

# The Long-Run Effects of Residential Racial Desegregation Programs: Evidence from *Gautreaux*\*

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## Abstract

This paper provides new evidence on the long-run effects of residential racial desegregation policies by studying the Gautreaux Assisted Housing Program. From the late 1970s until the 1990s, Gautreaux assisted thousands of Black families to move to predominately white, mostly suburban neighborhoods. We link historical program records to administrative data and use plausibly exogenous variation in neighborhood placements to estimate the effects of Gautreaux on the long-run outcomes of children. Being placed in a white neighborhood significantly increases children's future lifetime earnings, employment, and wealth. Gautreaux children placed in a white neighborhood are also significantly more likely to be married and twice as likely to be married to a white spouse. Moreover, placements through Gautreaux impact the neighborhood choices of children in adulthood. Children placed in white neighborhoods during childhood live in more racially diverse neighborhoods with higher rates of upward mobility nearly 40 years later.

**Keywords:** Neighborhoods, desegregation, children.

**JEL codes:** J15, I38, R23.

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# 1 Introduction

Residential segregation by race remains a defining feature across neighborhoods in the United States. Despite a decline in segregation over the past four decades, the average Black household currently lives in a Census block that is 54 percent Black, even though Black households make up only 12 percent of the population. A large social science literature, both theoretical and empirical, provides evidence that Black-white residential segregation has important effects on economic and social outcomes of Black families (Wilson, 1987; Cutler and Glaeser, 1997; Denton and Massey, 1993; Ananat, 2011; Andrews et al., 2017; Chetty et al., 2020; Chyn et al., 2022).

However, there is limited empirical evidence on the effects of policies aimed at reducing residential racial segregation. A robust and growing literature examines the impact of school desegregation policies (Guryan, 2004; Billings et al., 2014; Johnson, 2011, 2019; Bergman, 2018), but there is comparatively less literature on the impact of policies to reduce *residential* segregation. The Moving to Opportunity (MTO) experiment provided rigorous evidence on the impact of changing residential segregation by income but did little to desegregate on the basis of race. Even among MTO participants who relocated to low-poverty neighborhoods, only 18 percent moved to neighborhoods that were majority white.<sup>1</sup>

In this paper, we study the long-run consequences of the Gautreaux Assisted Housing program, which was the largest residential racial desegregation program in U.S. history. From 1976 to 1998, the Gautreaux program helped more than 7,000 Black families living in urban neighborhoods in Chicago to relocate to private rental housing. The result of a class action lawsuit, the Gautreaux program served as a model for numerous lawsuits throughout the country that also sought to desegregate neighborhoods through reforms to public housing or vouchers policies.<sup>2</sup> Gautreaux aimed to place Black families in mostly white, frequently suburban neighborhoods. As a result of this emphasis on reducing racial segregation, 83 percent of households that participated in Gautreaux moved to neighborhoods where the fraction of Black households was less than 30 percent.

At the outset, it is unclear whether, and to what extent, moving to a white neighborhood may affect outcomes for low-income Black families. On one hand, families and their children could benefit if moving to a white neighborhoods coincides with exposure to lower crime rates, attending schools with greater resources, or having neighbors with higher employment rates (Clampet-Lundquist et al., 2011). On the other hand, Black families moving to white neighborhoods could face hostility from white institutions or neighbors, exposing them to new

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<sup>1</sup>Similarly, Chyn (2018) studies the impact of relocating due to public housing demolitions. These moves due to demolition resulted in large reductions in neighborhood poverty with no impact on neighborhood racial diversity.

<sup>2</sup>Following Gautreaux, similar suits were initiated in: Baltimore (MD), Boston (MA), Buffalo (NY), Cincinnati (OH), Dallas (TX), Memphis (TN), Miami (FL), Minneapolis (MN), New Haven (CT), New York (NY), Omaha (NE), Pittsburgh (PA), Port Arthur (TX), Toledo (OH) and Yonkers (NY).

risks. For example, Black children could face increased stigmatization or scrutiny in white neighborhoods by police (Bergman, 2018) or increased exposure to discrimination from white school peers (Mendenhall, 2009). Moreover, the receiving white neighborhoods could alter public investments to curtail opportunities for Black families (Derenoncourt, 2022). Moving to white areas could also reduce a participant’s proximity and access to social networks. Finally, children of Gautreaux households who relocated to suburban neighborhoods attended majority-white schools. Prior research suggests that this change could increase the incidence of risky behavior and interactions with the criminal justice system (Kling et al., 2007; Clampet-Lundquist et al., 2011; Bergman, 2018; Bacher-Hicks et al., 2019; Chin, 2021).

While the Gautreaux program aimed to move families to predominately white, mostly suburban neighborhoods, program administrators struggled to find sufficient affordable rental units in white communities that would lease to Black families. Consequently, some Gautreaux families were placed in predominately Black neighborhoods that were deemed “revitalizing.” As program administrators primarily placed families based on their initial registration waiting list order, we argue that being placed in a white or Black neighborhood was plausibly exogenous to family circumstances. After accounting for factors considered by program staff in placement—namely, the location at intake—we demonstrate that Gautreaux families placed in white neighborhoods were observably similar across a range of baseline characteristics to other Gautreaux families from the same neighborhood who were placed in Black neighborhoods.

We construct novel data by linking digitized historical records from the Gautreaux program to administrative and Census data. This allows us to conduct the most comprehensive analysis to date for adults, as well as the first long-run study of children’s outcomes as adults. We estimate the “treatment” effects of moving to predominately white neighborhoods on the adult labor market outcomes of children by linking to more than two decades of earnings and employment records from the Longitudinal Employer-Household Dynamics (LEHD) data. To study impacts on marriage, interracial marriage, incarceration, and home-ownership, we linked the Gautreaux program data to the 2010 Decennial Census. We also investigate the effects on mortality by linking our sample to the Census Bureau’s Numerical Identification (NUMIDENT) file. Finally, we examine whether children in Gautreaux families chose to live in more racially diverse neighborhoods as adults nearly 40 years after their program placement using longitudinal address data from internal Census Bureau files, derived from tax records and other sources.

Children of Gautreaux participants who were placed in predominately white neighborhoods experienced significant economic gains compared to those placed in segregated, Black neighborhoods. We estimate that Gautreaux children placed in white neighborhoods earned about \$2,500 (32 percent) more at age 24 than those placed in Black neighborhoods. By age 38, Gautreaux children placed in targeted neighborhoods accumulated \$51,000 (16 percent) more in lifetime earnings than their counterparts placed in Black neighborhoods. Treated children

also spent more years with formal labor market attachment. These improvements in labor market outcomes have implications for household wealth: we estimate that treated children are 6-9 percentage points more likely to own a home by their mid-30s and live in neighborhoods with lower poverty rates.

The impacts of Gautreaux extend beyond standard economic outcomes. Being placed in a white neighborhood during childhood has profound impacts on the neighborhood choices of Gautreaux children in adulthood. Nearly 40 years later, the children of Gautreaux participants who moved to a white neighborhood live in significantly more diverse neighborhoods than their counterparts placed in Black neighborhoods. The treated children are in neighborhoods that are, on average, 35 percent Black (9.8 percentage points lower than children placed in Black neighborhoods) and 38 percent non-Hispanic white (6.6 percentage points higher). We show that these effects are not driven by an increased tendency to live with parents or an increased propensity to live in their original placement neighborhood in adulthood. Treated children are also 24 percent (6.9 percentage points) more likely to be married in the 2010 Census and about twice as likely to be married to a white spouse (a 2 percentage point increase). In addition, our analysis shows children treated through Gautreaux choose later-life neighborhoods that offered higher-levels of predicted upward mobility based on the Opportunity Atlas (Chetty et al., 2018). This suggests that moves through Gautreaux may have important impacts on subsequent generations.

Our main findings remain unchanged throughout a series of robustness exercises. In our most stringent specification, we include family fixed effects and compare younger and older siblings. This specification tests whether there are distinct impacts *within* a family for children who were exposed to white neighborhoods for a longer duration because they moved at earlier ages. Consistent with an exposure effects model (Chetty et al., 2016; Chetty and Hendren, 2018), we find that younger children benefited more than their older siblings in households placed in the white neighborhoods. This household fixed-effects design suggests that our primary specification is unlikely to be confounded by fixed unobservable differences across families placed in white neighborhoods relative to those placed in Black neighborhoods.

This paper offers several novel contributions to the literature studying whether and how neighborhoods shape children’s outcomes. Most notably, our analysis innovates and extends on previous research on the Gautreaux Housing Assistance Program in four main ways. First, we provide the first comprehensive long-run evidence on the impacts of Gautreaux placements on children. We break new ground by examining children’s future earnings, wealth (as measured by home-ownership), and social outcomes such as marriage. Prior work on Gautreaux children was limited to impacts on criminal justice involvement (Keels, 2008) and mortality (Kling and Voth, 2009), while long-run studies of Gautreaux focused on the outcomes of adult mothers (DeLuca, 2005; Mendenhall et al., 2006; DeLuca et al., 2010). Second, we estimate the effects of Gautreaux placements nearly four decades after the intervention, which allows

us to examine the persistence of impacts on earnings and study other important long-run outcomes such as the later-life neighborhood choices of children. Third, our analysis uses the most complete records of Gautreaux participants linked to administrative and Census data. Early studies of Gautreaux families relied on small-scale surveys with relatively high rates of non-response and focused on short-run impacts (Rosenbaum, 1991, 1995; Rosenbaum et al., 1991; Rubinowitz and Rosenbaum, 2000).<sup>3</sup> Finally, the research design for our analysis allows us to obtain more convincing evidence on the impacts of moves generated through the Gautreaux program. Our approach isolates plausibly exogenous neighborhood placements with a research design that differs from earlier studies of Gautreaux. We provide evidence that our research design addresses concerns over selection bias and present a range of sensitivity analyses that further support a causal interpretation to our findings. Overall, this paper provides the first comprehensive study of the long-run impacts of a residential racial desegregation program in the U.S.

Furthermore, we contribute to the literature by shedding light on how the effects of reducing residential racial segregation compare to the impacts of solely decreasing economic segregation. The Gautreaux program uniquely generated large changes in the racial composition of the neighborhoods where Black families lived by helping them relocate to majority white neighborhoods. We use two approaches to explore how the effects of neighborhood racial composition measure against the impacts of neighborhood economic characteristics. First, we compare results from Gautreaux with newly-produced and existing estimated impacts of relocating through the MTO experiment. As noted above, MTO reduced economic segregation but did not substantially change racial segregation. Second, we explore variation within the Gautreaux sample in the characteristics of placement neighborhoods to examine the effects of neighborhood race *conditional* on economic characteristics.

Relative to economic desegregation, racial desegregation appears to have distinct impacts on social outcomes. After linking the MTO sample to address records from MAF-ARF, we show that Black children whose families moved through MTO chose neighborhoods in adulthood with lower poverty rates but negligible differences in racial composition. This contrasts with results from Gautreaux where we find that moving to a predominately white neighborhood during childhood led children to select neighborhoods as adults that are more white and less Black. In line with this pattern, a multivariate specification that exploits variation in neighborhood placement *within* the Gautreaux sample shows that placement neighborhood racial composition—and not economic characteristics—is largely responsible for changes in social outcomes such as later-life neighborhood racial composition and interracial marriage.

For economic outcomes, the combined effects of racial and economic desegregation on children’s long-run outcomes are positive and large-in-magnitude. The results are comparable

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<sup>3</sup>The only study of Gautreaux impacts on children’s post-secondary outcomes (Rosenbaum, 1995) relied on survey responses from just 55 children.

to the positive impacts of economic desegregation found in studies of moves to low-poverty, segregated neighborhoods (Chetty et al., 2016; Chyn, 2018). When we estimate the effects of neighborhood race—holding economic characteristics constant—we find that the effects, are neutral at worst, but are more likely beneficial in terms of their long-run impacts on children’s future earnings.

