu, E. K., Nambisan, S., & Jones, S. (2020). Exploratory analysis of recent trends in school travel mode choices in the U.S. *Transportation Research Interdisciplinary Perspectives*, 6, 100146. <https://doi.org/10.1016/j.trip.2020.100146>
- Magnet Schools of America. (2017). *A Snapshot of Magnet Schools in America*.
<https://magnet.edu/getinvolved/research-studies/snapshot-of-magnet-schools-report>
- Monarrez, T., Kisida, B., & Chingos, M. (2022). The Effect of Charter Schools on School Segregation. *American Economic Journal: Economic Policy*, 14(1), 301–340.
<https://doi.org/10.1257/pol.20190682>
- Polikoff, M., & Hardaway, T. (2017). Don't forget magnet schools when thinking about school choice. *Brookings*. <https://www.brookings.edu/articles/dont-forget-magnet-schools-when-thinking-about-school-choice/>

- Private School Review. (2025). *Connecticut Private Schools*.
<https://www.privateschoolreview.com/connecticut>
- Quick, K. (2016). *Hartford Public Schools: Striving for Equity through Interdistrict Programs*. The Century Foundation. <https://tcf.org/content/report/hartford-public-schools/>
- Rios-Avila, F., Sant'Anna, P., & Callaway, B. (2023). *CSDID: Stata module for the estimation of Difference-in-Difference models with multiple time periods* [Stata]. Boston College Department of Economics. <https://EconPapers.repec.org/RePEc:boc:bocode:s458976> (Original work published 2021)
- Ritter, C. (2024). 2024 EdChoice Share: Exploring Where America's Students Are Educated. *EdChoice*. [2024-edchoice-share-exploring-where-americas-students-are-educated/](https://edchoice.org/2024-edchoice-share-exploring-where-americas-students-are-educated/)
- Ritter, G. W., Jensen, N. C., Kisida, B., & Bowen, D. H. (2016). Urban School Choice and Integration: The Effect of Charter Schools in Little Rock. *Education and Urban Society*, 48(6), 535–555. <https://doi.org/10.1177/0013124514546219>
- Saporito, S. (2003). Private Choices, Public Consequences: Magnet School Choice and Segregation by Race and Poverty. *Social Problems*, 50(2), 181–203.
<https://doi.org/10.1525/sp.2003.50.2.181>
- School and State Finance Project. (2024). *Guide to Connecticut's Magnet Schools*.
<https://schoolstatefinance.org/reports/guide-to-connecticuts-magnet-schools>
- Singleton, J. D. (2019). Incentives and the Supply of Effective Charter Schools. *American Economic Review*, 109(7), 2568–2612. <https://doi.org/10.1257/aer.20171484>
- Slungaard-Mumma, K. (2022). The Effect of Charter School Openings on Traditional Public Schools in Massachusetts and North Carolina. *American Economic Journal: Economic Policy*, 14(2), 445–474. <https://doi.org/10.1257/pol.20190457>

- Sohoni, D., & Saporito, S. (2009). Mapping School Segregation: Using GIS to Explore Racial Segregation between Schools and Their Corresponding Attendance Areas. *American Journal of Education*, 115(4), 569–600. <https://doi.org/10.1086/599782>
- Steel, L., & Levine, R. (1994). *Educational Innovations in Multiracial Contexts: The Growth of Magnet Schools in American Education*. <https://eric.ed.gov/?id=ED370232>
- Sun, L., & Abraham, S. (2021). Estimating Dynamic Treatment Effects in Event Studies with Heterogeneous Treatment Effects. *Journal of Econometrics*, 225(2), 175–199. <https://doi.org/10.1016/j.jeconom.2020.09.006>
- Waddington, R. J. (2012). *Urban Catholic Schools in Expanding Charter School Markets: Enrollment Shifts and School Closures*. University of Michigan.
- Winters, M. A. (2012). Measuring the effect of charter schools on public school student achievement in an urban environment: Evidence from New York City. *Economics of Education Review*, 31(2), 293–301. <https://doi.org/10.1016/j.econedurev.2011.08.014>
- World Population Review. (2025). *Poorest Cities in the United States*. Retrieved October 11, 2025, from <https://worldpopulationreview.com/us-city-rankings/poorest-cities-in-america>
- Yon, M., Nesbit, C., & Algozzine, B. (1998). Racial and social class isolation in magnet schools. *Journal of Research in Childhood Education: JRCE*, 13(1), 77.
- Zimmer, R., Gill, B., Booker, K., Lavertu, S., Sass, T. R., & Witte, J. (2009). *Charter Schools in Eight States: Effects on Achievement, Attainment, Integration, and Competition*. RAND Corporation. <https://www.rand.org/pubs/monographs/MG869.html>

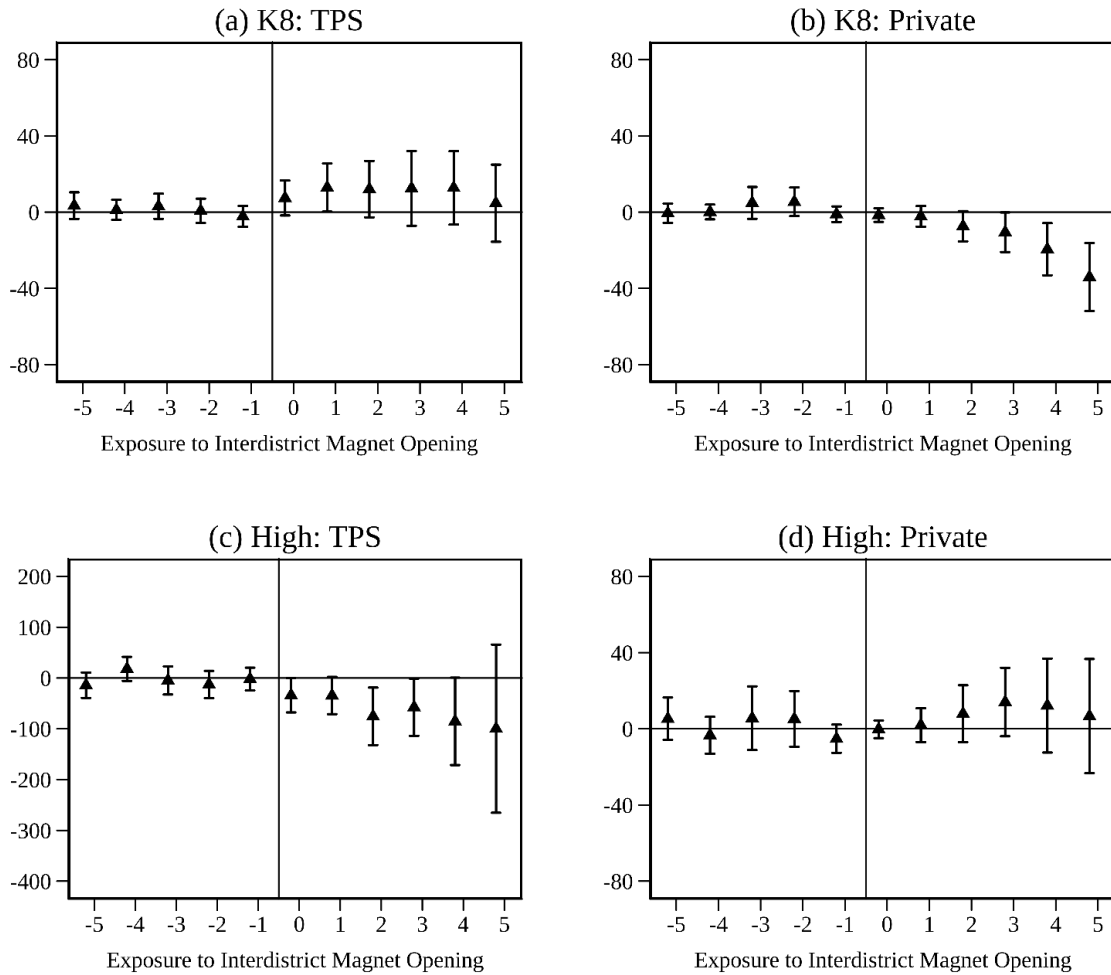
Figures and Tables

Figure 1. School Choice Options in Connecticut



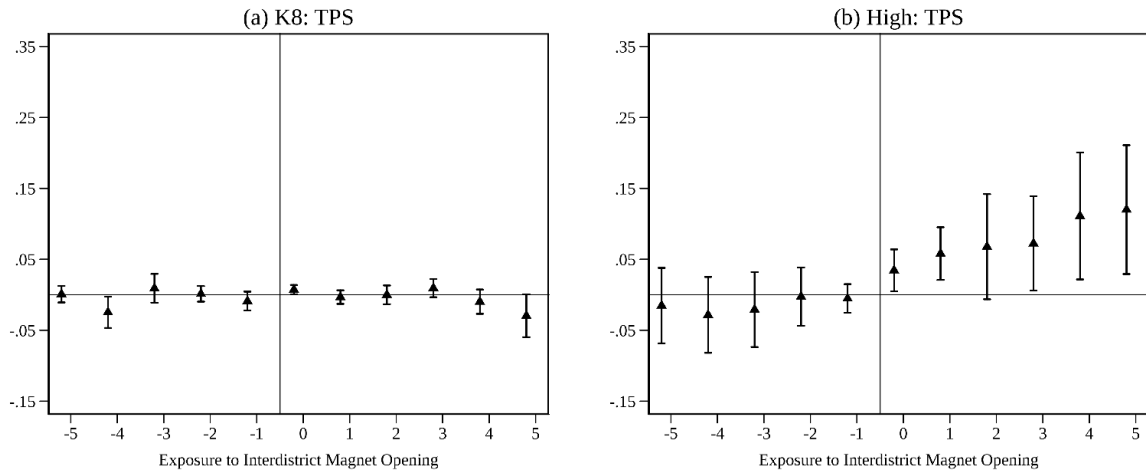
Notes: This figure shows the geographical distribution of school choice options in Connecticut in 2019, disaggregated by school level (K8 and high school). In each panel, light gray lines indicate county boundaries, and the bold black line marks Hartford County, which corresponds to the Sheff region.

Figure 2. Impacts on Total Enrollment



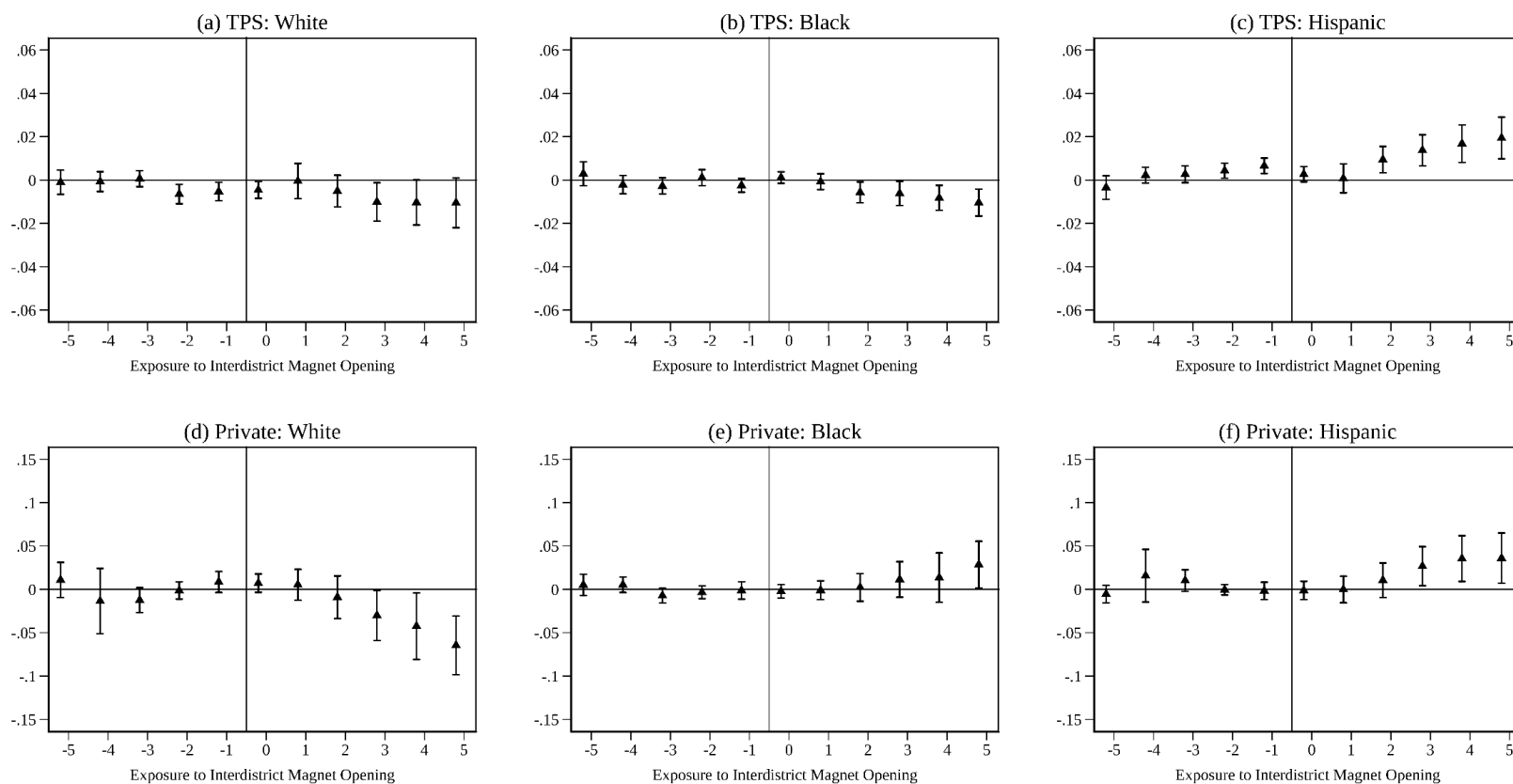
Notes: This set of figures presents event study estimates of the impact of exposure to new interdistrict magnet school on total enrollment of nearby schools: panel (a) for traditional public K8 schools, (b) for private K8 schools, (c) for traditional public high schools, and (d) for private high schools. In each panel, estimates for negative values correspond to pre-treatment periods, while values at 0 and above correspond to post-treatment periods. Standard errors for the 95% confidence intervals are clustered at the school level. Table A6 reports the point estimates along with average treatment effects for the pre- and post-treatment periods.