Finally, our work also contributes to our understanding of the effects of policies and programs that aimed to reduce to U.S. racial segregation. Prior work has focused on understanding the impact of school-based desegregation, which has been found to have significant benefits for minority children. Guryan (2004) finds that court-ordered desegregation led to reductions in the dropout rate for Black students. Johnson (2011, 2019) and Anstreicher et al. (2022) find that Black children exposed to school desegregation had improved labor market outcomes and were less likely to be incarcerated. Bergman (2018) finds that a school integration program increased college attendance but also arrests for non-violent offenses. In contrast to these studies, we provide comprehensive analysis of the long-run effects of a large-scale residential racial desegregation policy. Moreover, we provide evidence that the effects of relocating to more diverse areas through Gautreaux are unlikely to be driven solely by changes in school quality. This finding suggests that policies aimed at increasing racial integration and exposure may be effective even when they do not exclusively focus on changing school environments of children.

## 2 Background

### 2.1 Residential Desegregation Litigation and Dorothy Gautreaux

After the passage of the Voting Rights Act of 1965, the civil rights movement in the U.S. shifted its focus to racial inequality in the institutions of Northern cities. Although discrimination in education and employment opportunities remained important targets, a push for open housing became an essential part of civil rights efforts in the North. Advocates for open housing viewed residential segregation and racial discrimination in housing as a major threat to progress towards integration.

Chicago became a focal point in the effort to dismantle racial discrimination in housing. In 1966, Dr. Martin Luther King Jr. temporarily moved into the impoverished North Lawndale neighborhood on Chicago’s west side as part of a year-long effort to fight for open housing in the city.<sup>4</sup> At the conclusion of his time in Chicago, Dr. King, alongside local civil rights leaders, established the Leadership Council for Metropolitan Open Communities (the “Leadership

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<sup>4</sup>King’s efforts in Chicago, in collaboration with James Bevel, Al Raby, the Southern Christian Leadership Conference (SCLC), and the Chicago-based Coordinating Council of Community Organizations (CCCCO), came to be known as the “Chicago Freedom Movement” or sometimes the “Chicago Open Housing Movement” (though the scope of the movement was much broader than housing and included a focus on employment discrimination, criminal justice disparities, education, and other quality of life concerns).

Council”) to continue the fight for open housing in the Chicago metropolitan area.

One significant development in the open housing movement was when Alex Polikoff, an attorney with the ACLU, initiated a class action lawsuit on behalf of Dorothea Gautreaux, an African-American community organizer and activist living in public housing in Chicago, and five other named tenants against the Chicago Housing Authority (CHA). Filed in the same year that King took up residence in Chicago, the lawsuit charged that the CHA had a history of racially discriminatory practices, citing the concentration of nearly all new public housing buildings in Black neighborhoods as a restriction on Black families’ access to white neighborhoods. The case was successfully argued before the U.S. Supreme Court, and the resulting settlement required the CHA to develop a desegregation remedy for the metropolitan area.

The *Gautreaux* litigation in Chicago was one of the first major residential desegregation lawsuits in U.S. history and inspired similar lawsuits across the country. As illustrated in Appendix Figure A.1, in the decades following *Gautreaux*, additional lawsuits aimed at desegregating housing through reforms to public housing or voucher policies were initiated in several cities, including Baltimore (MD), Boston (MA), Buffalo (NY), Cincinnati (OH), Dallas (TX), Memphis (TN), Miami (FL), Minneapolis (MN), New Haven (CT), New York (NY), Omaha (NE), Pittsburgh (PA), Port Arthur (TX), Toledo (OH) and Yonkers (NY). Although the exact desegregation remedies sought in these lawsuits varied, nearly all were influenced in part by the *Gautreaux* case.

## 2.2 The Gautreaux Assisted Housing Program

The settlement agreement between the CHA and the plaintiffs in the *Gautreaux* case included a two-pronged approach to address segregation: (1) establish a program to build scattered-site public housing in white neighborhoods that historically lacked public housing, known as the “*Gautreaux* Demonstration Program”, and (2) implement the “*Gautreaux* Assisted Housing Program,” a voucher-based mobility program in which housing counselors would help eligible families move to desegregated areas throughout the Chicago metropolitan region. While the *Gautreaux* Demonstration Program only achieved modest scale, primarily due to political opposition in white neighborhoods, the voucher-based *Gautreaux* Assisted Housing program operated for two decades from 1976 to 1998 and served 7,100 households.

The Chicago-based non-profit, the Leadership Council for Metropolitan Open Communities (the “Leadership Council”) was responsible for administering the *Gautreaux* Assisted Housing Program. The Leadership Council employed real estate staff and housing counselors to carry out client intake, tenant pre-screening, landlord recruitment, and directed placement activity.<sup>5</sup>

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<sup>5</sup>The real estate staff were responsible for the following: identifying and developing relationships with landlords in the neighborhoods targeted by the program; recruiting them into participating in the *Gautreaux* program; identifying new vacancies; and arranging tours of units. Through their efforts, the Leadership Council collected a running list of



Families participating in the program were given a housing voucher that enabled them to rent a unit on the private market.<sup>6</sup> Typically, tenants paid 25 percent of their income in rent, while the voucher covered the difference between the market rent and the family’s contribution up to a rent ceiling known as the payment standard.

Families joined the Gautreaux program voluntarily and were eligible for services if they were a member of the plaintiff class, which included existing public housing residents and applicants on CHA’s public housing waiting list (Popkin et al., 1993; Polikoff, 2007). Enrollment in the Gautreaux program evolved over time, but followed a general pattern: families seeking assistance through the program could apply during a once-a-year, single-day registration event. Due to excess demand for the program, registration was conducted through a phone-banked dial-in “lottery” in which interested families would attempt to connect with Leadership Council phone operators during a specified period on the registration day.<sup>7</sup> After an initial eligibility screening, successful applicants were invited to an intake briefing at the Leadership Council offices to receive more information about the program.<sup>8</sup>

Throughout its existence, the goal of the Gautreaux program was to place families in predominately white, frequently suburban neighborhoods. The original judgment in the Gautreaux case defined “Limited Areas” and “General Areas” (Austin, 1969; Crowley, 1981) as the two potential neighborhood options for the plaintiffs. The Gautreaux program aimed to maximize moves of the plaintiff class to “General Areas,” which were defined as Census tracts with a Black population share of less than 30 percent, and to limit moves into “Limited Areas” (i.e., tracts with Black population share exceeding 30 percent). As we discuss in Section 4, we use the program definition of General Areas, Census tracts with a Black population of less than 30 percent, as the focus of our analysis.

While the Leadership Council sought to maximize placements in General Areas, staff faced considerable challenges in finding landlords who were willing to provide apartments in the targeted white, suburban areas (Rubinowitz and Rosenbaum, 2000; Polikoff, 2007). This difficulty in finding suitable apartments significantly slowed the placement of Gautreaux families. In the program’s initial year, the Leadership Council planned to relocate around 400 families.

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available apartments.

<sup>6</sup>Gautreaux families typically received section 8 *certificates* which were an earlier model of today’s housing vouchers. For information on differences in program rules, see Olsen (2003) or Collinson et al. (2016).

<sup>7</sup>Registration day events were initially conducted in-person, but Gautreaux administrators were forced to shift to a phone-based system in 1984 due to thousands of families lining-up outside Leadership Council offices in early morning hours before registration opened. Polikoff (2007) writes: “[T]he throng on the sidewalk numbered several thousand and had spilled into the street. Buses had to be rerouted.”

<sup>8</sup>At the intake briefings, there were three additional screening criteria applied by the Leadership Council: (1) acceptable credit/rent payment history; (2) no criminal background; and (3) “good house-keeping” (Polikoff, 2007; Peroff et al., 1979). Of these criteria, the most common problem was bad credit (Peroff et al., 1979). During some periods, larger families (four or more children) were also screened-out (Rosenbaum, 1995). If families were deemed eligible based on all criteria, the family also had to provide income-verification from an employer or social worker and two references.



However, by the end of the first year, only 168 families had been placed, largely due to the challenge of finding landlords in suburban areas.

Due to the slow pace of relocation in the program’s early years, the set of acceptable placement neighborhoods was expanded in 1981 when a consent decree for Gautreaux was signed. The Court recognized that relocating Gautreaux families to General Areas alone would not provide “total relief.” Therefore, the new decree allowed up to one-third of the plaintiff class to be placed in “Revitalizing Areas,” defined as predominately minority neighborhoods that were deemed to be undergoing sufficient redevelopment and were expected to be more integrated in the future (Crowley, 1981).

Two key factors determined whether a Gautreaux family was placed in a predominately white neighborhood (i.e., General Area) or a revitalizing Black area. First, the availability of housing units of the appropriate size in a General Area neighborhood at the time a family was being processed heavily influenced where they were placed (Popkin et al., 1993; Rosenbaum, 1995; Polikoff, 2007). The scarcity of affordable rental housing in General Areas was partially due to housing market conditions. In line with this, Appendix Figure A.2 highlights how Gautreaux’s placement rate into predominately white neighborhoods varied and was highly correlated with the broader Chicago rental vacancy rate.<sup>9</sup> Second, a family’s position on the registration list from the program’s annual single-day registration event also influenced their placement.<sup>10</sup>

Notably, the Leadership Council did not directly consider family preferences when offering housing units to Gautreaux families. Instead, counselors at the Leadership Council offered the first available unit to a family after accounting for basic factors such as family size and transit needs (e.g., families without access to a vehicle might be placed in suburbs closer to their previous neighborhood in the city of Chicago) (Keels et al., 2005). Although clients were allowed to refuse two housing offers for any reason without losing their voucher, the vast majority of families accepted the first unit they were offered: Popkin et al. (1993) report that 95 percent of Gautreaux clients accepted their first offer.

### 3 Data

Our analysis relies on linking official program records from the Gautreaux Assisted Housing Program to multiple administrative data sets housed at the U.S. Census Bureau. In this section, we describe the sample used in our analysis and define the outcomes that we study. Further details on the sample and data linkage can be found in Appendix Section B.

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<sup>9</sup>The correlation between the annual white neighborhood placement rate and the Chicago vacancy rate is 0.77.

<sup>10</sup>The precise ordering of registration was determined by a family’s position in line during an in-person registration event or the timing of when they connected to Leadership Council phone operators during the “phone lottery” (Popkin et al., 1993).

### 3.1 Sample of Gautreaux Participants and Data Linkage Process

Our sample is based on of historical records on Gautreaux participants from the Leadership Council, which were provided by the U.S. Department of Housing and Urban Development (HUD) and originally collected by Jeffrey Kling. The Gautreaux records contain information recorded at registration for families who successfully received a placement through the program, including information for adults and children in the household. For all individuals, the program files contain names, Social Security Numbers (SSNs), and basic demographic information, such as gender, year of birth, and place of birth. For household heads, we have more extensive information, including gender, marital status, car ownership, driver’s license status, employment status, annual earnings, total income, and the number of children in the household. The Gautreaux records also provide information on a household’s address at the time of registration and the location of their housing placement through the program.

The name, date of birth, and SSN information in the Gautreaux program records were processed through the Census Person Identification Validation System (PVS) to link our sample of adults and children to a unique Protected Identification Key (PIK). PVS uses probabilistic matching to link individuals to a reference file constructed from the Social Security Administration Numerical Identification File and other federal administrative data (Wagner and Lane, 2014). For the full and children-only samples, 90.2 and 86.2 percent of individuals were successfully assigned to PIKs, respectively. PIKs allow us to link the Gautreaux sample to other restricted data sets held by the U.S. Census Bureau. In Appendix Section B, we provide evidence that there is no detectable association between the likelihood of matching to a PIK and the probability of placement into the white neighborhoods targeted by Gautreaux.

Our analysis sample is restricted to adults and children who participated in Gautreaux from 1982 to 1994, which is the last year of program data. We focus on individuals who participated after the 1981 consent decree was adopted, even though the program began in 1976. As explained in Section 2, the consent decree brought significant changes to the program rules regarding the racial composition of destination neighborhoods. Further discussion of this decision is provided in Section 4.

After applying our sample restrictions, the primary analytical sample consists of roughly 4,700 children in Gautreaux families who are assigned a PIK and are at least age 24 by 2014 (the last year of our earnings data). However, the sample sizes vary across outcomes due to differences in availability of data and differences in child ages at the time of measurement. In Appendix Section B, we evaluate whether appearance in any of our outcomes samples is correlated with placement into a white neighborhood. Consistently across outcome data sources, we find no evidence that placement is correlated with appearing in our outcome samples.