Figure 3. Impacts on Share of Low-income Students



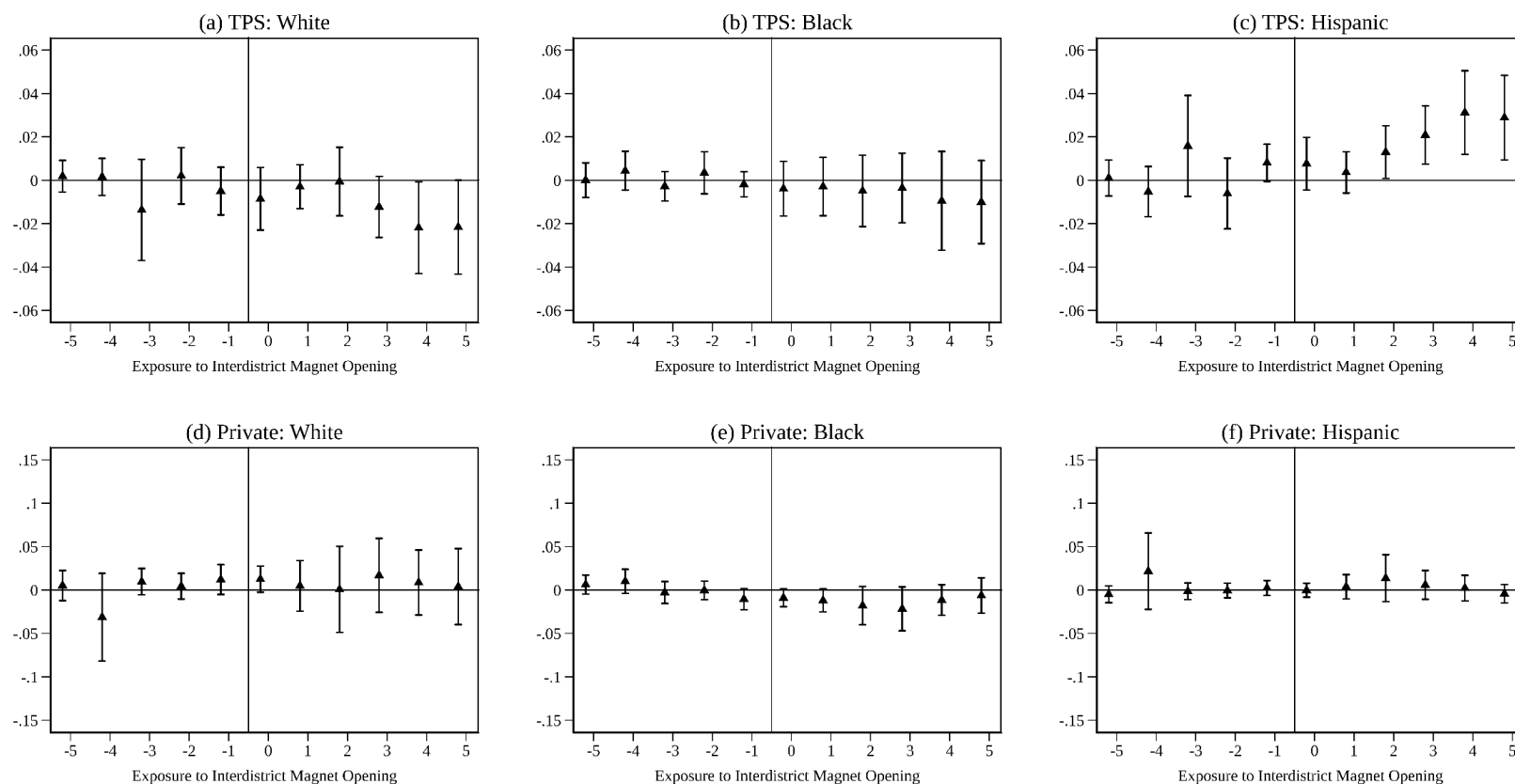
Notes: This set of figures presents event study estimates of the impact of exposure to new interdistrict magnet school on the share of students eligible for free or reduced-price lunch in nearby schools: panel (a) for traditional public K8 schools, and (b) for traditional public high schools. In each panel, estimates for negative values correspond to pre-treatment periods, while values at 0 and above correspond to post-treatment periods. Standard errors for the 95% confidence intervals are clustered at the school level. Table A6 reports the point estimates along with average treatment effects for the pre- and post-treatment periods.

Figure 4. Impacts on Racial Composition: K8 TPS & Private



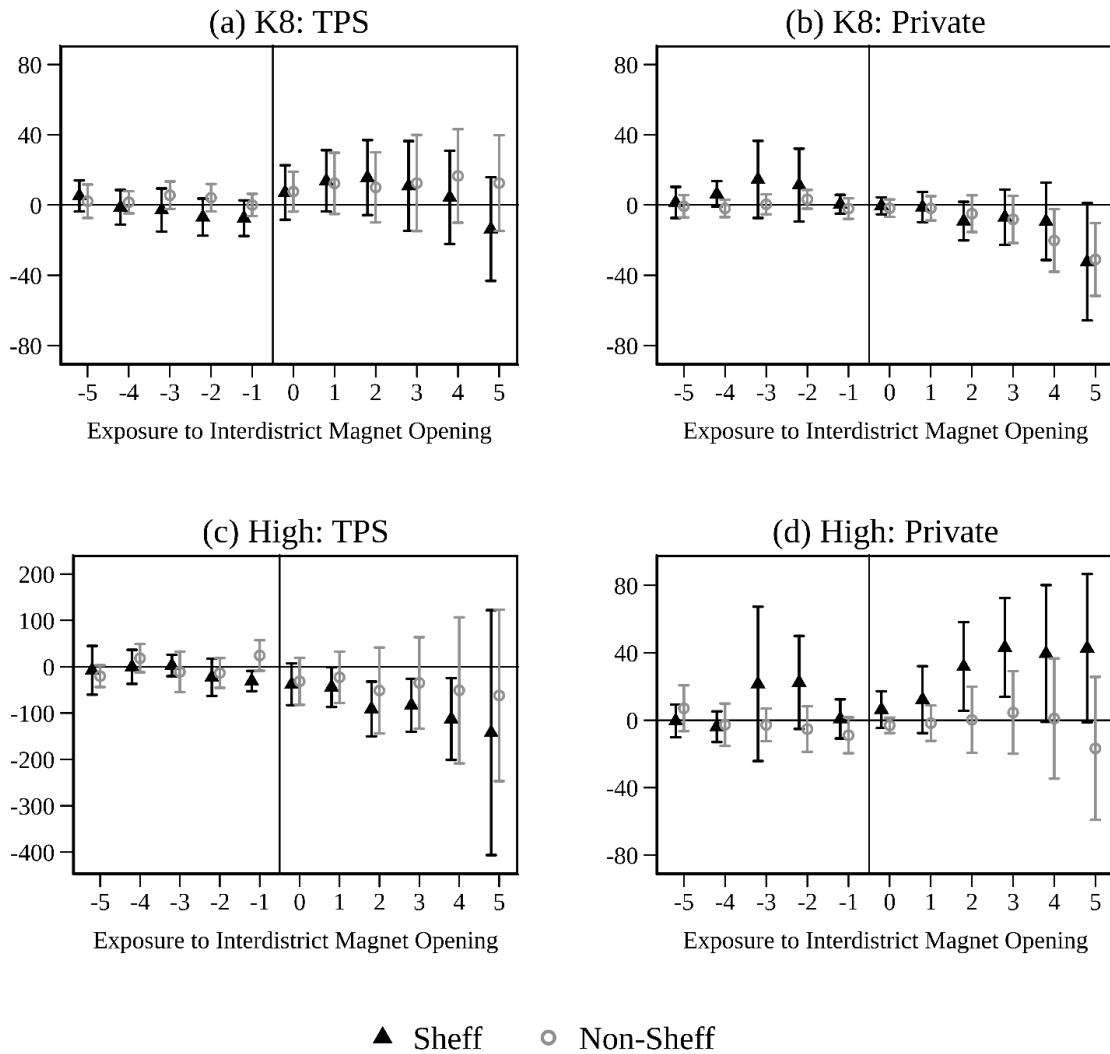
Notes: This set of figures presents event study estimates of the impact of exposure to new interdistrict magnet school on racial composition of nearby K8 schools: panels (a) and (d) for White student share, (b) and (e) for Black student share, and (c) and (f) for Hispanic student share. In each panel, estimates for negative values correspond to pre-treatment periods, while values at 0 and above correspond to post-treatment periods. Standard errors for the 95% confidence intervals are clustered at the school level. Table A7 reports the point estimates along with average treatment effects for the pre- and post-treatment periods.

Figure 5. Impacts on Racial Composition: High TPS & Private Schools



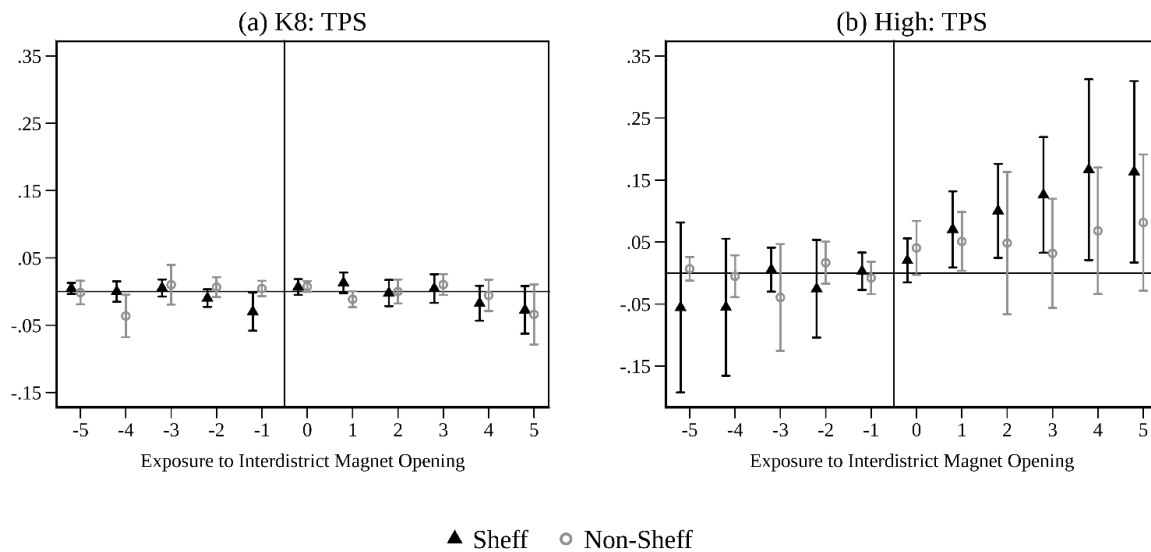
Notes: This set of figures presents event study estimates of the impact of exposure to new interdistrict magnet school on racial composition of nearby high schools: panels (a) and (d) for White student share, (b) and (e) for Black student share, and (c) and (f) for Hispanic student share. In each panel, estimates for negative values correspond to pre-treatment periods, while values at 0 and above correspond to post-treatment periods. Standard errors for the 95% confidence intervals are clustered at the school level. Table A7 reports the point estimates along with average treatment effects for the pre- and post-treatment periods.

Figure 6. Heterogeneity by Sheff Region: Impact on Total Enrollment



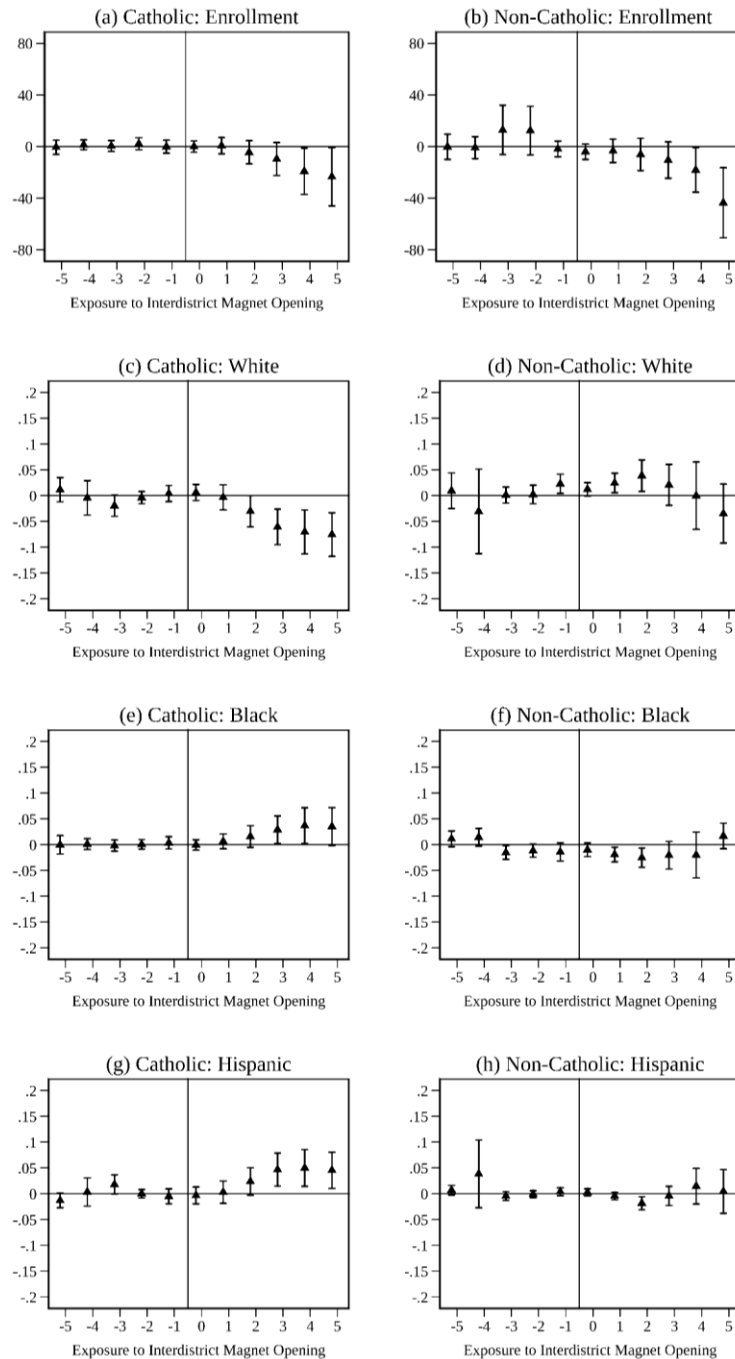
Notes: This set of figures presents event study estimates of the impact of exposure to a new interdistrict magnet school on the total enrollment of nearby schools, disaggregated by whether a school is located in the Sheff region (Hartford County) or outside it. In each panel, black markers with confidence intervals represent schools in the Sheff region, while light gray markers represent schools in non-Sheff regions. Estimates for negative values correspond to pre-treatment periods, while values at 0 and above correspond to post-treatment periods. Standard errors for the 95% confidence intervals are clustered at the school level. Table A8 reports the point estimates along with pre- and post-treatment average effects. Results from the heterogeneity for racial composition are presented in Figures A1–A2 and Tables A9–A10.

Figure 7. Heterogeneity by Sheff Region: Impact on Share of Low-income Students



Notes: This set of figures presents event study estimates of the impact of exposure to a new interdistrict magnet school on the share of students eligible for free or reduced-price lunch in nearby schools, disaggregated by whether a school is located in the Sheff region (Hartford County) or outside it. In each panel, black markers with confidence intervals represent schools in the Sheff region, while light gray markers represent schools in non-Sheff regions. Estimates for negative values correspond to pre-treatment periods, while values at 0 and above correspond to post-treatment periods. Standard errors for the 95% confidence intervals are clustered at the school level. Table A8 reports the point estimates along with pre- and post-treatment average effects.

Figure 8. Impacts on Total Enrollment & Racial Composition: K8 Catholic and Non-Catholic Schools



Notes: This set of figures presents event study estimates of the impact of exposure to a new interdistrict magnet school on the total enrollment and racial composition of nearby K8 private schools, disaggregated by whether a school is Catholic or not. In each panel, estimates for negative values correspond to pre-treatment periods, while values at 0 and above correspond to post-treatment periods. Standard errors for the 95% confidence intervals are clustered at the school level. Table A11 reports the point estimates along with pre- and post-treatment average effects.

Online Supplementary Appendix

Table A1. List of Full-time Interdistrict Magnet Schools in Comprehensive Statewide Interdistrict Magnet School Plan (Connecticut DOE, 2016)	2
Table A2. Sample Restriction	4
Table A3. Summary Statistics	5
Table A4. Number of Treated TPS and Private Schools Across School Years	6
Table A5. Summary Statistics: K8 Private Schools by Religious Affiliation	7
Table A6. Impact on Total Enrollment & Share of Low-income Students	8
Table A7. Impact on Racial Composition	9
Table A8. Heterogeneity by Sheff Region: Impact on Total Enrollment & Share of Low-income Students ...	10
Table A9. Heterogeneity by Sheff Region: Impact on Racial Composition (High)	11
Figure A1. Heterogeneity by Sheff Region: Impact on Racial Composition (High TPS & Private).....	12
Table A10. Heterogeneity by Sheff Region: Impact on Racial Composition (K8).....	13
Figure A2. Heterogeneity by Sheff Region: Impact on Racial Composition (K8 TPS & Private).....	14
Table A11. Impact on Total Enrollment & Racial Composition: K8 Catholic and Non-Catholic Schools	15
Table A12. Placebo Test: Impact on Schools Without Overlapping Grades.....	16
Figure A3. Alternative DID Specifications: Impact on Total Enrollment.....	17
Figure A4. Alternative DID Specifications: Impact on Share of Low-income Students	18
Figure A5. Alternative DID Specifications: Impact on Racial Composition (K8 TPS & Private).....	19
Figure A6. Alternative DID Specifications: Impact on Racial Composition (High TPS & Private).....	20
Table A13. Alternative Distances: K8 TPS.....	21
Table A14. Alternative Distances: K8 Private	22
Table A15. Alternative Distances: High TPS.....	23
Table A16. Alternative Distances: High Private	24
Table A17. Additional Covariates of Racial Composition Change at County-level.....	25

Table A1. List of Full-time Interdistrict Magnet Schools in Comprehensive Statewide Interdistrict Magnet School Plan (Connecticut DOE, 2016)

	School Name	Sheff	IMS Operator	Offered Grade		K8/ High	Magnet Themes
				Low	High		
1	Aerospace/Hydrospace Engineering and Physical Sciences HS	0	Bridgeport	9	12	High	Aerospace/Hydrospace Engineering and Physical Sciences and STEM
2	Biotechnology Research & Zoological Studies Magnet HS	0	Bridgeport	9	12	High	Biotechnology Research and Zoological Sciences
3	Information Technology & Software Engineering Magnet HS	0	Bridgeport	9	12	High	Information Technology and Software Engineering
4	Arts At the Capitol Theater Magnet School (Act)	0	East Conn	9	12	High	Arts
5	Quinebaug Valley Middle College High School	0	East Conn	9	12	High	Early College Preparatory
6	Marine Science Magnet High School	0	LEARN	9	12	High	Marine Science
7	Three Rivers Middle College Magnet School	0	LEARN	11	12	High	Early College Preparatory
8	Cooperative High School - Inter-District Magnet	0	New Haven	9	12	High	Visual And Performing Arts
9	Engineering - Science University Magnet School	0	New Haven	9	12	High	Science And Engineering
10	High School in the Community	0	New Haven	9	12	High	Law And Social Justice
11	Hill Regional Career High School	0	New Haven	9	12	High	Business, Technology, Health, And Science
12	Metropolitan Business Academy	0	New Haven	9	12	High	Business
13	New Haven Academy	0	New Haven	9	12	High	Facing History
14	Center For Global Studies	0	Norwalk	9	12	High	Global Studies
15	The Academy of Information Technology & Engineering	0	Stamford	9	12	High	Information Technology
16	Waterbury Arts Magnet School (High)	0	Waterbury	9	12	High	Arts
17	Greater Hartford Academy of the Art	1	CREC	9	12	High	Arts
18	Two Rivers Magnet High School	1	CREC	9	12	High	Science And Technology
19	Connecticut IB Academy	1	East Hartford	9	12	High	International Baccalaureate
20	Connecticut River Academy	1	Goodwin	9	12	High	Early College Preparatory
21	Capital Community College Magnet Academy	1	Hartford	11	12	High	College Preparatory
22	Great Path Academy at MCC	1	Hartford	9	12	High	College Preparatory
23	Great Path Academy at MCC	1	Hartford	9	12	High	College Preparatory
24	Journalism And Media Academy Magnet School	1	Hartford	9	11	High	Journalism And Media
25	Pathways Academy of Technology and Design	1	Hartford	9	12	High	Technology
26	University High School of Science and Engineering	1	Hartford	9	12	High	Science And Engineering
27	Thomas Edison Magnet Middle School	0	ACES	6	8	K8	STEM
28	Wintergreen Interdistrict Magnet School	0	ACES	K	8	K8	Liberal Arts
29	Interdistrict Discovery Magnet School	0	Bridgeport	PK3	8	K8	Science, Technology and Math
30	Six-Six Magnet School	0	CES	PK4	8	K8	STEM
31	Western Ct Academy of International	0	Danbury	K	5	K8	International Studies
32	Dual Language & Arts Magnet Middle School	0	LEARN	6	8	K8	Dual Language
33	Regional Multicultural Magnet School	0	LEARN	K	5	K8	Multicultural Education
34	Barnard Environmental Magnet School	0	New Haven	PK3	8	K8	Environmental Sciences
35	Beecher School	0	New Haven	PK3	8	K8	Project Based Learning/Paideia Method
36	Benjamin Jepson Magnet School	0	New Haven	PK3	8	K8	Multi-Age Based Learning
37	Betsy Ross Arts Magnet School	0	New Haven	5	8	K8	Visual And Performing Arts
38	Davis 21st Century Magnet Elementary School	0	New Haven	PK3	8	K8	Arts And Academics
39	John C. Daniels	0	New Haven	PK3	8	K8	International Communication/ Dual Language
40	King/Robinson Magnet School	0	New Haven	PK3	8	K8	International Baccalaureate
41	Mauro-Sheridan Magnet School	0	New Haven	PK3	8	K8	Science, Technology, And Communications
42	Ross/Woodward School	0	New Haven	PK3	8	K8	Classical Studies/ Paideia Method

43	West Rock Authors Academy	0	New Haven	PK4	8	K8	Reading And Writing
44	Nathan Hale Arts Magnet School	0	New London	K	5	K8	Arts
45	New London Visual and Performing Arts Magnet School	0	New London	6	7	K8	Arts
46	Winthrop Elementary Magnet STEM School	0	New London	K	5	K8	STEM
47	Rogers International School	0	Stamford	K	8	K8	International Baccalaureate
48	Strawberry Hill An Ext. of Rogers International	0	Stamford	K	1	K8	International Baccalaureate
49	Maloney Interdistrict Magnet School	0	Waterbury	PK4	5	K8	Multicultural Education
50	Rotella Interdistrict Magnet School	0	Waterbury	PK4	4	K8	Arts
51	Waterbury Arts Magnet School (Middle)	0	Waterbury	6	8	K8	Arts
52	Charles H Barrows STEM Academy	0	Windham	K	8	K8	STEM
53	Academy of Aerospace & Engineering Elementary	1	CREC	PK3	2	K8	Aerospace And Engineering
54	Ana Grace Academy of the Arts Elementary School	1	CREC	PK3	3	K8	Arts
55	Discovery Academy	1	CREC	PK3	4	K8	5E Inquiry Based Learning
56	Glastonbury/East Hartford Magnet School	1	CREC	PK3	5	K8	STEM
57	Greater Hartford Academy of the Arts Magnet Middle	1	CREC	6	8	K8	Arts
58	International Magnet School for Global Citizenship	1	CREC	PK3	5	K8	International Baccalaureate
59	Montessori Magnet School	1	CREC	PK3	6	K8	Montessori
60	Museum Academy	1	CREC	PK3	5	K8	5E Inquiry Based Learning
61	Reggio Magnet School of the Arts	1	CREC	PK3	5	K8	Arts
62	Two Rivers Magnet Middle School	1	CREC	6	8	K8	Science And Technology
63	University of Hartford Magnet	1	CREC	PK3	5	K8	Multiple Intelligences
64	Goodwin College Early Childhood Interdistrict Magnet School	1	Goodwin	PK3	2	K8	Early Childhood Education
65	Betances Learning Lab Magnet School	1	Hartford	PK3	3	K8	Early Literacy and STEAM
66	Breakthrough II	1	Hartford	PK3	8	K8	Character Education
67	Breakthrough Magnet School	1	Hartford	PK3	8	K8	Character Education
68	Capital Preparatory Magnet School	1	Hartford	PK3	5	K8	Gifted And Talented
69	Environmental Sciences Magnet at Hooker School	1	Hartford	PK	8	K8	Environmental Sciences
70	Montessori Magnet at Moylan School	1	Hartford	PK3	5	K8	Montessori
71	Montessori Magnet School at Annie Fisher	1	Hartford	PK3	8	K8	Montessori
72	Noah Webster Micro Society School	1	Hartford	PK3	8	K8	Microsociety
73	STEM Magnet at Annie Fisher School	1	Hartford	K	8	K8	STEM
74	Science and Technology Magnet School of Southeastern Connect	0	New London	6	12	K8/High	STEM
75	Global Experience Magnet School	1	Bloomfield	6	12	K8/High	International Studies and College Preparatory
76	Academy of Aerospace and Engineering	1	CREC	6	12	K8/High	Aerospace And Engineering
77	Metropolitan Learning Center	1	CREC	6	12	K8/High	International Studies and International Baccalaureate
78	Public Safety Academy	1	CREC	6	12	K8/High	Public Safety
79	Classical Magnet School	1	Hartford	6	12	K8/High	Classical Studies
80	Hartford Magnet Trinity College Academy	1	Hartford	6	12	K8/High	Early College Preparatory
81	Kinsella Magnet School of Performing Arts	1	Hartford	PK4	12	K8/High	Arts
82	The Friendship School	0	LEARN	PK3	K	PreK-K	Early Childhood Education
83	Wintonbury Early Childhood Magnet School	1	Bloomfield	PK3	K	PreK-K	Early Childhood Education
84	Hartford Prekindergarten Magnet School	1	Hartford	PK3	PK4	PreK-K	Early Childhood Education

Notes: As part of the sample restriction process, schools in rows 82 to 84 whose highest grade level is pre-kindergarten or kindergarten are excluded from the analytic sample.

Table A2. Sample Restriction

	Traditional Public		Private	
	N	Schools	N	Schools
Total population (SY 1997–1998 to 2019–2020)	25,310	1,761	3,101	368
Drop schools without enrollment data	23,600	1,556	2,909	368
Drop non-regular schools	21,663	1,173	2,738	364
Drop schools where the highest grade offered is pre-k or k	21,011	1,095	2,729	362
Drop schools without latitude and longitude	21,007	1,092	2,640	328
Drop SY 1997–1998	20,065	1,087	2,414	328
[Target Sample]				
K8 schools	17,065	949	2,008 [3,927]	278
High schools	3,589	454	884 [1,715]	128
[Analytic Sample]: Drop outside of $t \in [-6,5]$				
K8 schools	14,040	949	[3,112]	278
High schools	3,248	454	[1,489]	128

Note: This table shows the number of observations and schools that remain after applying sequential sample restrictions. The full population of traditional public and private schools in Connecticut from the NLSD dataset is shown in the first row. Non-regular schools, listed in the third row, include alternative schools, career and technical high schools, special education schools, early childhood programs, and Montessori schools. To estimate and fill in private school enrollment for the 1998–1999 school year, we include observations from the 1997–1998 school year as part of the initial sample. Specifically, enrollment in 1998–1999 is imputed as the average of the 1997–1998 and 1999–2000 values, since the Private School Survey (PSS) only reports enrollment in odd-numbered years. The number of observations in brackets includes even-numbered years that are backfilled using this approach. Given the timing of Connecticut’s interdistrict magnet school expansion, we define our analytic sample as observations from the 1998–1999 through 2019–2020 school years.

For the event study and difference-in-differences analysis, we further drop the schools that were observed outside the window from six years before to five years after their first exposure to a nearby magnet school (i.e., $t \in [-6,5]$). This restriction ensures that treatment effects are estimated using the most commonly observed event times, which have adequate support across treated and comparison units.

Observations outside this window (e.g., very early adopters or late adopters) are sparse and may yield unstable or unrepresentative estimates. By focusing on the $t \in [-6,5]$ window which enables us to present treatment effects for $t \pm 5$, we strike a balance between maximizing sample size and ensuring generalizability of estimated treatment effects across cohorts. Including $t = -6$ allows us to identify effects at $t = -5$, thereby enabling consistent estimation across the full $t \pm 5$ range. This approach strikes a balance between maximizing sample size and ensuring the generalizability and comparability of treatment effects across cohorts.