### 3.2 Later-life Neighborhood Choices

We use several sources of information to measure the location of individuals in the Gautreaux program over time. The Gautreaux program records provide the address of the family at intake and the placement address. After participation in the program, we can observe their location in 2000 from the 2000 Decennial Census, in 2010 from the 2010 Decennial Census, and from 2007 to 2019 from the Master Address File-Auxiliary Reference File (MAF-ARF). The MAF-ARF is a cross-sectional address file that supports Census surveys such as Decennial operations and the American Community Survey. The person-address linkages in the MAF-ARF come from the IRS, HUD, Medicare, the U.S. Postal Service, and other administrative sources (Finlay and Genadek, 2021).

We define neighborhoods as U.S. Census tracts and focus on the neighborhood characteristics for each address covered in the years of the data. We study tract-level measures of racial composition (i.e., the Black and white population shares) and the poverty rate using the American Community Survey 2015-2019 five-year estimates. Additionally, we use the Opportunity Atlas (Chetty et al., 2018) to characterize upward mobility for each tract. Upward mobility is defined as the average income rank for children born to parents at the 25th percentile of the income distribution.<sup>11</sup>

Our analysis focuses on long-run neighborhood locations measured in 2019 using the MAF-ARF. Additionally, we derive neighborhood locations for children participants at age 26 using the MAF-ARF for children who were age 26 during the years 2007-2019. In supplementary appendix results, we also investigate impacts on neighborhood locations in 2010 using the MAF-ARF and the 2010 Decennial Census.

### 3.3 Earnings and Employment

We measure earnings and employment outcomes of Gautreaux participants using the quarterly earnings records from the Longitudinal Employer-Household Dynamics (LEHD) Employment History File 2014 snapshot. The LEHD is an administrative earnings database that combines earnings records from state Unemployment Insurance (UI) offices with establishment-level data from the Quarterly Census Employment and Wages (QCEW). It covers 98 percent of private-sector employment in the United States (see Abowd et al. (2004) and Vilhuber (2018) for further details on the LEHD). For this project, we have access to data from 22 states (including Illinois) and the District of Columbia.<sup>12</sup> The available years vary by state. The

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<sup>11</sup>Chetty et al. (2020) measure upward mobility using IRS administrative records on income from 2014–2015 to calculate later-life ranks in the nationwide income distribution for children who grew up in a given Census tract. The measure of upward mobility is specific to the 1978–1983 birth cohorts.

<sup>12</sup>The 22 states are Alabama, Arizona, California, Colorado, Delaware, Iowa, Idaho, Illinois, Kansas, Maryland, Maine, Montana, North Dakota, Nebraska, New Mexico, Nevada, Ohio, Oklahoma, Oregon, Tennessee, Utah, and Wisconsin. We show our results are unlikely to be biased due to this incomplete state coverage in Appendix Table A.1.

earliest year available for Illinois is 1990, while all states in our sample have data from 1995 to 2014.

We construct two types of measures of earnings from the quarterly earnings data: annual and cumulative earnings. For the annual earnings measures, we compute earnings for ages 24, 24–28, 29–33, and 34–38, using average annual earnings for the age or age-span. The sample size decreases with the age being studied as many cohorts of children placed through Gautreaux are still young. Cumulative earnings are measured by aggregating all observed earnings in the LEHD data for an individual up to age 28, 33, and 38. In the cumulative earnings analysis, we restrict the samples to individuals for whom we can observe their entire adult earnings history in the available years of earnings data (1990-2014).<sup>13</sup> This restriction reduces the sample sizes for each outcome. Note that the measures include all earnings for an individual, aggregated across multiple employers when applicable and are winsorized at the 99th percentile. All dollar amounts, including earnings, are expressed in 2018 USD using the CPI-U. However, the employment and earnings records only cover formal employment and exclude individuals not covered by UI benefits, such as the self-employed or those in the informal sector, which appear as zero earners in the data.

For supplementary analysis, we also construct an alternative measure of earnings that includes imputed values for individuals working in states not covered in our LEHD extract of states. The imputation relies on additional data from the LEHD that identifies whether or not an individual has positive earnings in *any state* for every quarter. In our alternative measure, we impute earnings using the mean earnings in our sample in the instances where a Gautreaux individual is observed working in one of the states *not* covered by the LEHD extract and has zero earnings in our covered set of states.

### 3.4 Marriage, Homeownership, and Incarceration

We obtain information on marriage, homeownership, and incarceration using the 2010 Decennial Census Hundred-Percent Detail File. This data source is designed to cover the entire U.S. population but only includes a relatively small set of characteristics. To determine marital status, we use the relationship to the household head. If a Gautreaux participant is the head of household or spouse, we can determine their marital status and the race of their spouse. This allows us to measure the likelihood of marrying a white spouse.

Homeownership is similarly defined for heads and the spouses of household heads in the 2010 Decennial Census. However, we cannot definitively determine whether an individual is a homeowner; instead, we only know that a member of the household owns the home.<sup>14</sup> To define homeownership, we only consider individuals who were 35 years or older at the time of the

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<sup>13</sup>We require that children be age 24 or younger in 1990 in order to observe their full earnings history for the cumulative earnings measure.

<sup>14</sup>Specifically, the Census Bureau asks respondents whether the home is “owned by you or someone in this household.”

2010 Census, since the typical age of first-time homeowners in the U.S. is in the mid-30s (Lautz et al., 2022). To cover a larger sample of Gautreaux children we create an alternative proxy for homeownership by combining MAF-ARF and 2010 Census records. Specifically, we link MAF-ARF addresses in 2017–2019 to the 2010 Decennial Census and infer ownership based on the historical tenure status of the housing unit (i.e., whether the unit was owned or rented in 2010). From this, we create a flag for whether an individual in our Gautreaux sample ever lived in an owner-occupied housing unit at any point during 2017-2019. We also create a separate measure for the fraction of these years spent living in owner-occupied housing.<sup>15</sup> These measure assume the tenure (owning or renting) status of the housing unit does not change between the 2010 Census and the point when we observe a Gautreaux individual residing there.

For incarceration, we use the definition based on whether the respondent was identified as residing in group quarters at the time of the 2010 Census. This definition will undercount the number of individuals involved with the criminal justice system, as it is a point-in-time measure that is more likely to capture those with longer sentences. Additionally, this definition will misidentify those who reside in different types of group quarters (e.g., hospitals). However, considering the age range of the Gautreaux children (a non-elderly population), they are more likely to be incarcerated than to be residing in other common forms of group quarters, such as nursing homes. Yet, it is possible that we may be capturing individuals in shelters or dorms when using this measure of incarceration.

### 3.5 Mortality

We measure all-cause mortality using the Census NUMIDENT file, which is derived from Social Security data. The NUMIDENT includes administrative records of the date of death for all individuals with social security numbers in the United States. It is considered a comprehensive set of death records for those who are successfully linked to a PIK and closely matches published CDC death statistics (Finlay and Genadek, 2021). The data allows us to observe mortality up to 2020.<sup>16</sup> In the final year of the NUMIDENT, our sample of Gautreaux children range in age between 23 to 56. Since death is a relatively rare outcome for those under 60 years old, we use a simple indicator of death at any time up to the end of the sample, without age or other adjustments.

## 4 Empirical Strategy

The focus of our analysis is to estimate the effects of moving to a predominately white neighborhood on the outcomes of Black children from low-income households. In general,

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<sup>15</sup>For these measures, we restrict to persons that are 35 or older in 2017.

<sup>16</sup>We limit mortality up to the first quarter of 2020 to exclude COVID-related deaths.

the primary obstacle to credible identification of such an impact is the selection problem generated by systematic sorting of families into neighborhoods. Hence, basic comparisons between minority children from families that do and do not move to white neighborhoods may be confounded by unobserved household differences.

The Gautreaux Assisted Housing Program represents a potentially promising setting in which there are plausibly exogenous moves into white neighborhoods. Unlike typical moves made by households on the private market, Gautreaux families generally did not search for housing themselves. Instead, the Leadership Council found available units for Gautreaux families and pre-screened families before applying to ensure they would be approved. Moreover, the Leadership Council typically offered the first available unit to families coming off the waiting list regardless of their preferences and with only minimal considerations about their circumstances. Finally, the scarcity of available units in white neighborhoods meant that the Leadership Council would ultimately need to place some Gautreaux families in revitalizing Black neighborhoods, creating differences in placement among a population that was interested in moving to white communities.

Although Gautreaux has promising features for identifying causal impacts, previous research has raised concerns about the degree to which Gautreaux placements were truly exogenous. Specifically, [Kling and Voth \(2009\)](#) and [Keels et al. \(2005\)](#) find evidence that neighborhood placements through Gautreaux were correlated with a family’s intake neighborhood characteristics. This pattern can be reconciled with historical accounts of the Leadership Council staff factoring in geographic proximity, as it relates to client transportation needs, when placing Gautreaux families ([Popkin et al., 1993](#); [Rosenbaum, 1995](#); [Polikoff, 2007](#)). Indeed, consistent with historical accounts, Gautreaux clients were statistically more likely to be placed in a white neighborhood (i.e., a neighborhood with Black population share less than 30 percent) if they lived further from the city center (see Appendix Figure [A.3](#)).<sup>17</sup>

Our main empirical strategy attempts to isolate plausibly exogenous variation in Gautreaux placements by departing from prior studies of Gautreaux in two main ways. First, we focus on the period after program rules changed in 1981 to open up revitalizing Black neighborhoods as placement options in response to the scarcity of housing in suburban areas of Chicago. Second, we directly account for the Leadership Council considering the proximity of clients to placement addresses by using origin tract fixed effects. Intuitively, our approach makes relatively narrow comparisons and relies on the idea that Gautreaux families from the same original neighborhood placed in white or Black neighborhoods are otherwise comparable. In the next section, we assess the plausibility of this assumption using the observable information on family characteristics measured before placement.

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<sup>17</sup>Additionally, Appendix Figure [A.4](#) shows that Gautreaux families were considerably more likely to be placed in apartments closer to their original address than in apartments further away.

Formally, we use the following empirical specification for our analysis:

$$Y_i = \alpha + \beta 1(\text{Pct Black}_{d(i)} < 30\%) + \psi_{o(i)} + \delta_{r(i)} + X_i' \gamma + \epsilon_i, \quad (1)$$

where  $Y_i$  is a post-relocation outcome for child  $i$  such as earnings at age 24. The key independent variable is the indicator  $1(\text{Pct Black}_{d(i)} < 30\%)$  which takes the value 1 if individual  $i$ 's family was “treated” by being placed in a Census tract which was less than 30 percent Black and zero otherwise. Our defined “control group” is the set of Gautreaux families placed in revitalizing (Black) neighborhoods. The indices  $o(i)$  and  $r(i)$  are the origin neighborhood and registration (intake) period for individual  $i$ . The terms  $\psi_{o(i)}$  and  $\delta_{r(i)}$  are fixed effects for the origin neighborhood and registration year, respectively. To improve precision, the model includes a vector  $X_i$  which controls for individual and family characteristics recorded at the time a household registered: gender, year of birth, place of birth, characteristics of the household head such as their gender, marital status, the number of bedrooms required, whether they have a car, have a license, are working, earnings, total income, and the number of children.

## 4.1 Validation of Main Specification

As discussed above, identifying the effects of moving to a white neighborhood is complicated by the fact that minority families who typically make such a move differ from other minority families on several dimensions. To illustrate this point, we construct an “endogenous movers” sample of low-income Black families with children in the Chicago region who responded to the 2000 Census and moved between 2000-2005.<sup>18</sup> Using this sample, we individually regress pre-move (baseline) characteristics measured in the 2000 Census on an indicator for whether the household head moved to a new Census tract with less than 30 percent Black population share and an origin Census tract fixed effect. This is in line with our preferred approach with the Gautreaux sample. We focus on measures in the 2000 Census that correspond to what is available in the Gautreaux program records.