Table A3. Summary Statistics

	K8							
	Traditional Public Schools				Private Schools			
	Total	Never	Eventually	Always	Total	Never	Eventually	Always
Total Enrollment	464.96	460.38	499.92	464.32	198.85	200.31	203.51	181.17
White Share	0.71	0.78	0.49	0.30	0.75	0.80	0.62	0.55
Black Share	0.09	0.06	0.17	0.37	0.10	0.07	0.18	0.25
Hispanic Share	0.14	0.11	0.27	0.30	0.08	0.06	0.14	0.15
FRPL	0.26	0.22	0.41	0.60				
Title-I Eligible Schools	0.55	0.53	0.64	0.63				
Urban	0.19	0.13	0.41	0.67	0.27	0.18	0.45	0.69
Suburban	0.57	0.59	0.56	0.32	0.59	0.64	0.51	0.28
Rural/Town	0.24	0.29	0.03	0.01	0.15	0.18	0.04	0.03
Located in Sheff	0.22	0.20	0.36	0.28	0.23	0.21	0.35	0.19
Catholic					0.57	0.56	0.66	0.53
Other religious					0.25	0.25	0.20	0.32
Nonsectarian					0.18	0.19	0.14	0.15
N: Observations	14,040	11,611	1,536	893	3,112	2,377	426	309
N: Schools (%)	949	624	148	177	278	171	45	62
	(100.0)	(65.8)	(15.6)	(18.7)	(100.0)	(61.5)	(16.2)	(22.3)
	High							
	Traditional Public Schools				Private Schools			
	Total	Never	Eventually	Always	Total	Never	Eventually	Always
Total Enrollment	923.33	913.26	1214.38	547.12	344.87	343.63	377.38	229.07
White Share	0.74	0.80	0.44	0.19	0.74	0.73	0.75	0.79
Black Share	0.10	0.06	0.26	0.41	0.10	0.09	0.14	0.16
Hispanic Share	0.12	0.09	0.25	0.36	0.06	0.06	0.07	0.02
FRPL	0.24	0.20	0.42	0.67				
Title-I Eligible Schools	0.23	0.21	0.22	0.59				
Urban	0.17	0.11	0.48	0.75	0.21	0.15	0.41	0.63
Suburban	0.55	0.58	0.40	0.25	0.50	0.49	0.59	0.37
Rural/Town	0.28	0.31	0.11	0.01	0.29	0.35	0.00	0.00
Located in Sheff	0.23	0.18	0.47	0.59	0.22	0.19	0.38	0.14
Catholic					0.26	0.25	0.38	0.00
Other religious					0.32	0.29	0.37	0.69
Nonsectarian					0.43	0.46	0.26	0.31
N: Observations	3,248	2,807	291	150	1,489	1,219	221	49
N: Schools (%)	454	362	30	62	128	91	23	14
	(100.0)	(79.7)	(6.6)	(13.7)	(100.0)	(71.1)	(18.0)	(10.9)

Notes: This table presents summary statistics for the analytic sample, disaggregated by school level, school type, and treatment status. In line with the 2.5-mile threshold used in our main specification, “eventually treated” indicates schools that were exposed to a new interdistrict magnet school opening within 2.5 miles. FRPL denotes the share of students eligible for free or reduced-price lunch.

Table A4. Number of Treated TPS and Private Schools Across School Years

	TPS						Private					
	Never	K8 Eventually	Always	Never	High Eventually	Always	Never	K8 Eventually	Always	Never	High Eventually	Always
Never Treated	624			362			171			91		
Treated Year												
1998		0	126		0	3		0	35		0	3
1999		3	0		0	0		1	0		0	0
2000		17	2		0	0		4	0		0	0
2001		12	0		2	0		5	1		2	0
2002		11	2		1	1		4	0		2	0
2003		9	5		5	0		4	2		6	1
2004		3	7		3	2		0	0		4	0
2005		0	5		2	35		0	1		2	1
2006		1	2		0	2		1	0		0	0
2007		6	0		1	1		5	1		0	0
2008		6	2		2	1		1	0		0	0
2009		4	4		0	8		1	8		1	5
2010		0	4		1	1		0	0		0	0
2011		19	2		1	0		6	2		1	0
2012		19	6		1	4		4	0		0	0
2013		1	2		0	1		0	4		0	1
2014		11	2		3	1		1	0		1	0
2015		3	4		0	0		4	2		1	2
2016		18	0		7	1		3	0		2	0
2017		0	1		0	0		0	2		0	0
2018		5	0		0	0		1	0		1	0
2019		0	1		1	1		0	4		0	1
Total	624	148	177	362	30	62	171	45	62	91	23	14

Table A5. Summary Statistics: K8 Private Schools by Religious Affiliation

2.5 miles	K8 Private							
	Total	Catholic			Total	Non-Catholic		
		Never	Eventually	Always		Never	Eventually	Always
Total Enrollment	202.21	199.58	200.40	226.69	194.22	201.22	209.46	129.63
White Share	0.80	0.86	0.64	0.60	0.69	0.73	0.60	0.50
Black Share	0.08	0.04	0.16	0.21	0.14	0.11	0.22	0.30
Hispanic Share	0.08	0.05	0.16	0.16	0.07	0.06	0.10	0.13
Urban	0.28	0.18	0.48	0.75	0.26	0.19	0.38	0.61
Suburban	0.63	0.70	0.48	0.25	0.53	0.55	0.58	0.33
Rural/Town	0.09	0.12	0.04	0.00	0.21	0.26	0.03	0.05
Located in Sheff	0.24	0.23	0.34	0.12	0.22	0.19	0.37	0.26
Catholic	1.00	1.00	1.00	1.00				
Other religious					0.57	0.56	0.58	0.67
Nonsectarian					0.43	0.44	0.42	0.33
N: Obs	1,775	1,331	280	164	1,341	1,047	146	148
N: Schools (%)	148	87	29	32	133	85	16	32
	(100.0)	(58.8)	(19.6)	(21.6)	(100.0)	(63.9)	(12.0)	(24.1)

Table A6. Impact on Total Enrollment & Share of Low-income Students

	Total Enrollment				Share of Low-income Students	
	TPS	K8 Private	TPS	High Private	K8 TPS	High TPS
Pre-ATT	1.217 (1.364)	1.737 (2.039)	-3.210 (6.611)	1.466 (4.071)	-0.004* (0.002)	-0.014 (0.009)
Post-ATT	10.387 (7.323)	-12.550** (4.354)	-64.468* (30.859)	7.057 (7.903)	-0.004 (0.005)	0.077** (0.029)
Tm5	3.399 (3.563)	-0.575 (2.581)	-14.294 (12.759)	5.239 (5.672)	0.001 (0.006)	-0.015 (0.027)
Tm4	1.159 (2.693)	0.072 (1.981)	17.910 (12.100)	-3.415 (4.944)	-0.025* (0.011)	-0.028 (0.027)
Tm3	3.071 (3.369)	4.856 (4.259)	-4.862 (14.155)	5.556 (8.537)	0.009 (0.010)	-0.021 (0.027)
Tm2	0.685 (3.258)	5.419 (3.835)	-12.756 (13.712)	5.185 (7.473)	0.001 (0.006)	-0.003 (0.021)
Tm1	-2.229 (2.795)	-1.089 (2.093)	-2.049 (11.437)	-5.237 (3.781)	-0.009 (0.007)	-0.005 (0.010)
Tp0	7.411 (4.689)	-1.528 (1.826)	-33.950* (17.290)	-0.269 (2.348)	0.007* (0.003)	0.035* (0.015)
Tp1	12.931* (6.469)	-2.229 (2.770)	-34.545 (18.703)	1.877 (4.533)	-0.003 (0.005)	0.058** (0.019)
Tp2	12.066 (7.554)	-7.398 (4.046)	-75.530** (28.882)	7.904 (7.610)	-0.000 (0.007)	0.068 (0.038)
Tp3	12.497 (10.024)	-10.570* (5.306)	-57.600* (28.761)	14.027 (9.171)	0.009 (0.007)	0.072* (0.034)
Tp4	12.740 (9.837)	-19.476** (6.985)	-85.377 (43.894)	12.177 (12.590)	-0.010 (0.009)	0.111* (0.046)
Tp5	4.676 (10.333)	-34.098*** (9.109)	-99.809 (84.482)	6.626 (15.302)	-0.030 (0.015)	0.120** (0.046)
N	13,106	2,790	2,862	1,428	11,704	2,555

Table A7. Impact on Racial Composition

	White Share				Black Share				Hispanic Share			
	K8		High		K8		High		K8		High	
	TPS	Private	TPS	Private	TPS	Private	TPS	Private	TPS	Private	TPS	Private
Pre-ATT	-0.003*	-0.002	-0.003	0.000	-0.001	-0.000	0.001	0.001	0.002**	0.004	0.003	0.003
	(0.001)	(0.005)	(0.002)	(0.007)	(0.001)	(0.003)	(0.002)	(0.003)	(0.001)	(0.004)	(0.002)	(0.005)
Post-ATT	-0.007	-0.022*	-0.011	0.008	-0.005*	0.009	-0.006	-0.013	0.010***	0.018*	0.018**	0.003
	(0.004)	(0.011)	(0.007)	(0.014)	(0.002)	(0.008)	(0.007)	(0.007)	(0.003)	(0.008)	(0.006)	(0.006)
Tm5	-0.001	0.011	0.002	0.005	0.003	0.005	0.000	0.006	-0.003	-0.005	0.001	-0.005
	(0.003)	(0.010)	(0.004)	(0.009)	(0.003)	(0.006)	(0.004)	(0.006)	(0.003)	(0.005)	(0.004)	(0.005)
Tm4	-0.001	-0.014	0.002	-0.031	-0.002	0.005	0.004	0.010	0.002	0.016	-0.005	0.022
	(0.002)	(0.019)	(0.004)	(0.026)	(0.002)	(0.005)	(0.005)	(0.007)	(0.002)	(0.016)	(0.006)	(0.022)
Tm3	0.001	-0.013	-0.014	0.010	-0.003	-0.007	-0.003	-0.003	0.003	0.010	0.016	-0.001
	(0.002)	(0.007)	(0.012)	(0.008)	(0.002)	(0.004)	(0.003)	(0.006)	(0.002)	(0.006)	(0.012)	(0.005)
Tm2	-0.006**	-0.001	0.002	0.004	0.001	-0.003	0.003	-0.000	0.004*	-0.001	-0.006	-0.001
	(0.002)	(0.005)	(0.007)	(0.008)	(0.002)	(0.004)	(0.005)	(0.005)	(0.002)	(0.003)	(0.008)	(0.004)
Tm1	-0.005*	0.009	-0.005	0.012	-0.002	-0.001	-0.002	-0.010	0.007***	-0.002	0.008	0.002
	(0.002)	(0.006)	(0.006)	(0.009)	(0.002)	(0.005)	(0.003)	(0.006)	(0.002)	(0.005)	(0.004)	(0.004)
Tp0	-0.005*	0.007	-0.009	0.013	0.001	-0.002	-0.004	-0.009	0.003	-0.001	0.008	-0.000
	(0.002)	(0.005)	(0.007)	(0.008)	(0.001)	(0.004)	(0.006)	(0.005)	(0.002)	(0.005)	(0.006)	(0.004)
Tp1	-0.000	0.005	-0.003	0.005	-0.001	-0.001	-0.003	-0.012	0.001	-0.000	0.004	0.004
	(0.004)	(0.009)	(0.005)	(0.015)	(0.002)	(0.005)	(0.007)	(0.007)	(0.003)	(0.008)	(0.005)	(0.007)
Tp2	-0.005	-0.009	-0.001	0.001	-0.006*	0.002	-0.005	-0.018	0.009**	0.010	0.013*	0.014
	(0.004)	(0.013)	(0.008)	(0.025)	(0.002)	(0.008)	(0.008)	(0.011)	(0.003)	(0.010)	(0.006)	(0.014)
Tp3	-0.010*	-0.030*	-0.012	0.017	-0.006*	0.011	-0.004	-0.022	0.014***	0.027*	0.021**	0.006
	(0.005)	(0.015)	(0.007)	(0.022)	(0.003)	(0.010)	(0.008)	(0.013)	(0.004)	(0.011)	(0.007)	(0.008)
Tp4	-0.010	-0.043*	-0.022*	0.009	-0.008**	0.014	-0.009	-0.011	0.017***	0.035**	0.031**	0.002
	(0.005)	(0.020)	(0.011)	(0.019)	(0.003)	(0.014)	(0.012)	(0.009)	(0.004)	(0.013)	(0.010)	(0.008)
Tp5	-0.011	-0.065***	-0.022	0.004	-0.010***	0.029*	-0.010	-0.006	0.019***	0.036*	0.029**	-0.004
	(0.006)	(0.017)	(0.011)	(0.022)	(0.003)	(0.014)	(0.010)	(0.010)	(0.005)	(0.015)	(0.010)	(0.005)
N	13,106	2,790	2,862	1,428	13,039	2,790	2,858	1,428	13,106	2,790	2,860	1,428

Table A8. Heterogeneity by Sheff Region: Impact on Total Enrollment & Share of Low-income Students

	Total Enrollment								Share of Low-income Students			
	K8				High				K8		High	
	TPS		Private		TPS		Private		TPS		TPS	
	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff
Pre-ATT	-2.708 (2.201)	2.666 (1.696)	6.796 (4.895)	-0.227 (1.888)	-11.752 (9.172)	-0.409 (9.827)	8.101 (7.580)	-2.513 (4.015)	-0.006 (0.003)	-0.003 (0.002)	-0.026 (0.017)	-0.006 (0.009)
Post-ATT	6.308 (10.137)	11.906 (10.037)	-9.908 (7.215)	-11.348* (5.458)	-85.181* (38.288)	-42.190 (49.585)	29.301* (13.571)	-2.602 (10.662)	-0.004 (0.008)	-0.006 (0.007)	0.108* (0.044)	0.054 (0.038)
Tm5	5.093 (4.506)	2.152 (4.860)	1.459 (4.530)	-0.710 (3.244)	-7.696 (26.834)	-20.251 (12.002)	-0.392 (4.952)	7.079 (6.940)	0.004 (0.004)	-0.001 (0.009)	-0.056 (0.070)	0.007 (0.010)
Tm4	-1.347 (5.030)	1.530 (3.208)	6.218 (3.718)	-1.962 (2.538)	-0.231 (18.721)	18.404 (15.562)	-3.850 (4.649)	-2.683 (6.412)	-0.000 (0.008)	-0.036* (0.016)	-0.055 (0.056)	-0.005 (0.017)
Tm3	-2.859 (6.263)	5.543 (3.986)	14.532 (11.200)	0.376 (2.890)	2.705 (11.831)	-11.032 (22.349)	21.544 (23.334)	-2.775 (4.936)	0.005 (0.006)	0.010 (0.015)	0.005 (0.018)	-0.039 (0.044)
Tm2	-6.910 (5.396)	4.124 (4.004)	11.315 (10.567)	3.234 (2.727)	-22.705 (20.493)	-13.458 (16.350)	22.424 (14.082)	-5.251 (6.891)	-0.010 (0.007)	0.007 (0.008)	-0.025 (0.040)	0.017 (0.017)
Tm1	-7.519 (5.190)	-0.021 (3.234)	0.457 (2.719)	-2.076 (2.978)	-30.835** (11.147)	24.289 (16.801)	0.778 (5.907)	-8.934 (5.433)	-0.030* (0.014)	0.004 (0.006)	0.003 (0.015)	-0.008 (0.013)
Tp0	7.110 (7.912)	7.623 (5.816)	-0.458 (2.477)	-1.856 (2.545)	-37.874 (23.004)	-31.392 (25.937)	6.285 (5.567)	-3.023 (2.346)	0.007 (0.006)	0.007 (0.004)	0.020 (0.018)	0.041 (0.022)
Tp1	13.718 (8.905)	12.299 (8.897)	-1.192 (4.398)	-1.905 (3.524)	-43.953* (21.976)	-22.702 (28.276)	12.205 (10.124)	-1.738 (5.361)	0.013 (0.008)	-0.011 (0.006)	0.070* (0.031)	0.051* (0.024)
Tp2	15.596 (10.880)	10.017 (10.193)	-9.179 (5.602)	-4.946 (5.330)	-91.121** (30.152)	-51.309 (47.339)	31.872* (13.424)	0.251 (10.019)	-0.002 (0.010)	-0.000 (0.009)	0.100** (0.039)	0.048 (0.059)
Tp3	10.809 (13.058)	12.495 (13.960)	-6.947 (8.043)	-8.173 (6.870)	-83.085** (29.154)	-34.828 (50.288)	43.134** (14.959)	4.615 (12.497)	0.004 (0.011)	0.010 (0.008)	0.126** (0.048)	0.032 (0.045)
Tp4	4.348 (13.533)	16.532 (13.574)	-9.298 (11.251)	-20.207* (9.075)	-112.840* (45.058)	-50.922 (80.437)	39.580 (20.691)	0.988 (18.192)	-0.017 (0.013)	-0.006 (0.012)	0.167* (0.074)	0.068 (0.052)
Tp5	-13.736 (15.054)	12.470 (13.928)	-32.372 (17.015)	-31.001** (10.581)	-142.210 (134.853)	-61.988 (94.364)	42.727 (22.427)	-16.703 (21.621)	-0.027 (0.018)	-0.034 (0.023)	0.163* (0.075)	0.081 (0.056)
N	2,828	10,279	645	2,137	585	2,274	309	1,114	2,527	9,174	511	2,042

Table A9. Heterogeneity by Sheff Region: Impact on Racial Composition (High)

	White Share				Black Share				Hispanic Share			
	TPS		Private		TPS		Private		TPS		Private	
	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff
Pre-ATT	-0.002 (0.003)	-0.002 (0.003)	-0.005 (0.005)	0.003 (0.009)	0.002 (0.002)	-0.001 (0.003)	0.000 (0.004)	-0.000 (0.004)	0.003 (0.002)	0.003 (0.003)	0.005 (0.004)	0.002 (0.007)
Post-ATT	-0.005 (0.010)	-0.014 (0.010)	0.022 (0.019)	0.003 (0.019)	0.001 (0.008)	-0.013 (0.013)	-0.019 (0.011)	-0.009 (0.009)	0.009 (0.007)	0.025** (0.009)	-0.008 (0.008)	0.007 (0.009)
Tm5	0.000 (0.005)	0.003 (0.005)	0.011* (0.005)	0.004 (0.012)	0.002 (0.005)	-0.001 (0.005)	-0.006 (0.005)	0.010 (0.007)	0.006 (0.005)	-0.002 (0.006)	-0.002 (0.004)	-0.007 (0.006)
Tm4	-0.000 (0.007)	0.003 (0.005)	-0.003 (0.012)	-0.041 (0.034)	0.004 (0.002)	0.004 (0.007)	0.003 (0.013)	0.013 (0.009)	-0.003 (0.007)	-0.007 (0.009)	0.001 (0.011)	0.029 (0.030)
Tm3	-0.001 (0.005)	-0.023 (0.020)	-0.004 (0.006)	0.018 (0.010)	0.002 (0.003)	-0.007 (0.005)	-0.006 (0.007)	-0.003 (0.009)	0.002 (0.003)	0.027 (0.020)	0.009 (0.006)	-0.007 (0.007)
Tm2	-0.009 (0.005)	0.013 (0.011)	-0.024* (0.010)	0.016 (0.009)	0.003 (0.003)	0.003 (0.009)	0.010 (0.005)	-0.006 (0.008)	0.006 (0.005)	-0.016 (0.015)	0.010* (0.005)	-0.005 (0.006)
Tm1	-0.002 (0.006)	-0.008 (0.009)	-0.007 (0.012)	0.020 (0.013)	-0.000 (0.005)	-0.003 (0.003)	-0.000 (0.006)	-0.015 (0.009)	0.002 (0.003)	0.013 (0.008)	0.006 (0.005)	0.001 (0.006)
Tp0	-0.002 (0.005)	-0.014 (0.013)	0.012 (0.008)	0.015 (0.012)	-0.003 (0.009)	-0.005 (0.009)	-0.010* (0.004)	-0.009 (0.008)	0.009 (0.009)	0.008 (0.009)	0.001 (0.006)	-0.001 (0.006)
Tp1	-0.002 (0.007)	-0.003 (0.007)	0.028 (0.019)	-0.002 (0.021)	0.004 (0.008)	-0.009 (0.011)	-0.019* (0.009)	-0.010 (0.009)	0.003 (0.008)	0.004 (0.006)	-0.010 (0.007)	0.009 (0.011)
Tp2	-0.004 (0.008)	0.006 (0.014)	0.071*** (0.022)	-0.028 (0.035)	0.005 (0.007)	-0.016 (0.015)	-0.046* (0.019)	-0.008 (0.013)	0.008 (0.007)	0.018 (0.010)	-0.014 (0.008)	0.025 (0.022)
Tp3	-0.005 (0.011)	-0.016 (0.009)	0.051 (0.034)	-0.001 (0.029)	0.000 (0.010)	-0.007 (0.012)	-0.046 (0.029)	-0.008 (0.012)	0.015 (0.008)	0.026* (0.011)	-0.001 (0.015)	0.004 (0.012)
Tp4	-0.008 (0.015)	-0.031* (0.015)	-0.012 (0.032)	0.020 (0.024)	-0.002 (0.012)	-0.017 (0.021)	0.001 (0.016)	-0.014 (0.012)	0.013 (0.009)	0.048** (0.017)	-0.008 (0.013)	0.005 (0.011)
Tp5	-0.009 (0.014)	-0.026 (0.018)	-0.022 (0.041)	0.014 (0.026)	0.001 (0.008)	-0.024 (0.019)	0.007 (0.021)	-0.005 (0.014)	0.010 (0.010)	0.047** (0.017)	-0.016 (0.011)	0.000 (0.007)
N	585	2,274	309	1,114	585	2,270	309	1,114	585	2,272	309	1,114

Figure A1. Heterogeneity by Sheff Region: Impact on Racial Composition (High TPS & Private)

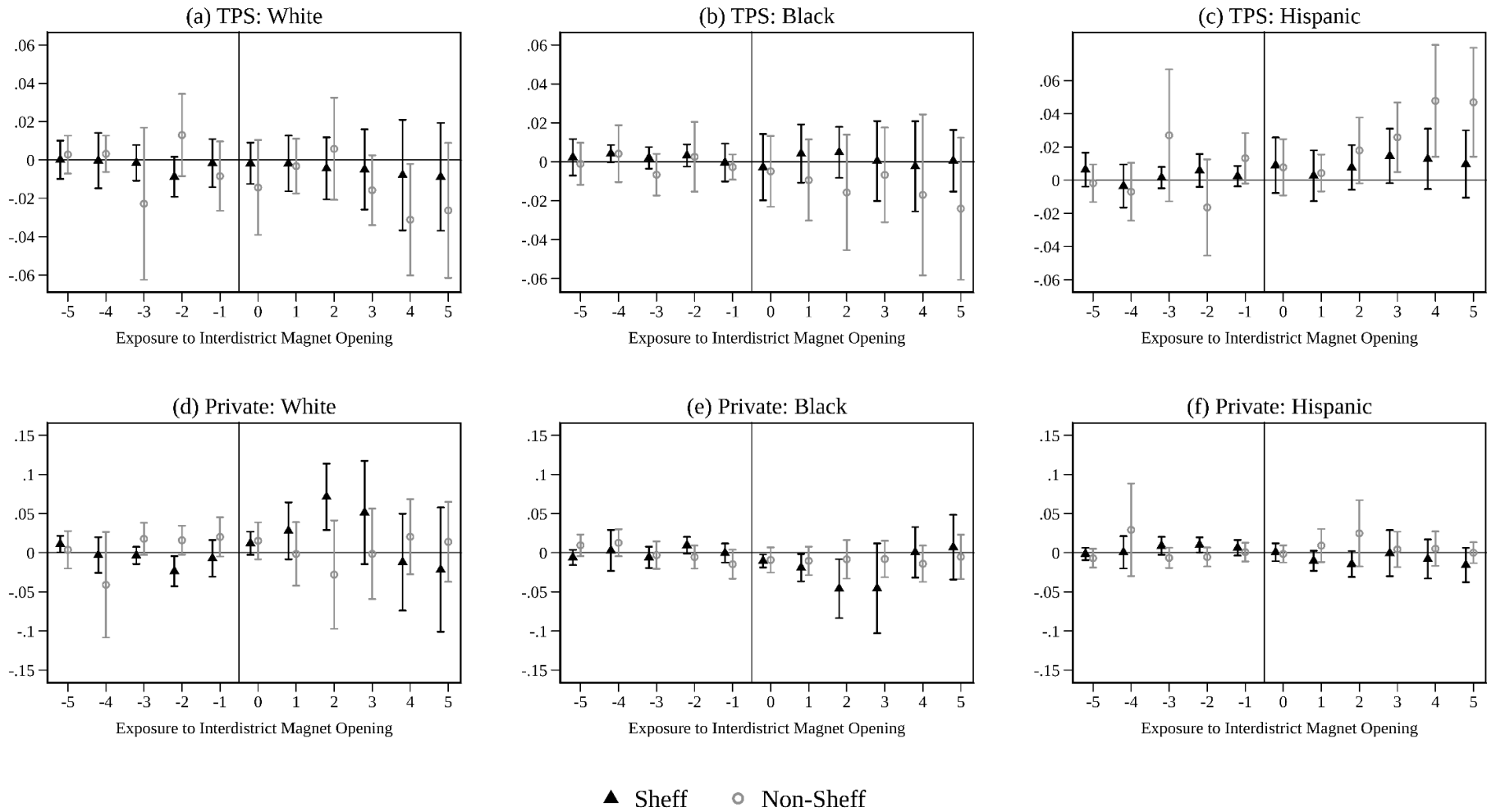


Table A10. Heterogeneity by Sheff Region: Impact on Racial Composition (K8)

	White Share				Black Share				Hispanic Share			
	TPS		Private		TPS		Private		TPS		Private	
	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff	Sheff	Non-Sheff
Pre-ATT	-0.004 (0.002)	-0.002 (0.001)	0.008 (0.006)	-0.006 (0.006)	0.000 (0.001)	-0.001 (0.001)	-0.002 (0.003)	0.000 (0.004)	0.002* (0.001)	0.002 (0.001)	-0.002 (0.003)	0.006 (0.006)
Post-ATT	-0.002 (0.007)	-0.007 (0.004)	-0.012 (0.019)	-0.029* (0.013)	-0.004 (0.004)	-0.007** (0.002)	0.001 (0.016)	0.013 (0.009)	-0.001 (0.005)	0.017*** (0.004)	0.021 (0.012)	0.015 (0.011)
Tm5	-0.006 (0.004)	0.002 (0.004)	0.021 (0.020)	0.006 (0.012)	0.001 (0.003)	0.004 (0.004)	0.012* (0.006)	0.002 (0.008)	0.001 (0.003)	-0.006 (0.004)	-0.010 (0.006)	-0.004 (0.007)
Tm4	-0.002 (0.005)	0.000 (0.002)	0.035 (0.024)	-0.039 (0.024)	0.002 (0.004)	-0.004 (0.002)	0.005 (0.005)	0.004 (0.006)	-0.001 (0.003)	0.004 (0.002)	-0.011 (0.009)	0.029 (0.022)
Tm3	0.002 (0.003)	0.001 (0.002)	-0.007 (0.009)	-0.015 (0.010)	-0.000 (0.003)	-0.004 (0.002)	-0.014* (0.006)	-0.003 (0.005)	0.002 (0.003)	0.003 (0.002)	0.005 (0.004)	0.014 (0.010)
Tm2	-0.008* (0.003)	-0.006 (0.003)	-0.007 (0.009)	0.001 (0.006)	0.000 (0.003)	0.001 (0.002)	-0.013* (0.006)	0.002 (0.004)	0.004 (0.003)	0.004 (0.002)	0.003 (0.004)	-0.002 (0.004)
Tm1	-0.005 (0.003)	-0.005 (0.003)	-0.004 (0.010)	0.017* (0.008)	-0.003 (0.003)	-0.003 (0.002)	0.003 (0.009)	-0.005 (0.006)	0.005* (0.003)	0.007** (0.002)	0.005 (0.005)	-0.006 (0.008)
Tp0	-0.001 (0.004)	-0.006** (0.002)	-0.001 (0.008)	0.012 (0.007)	0.002 (0.002)	0.000 (0.002)	0.001 (0.009)	-0.003 (0.004)	-0.003 (0.003)	0.006** (0.002)	0.005 (0.005)	-0.005 (0.008)
Tp1	0.010 (0.009)	-0.005 (0.003)	0.000 (0.014)	0.007 (0.012)	0.001 (0.003)	-0.002 (0.002)	0.001 (0.013)	-0.001 (0.005)	-0.015* (0.007)	0.010** (0.003)	0.009 (0.007)	-0.006 (0.011)
Tp2	-0.003 (0.006)	-0.005 (0.005)	-0.008 (0.018)	-0.011 (0.017)	-0.004 (0.005)	-0.007* (0.003)	0.001 (0.015)	0.003 (0.009)	0.002 (0.004)	0.014*** (0.004)	0.021 (0.011)	0.003 (0.015)
Tp3	-0.008 (0.008)	-0.009 (0.005)	-0.011 (0.026)	-0.039* (0.018)	-0.005 (0.005)	-0.008* (0.003)	-0.002 (0.021)	0.017 (0.011)	0.004 (0.005)	0.019*** (0.005)	0.029 (0.020)	0.022 (0.014)
Tp4	-0.006 (0.010)	-0.009 (0.006)	-0.010 (0.033)	-0.063** (0.024)	-0.009 (0.005)	-0.009** (0.003)	-0.008 (0.028)	0.025 (0.016)	0.005 (0.007)	0.023*** (0.005)	0.032 (0.019)	0.036* (0.018)
Tp5	-0.001 (0.011)	-0.011 (0.007)	-0.045 (0.031)	-0.078*** (0.020)	-0.006 (0.005)	-0.015*** (0.004)	0.013 (0.024)	0.037* (0.017)	0.000 (0.008)	0.030*** (0.006)	0.032 (0.025)	0.039* (0.019)
N	2,825	10,279	645	2,137	2,825	10,212	645	2,137	2,825	10,279	645	2,137