The results in Table 1 provide evidence suggesting that household pre-move characteristics are highly correlated with the likelihood of moving to a white neighborhood. Column 2 reports an estimate of the difference in a given baseline characteristic between families that move to white versus Black neighborhoods, conditional on baseline tract. Black families who move to white neighborhoods have significantly higher earnings, income, and marriage rates compared to Black families from the same neighborhood who move to Black neighborhoods. The estimated differences are substantial relative to the mean of the comparison group. A joint orthogonality

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<sup>18</sup>Specifically, we start by linking respondents to the 2000 Census long-form respondents who were Black and lived in the Chicago area to the Census MAF-ARF to identify a sample of movers. We then restrict the resulting sample to households with incomes below 80 percent of Area Median Income to approximate the housing voucher-eligible population. As a final step, we draw a random sample which approximates the total number of households in our Gautreaux sample.



test rejects the hypothesis that the two groups are the same with a  $p$ -value of less than 0.01.

In contrast to these results for a representative sample of movers, Gautreaux families placed in white neighborhoods have similar pre-move (baseline) characteristics to their counterparts from the same neighborhood who were placed in revitalizing Black neighborhoods. The two right-most columns of Table 1 report the results from a balance analysis for Gautreaux using a slightly larger set of characteristics measured at registration for household heads and more limited set of characteristics available for children. Column 3 shows the average baseline characteristics for our designated control group, which are the Gautreaux families placed in Black Census tracts deemed to be revitalizing. In Column 4, we report the difference in a given baseline characteristic between Gautreaux families placed in white neighborhoods and Gautreaux families from the same neighborhood placed in Black neighborhoods.<sup>19</sup> The estimated differences are consistently small in economic terms, and none of them are statistically significant.<sup>20</sup> Moreover, we fail to reject the null hypothesis in a joint orthogonality test with a  $p$ -value of 0.390. Overall, the results in this section support the idea that Gautreaux placements were unique in producing moves that were uncorrelated with baseline characteristics after accounting for factors considered by Leadership Council staff in placing families.

## 4.2 Exposure Specification with Household Fixed Effects

As noted above, the key identifying assumption of our main approach is that placement in a white neighborhood is uncorrelated with a family’s characteristics after conditioning on the basic factors considered by housing counselors. While our balance analysis does not provide evidence of any violations of this assumption, we can also rely on a weaker identifying assumption to learn about the long-run impacts of exposure to white areas. Specifically, we can use a household fixed effect approach to compare younger and older siblings, which controls for permanent family unobservables. The motivation behind a household fixed effects approach in our Gautreaux setting is based on previous evidence that suggests that the duration of childhood exposure to a new neighborhood determines the magnitude of impacts on long-run outcomes (Chetty et al., 2016; Chyn, 2018; Chetty and Hendren, 2018).

Formally, our household fixed effects approach is based on the following specification:

$$Y_i = \pi + \theta 1(\text{Age}_i < 10) \times 1(\text{Pct Black}_{d(i)} < 30\%) + X_i' \gamma + \mu_{h(i)} + \varepsilon_i, \quad (2)$$

where this model includes an indicator  $1(\text{Age}_i < 10)$  which is equal to 1 if individual  $i$  was less than age 10 at the time of registration and an interaction between this indicator and the white

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<sup>19</sup>Specifically, we report estimates of  $\beta$  from the following general specification:  $X_i = \alpha + \beta 1(\text{Pct Black}_{d(i)} < 30\%) + \psi_{o(i)} + \delta_{r(i)} + \epsilon_i$ .

<sup>20</sup>The standard errors for each of the estimated group differences are comparable in magnitude to those that we obtain in the endogenous movers sample, suggesting that the differences in balance results are not driven by imprecision in our analysis of the Gautreaux sample.

neighborhood treatment indicator. We focus on age 10 since this is the 75th percentile of child ages in our sample. The controls included in the vector  $X_i$  are gender, place of birth, and year of birth fixed effects. Importantly,  $\mu_{h(i)}$  is a household fixed effect for household  $h(i)$  which is the same for all children from the same household.

Our primary focus is on estimates of the parameter  $\theta$ . Including household fixed effects ensures this parameter is identified by comparing differences in outcomes for children from the same household. While this approach addresses concerns that fixed family unobservables may drive neighborhood selection, a causal interpretation of our estimates depends on the assumption of no time-varying family unobservables. In Section 5.6, we assess the importance of time-varying factors at the family level by analyzing the outcomes of Gautreaux parents.

## 5 Results

This section examines the effects of being placed in predominately white neighborhoods through the Gautreaux Assisted Housing Program. We begin by documenting the impacts of Gautreaux placements on the initial neighborhood conditions experienced by households. Next, we examine the impacts on the long-run economic outcomes for children. We then turn to effects on social outcomes, explore possible mechanisms, and assess the robustness of our findings.

### 5.1 Effects on Initial Neighborhood Conditions

To more easily interpret the impacts of Gautreaux, we begin by estimating how placement into a predominately white neighborhood impacts a broad set of initial neighborhood characteristics (measured in the 1980 Census). In Table 2, we report estimated impacts using the sample of Gautreaux household heads. The outcomes are measures of the neighborhood racial composition, poverty rate, and predicted child income rank in adulthood. All measures are computed for the Census tracts that Gautreaux participants were *initially* placed in through the program. For comparison, Column 1 reports average destination neighborhood characteristics for our designated control group, the Gautreaux families placed in predominately Black Census tracts (i.e., the revitalizing areas where the Black population share exceeded 30 percent). Columns 2-4 report estimates of the impact of moving to a white neighborhood on the listed neighborhood characteristic in each row with successive levels of fixed effects and individual-level controls. Our preferred specification based on equation 1 appears in Column 4. Since all families in the Gautreaux program move, Appendix Figure A.5 also reports before and after estimated impacts of the changes in neighborhood characteristics for the control and treatment groups.

The main pattern apparent from Table 2 is that being placed in a white neighborhood had relatively large impacts on a range of neighborhood characteristics. By design, placement into white neighborhoods had large impacts on neighborhood racial composition. On average, Gautreaux families treated by the program moved to tracts where the non-Hispanic white

population share was 72 percentage points higher relative to control families. We also find statistically significant reductions in neighborhood poverty rates (20 percentage points) and improvements in the predicted income rank of children (10.8 percentiles).

In addition to studying neighborhood characteristics, we explore how placement into white neighborhoods impacted the types of schools that Gautreaux children could attend. For this analysis, we link all households to the closest school near their placement address and focus on several measures, including school racial composition, district-level spending per pupil, and class size provided by the National Center for Education Statistics (NCES). While our sample received neighborhood placements as early as 1981, the NCES measures are available only in the late 1980s and 1990s. We use the earliest year available for each school characteristic.<sup>21</sup>

In Appendix Table A.2, we find that placement in a white neighborhood has large effects on school racial composition and more muted impacts on measures of school quality. On average, treated families moved to neighborhoods near schools where the Black student population share was about 74 percentage points lower and the white share was about 50 percentage points higher. These large impacts are consistent with residential segregation playing an important role in determining school racial composition.<sup>22</sup> However, we find evidence of only modest increases in school quality between schools in white and revitalizing neighborhoods. For district spending per pupil, the estimated effect from our preferred specification indicates an increase of \$62 (1 percent) that is not statistically significant. The impact on class size is more clear and indicates treated households moved to areas with 0.793 (3.8 percent) fewer students per class.

## 5.2 Effects on Economic Outcomes

Next, we focus on the long-run economic outcomes of children who participated in Gautreaux. As a preliminary investigation, Figure 1 provides graphical results that illustrate the relationship between earnings in adulthood based on the LEHD records and neighborhood placement through Gautreaux. Specifically, we present a binned scatter plot of earnings at age 24 against a standardized measure of the share of white residents in one’s Gautreaux placement neighborhood (solid blue).<sup>23</sup>

Figure 1 shows clear evidence that children placed in neighborhoods with a higher share of white neighbors are earning notably more at age 24. The underlying linear regression implies that a one-standard deviation increase in neighborhood white share (16 percentage points) is

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<sup>21</sup>We use school-level racial composition and class size measures from the 1987-1988 and 1986-1987 academic years, respectively. For district-level spending per pupil, we use data from the 1991-1992 academic year.

<sup>22</sup>During our period of interest, school desegregation efforts had little impact on student body composition in Chicago. In 1980, a series of legislative decisions placed Chicago Public Schools (CPS) under a consent decree and court mandated desegregation plan. Despite these efforts, about 75 percent of Black students enrolled in CPS still attended a school that was predominately Black in 1989 (Jankov and Caref, 2017).

<sup>23</sup>We standardize the share of white residents using the mean and standard deviation for the control group of children who were placed in revitalizing Black neighborhoods.

associated with a \$600 increase in earnings.

In line with a causal interpretation of these semi-parametric results for earnings, Figure 1 also plots the predicted earnings based on only pre-placement individual and household characteristics (gold circles). Consistent with the evidence of balance in Section 4.1, we see no systematic relationship between the predicted earnings and the white share in the Gautreaux placement neighborhood. The underlying linear regression has a coefficient of 0.72 (70 cents) and is not statistically significant.

Table 3 reports our estimates of the effect of being placed in a predominately white (i.e., less than 30 percent Black) neighborhood on a range of labor market outcomes measured at various points in adulthood. Again, Column 1 reports average outcomes for our control group of children who were placed in revitalizing Black neighborhoods. Columns 2-4 report estimated impacts following the same format introduced in our analysis of initial neighborhood characteristics.

The results in Panel A imply that being placed in a predominately white neighborhood in childhood substantially boosts the earnings of Gautreaux children. The first row shows that children placed in white neighborhoods earned about \$2,500 more than children placed in Black neighborhoods at age 24. Relative to the control group mean of about \$7,900, this reflects a 32 percent increase. These positive effects on earnings are in line with recent findings on the effects of moving to lower poverty, segregated neighborhoods through the MTO demonstration (Chetty et al., 2016) or due to public housing demolition (Chyn, 2018). We provide a more detailed comparison of our effects with prior studies in Section 6.

Columns 2-4 of Table 3 also show that the estimated effect is essentially unchanged across specifications, and the results are consistently statistically significant at the one percent level. The point estimates are generally comparable in magnitude and remain statistically significant when we measure earnings using the averages between ages 24-28 or ages 29-33. Estimates for average earnings between ages 34-38 are slightly smaller in magnitude. However, they are also less precise because of the smaller sample of children who can be observed at these relatively older ages.<sup>24</sup> These effects on earnings are driven, in part, by extensive margin responses, as demonstrated in Appendix Table A.3. In terms of heterogeneity, Appendix Table A.4 shows that the earnings results for boys and girls are similar.

The period covered in our earnings panel enables us to examine impacts on cumulative earnings up to relatively advanced ages, which is new in the neighborhood effects literature. Panel B in Table 3 reports impacts on total earnings accumulated at several points in adulthood. This analysis of total earnings is limited to a smaller sample since our approach imposes the

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<sup>24</sup>In addition, Appendix Table A.1 reports results when we impute earnings for individuals who are working outside of the sample of states covered in our data use agreement (for whom employment status is available but not earnings). The results in Panel B show that there are large and detectable impacts on earnings at age 40 when using an imputed measure of earnings. This finding suggests that the pattern of results at older ages in Table 3 appears to be related to long-run migration behavior.

restriction that each child’s entire early adulthood earnings history is observable and each child must be younger than age 24 in 1995 (the first year of the LEHD earnings data). Nevertheless, we find that Gautreaux children placed in white neighborhoods have accrued substantially more earnings than their peers placed in revitalizing Black neighborhoods. In particular, we find that they have earned \$17,080 more by age 28, \$34,520 more by age 33, and \$51,560 more by age 38.