Figure A2. Heterogeneity by Sheff Region: Impact on Racial Composition (K8 TPS & Private)

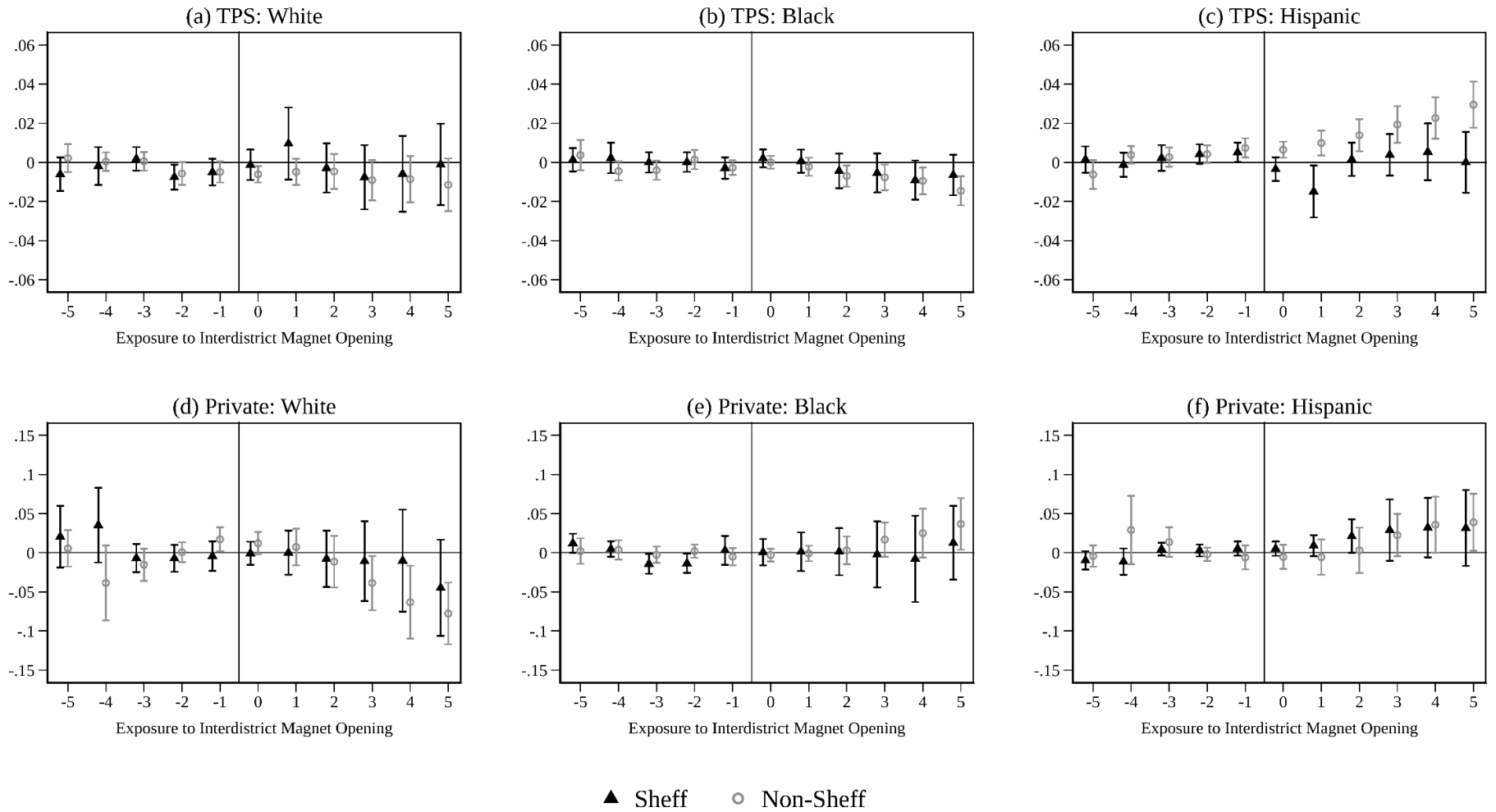


Table A11. Impact on Total Enrollment & Racial Composition: K8 Catholic and Non-Catholic Schools

	Total Enrollment		White Share		Black Share		Hispanic Share	
	Cath	Non-Cath	Cath	Non-Cath	Cath	Non-Cath	Cath	Non-Cath
Pre-ATT	0.644 (1.473)	4.464 (4.776)	-0.002 (0.005)	0.001 (0.010)	0.001 (0.004)	-0.003 (0.004)	0.001 (0.005)	0.009 (0.007)
Post-ATT	-9.350 (5.573)	-14.306* (5.765)	-0.039** (0.013)	0.010 (0.015)	0.021 (0.011)	-0.013 (0.009)	0.028* (0.012)	-0.001 (0.008)
Tm5	-0.545 (2.791)	-0.184 (4.984)	0.011 (0.012)	0.009 (0.018)	-0.000 (0.009)	0.011 (0.008)	-0.013 (0.007)	0.007 (0.005)
Tm4	1.330 (1.959)	-0.873 (4.349)	-0.004 (0.017)	-0.031 (0.042)	0.001 (0.005)	0.014 (0.009)	0.003 (0.014)	0.038 (0.033)
Tm3	0.392 (2.144)	12.877 (9.756)	-0.020 (0.010)	0.001 (0.008)	-0.002 (0.006)	-0.015* (0.007)	0.018 (0.009)	-0.004 (0.004)
Tm2	2.140 (2.376)	12.369 (9.593)	-0.004 (0.006)	0.002 (0.009)	0.001 (0.005)	-0.012 (0.006)	0.000 (0.004)	-0.001 (0.003)
Tm1	-0.096 (2.589)	-1.871 (3.093)	0.004 (0.008)	0.023* (0.010)	0.004 (0.006)	-0.014 (0.009)	-0.005 (0.007)	0.004 (0.004)
Tp0	0.003 (2.237)	-4.014 (3.061)	0.006 (0.008)	0.012 (0.007)	-0.000 (0.005)	-0.010 (0.007)	-0.003 (0.008)	0.003 (0.004)
Tp1	0.677 (3.203)	-3.385 (4.644)	-0.003 (0.012)	0.024* (0.010)	0.006 (0.007)	-0.019** (0.007)	0.003 (0.011)	-0.004 (0.004)
Tp2	-4.509 (4.598)	-6.134 (6.395)	-0.030* (0.015)	0.039* (0.016)	0.016 (0.011)	-0.025** (0.009)	0.024 (0.014)	-0.018** (0.006)
Tp3	-9.691 (6.532)	-10.547 (7.187)	-0.061*** (0.018)	0.021 (0.020)	0.029* (0.014)	-0.020 (0.014)	0.047** (0.016)	-0.004 (0.009)
Tp4	-19.164* (9.148)	-18.174* (8.781)	-0.070** (0.022)	-0.000 (0.033)	0.037* (0.018)	-0.020 (0.023)	0.050** (0.018)	0.015 (0.018)
Tp5	-23.418* (11.523)	-43.580** (13.847)	-0.075*** (0.022)	-0.035 (0.029)	0.035 (0.019)	0.017 (0.013)	0.045* (0.018)	0.005 (0.022)
N	1,599	1,171	1,599	1,171	1,599	1,171	1,599	1,171

Table A12. Placebo Test: Impact on Schools Without Overlapping Grades

		High IMS on Proximal K8		K8 IMS on Proximal High	
		TPS	Private	TPS	Private
Total Enrollment	Pre-ATT	-0.435 (1.466)	0.511 (1.848)	13.191 (7.867)	1.650 (5.124)
	Post-ATT	-11.716 (6.800)	4.405 (4.676)	11.737 (27.372)	-12.727* (5.179)
	N	14,888	3,260	2,638	1,307
Share of Low-income Students	Pre-ATT	-0.002 (0.003)		-0.002 (0.006)	
	Post-ATT	-0.006 (0.010)		0.027 (0.024)	
	N	13,327		2,376	
White Share	Pre-ATT	-0.001 (0.001)	-0.007* (0.003)	-0.003 (0.003)	-0.000 (0.005)
	Post-ATT	-0.001 (0.004)	-0.005 (0.011)	-0.003 (0.008)	0.011 (0.012)
	N	14,888	3,260	2,638	1,307
Black Share	Pre-ATT	-0.002* (0.001)	0.003 (0.003)	-0.003 (0.001)	-0.006 (0.003)
	Post-ATT	-0.006 (0.003)	0.002 (0.007)	0.000 (0.006)	-0.011 (0.010)
	N	14,822	3,260	2,634	1,307
Hispanic Share	Pre-ATT	0.003** (0.001)	0.005 (0.002)	0.005 (0.003)	0.002 (0.002)
	Post-ATT	0.007* (0.004)	0.002 (0.008)	0.004 (0.006)	0.012 (0.007)
	N	14,888	3,260	2,636	1,307

Figure A3. Alternative DID Specifications: Impact on Total Enrollment

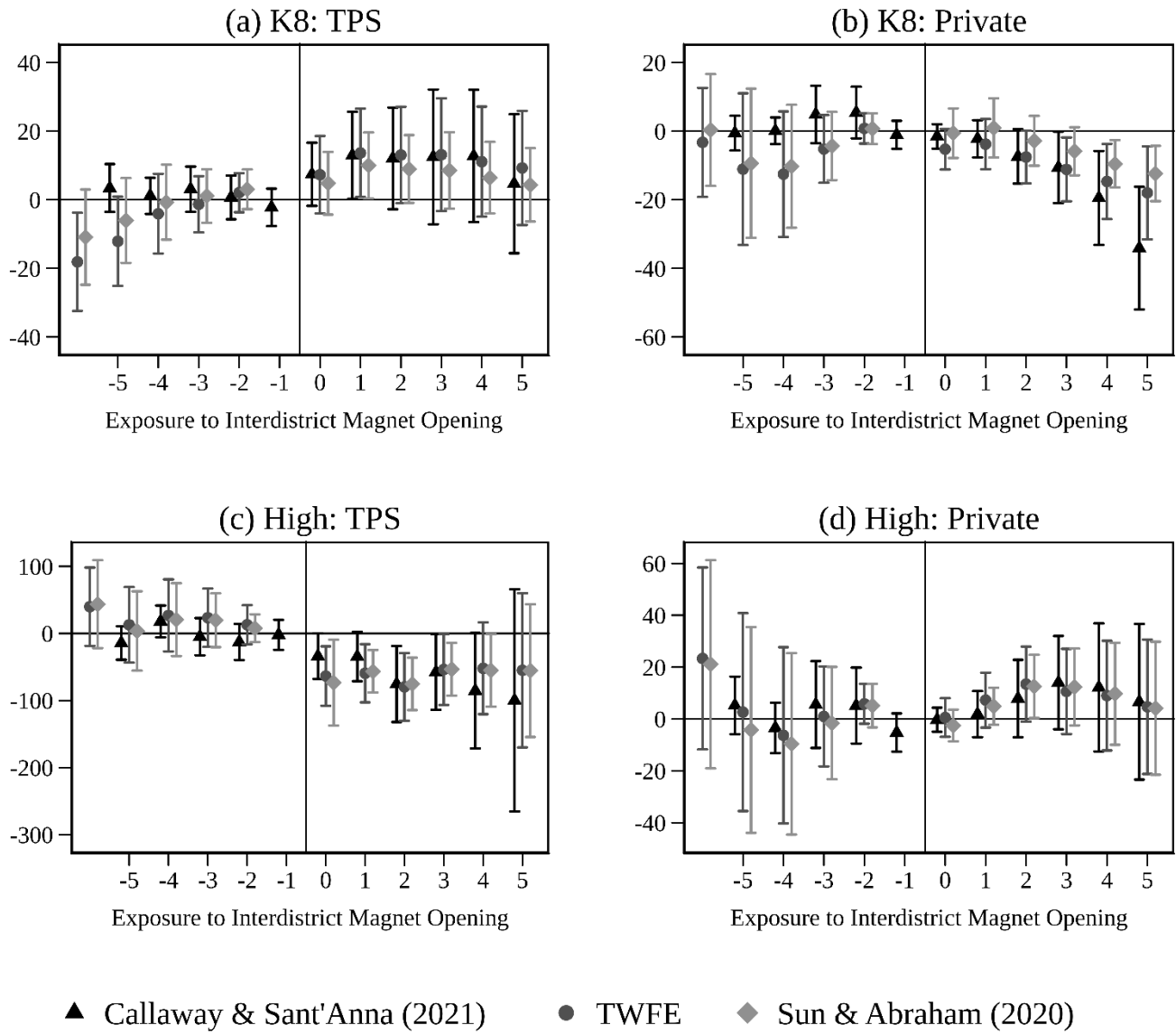


Figure A4. Alternative DID Specifications: Impact on Share of Low-income Students

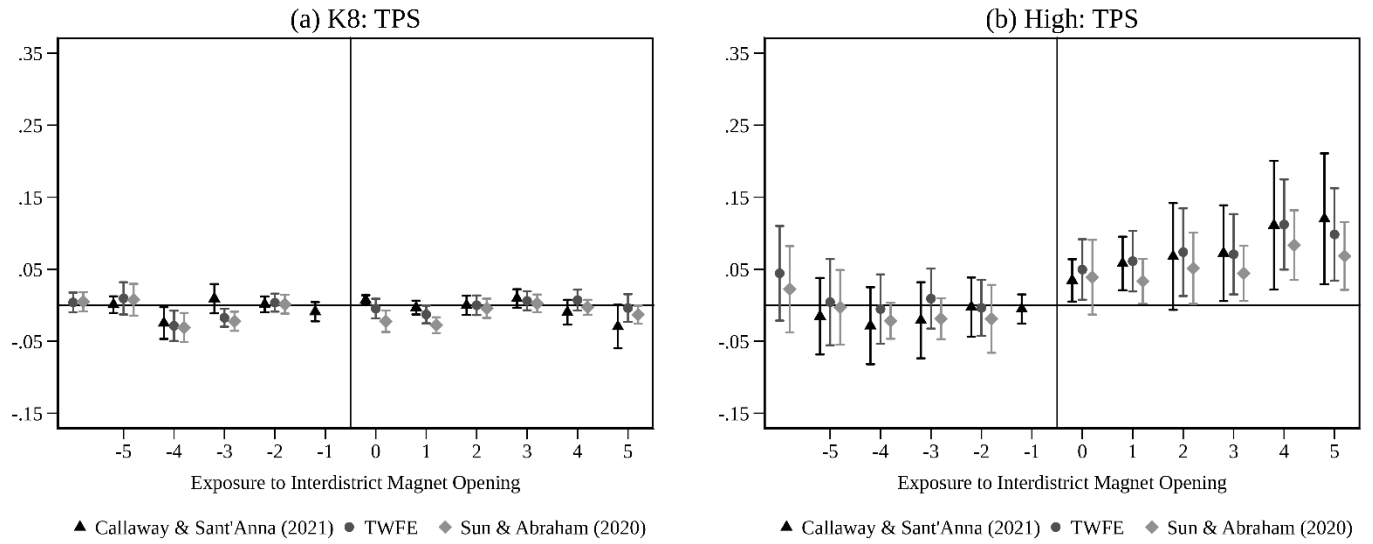
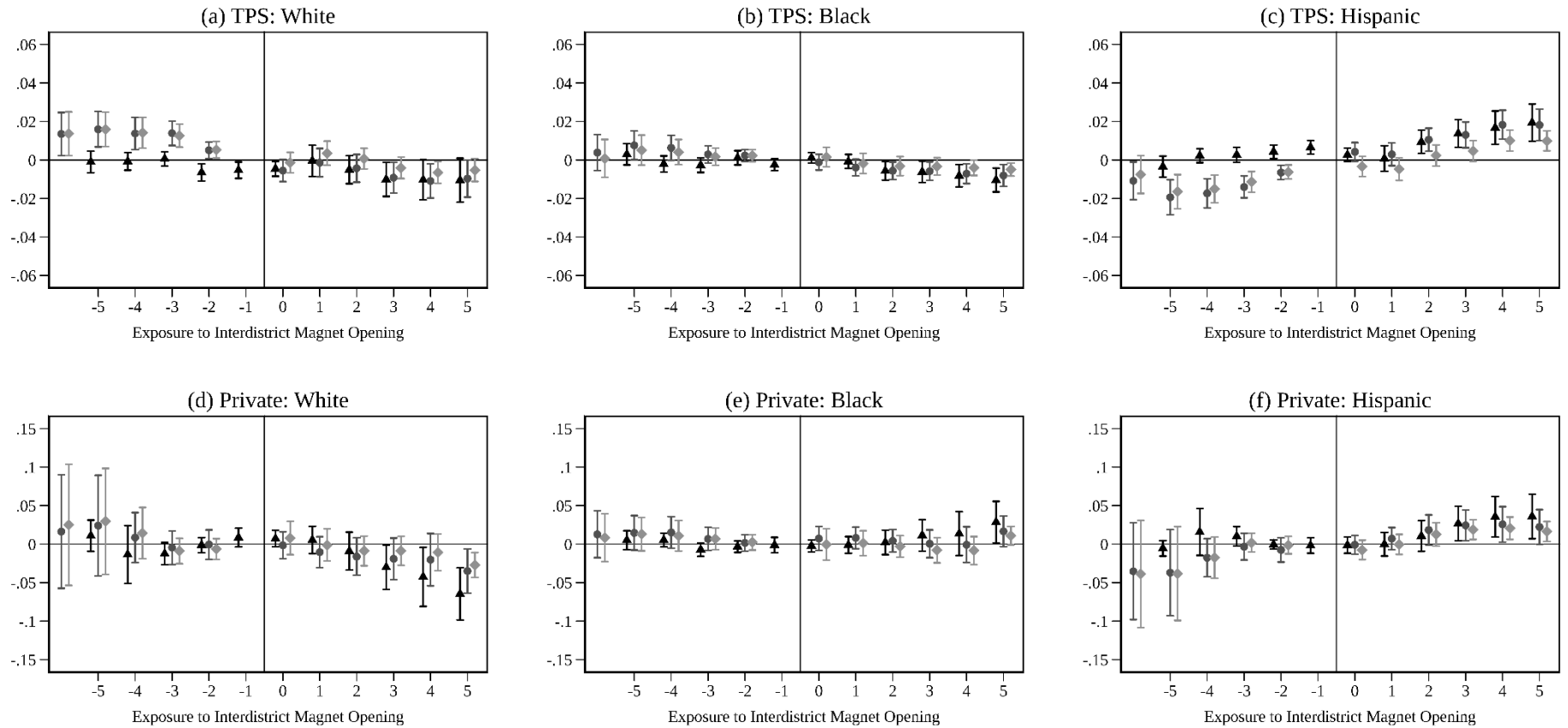
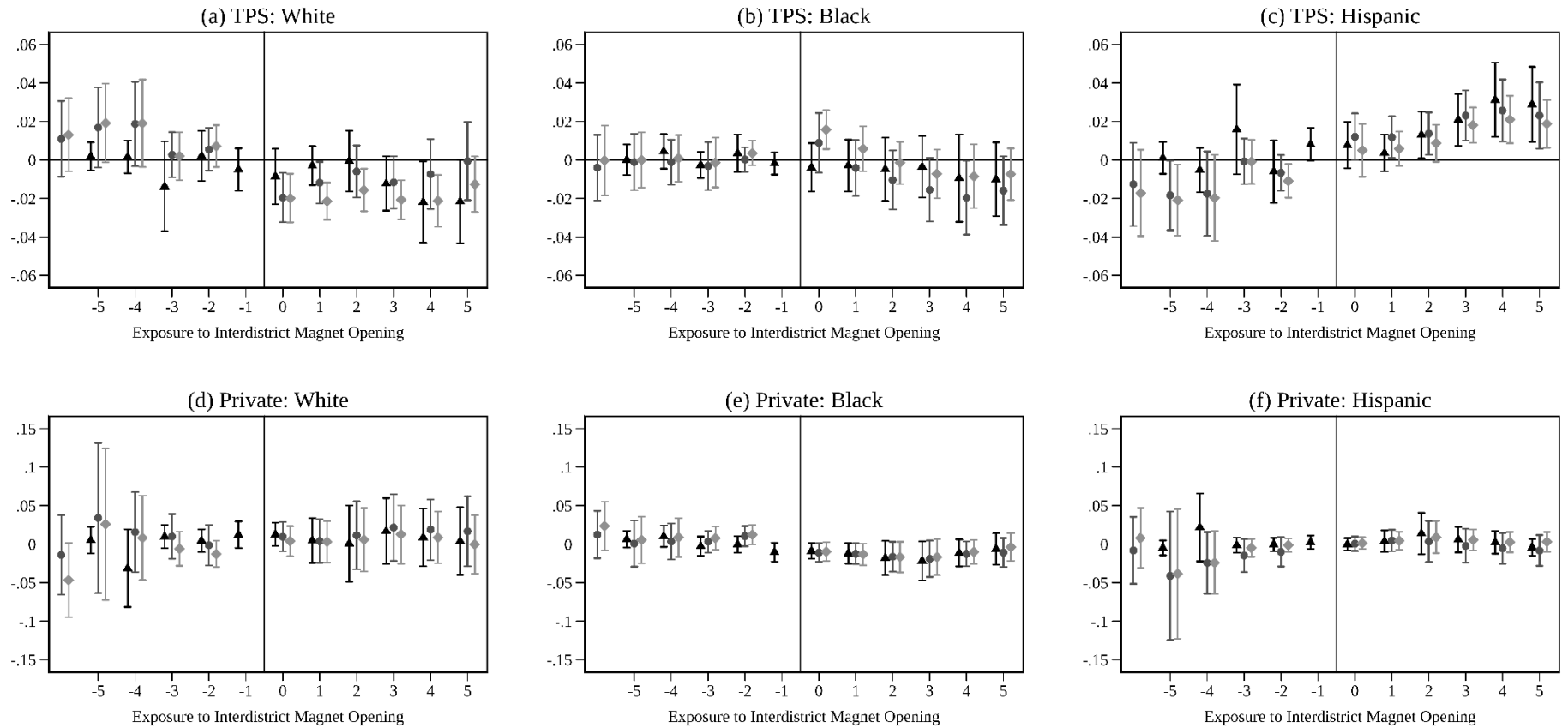


Figure A5. Alternative DID Specifications: Impact on Racial Composition (K8 TPS & Private)



▲ Callaway & Sant'Anna (2021) ● TWFE ◆ Sun & Abraham (2020)

Figure A6. Alternative DID Specifications: Impact on Racial Composition (High TPS & Private)



▲ Callaway & Sant'Anna (2021) ● TWFE ◆ Sun & Abraham (2020)

Table A13. Alternative Distances: K8 TPS

	Total Enrollment			Share of Low-income Students			White Share			Black Share			Hispanic Share		
	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles
Pre-ATT	-3.426 (2.535)	2.918* (1.151)	2.906** (1.120)	-0.001 (0.004)	-0.003* (0.001)	-0.002 (0.001)	0.004* (0.002)	-0.003** (0.001)	-0.002** (0.001)	-0.005*** (0.002)	-0.000 (0.001)	-0.000 (0.001)	0.001 (0.002)	0.002*** (0.001)	0.002** (0.001)
Post-ATT	11.569 (12.620)	16.006** (5.044)	12.319** (4.073)	-0.026* (0.013)	-0.000 (0.004)	0.002 (0.004)	0.015** (0.005)	-0.013*** (0.003)	-0.013*** (0.003)	-0.012** (0.004)	-0.003 (0.002)	-0.002 (0.002)	0.003 (0.005)	0.012*** (0.003)	0.011*** (0.002)
Tm5	-9.712 (4.999)	3.557 (2.735)	2.871 (3.113)	0.002 (0.013)	-0.002 (0.005)	-0.000 (0.003)	0.001 (0.005)	0.000 (0.002)	-0.002 (0.002)	-0.009** (0.003)	-0.001 (0.002)	-0.000 (0.001)	0.005 (0.006)	-0.001 (0.002)	0.000 (0.002)
Tm4	-1.638 (5.394)	3.031 (2.898)	5.986* (2.549)	-0.015 (0.013)	-0.042*** (0.012)	-0.043*** (0.011)	0.010 (0.006)	-0.003 (0.002)	0.000 (0.002)	-0.003 (0.005)	-0.002 (0.001)	-0.002 (0.001)	-0.006 (0.006)	0.005* (0.002)	0.001 (0.002)
Tm3	1.363 (5.403)	4.278 (2.790)	2.540 (2.378)	0.020 (0.015)	0.025* (0.010)	0.029** (0.010)	0.004 (0.005)	-0.000 (0.002)	-0.003 (0.002)	-0.006 (0.003)	-0.001 (0.001)	-0.000 (0.001)	0.005 (0.005)	0.000 (0.001)	0.002 (0.001)
Tm2	0.092 (6.194)	1.332 (3.462)	3.027 (3.145)	0.006 (0.008)	0.007 (0.004)	0.005 (0.003)	0.001 (0.002)	-0.006** (0.002)	-0.003* (0.002)	-0.004 (0.003)	0.002 (0.001)	0.002 (0.001)	0.000 (0.003)	0.003* (0.001)	0.002 (0.001)
Tm1	-7.237 (4.643)	2.393 (2.453)	0.106 (2.579)	-0.020* (0.009)	-0.002 (0.004)	-0.001 (0.003)	0.005* (0.002)	-0.005* (0.002)	-0.003* (0.002)	-0.005** (0.002)	0.001 (0.001)	0.000 (0.001)	-0.000 (0.003)	0.004* (0.002)	0.003* (0.001)
Tp0	6.442 (7.660)	7.622* (3.637)	3.348 (2.758)	-0.046** (0.014)	-0.001 (0.003)	0.001 (0.003)	0.007 (0.004)	-0.005** (0.002)	-0.004* (0.002)	-0.004 (0.003)	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.004)	0.005*** (0.001)	0.003* (0.001)
Tp1	4.532 (12.694)	12.753** (4.510)	8.097* (3.740)	-0.037* (0.018)	-0.010* (0.004)	-0.007 (0.004)	0.011** (0.004)	-0.007** (0.003)	-0.006** (0.002)	-0.007* (0.003)	-0.000 (0.002)	-0.000 (0.001)	0.000 (0.004)	0.006** (0.002)	0.005** (0.002)
Tp2	8.340 (12.305)	16.128** (5.369)	9.805* (4.384)	-0.020 (0.016)	-0.004 (0.004)	-0.002 (0.004)	0.015** (0.005)	-0.012*** (0.003)	-0.013*** (0.003)	-0.011* (0.004)	-0.002 (0.002)	-0.002 (0.002)	0.001 (0.006)	0.010*** (0.003)	0.010*** (0.003)
Tp3	15.752 (15.359)	19.857*** (6.018)	17.123*** (5.154)	-0.001 (0.015)	0.008 (0.006)	0.007 (0.005)	0.010 (0.006)	-0.015*** (0.004)	-0.015*** (0.004)	-0.006 (0.007)	-0.004 (0.002)	-0.002 (0.002)	0.001 (0.009)	0.013*** (0.003)	0.013*** (0.003)
Tp4	7.872 (21.368)	22.201** (6.856)	18.862** (5.804)	-0.013 (0.018)	0.002 (0.006)	0.000 (0.006)	0.023** (0.008)	-0.016*** (0.004)	-0.018*** (0.004)	-0.018* (0.008)	-0.005* (0.002)	-0.002 (0.002)	0.007 (0.009)	0.017*** (0.004)	0.014*** (0.004)
Tp5	26.476 (17.995)	17.477* (7.758)	16.677** (6.370)	-0.037 (0.020)	0.003 (0.009)	0.010 (0.006)	0.026*** (0.008)	-0.021*** (0.005)	-0.021*** (0.004)	-0.025** (0.008)	-0.007** (0.002)	-0.004 (0.002)	0.010 (0.009)	0.020*** (0.004)	0.018*** (0.004)
N	15,564	11,048	9,706	13,989	9,861	8,629	15,564	11,048	9,706	15,496	10,984	9,644	15,564	11,048	9,706