Given this sizeable increase in earnings for the treated children, it is plausible that placement in white neighborhoods could impact the household wealth of Gautreaux children. The literature consistently documents significant Black-white disparities in wealth (Barksey et al., 2002; Charles and Hurst, 2002; Aliprantis et al., 2021; Derenoncourt et al., 2022) and persistent racial differences in homeownership rates (Collins and Margo, 2011; Logan and Parman, 2017). Motivated by this disparity, and the fact that lower income households typically hold much of their wealth in the form of housing (Kuhn et al., 2020), we examine impacts on homeownership using data from the 2010 Decennial Census. Our analysis is uniquely suited to study homeownership given that the typical age of first-time homeowner in the U.S. is mid-thirties (Lautz et al., 2022) and a substantial fraction of our sample of children have reached age 35 by the time of the 2010 Decennial Census (where we can observe ownership).

We find that Gautreaux children placed in white neighborhoods are substantially more likely to be homeowners as adults. Table 4 reports impacts on homeownership in the 2010 Decennial Census and the two proxies for homeownership discussed in Section 3. Our preferred specification in the first row shows that Gautreaux children placed in white neighborhoods (who are older than age 35 in 2010) are about 10 percentage points more likely to be a homeowner than children placed in revitalizing Black neighborhoods. To broaden the sample for our analysis, we examine two proxies for homeownership that we construct by linking the addresses in the MAF-ARF to flags for tenure from the 2010 Census.<sup>25</sup> We find that treated children are 6.6 percentage points (15 percent) more likely to be living at a unit in 2017-2019 which was owner-occupied in 2010. We also find that children placed in white neighborhoods spend a greater fraction of time living in units likely to be owner-occupied. Taken together, these results suggest that placement into white neighborhoods increased not just the adult earnings of children but also their wealth accumulation and access to homeownership.

### 5.3 Effects on Social Outcomes

Placement into a predominately white neighborhood may have also shaped social outcomes of Gautreaux children such as later-life residential segregation and marriage. Any impacts on these outcomes could be driven by the labor market outcomes and wealth effects discussed in the previous section, but also may be determined by a range of non-economic factors. Prior research has suggested that neighborhoods may play an important role in shaping norms and

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<sup>25</sup>Because the MAF-ARF is available through 2019, we can focus on children who are old enough to be homeowners in 2019 but may also be too young to reasonably be homeowners in 2010.

identity (Katz and Case, 1991; Akerlof and Kranton, 2000; Bertrand et al., 2000; Rickford et al., 2015) in addition to playing a role in determining social networks (Bayer et al., 2008). Moreover, a large literature on the contact hypothesis—largely based on schooling contexts—suggests that greater exposure to other racial or social groups can shape attitudes and beliefs (Allport, 1954; Rao, 2019; Merlino et al., 2019; Carrell et al., 2019; Mousa, 2020; Billings et al., 2021).

First, we investigate the effects of being placed in a white neighborhood on the neighborhoods where children reside in adulthood. In Table 5, we report impacts on neighborhood locations in 2019 using the MAF-ARF.<sup>26</sup> To characterize neighborhood conditions, we initially focus on three standard Census tract measures of demographics and economic measures: the Black population share, the white population share, and the poverty rate.

We find that placement into predominately white neighborhoods significantly shapes later-life neighborhood choices.<sup>27</sup> In 2019, three to four decades after the Gautreaux program relocated families, we find children who relocated to white neighborhoods are living in neighborhoods that are roughly 10 percentage points less Black and 6.6 percentage points more white relative to the neighborhoods chosen by their Gautreaux counterparts who moved to revitalizing Black neighborhoods. In addition to living in less segregated neighborhoods, children placed in white neighborhoods are living in relatively lower-poverty neighborhoods.

These results for later-life neighborhood choices may translate directly into multi-generational impacts. That is, the *next* generation born to the children of Gautreaux households may also have improved outcomes. To examine this possibility, we use the mean income rank in adulthood for a child born to parents in the 25th percentile of the income distribution from Opportunity Atlas (Chetty et al., 2018) to characterize income mobility. We find that children placed in white neighborhoods through the program are living in neighborhoods with 2 percentiles higher predicted income rank than children placed into Black neighborhoods. Given that the average control group child lives in a neighborhood where poor children typically reach the 37 percentile (\$27,850), a move to a neighborhood where the typical poor child reaches the 39th percentile (\$29,950) amounts to a \$2,100 a year improvement in adult earnings.

It is reasonable to wonder whether these effects on later-life neighborhood characteristics simply reflect underlying propensities to live in close proximity to the area where one grows up. To evaluate this interpretation, we conduct three exercises. First, we examine whether being placed in a white neighborhood makes an individual more likely to have a later-life Census tract that matches the tract where they were originally placed as children through Gautreaux. Appendix Table A.6 shows that we find being placed in a white neighborhood has no detectable

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<sup>26</sup>In Appendix Table A.5, we explore the robustness of our results by studying location outcomes in an alternative time period using two different data sources. The results are similar when we study location in 2010 and measure outcomes using the Decennial Census and the MAF-ARF.

<sup>27</sup>Figure 2 is a binned scatter plot of the mean later-life neighborhood (tract) share Black against a standardized measure of the share of white residents in one’s Gautreaux placement neighborhood (solid blue). These non-parametric estimates align with our findings in Table 5.

impact on the tendency of children to live in the same neighborhood in adulthood. Second, we re-estimate our main specification excluding children who still live in their placement tracts as adult, and the results look quite similar to our baseline specification. Finally, our third test, detailed further in Section 5.6, studies co-location with parents as a possible driver of our results. The findings from this third test do not indicate co-location is a potential mechanism.

Next, we analyze impacts on marriage behavior as another domain likely to be influenced by social interactions and neighborhoods. Motivation for our analysis stems, in part, from the fact that there is a large Black-white gap in marriage rates (Charles and Luoh, 2010). Wilson (1987) suggests that the Black-white marriage gap is, in part, attributable to the high rates of unemployment and incarceration in Black neighborhoods relative to white neighborhoods.

Table 6 reports effects on marital status and partner choice measures from the 2010 Decennial Census. We find that placement into white neighborhoods in childhood causes large increases in marriage rates in adulthood. Using our preferred specification, placement into a white neighborhood increases the probability of marriage by 6.9 percentage points. We also find that placement into a white neighborhood during childhood increases the likelihood of marrying a white spouse by 2.1 percentage point, an approximate doubling relative to the rate observed for Gautreaux children placed in revitalizing Black neighborhoods. This large effect size is partly driven by the fact that Black-white marriage rates in the U.S. are very low (Fryer, 2007).

## 5.4 Effects on Health and Incarceration

Finally, we examine the effects of placement into white neighborhoods on mortality and incarceration. Our analysis of these outcomes builds on prior research on the Gautreaux program. Kling and Voturba (2009) study mortality up to age 30 for a sample of young males who were under age 25 at the time of placement through Gautreaux. Keels (2008) focused on arrest outcomes up to age 29 for a sample of Gautreaux children who could be linked to local police records in Illinois.

Appendix Table A.7 shows that we find no statistically significant impacts on mortality or incarceration in the pooled sample of boys and girls (Column 2) in our preferred specification. Both point estimates are less than one-half of a percentage point. Given existing work on gender differences in health and criminal behavior, the remaining results report separate estimates for boys and girls. While no individual estimates are precisely estimated at conventional levels, it is worth noting that the results for male mortality are broadly consistent with prior work by Kling and Voturba (2009). The point estimate suggests that Gautreaux boys who were placed in predominately white neighborhoods were 2.5 percentage points (38 percent) less likely to have died by 2019.



## 5.5 Mechanisms: Impacts of Gautreaux on School Quality

A natural question is whether the effects of Gautreaux placements in white neighborhoods are primarily driven by changes in school quality. To assess school changes as a mechanism, we conduct two exercises. First, we use prior studies for evidence on the effects of changing educational inputs to perform a back-of-the-envelope calculation. Second, we estimate an augmented version of equation 1 that allows school characteristics to have independent impacts alongside the effects of placement neighborhood race.

In our first approach, we rely on studies of court-ordered *school* desegregation. [Johnson \(2011\)](#) and [Anstreicher et al. \(2022\)](#) find that efforts to desegregate schools from the 1960s to the 1980s significantly increased average per pupil spending and reduced class size at the schools most likely attended by Black children. In addition to these effects on schooling inputs, both studies also find that Black children experienced large improvements in the long-run labor market earnings due to school desegregation.

Using a back of the envelope calculation, we find changes in school quality play a limited role in our setting. We compare our estimates of the impacts of Gautreaux placements on school inputs from Appendix Table A.2 to the impacts of schooling inputs from court-ordered school desegregation and find significantly more modest effects in Gautreaux. Specifically, [Anstreicher et al. \(2022\)](#) use Census data and find that school desegregation orders increased average per pupil school spending by about 40 percent and increased labor market earnings by 30 percent for Black children.<sup>28</sup> These estimates imply an elasticity of 0.75 if the impact of school desegregation arises only due to changes in school quality. Based on this elasticity and our results from Appendix Table A.2, it appears that the roughly 1 percent change in school quality due to Gautreaux would be expected to increase earnings in adulthood by 0.75 percent.<sup>29</sup> This effect is much smaller than the nearly 20 percent effect that we detect in Table 3 and suggests that changes in school spending can only account for a small fraction of the effects we detect on earnings.

Next, we augment equation 1 by including measures of district-level spending per pupil and class size (based on the school nearest their placement address) as additional controls. Appendix Table A.8 reports results where the dependent variable is annual average earnings during ages 24-28. Column 1 reproduces our preferred estimate for the effect of placement in a white (less than 30 percent Black) tract from Table 3 for comparison. The remaining columns 2 and 3 in Appendix Table A.8 report the effects of being placed in a white neighborhood from models that add pupil per teacher ratio and spending per pupil, respectively. Consistent with prior work by [Jackson et al. \(2016\)](#), our results suggest that increased spending is associated with higher earnings in adulthood. Importantly, our estimates of the effects of being placed in

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<sup>28</sup>Using the PSID, [Johnson \(2011\)](#) reports similar estimated impacts of school desegregation.

<sup>29</sup>A caveat for this calculation is that the estimated treatment effect on school spending from our preferred specification (Column 4, Appendix Table 2) is not statistically significant.

a predominately white neighborhood change little when we control for class size or per pupil spending measures. Together, these exercises suggests that our estimates of the reduced form effect of Gautreaux on long-run child outcomes are unlikely to be driven primarily by changes to the schooling environment.

## 5.6 Mechanisms: Impacts of Gautreaux on Parents

In addition to mechanisms related to the characteristics of their neighborhood, children who moved to predominately white neighborhoods may have benefited due to changes in their parents behavior. For example, treated Gautreaux parents may have had better labor market outcomes after relocating and used the additional household income to invest in child development. To test whether parental channels could drive our main findings documented above, Table 7 studies the earnings, marriage, and location outcomes of parents and household heads of Gautreaux children.

Broadly, we find little evidence of impacts of placement in a white neighborhood on the outcomes of parents. In contrast to our results for children, we find no statistically significant impacts on earnings. While the effects on labor market earnings are positive, they are consistently smaller than the point estimates that we find for children. The estimate for average earnings at ages 48-52 is \$300—just 2 percent of the control group mean. This is broadly consistent with the place-effects literature which finds few meaningful effects of place on the contemporaneous labor market outcomes of adults (Kling et al., 2007; Chyn, 2018). While early studies of Gautreaux participants found evidence of improved labor market outcomes for adults using survey data (Rosenbaum, 1991, 1995), our results appear more similar to subsequent work by Mendenhall et al. (2006) and DeLuca et al. (2010) which found little impact of Gautreaux moves on the economic outcomes for adults using administrative data.

Our analysis also finds no evidence of impacts of moves to white neighborhoods on the marital status or wealth (as proxied by homeownership) of Gautreaux household heads. Panel B of Table 7 shows there are no statistically significant impacts of placement into a white neighborhood on marital status and homeownership, as measured in the 2010 Decennial Census. These results directly suggest changes in parental circumstances in terms of marriage or wealth (as proxied by homeownership) are unlikely to drive the pattern of results that our main analysis finds for children. In addition, these results could also be viewed as evidence suggesting that placement into white neighborhoods was also uncorrelated with latent propensity of Gautreaux heads to become homeowners or to be married.