Table A14. Alternative Distances: K8 Private

	Total Enrollment			White Share			Black Share			Hispanic Share		
	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles
Pre-ATT	-1.832 (1.246)	-0.024 (1.494)	-0.753 (1.621)	-0.008 (0.005)	0.002 (0.003)	-0.001 (0.004)	0.007 (0.004)	-0.003 (0.003)	-0.003 (0.003)	0.003 (0.004)	0.003 (0.003)	0.005 (0.003)
Post-ATT	-3.062 (6.985)	-9.195 (4.947)	-3.612 (5.201)	-0.003 (0.013)	-0.023 (0.013)	-0.017 (0.011)	-0.001 (0.007)	0.011 (0.008)	0.016* (0.008)	0.008 (0.008)	0.012 (0.011)	-0.002 (0.008)
Tm5	0.375 (2.293)	-2.781 (2.624)	-4.325 (3.260)	-0.013 (0.016)	0.002 (0.009)	0.003 (0.009)	0.020*** (0.006)	-0.001 (0.007)	-0.006 (0.006)	-0.008 (0.014)	0.002 (0.005)	0.005 (0.004)
Tm4	-1.156 (1.641)	-2.913 (2.257)	-3.656 (2.302)	-0.009 (0.012)	0.005 (0.008)	-0.025 (0.017)	0.009 (0.006)	-0.006 (0.005)	0.011 (0.015)	0.005 (0.014)	0.005 (0.008)	0.014* (0.006)
Tm3	-3.808* (1.932)	0.429 (2.040)	-0.605 (2.143)	0.002 (0.011)	0.012 (0.008)	-0.018 (0.016)	-0.002 (0.006)	-0.016** (0.005)	0.007 (0.013)	0.004 (0.011)	0.006 (0.007)	0.009 (0.006)
Tm2	-4.628* (2.076)	3.471 (2.175)	3.214 (1.986)	-0.015 (0.008)	0.001 (0.005)	0.020 (0.014)	0.004 (0.008)	0.000 (0.005)	-0.015 (0.013)	0.008 (0.008)	-0.001 (0.004)	-0.003 (0.004)
Tm1	0.056 (2.211)	1.675 (2.494)	1.605 (2.913)	-0.007 (0.010)	-0.009 (0.006)	0.013 (0.013)	0.004 (0.008)	0.007 (0.004)	-0.013 (0.011)	0.005 (0.007)	0.004 (0.004)	0.000 (0.004)
Tp0	-0.338 (1.848)	-2.909 (2.355)	-0.143 (2.490)	0.008 (0.009)	-0.002 (0.006)	-0.003 (0.006)	-0.006 (0.006)	0.001 (0.004)	0.005 (0.004)	-0.001 (0.004)	0.005 (0.006)	0.002 (0.005)
Tp1	-1.973 (3.794)	-5.777 (3.959)	0.413 (3.617)	0.011 (0.016)	-0.007 (0.012)	-0.004 (0.010)	-0.010 (0.010)	-0.002 (0.008)	0.009 (0.007)	-0.002 (0.008)	0.011 (0.012)	-0.001 (0.009)
Tp2	-2.352 (5.865)	-7.091 (4.725)	-0.900 (4.906)	0.000 (0.016)	-0.016 (0.016)	-0.010 (0.012)	-0.006 (0.009)	-0.000 (0.010)	0.010 (0.009)	0.009 (0.009)	0.014 (0.013)	-0.003 (0.009)
Tp3	-1.228 (7.406)	-10.137 (5.861)	-3.206 (6.177)	-0.011 (0.017)	-0.037* (0.017)	-0.021 (0.013)	0.003 (0.009)	0.015 (0.011)	0.019* (0.009)	0.023 (0.012)	0.022 (0.014)	0.000 (0.009)
Tp4	0.232 (10.799)	-13.815 (7.551)	-9.970 (8.144)	0.001 (0.018)	-0.039 (0.021)	-0.030 (0.016)	-0.001 (0.009)	0.025 (0.015)	0.025* (0.011)	0.010 (0.014)	0.010 (0.013)	-0.005 (0.010)
Tp5	-12.711 (16.242)	-15.442 (8.999)	-7.863 (8.895)	-0.027 (0.021)	-0.038 (0.025)	-0.032 (0.019)	0.015 (0.017)	0.026 (0.013)	0.028* (0.012)	0.005 (0.017)	0.011 (0.017)	-0.007 (0.011)
N	3,473	2,266	1,997	3,473	2,266	1,997	3,473	2,266	1,997	3,473	2,266	1,997

Table A15. Alternative Distances: High TPS

	Total Enrollment			Share of Low-income Students			White Share			Black Share			Hispanic Share		
	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles
Pre-ATT	-3.949 (13.389)	2.727 (5.746)	1.530 (5.239)	0.011 (0.039)	-0.005 (0.006)	-0.001 (0.005)	0.001 (0.006)	-0.003 (0.002)	-0.003 (0.002)	-0.012 (0.007)	0.001 (0.001)	0.001 (0.001)	0.012** (0.004)	0.003* (0.001)	0.002 (0.001)
Post-ATT	-66.357 (66.384)	-36.283 (20.546)	-46.814** (15.988)	0.109 (0.056)	0.028 (0.026)	0.022 (0.019)	-0.009 (0.011)	-0.008 (0.005)	-0.010* (0.004)	-0.019 (0.010)	-0.005 (0.005)	-0.004 (0.004)	0.026* (0.012)	0.015*** (0.004)	0.013*** (0.004)
Tm5	16.921 (23.105)	-5.791 (8.977)	-4.782 (10.312)	-0.137 (0.095)	-0.003 (0.009)	-0.002 (0.008)	0.010 (0.009)	-0.002 (0.004)	-0.005 (0.003)	-0.010* (0.004)	0.003 (0.004)	0.003 (0.003)	0.000 (0.008)	0.000 (0.003)	0.001 (0.003)
Tm4	41.588* (20.327)	18.216* (9.096)	15.812* (7.896)	-0.053 (0.055)	-0.013 (0.025)	0.007 (0.016)	0.010 (0.006)	-0.003 (0.004)	-0.005 (0.003)	-0.001 (0.013)	-0.001 (0.004)	0.001 (0.003)	-0.007 (0.014)	0.002 (0.005)	0.002 (0.004)
Tm3	-21.233 (18.112)	-6.483 (12.052)	-13.192 (10.694)	0.123 (0.117)	0.001 (0.008)	-0.000 (0.007)	-0.018 (0.029)	-0.006 (0.008)	-0.005 (0.006)	-0.037 (0.022)	-0.002 (0.003)	-0.002 (0.002)	0.056* (0.026)	0.007 (0.008)	0.006 (0.007)
Tm2	-11.695 (30.778)	14.962 (8.931)	9.601 (7.224)	0.114* (0.053)	-0.017 (0.019)	-0.024 (0.021)	0.010 (0.012)	0.006 (0.004)	0.003 (0.003)	-0.008 (0.012)	0.005 (0.004)	0.005 (0.003)	-0.004 (0.012)	-0.009 (0.005)	-0.008* (0.004)
Tm1	-45.324 (30.650)	-7.268 (11.190)	0.212 (9.931)	0.007 (0.032)	0.009 (0.020)	0.012 (0.016)	-0.006 (0.007)	-0.010 (0.006)	-0.006 (0.005)	-0.006 (0.011)	-0.002 (0.002)	-0.002 (0.002)	0.015 (0.010)	0.012** (0.004)	0.008* (0.004)
Tp0	7.186 (33.689)	-32.952** (10.930)	-20.727* (8.432)	0.071** (0.026)	0.023* (0.010)	0.014 (0.008)	-0.009 (0.011)	-0.003 (0.005)	-0.002 (0.004)	-0.001 (0.009)	-0.006 (0.004)	-0.003 (0.003)	0.004 (0.012)	0.007 (0.004)	0.002 (0.003)
Tp1	-28.610 (33.283)	-21.544 (17.626)	-30.880* (13.259)	0.089* (0.036)	0.042** (0.014)	0.031** (0.012)	-0.004 (0.007)	-0.000 (0.004)	-0.004 (0.004)	-0.012 (0.011)	-0.005 (0.005)	-0.003 (0.004)	0.008 (0.011)	0.005 (0.003)	0.004 (0.003)
Tp2	6.603 (60.351)	-38.922 (25.449)	-56.543** (19.184)	0.074 (0.069)	0.005 (0.036)	0.002 (0.027)	0.007 (0.016)	-0.001 (0.007)	-0.007 (0.006)	-0.018 (0.011)	-0.003 (0.006)	-0.003 (0.005)	0.023 (0.013)	0.009 (0.005)	0.009 (0.005)
Tp3	-10.085 (66.124)	-45.954 (26.372)	-55.641** (20.166)	0.106 (0.072)	0.011 (0.032)	0.008 (0.025)	-0.011 (0.013)	-0.012* (0.006)	-0.014** (0.005)	-0.026 (0.015)	-0.004 (0.006)	-0.003 (0.004)	0.043* (0.017)	0.020*** (0.006)	0.016** (0.005)
Tp4	-112.566 (120.778)	-32.066 (28.759)	-57.895* (23.452)	0.196* (0.081)	0.048 (0.035)	0.053 (0.035)	-0.016 (0.017)	-0.016* (0.007)	-0.016* (0.006)	-0.012 (0.017)	-0.006 (0.007)	-0.005 (0.005)	0.027 (0.022)	0.024*** (0.006)	0.021*** (0.005)
Tp5	-260.667* (119.267)	-46.260 (35.799)	-59.197* (26.216)	0.116 (0.092)	0.039 (0.040)	0.022 (0.029)	-0.023 (0.017)	-0.018* (0.009)	-0.018* (0.007)	-0.045** (0.016)	-0.008 (0.007)	-0.007 (0.006)	0.050* (0.022)	0.027*** (0.007)	0.024*** (0.006)
N	3,073	2,661	2,496	2,757	2,356	2,201	3,071	2,661	2,496	3,071	2,657	2,494	3,073	2,659	2,496

Table A16. Alternative Distances: High Private

	Total Enrollment			White Share			Black Share			Hispanic Share		
	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles	1 mile	4 miles	5 miles
Pre-ATT	-1.126 (3.040)	-3.098 (3.295)	-0.994 (3.712)	-0.008 (0.005)	0.005 (0.005)	0.003 (0.005)	0.005 (0.007)	0.001 (0.003)	0.003 (0.003)	0.004 (0.003)	-0.001 (0.003)	-0.002 (0.002)
Post-ATT	-4.341 (14.591)	7.621 (8.421)	10.368 (8.789)	0.036** (0.013)	-0.002 (0.013)	-0.005 (0.012)	-0.010 (0.011)	-0.010 (0.007)	-0.004 (0.007)	-0.017** (0.005)	0.006 (0.008)	0.005 (0.007)
Tm5	4.067* (1.912)	-2.298 (6.473)	8.221 (10.189)	-0.008 (0.009)	0.001 (0.009)	-0.009 (0.012)	0.006 (0.006)	0.006 (0.006)	0.011 (0.006)	0.003 (0.002)	-0.005 (0.004)	-0.004 (0.004)
Tm4	-5.954 (5.864)	-9.995* (3.991)	-3.879 (7.679)	-0.006 (0.008)	0.005 (0.008)	0.003 (0.008)	0.002 (0.005)	0.004 (0.007)	0.009 (0.007)	0.002 (0.004)	-0.001 (0.003)	-0.003 (0.003)
Tm3	-2.837 (5.222)	0.280 (7.186)	-4.862 (3.992)	-0.004 (0.008)	0.005 (0.009)	0.009 (0.007)	0.000 (0.008)	0.002 (0.005)	0.003 (0.005)	0.008 (0.005)	-0.004 (0.004)	-0.005 (0.004)
Tm2	-0.622 (2.464)	1.660 (6.546)	-3.619 (4.068)	-0.018 (0.012)	0.006 (0.009)	0.007 (0.008)	0.016 (0.018)	-0.001 (0.006)	0.000 (0.006)	0.005 (0.003)	0.000 (0.004)	-0.002 (0.003)
Tm1	-0.286 (2.795)	-5.137 (3.619)	-0.831 (5.698)	-0.002 (0.013)	0.007 (0.006)	0.004 (0.006)	0.002 (0.017)	-0.008 (0.006)	-0.006 (0.005)	0.000 (0.004)	0.004 (0.003)	0.003 (0.003)
Tp0	-4.491 (3.160)	-1.472 (3.835)	4.482 (5.209)	0.024*** (0.006)	-0.004 (0.007)	0.001 (0.006)	-0.016 (0.009)	-0.003 (0.005)	-0.004 (0.005)	-0.006 (0.004)	0.000 (0.003)	0.000 (0.003)
Tp1	-9.276 (6.600)	5.390 (6.336)	7.371 (7.391)	0.043*** (0.011)	-0.003 (0.013)	-0.007 (0.012)	-0.033 (0.017)	-0.002 (0.010)	0.000 (0.009)	-0.013* (0.006)	0.000 (0.006)	0.000 (0.006)
Tp2	-7.554 (13.318)	9.882 (9.101)	11.962 (9.413)	0.032* (0.013)	-0.003 (0.016)	-0.011 (0.015)	-0.013 (0.011)	-0.006 (0.011)	-0.000 (0.009)	-0.020*** (0.006)	0.007 (0.009)	0.006 (0.008)
Tp3	-0.198 (17.128)	11.734 (10.323)	13.070 (10.332)	0.034* (0.017)	0.007 (0.017)	-0.003 (0.015)	0.001 (0.013)	-0.017 (0.012)	0.011 (0.021)	-0.021** (0.007)	0.009 (0.010)	0.007 (0.009)
Tp4	-0.176 (26.572)	12.346 (11.839)	13.646 (11.622)	0.040 (0.026)	-0.005 (0.017)	-0.008 (0.016)	0.003 (0.016)	-0.014 (0.009)	-0.013 (0.008)	-0.022* (0.009)	0.011 (0.012)	0.009 (0.011)
Tp5	-4.351 (26.389)	7.845 (13.085)	11.675 (13.441)	0.041 (0.033)	-0.005 (0.020)	-0.004 (0.019)	0.000 (0.015)	-0.018 (0.010)	-0.018 (0.009)	-0.022 (0.012)	0.010 (0.014)	0.010 (0.012)
N	1,546	1,267	1,190	1,546	1,267	1,190	1,546	1,267	1,190	1,546	1,267	1,190

Table A17. Additional Covariates of Racial Composition Change at County-level

		K8		High	
		TPS	Private	TPS	Private
Total Enrollment	Pre-ATT	-0.102 (2.209)	5.394 (8.452)	-51.833* (21.752)	3.700 (9.726)
	Post-ATT	38.135*** (10.759)	-61.057 (35.942)	-194.475 (221.476)	76.166* (38.642)
	N	12,706	2,672	2,831	1,340
Share of Low-income Students	Pre-ATT	0.000 (0.002)		-0.068* (0.034)	
	Post-ATT	-0.006 (0.010)		0.342 (0.217)	
	N	11,496		2,524	
White Share	Pre-ATT	-0.002 (0.002)	-0.024 (0.030)	-0.023 (0.021)	0.056 (0.063)
	Post-ATT	-0.008 (0.010)	-0.062 (0.047)	-0.142 (0.093)	0.075 (0.052)
	N	12,706	2,672	2,831	1,340
Black Share	Pre-ATT	-0.002 (0.001)	-0.009 (0.013)	-0.000 (0.011)	0.020 (0.016)
	Post-ATT	-0.012** (0.004)	-0.015 (0.026)	0.005 (0.053)	-0.037 (0.028)
	N	12,639	2,672	2,827	1,340
Hispanic Share	Pre-ATT	0.003 (0.002)	0.025 (0.027)	0.025 (0.023)	-0.049 (0.041)
	Post-ATT	0.020** (0.007)	0.084* (0.042)	0.135 (0.073)	-0.041* (0.020)
	N	12,706	2,672	2,829	1,340