The main exception to the null impacts that we estimate for adults is a pattern of persistent effects on long-run neighborhood locations. Panel C in Table 7 reports estimates of the impact of being placed in a white neighborhood on the neighborhood location of Gautreaux adult heads in 2019. The results show that Gautreaux heads initially placed in a white neighborhoods through Gautreaux were living in tracts that were about 14 percentage points less Black and 8

percentage points more non-Hispanic white nearly four decades after the program operated.

Given this persistence in the effects of initial placement on future neighborhoods of household heads, a natural consideration is whether the effects on children’s later-life neighborhood locations are driven by co-location with their parents or caregivers. We evaluate this possibility in two ways. First, we regress an indicator for living in the same Census tract as one’s parent in 2019 on our indicator for treatment. These results appear in Appendix Table A.9 and show no evidence that children placed into white neighborhoods are more likely to live around their parents in adulthood. Second, we remove children living in the same tract as their parents or caregiver in 2019 from our analysis and re-estimate our neighborhood results in Appendix Table A.10. Our results look remarkably similar if we exclude children that are co-locating with their parents or caregivers. These results imply that the impacts we observe on children’s neighborhood choices in adulthood are unlikely to be driven by co-location considerations.

## 5.7 Robustness

This section presents results from two approaches that assess the robustness of our main findings. First, we provide alternative estimates of the impact of growing-up in predominately white neighborhoods based on a household fixed effects approach. As noted in Section 4, causal interpretation of the results from our main approach in equation 1 relies on the assumption that placement into a predominately white neighborhood through Gautreaux is uncorrelated with unobserved characteristics of households after conditioning on origin neighborhood and cohort fixed effects. While our assessment of balance in our sample provides no strong evidence suggesting violations of this identifying assumption, our household fixed effect approach relies on different identification conditions. Specifically, we compare children within the same Gautreaux household and exploit the fact that younger children would have been exposed to a predominately white neighborhood for a longer period of childhood.

Table 8 reports estimates based on the exposure effects model specified in equation 2. Columns 1–3 report results for earnings at age 24, age 26, and ages 24–28. We do not consider earnings outcomes at older ages due to the fact that the younger children in our Gautreaux sample are key to our household fixed effect comparisons and will not be old enough to be observed in the LEHD records.

Our analysis of exposure effects suggests that the beneficial earnings impacts of placement into white neighborhoods are larger for younger children (under age 10). This is true even when focusing narrowly within the same household: within treated households, younger siblings earned about \$2,500 more than their older sibling at age 24, \$4,500 more at age 26, and \$3,900 more on average from age 24–28. Consistent with prior work on the exposure model of place effects (Chetty et al., 2016; Chetty and Hendren, 2018), we find that treatment effects are growing in the expected number of years of exposure, based on child age at baseline. That these estimates point towards similar earnings gains similar to our main results is reassuring,

and implies that impacts of Gautreaux placements are unlikely to be driven by differences in unobservables across families placed in white and Black neighborhoods. Of course, this approach is unable to control for factors that vary over time within families. However, the fact that we find no evidence of meaningful changes to parental circumstances in Section 5.6 gives us additional confidence that our results are not confounded by time-varying unobservables within households.

Next, we evaluate the sensitivity of our results to alternative sample constructions and specifications. Appendix Table A.11 reports estimates of the impact of Gautreaux placements on earnings and neighborhood racial composition using a range of different sample restrictions and specifications. Column 1 reports results from our baseline specification for comparison. The next columns shows results from models where we vary the sample by only relying on Gautreaux households that accepted their first housing offer (Column 2), excluding households placed during the 1990s (Column 3) (a period during which the Leadership Council reduced the size of its real estate staff), including households placed before the 1981 consent decree (Column 4), and focusing only on households placed during years when Chicago’s housing market had a relatively low vacancy rate (Column 5). The final column provides results from an alternative specification where we define treatment as being placed in a suburban Census tract (Column 6).<sup>30</sup> Owing to the potential underlying exogeneity in neighborhood placements through Gautreaux, we find consistently similar results regardless of sample restrictions or model specifications.

## 6 Comparing the Effects of Neighborhood Racial Versus Economic Characteristics

In this section, we take two approaches to shed light on the independent impacts of neighborhood race and economic characteristics on the social and economic outcomes of Black children in adulthood. First, we compare the effects of Gautreaux placements into predominately white neighborhoods from Section 5 to the effects of moves to low-poverty areas from the landmark Moving to Opportunity (MTO) experiment. MTO provided low-income, mostly minority families with housing vouchers that could be redeemed only in low-poverty (i.e., Census tracts with less than 10 percent poverty) neighborhoods. Unlike the Gautreaux setting, MTO had little impact on residential racial composition and saw treated families move to overwhelmingly minority neighborhoods (Kling et al., 2007). Our second approach relies on the fact that the Gautreaux program placed households in neighborhoods that varied substantially in their racial and economic characteristics. As a result, we can conduct an analysis *within* the Gautreaux sample that attempts to explore the separate effects of racial and economic neighborhood

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<sup>30</sup>Suburban tracts are any Census tracts outside of the city of Chicago.

characteristics.<sup>31</sup>

## 6.1 *Gautreaux* vs. MTO

For our comparison of Gautreaux and MTO, we focus on the impacts on children’s later-life neighborhood choices measured in 2019 and labor market outcomes measured at age 26. We rely on two types of sources for estimates of the impacts of MTO. First, we generate new estimates of impacts on later-life neighborhood choices by linking the MTO experimental sample to the Census MAF-ARF. Second, due to data limitations, we rely on previously produced estimates of the effects of MTO on children’s labor market outcomes from [Chetty et al. \(2016\)](#). For all MTO results, we focus on the Black families participating in the experiment to ensure comparability with the results from Gautreaux.<sup>32</sup> We compare impacts from MTO and Gautreaux by re-scaling estimates of each program’s treatment-on-the-treated (TOT) effects by dividing by the relevant control group means.<sup>33</sup> The motivation for this adjustment is based on the fact that there are differences between the average outcomes in each study’s control groups.

To illustrate the difference in the “first-stage” impacts of these housing mobility programs, we re-examine the impacts of each program on the initial post-treatment neighborhood characteristics. Figure [3a](#) reports estimated first-stage impacts on three tract-level characteristics (re-scaled by the respective control group means): the upward mobility of children (i.e., predicted income rank) based on the Opportunity Atlas ([Chetty et al., 2018](#)), the poverty rate, and Black population share. The two left-most bars indicate that MTO (light blue) and Gautreaux (dark blue) had positive and roughly comparable impacts on predicted income ranks.<sup>34</sup> Next, the middle set of bars show that both MTO and Gautreaux treatments reduced poverty rates

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<sup>31</sup>In one approach, we interpret the difference in treatment effects across settings as being attributable primarily to the effect of changing neighborhood racial composition. That is, we assume that neighborhood characteristics, other than race, difference-out when we compare estimated effects across MTO and Gautreaux. This approximation seems plausible due to the similarity in first-stage impacts on neighborhood economic characteristics that we document. This differs from our alternative horse race strategy in which we examine the role of changing race *conditional on economic characteristics* of an individual’s neighborhood placement through Gautreaux.

<sup>32</sup>In the MTO setting, approximately 35 percent of the sample of households in the experiment were non-Black ([Kling et al., 2007](#)). While Chicago is one of the five cities included in the MTO demonstration, site-specific estimates are often imprecise. As a result, we focus on the pooled estimates for most of our comparisons.

<sup>33</sup>In the case of MTO, it is important to focus on TOT estimates given that only half of the treatment group assigned vouchers restricted to low-poverty areas complied and moved through the program ([Kling et al., 2007](#)). The estimates produced from equation [1](#) based on the Gautreaux sample represent estimates of the TOT impact of the program.

<sup>34</sup>Although Figure [3a](#) shows that the first-stage effects (relative to the control group means) on neighborhood income ranks are similar across programs, the absolute treatment effects on income ranks are larger in the Gautreaux sample (where there is an estimated 10.5 percentile increase) than in the MTO sample (where there is an estimated 7.5 percentile increase). The fact that the MTO control group lives in relatively more disadvantaged neighborhoods post-randomization (driven by the fact few control families move from their original baseline location) is what makes the relative effects more similar between the two programs.

and the magnitudes are again quite similar. Finally, as noted earlier, the right-most set of bars show that programs diverge in their relative impacts on neighborhood racial composition. MTO moved treated families to neighborhoods with slightly lower Black population share, whereas Gautreaux—by design—placed families in neighborhoods that were drastically less Black. In sum, Figure 3a illustrates that the first-stage impacts of MTO and Gautreaux differ primarily in their impacts on residential racial segregation.

Figure 3b compares the impacts on children’s neighborhood choices in adulthood across program—i.e., the “second-stage” effects of each program. We begin by focusing on children’s later-life neighborhood choices in 2019.<sup>35</sup> In the case of MTO, the results are generated using the sub-sample of Black children younger than age 13 at the time of random assignment. This approach aligns the analysis with Chetty et al. (2016), who demonstrate that children younger than age 13 in MTO experienced particularly large benefits from moves to low-poverty areas.<sup>36</sup>

The first key finding from our analysis of later-life neighborhood choices is that MTO and Gautreaux have substantially different impacts on residential racial composition. This pattern is apparent in the right-most set of bars. Moving to low poverty areas in MTO has little impact on Black children’s propensity to live around Black neighbors as adults. In contrast, moving to low poverty and predominately white neighborhoods in childhood through Gautreaux resulted in children choosing more racially-diverse later-life neighborhoods. As demonstrated in Table 9, the difference in effects is statistically significant at the one-percent level. This contrast of the effects on the future choices of neighborhoods for children between the two programs closely mirrors the differences between each program’s initial impacts on the neighborhood characteristics.

One potential interpretation of this finding is that exposure to white communities in childhood could shape later-life neighborhood preferences or the ability to navigate barriers in the housing market that minorities face when attempting to move to more racially diverse neighborhoods.<sup>37</sup> Figure 3b (in the middle set of bars) supports this interpretation and also demonstrates that MTO and Gautreaux had roughly similar impacts on reducing neighborhood poverty. This pattern suggests that the relatively larger effects of Gautreaux on racial diversity are not simply driven by the program having larger impacts on preferences for living in areas that simply have higher income.

Our second main finding in our second-stage analysis is that the moves through Gautreaux generated larger positive impacts on the predicted income rank in the later-life neighborhoods

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<sup>35</sup>As an alternate comparison, Appendix Table A.12 reports effects on neighborhood locations measured at age 26. The patterns of results are unchanged. Estimated impacts on race and upward mobility are larger-in-magnitude for the Gautreaux sample.

<sup>36</sup>The first-stage impacts on initial neighborhood characteristics in MTO are similar for families with children below age 13 and those with children above age 13.

<sup>37</sup>Bergman et al. (2020) provide experimental evidence that suggests high-cost barriers in the housing search process prevent low-income families who receive housing vouchers from moving to high opportunity areas.



chosen by children. The left-most bars of Figure 3b demonstrate that MTO and Gautreaux generate relative effects sizes around 1 and 5 percent, respectively. Importantly, these differences in estimated treatment effects on neighborhood choice imply that the effects of Gautreaux on future generations could be larger than those in MTO.

Finally, we compare the labor market impacts of MTO and Gautreaux. As previewed above, we rely on published estimates from Chetty et al. (2016) because our approved LEHD data do not cover two of the MTO experimental sites.<sup>38</sup> Figure 4 reports relative effects on children’s earnings measured for both MTO and Gautreaux. In the case of MTO, we focus on two different MTO samples that are most comparable to Gautreaux: Black children in MTO below age 13 at the time of random assignment and children in the Chicago MTO sample who are less than 13.<sup>39</sup> Given that the previous MTO studies provide estimates of the effects on earnings measured at age 26, we produce additional estimates (which are consistent with our findings in Table 3) for this specific age using the Gautreaux sample.<sup>40</sup>

We find that moving to white neighborhoods through Gautreaux significantly increases earnings at age 26 by approximately 22 percent. The estimates are similar for Black children in MTO and children in the Chicago MTO sample at 13 and 23 percent, respectively. These estimates provide some suggestive evidence that mobility programs which target residential segregation or neighborhood poverty have broadly similar impacts on labor market outcomes. However, a key caveat is that neither of the point estimates for the MTO samples are statistically significant at conventional levels due to their relatively small sample sizes.

## 6.2 Within Gautreaux Analysis

An alternative approach to studying the importance of neighborhood race and economic composition is to use a research design that relies on variation within the Gautreaux sample. Specifically, the analysis in this subsection exploits the fact that housing counselors placed Gautreaux families in range of different types of neighborhoods throughout the Chicago and the broader metropolitan area. In line with our focus above, we concentrate on separating the role of neighborhood race from that of neighborhood economic conditions.<sup>41</sup> We estimate a series of “horse race” specifications where we regress a given long-run outcome for a child on a

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<sup>38</sup>Specifically, we do not have LEHD data for Massachusetts or New York.

<sup>39</sup>Approximately 97 percent of the sample from the MTO Chicago site is Black.

<sup>40</sup>The point estimates for our analysis of the effects of Gautreaux on earnings at age 26 are reported in Appendix Table A.1.

<sup>41</sup>While our main analysis focuses on measures of economic characteristics of neighborhoods in 1980 using Census data, recent research by Chetty et al. (2018) and Chetty et al. (2022) has produced novel measures of predicted economic opportunity and social connectedness at the neighborhood level. In Appendix Table A.13, we show that placement into neighborhoods with higher predicted income rank and greater levels of economic social connectedness (i.e., the extent to which low- and high-socioeconomic status individuals are friends with each other) has large and significant positive impacts on average earnings during ages 24-28 in our Gautreaux sample.



standardized measure of the racial composition of the placement neighborhood and another standardized placement neighborhood economic characteristic. This approach is similar in spirit to previous analysis of youth criminal behavior and neighborhood effect mechanisms within the MTO experiment (Ludwig and Kling, 2007).

Table 10 reports the results from our horse-race analysis for children’s later-life neighborhood choices. The first two columns constitute our main analysis that attempts to shed light on the separate effects of racial and economic neighborhood composition. The independent variables of interest are standardized measures of the placement neighborhood share white and poverty rate. We focus on the poverty rate to align this analysis with our comparison of Gautreaux and MTO above. As expected given the evidence in Section 5, Column 1 shows that placements into white neighborhoods significantly impacts later-life neighborhood choice. Next, Column 2 presents results from a multivariate specification that controls for economic composition by adding the poverty rate of the placement neighborhood. While the point estimate on placement neighborhood white share attenuates slightly in Column 2, the coefficient remains large and statistically significant at the one percent level.

Columns 3-5 of Table 10 show that we reach similar conclusions regarding the independent impact of race after controlling for alternative placement neighborhood economic characteristics. Due to collinearity, we only estimate models that specify two placement neighborhood characteristics as independent variables.<sup>42</sup> We consistently find statistically significant effects of placement neighborhood race after controlling for the median income, share with a four-year degree or higher, or the unemployment rate.

Appendix Table A.14 expands on these findings by focusing on marriage to a white spouse as the social outcome. In line with our results for neighborhood choices, these results again show that neighborhood racial composition during childhood has an important effect even after controlling for placement neighborhood economic characteristics. Notably, the point estimate for white share is stable across specifications and any changes are small relative to the standard errors.

Finally, we estimate these “horse race” specification for economic outcomes, focusing on effects on earnings at ages 24-28. Table 11 reports results for all standardized neighborhood measures. As in our analysis of social outcomes, Column 1 begins with results from a regression where neighborhood racial composition is the only included characteristic. This result shows that a one standard deviation increase in the placement neighborhood white share increases annual average earnings at ages 24-28 by about \$540. This estimate attenuates when controlling for the neighborhood poverty rate, and the standard error also increases notably. As a consequence,

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<sup>42</sup>Previous research based on analysis of Gautreaux and MTO also notes that the high correlation between economic and social neighborhood conditions creates challenges for identifying independent effects in a model that features several local area characteristics (Kling and Votruba, 2009; Votruba and Kling, 2009). In line with this, Appendix Table A.15 shows that correlations between placement neighborhood characteristics are generally high.

the effect of placement neighborhood race is only significant at the 10 percent level.<sup>43</sup> In line with this finding, Columns 3-5 provide some additional evidence suggesting that the effects of placement neighborhood race on earnings are difficult to separately identify when controlling for economic characteristics. While the effects of neighborhood white share are robust when controlling for median income or the neighbor educational attainment, the results attenuate more substantially when controlling for the unemployment rate.

## 6.3 Discussion

Taken together, the weight of the evidence presented in this section points to the idea that the racial composition of neighborhoods has important, differential impacts on social outcomes. Our results suggest that experiencing residential racial desegregation in childhood changes the tendency of children to live in more racially diverse neighborhoods as adults. This impact appears to differ from the effects of experiencing income desegregation alone. Our analysis from the MTO demonstration shows that moves to low-poverty, high-minority neighborhoods have little impact on children’s propensity to live in more racially diverse neighborhoods later-in-life. Exploratory results from an analysis within the Gautreaux sample also provide suggestive evidence that neighborhood racial composition—and not economic characteristics—drives impacts on both neighborhood choice and interracial marriage.

The independent effects of racial desegregation on economic outcomes are somewhat less clear, but our results suggest that, at the very least, changing neighborhood race does not diminish the economic gains that accompany economic desegregation. The fact that moves to low-poverty, segregated neighborhoods in MTO, and moves to low-poverty, desegregated neighborhoods in Gautreaux both produced similar increases in earnings hints at neighborhood economic conditions as a key mechanism in generating gains for labor market outcomes. While our *within* Gautreaux analysis finds that neighborhood race, conditional on neighborhood economic characteristics, has at least *some* independent positive effects on long-run economic outcomes of children. Together, these results imply that changes in neighborhood racial composition do not, on average, undermine the beneficial effects of economic desegregation.

## 7 Conclusion

This paper studies the long-run effects of the Gautreaux Assisted Housing program, one of the largest residential racial desegregation programs in U.S. history. The product of the push for Civil Rights in the 1960s, Gautreaux inspired dozens of similar legal efforts to desegregate housing through the creation of new public housing and housing vouchers policies. We link

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<sup>43</sup>One caveat for these results is that the standard errors on each estimate are relatively large due to the high correlation between these neighborhood characteristics.

historical program records to a rich array of administrative and Census data and exploit plausibly exogenous variation in neighborhood placements to study the effects of growing-up in a white neighborhood. In the process, we provide the first comprehensive evidence on the long-run effects of residential racial desegregation programs on children’s outcomes as adults.

We find that children who were placed by Gautreaux into predominately white neighborhoods have substantially higher earnings as adults. They earn roughly 30 percent more at age 24 and have accumulated \$50,000 more in earnings by age 38. In addition, they are more likely to be homeowners, have higher marriage rates, and are more likely to be married to a white spouse. Strikingly, nearly 40 years after the intervention, Gautreaux children placed in white neighborhoods during childhood are living in neighborhoods today that are substantially more racially-diverse and have higher rates of upward mobility than their counterparts placed in racially segregated neighborhoods.

From prior research, it is not clear whether the effects of neighborhood racial integration, either in isolation or combined with economic integration, are beneficial, neutral, or adverse for minority children’s long-run outcomes. Previous studies of housing mobility interventions focused solely on the effects of moving minority children to low-poverty but still segregated areas (Chetty et al., 2016; Chyn, 2018). Yet, the importance of neighborhood race as a factor that may affect child outcomes has long been posited in discussions of neighborhood effects (Wilson, 2010; Clampet-Lundquist et al., 2011).

The Gautreaux program, with its focus on racial desegregation, provides a unique opportunity to understand the importance of neighborhood racial composition in determining the long-run outcomes of children. In terms of economic outcomes, our analysis yields two main findings. First, the combined effects of racial and economic desegregation on children’s earnings and proxies for wealth are positive and large-in-magnitude. Second, the effects of racial integration—holding economic characteristics constant—are, at worst, neutral, and more likely beneficial in terms of their long-run impacts on children’s economic outcomes.

Moreover, our analysis of Gautreaux also shows that social outcomes in adulthood such as choice of neighborhood racial composition are distinctly shaped by childhood exposure to less segregated neighborhoods. These effects are driven by Gautreaux’s impact on neighborhood race and are not simply due to economic desegregation. These results are consistent with the contact hypothesis, which has been documented in school contexts (Allport, 1954; Rao, 2019; Merlino et al., 2019; Carrell et al., 2019; Mousa, 2020; Billings et al., 2021). Of course, the welfare implications of changes in the social outcomes that we study are unclear. If policymakers view long-run racial integration as desirable for social or political reasons, then housing mobility programs may need to look beyond simply encouraging moves to higher income neighborhoods.

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## 8 Tables and Figures

**Table 1: Validation of Main Specification (Balance Analysis)**

	2000 Census Sample, Endogenous Movers		Gautreaux	
	Control Mean (1)	Est. (2)	Control Mean (3)	Est. (4)
<i>Household Head</i>				
Female	0.875 (0.331)	-0.064*** (0.021)	0.938 (0.242)	0.015 (0.015)
Age	28.53 (6.924)	-0.814*** (0.301)	29.82 (7.917)	-0.458 (0.452)
Has Car	0.489 (0.500)	0.029 (0.028)	0.211 (0.408)	0.018 (0.024)
Married	0.193 (0.394)	0.044* (0.023)	0.227 (0.419)	0.038 (0.029)
Working	0.549 (0.498)	0.036 (0.028)	0.233 (0.423)	-0.017 (0.025)
Earnings	11,160 (11,070)	1,448** (622)	6,041 (12,060)	-182 (706)
Annual Income	12,940 (10,490)	1,494** (583)	8,686 (5,592)	-222 (348)
# Bedrooms Needed	2.192 (1.014)	-0.063 (0.058)	2.794 (0.070)	-0.057 (0.048)
Public Housing			0.329 (0.470)	0.023 (0.023)
Has License			0.397 (0.490)	0.021 (0.029)
<i>Children</i>				
Female			0.53 (0.499)	-0.019 (0.022)
Age			7.424 (4.654)	-0.102 (0.233)
Born in Chicago			0.934 (0.248)	-0.014 (0.014)
N		2,800		4,700
Specification Includes:				
Cohort FE		✗		✓
Tract FE		✓		✓
<i>P</i> -value (Joint Orthogonality)		0.001		0.390

*Notes:* This table reports results of a balance analysis in two different samples. The first two columns consists of a random sample of low-income Black household heads from the Chicago region from the 2000 Census that moved during the 2000-2005 period to white (less than 30% Black) or Black (at least 30% Black) neighborhoods. Column 1 reports the average characteristics for a designated control group within this sample—heads who moved to predominately Black neighborhoods. Column 2 reports an estimate of the difference in a given pre-move characteristic between those who moved to white neighborhoods and those who did not, after controlling for an origin neighborhood fixed effect. The second sample is comprised of children from Gautreaux families. Column 3 reports the average characteristic for the designated control group in this sample—individuals who were placed in revitalizing Black neighborhoods. Column 4 reports an estimate of the difference in a given characteristic between those who were placed in white neighborhoods and those who were placed in revitalizing Black neighborhoods. This estimated difference is based on equation 1, where the dependent variable is defined as a baseline (pre-move) characteristic measured in Gautreaux program records. For further details, see Section 4. Standard deviations (Columns 1 and 3) and standard errors (Columns 2 and 4) are reported in parenthesis. Standard errors are clustered at the household level. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 2: Effects of Placement in White (Less Than 30% Black) Tracts on Neighborhood Characteristics**

	Control Mean		Estimates		N
	(1)	(2)	(3)	(4)	(5)
<i>Placement Tract Characteristic:</i>					
Share Black	0.874 (0.226)	-0.826*** (0.010)	-0.808*** (0.010)	-0.807*** (0.010)	3,563
Share White	0.101 (0.187)	0.762*** (0.009)	0.723*** (0.009)	0.721*** (0.009)	3,563
Poverty Rate	0.323 (0.136)	-0.237*** (0.006)	-0.209*** (0.006)	-0.209*** (0.006)	3,563
Inc. Rank in Adulthood	0.301 (0.033)	0.120*** (0.002)	0.107*** (0.002)	0.107*** (0.002)	3,563
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on a range of neighborhood characteristics at the time of placement. The sample consists of eligible Gautreaux household heads who entered the program after 1981. Column 1 reports the average neighborhood characteristics for households placed in revitalizing Black neighborhoods. Columns 2-4 report estimates based on versions of equation 1. Placement information comes from the Gautreaux records described in Section 3. Using data from the 1980 Decennial Census, we measure effects on the following tract-level characteristics: the Black population share, the white population share, and the poverty rate. We also estimate the tract-level predicted income rank (“Inc. Rank”) of children using data from the Opportunity Atlas (Chetty et al., 2018). Standard errors are clustered at the household level and are reported in parentheses. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 3: Effects of Placement in White (Less Than 30% Black) Tracts on Earnings**

	Control Mean		Estimates		N
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Earnings At Age(s):</b>					
Age 24	7,934 (12,140)	2,573*** (564)	2,584*** (576)	2,561*** (580)	4,700
Ages 24-28	9,962 (13,460)	2,301*** (625)	2,127*** (627)	2,184*** (634)	4,700
Ages 29-33	13,110 (19,190)	2,486** (1,108)	2,377** (1,120)	2,500** (1,143)	3,600
Ages 34-38	14,740 (22,480)	2,315* (1,337)	1,470 (1,332)	1,815 (1,340)	2,300
<b>Panel B. Total Earnings By Age:</b>					
Age 28	116,800 (98,470)	18,250*** (5,832)	16,680*** (5,969)	17,080*** (6,090)	2,300
Age 33	202,500 (168,600)	40,120*** (12,600)	32,510** (12,800)	34,520*** (12,910)	1,400
Age 38	314,300 (232,600)	46,200* (24,970)	55,930** (25,140)	51,560** (26,180)	650
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

Notes: This table reports the effects of placement in a white (less than 30% Black) tract on the earnings of Gautreaux children measured at several ages in adulthood. The sample consists of children in Gautreaux families who entered the program after 1981. Panel A reports an analysis of the average earnings at various ages for children placed in revitalizing Black neighborhoods. Column 1 reports averages and standard deviations (in parentheses) for children placed in revitalizing Black neighborhoods. Columns 2-4 report results estimated from versions of equation 1. Individual controls are listed in Column 3 of Table 1. Panel B reports an analysis of cumulative earnings through the age indicated on each row. The sample sizes for total earnings measures are smaller because we require that included children are age 24 or younger in 1990 in order to observe their full earnings history for the total earnings measure. All earnings measures are based on the LEHD data described in Section 3 and all dollar amounts are given in U.S. \$2018. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 4: Effects of Placement in White (Less Than 30% Black) Tracts on Homeownership**

	Control Mean	Estimates			N
	(1)	(2)	(3)	(4)	(5)
Homeowner	0.247 (0.432)	0.102** (0.045)	0.087* (0.045)	0.099** (0.049)	700
Ever In Owner-Occupied	0.429 (0.495)	0.072** (0.032)	0.069** (0.032)	0.066** (0.032)	2,000
Frac. Yrs. Owner-Occupied	0.365 (0.449)	0.078*** (0.029)	0.077*** (0.029)	0.073** (0.030)	2,000
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on measures of homeownership, as defined in Section 3. The sample consists of children in Gautreaux families who entered the program after 1981 and were at least 35 years at the time an outcome was measured. The “Homeowner” outcome is defined only for individuals who were a head or a spouse in the 2010 Decennial Census and indicate whether this individual or their spouse report owning their home in 2010. The “Ever In Owner-Occupied” outcome is based on MAF-ARF records and indicates living at an address in 2017-2019 which was historically owner-occupied in the 2010 Census. The “Frac. Yrs. Owner-Occupied” outcome is the fraction of years between 2017-2019 that an individual was observed at an address which was historically owner-occupied in the 2010 Census. Column 1 reports the mean of the listed outcome for children placed in revitalizing Black neighborhoods (tracts with more than 30% Black population share). Columns 2-4 report estimates from versions of equation 1. Individual controls are listed in Column 3 of Table 1. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 5: Effects of Placement in White (Less Than 30% Black) Tracts on Later-life Neighborhood Choices**

	Control Mean	Estimates			N
	(1)	(2)	(3)	(4)	(5)
<i>MAFARF 2019:</i>					
Share Black	0.452 (0.361)	-0.099*** (0.019)	-0.102*** (0.020)	-0.098*** (0.020)	4,200
Share White	0.318 (0.285)	0.070*** (0.015)	0.068*** (0.015)	0.066*** (0.016)	4,200
Poverty Rate	0.202 (0.132)	-0.025*** (0.006)	-0.026*** (0.006)	-0.025*** (0.006)	4,200
Inc. Rank in Adulthood	0.374 (0.074)	0.021*** (0.004)	0.021*** (0.004)	0.020*** (0.004)	4,200
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the neighborhood characteristics in children’s adult neighborhood locations in 2019. The sample consists of children in Gautreaux families who entered the program after 1981. Column 1 reports the average neighborhood characteristic for children placed in revitalizing Black neighborhoods. Columns 2-4 report estimates from versions of equation 1. Individual controls are listed in Column 3 of Table 1. Neighborhood location data comes from the MAF-ARF, described in Section 3. Neighborhood characteristics are measured at the Census tract level. Racial composition and poverty rates come from the American Community Survey 2015-2019 estimates. The mobility measure (“Inc. Rank in Adulthood”) is the average income rank in adulthood for children whose parents are at the 25th percentile of the income distribution from the Opportunity Atlas (Chetty et al., 2018). Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 6: Effects of Placement in White (Less Than 30% Black) Tracts on Marriage**

	Control Mean	Estimates			N
	(1)	(2)	(3)	(4)	(5)
Married	0.288 (0.453)	0.054** (0.027)	0.082*** (0.029)	0.069** (0.028)	2,000
Married White Spouse	0.017 (0.131)	0.027*** (0.010)	0.023** (0.010)	0.021** (0.010)	2,000
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on a measure of marriage, as described in Section 3. The sample consists of children in Gautreaux families who entered the program after 1981 and responded to the 2010 Decennial Census as either a head or a spouse. Those who are defined as being married are heads of household who have a spouse present in their household or are spouses of the heads of household. The outcome “Married White Spouse” is a measure of interracial marriage, given that our treatment sample is almost exclusively non-white. Column 1 reports the mean of the listed outcome for children placed in revitalizing Black neighborhoods (tracts with more than 30% Black population share). Columns 2-4 report estimates of versions of equation 1. Individual controls are listed in Column 3 of Table 1. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .



**Table 7: Effects of Placement in White (Less Than 30% Black) Neighborhood Parents/Head of Household Outcomes**

	Control Mean		Estimates		N
	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Earnings At Age(s):</b>					
Age 38-42	15,820 (17,860)	1,491 (1,030)	1,403 (1,102)	1,531 (1,064)	2,500
Age 43-47	16,180 (20,120)	821 (1,122)	758 (1,182)	668 (1,149)	2,500
Age 48-52	15,580 (21,530)	407 (1,256)	566 (1,344)	300 (1,308)	2,100
<b>Panel B: Decennial 2010:</b>					
Married	0.178 (0.382)	0.017 (0.025)	0.017 (0.026)	0.019 (0.026)	2,000
Married White Spouse	0.013 (0.112)	-0.006 (0.010)	-0.010 (0.010)	-0.010 (0.010)	2,000
Homeowner	0.269 (0.444)	-0.015 (0.030)	-0.010 (0.031)	-0.018 (0.031)	2,000
<b>Panel C: MAFARF 2019:</b>					
Share Black	0.512 (0.362)	-0.135*** (0.024)	-0.141*** (0.024)	-0.141*** (0.025)	2,100
Share White	0.279 (0.270)	0.075*** (0.018)	0.082*** (0.019)	0.081*** (0.019)	2,100
Poverty Rate	0.201 (0.137)	-0.030*** (0.009)	-0.034*** (0.009)	-0.032*** (0.009)	2,100
<b>Specification Includes:</b>					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the outcomes of Gautreaux household heads/parents. The sample consists of household heads in Gautreaux families who entered the program after 1981. Panel A reports impacts on earnings at various ages, where earnings data comes from the LEHD data, described in Section 3. All dollar amounts are U.S. \$2018. Panel B reports impacts on marriage, marriage to a white spouse, and homeownership using data from the 2010 Decennial Census. The sample in Panel B is household heads who respond to the 2010 Census as either a head or a spouse, as described in Section 3. Panel C reports impacts on the characteristics of the household heads/parents' neighborhood in 2019. Neighborhood measures are constructed from Census tract 2015-2019 five-year estimates from the American Community Survey. Individual controls are listed in Column 3 of Table 1. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 8: Exposure Effects of Placement in a White (Less Than 30% Black) Tract on Earnings (Household Fixed Effects Estimates)**

	<i>Outcomes</i>		
	Earnings Age 24	Earnings Age 26	Earnings Age 24-28
	(1)	(2)	(3)
1(Age < 10) × 1(Placed Tract < 30% Black)	2,564 (1,901)	4,517** (2,191)	3,930** (1,829)
N	3,200	3,200	3,200
Specification Includes			
Cohort FE	✓	✓	✓
HH FE	✓	✓	✓
Individual Controls	✓	✓	✓

*Notes:* This table reports estimates from an exposure model of placement in a white (less than 30% Black) tract on the earnings of Gautreaux children measured at several ages in adulthood. The specification is described in Section 4.2. The sample consists of children in Gautreaux families who entered the program after 1981. Columns 1-3 report results based on different ages of earnings measurement. Individual controls in the model include: place of birth, birth year, and gender. All earnings measures are based on the LEHD data described in Section 3, and all dollar amounts are U.S. \$2018. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 9: Gautreaux vs. MTO: Comparison of the Effects of Racial Desegregation and the Effects of Income Desegregation**

	Gautreaux	MTO	
	Estimates		Diff.
	(1)	(2)	(3)
<i>MAFARF 2019:</i>			
Share Black	-0.098*** (0.020)	-0.014 (0.024)	-0.084*** (0.031)
Share White	0.066*** (0.016)	0.026 (0.023)	0.040 (0.028)
Poverty Rate	-0.025*** (0.006)	-0.023* (0.012)	-0.003 (0.014)
Income Rank in Adulthood	0.020*** (0.004)	0.006 (0.005)	0.015** (0.006)
N	4,200	4,600	

*Notes:* This table reports impacts of relocating through the MTO and Gautreaux programs on the neighborhood characteristics in children’s adult neighborhood locations in 2019. Column 1 repeats results from our preferred specification using equation 1, which are also reported in Column 4 of Table 5. Column 2 reports TOT estimates of the effects of moving with an Experimental low-poverty voucher in MTO on neighborhood characteristics in 2019 using the sample of Black children less than age 13 at the time of random assignment. Column 3 shows the estimated difference between the point estimates in Columns 1 and 2. All neighborhood location data comes from the MAF-ARF in 2019, described in Section 3. Neighborhood characteristics are measured at the Census tract level. Racial composition and poverty rates come from the American Community Survey 2015-2019 estimates. The outcome “Income Rank in Adulthood” is the average income rank in adulthood for child who parents are at the 25th percentile of the income distribution from the Opportunity Atlas (Chetty et al., 2018). Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 10: Within Gautreaux Comparison: Effects of Neighborhood Race, Poverty, and Other Neighborhood Characteristics on Later-life Neighborhood Racial Composition**

	Outcome: Tract Share Black (2019)				
	(1)	(2)	(3)	(4)	(5)
Std(Share White)	-0.025*** (0.004)	-0.018*** (0.007)	-0.026*** (0.005)	-0.023*** (0.005)	-0.016** (0.006)
Std(Poverty Rate)		0.014 (0.011)			
Std(Median Income)			0.002 (0.004)		
Std(BA+)				-0.005 (0.008)	
Std(Unemployment)					0.020 (0.012)
N	4,200	4,200	4,200	4,200	4,200
Specification Includes:					
Cohort FE	✓	✓	✓	✓	✓
Tract FE	✓	✓	✓	✓	✓
Individual Controls	✓	✓	✓	✓	✓

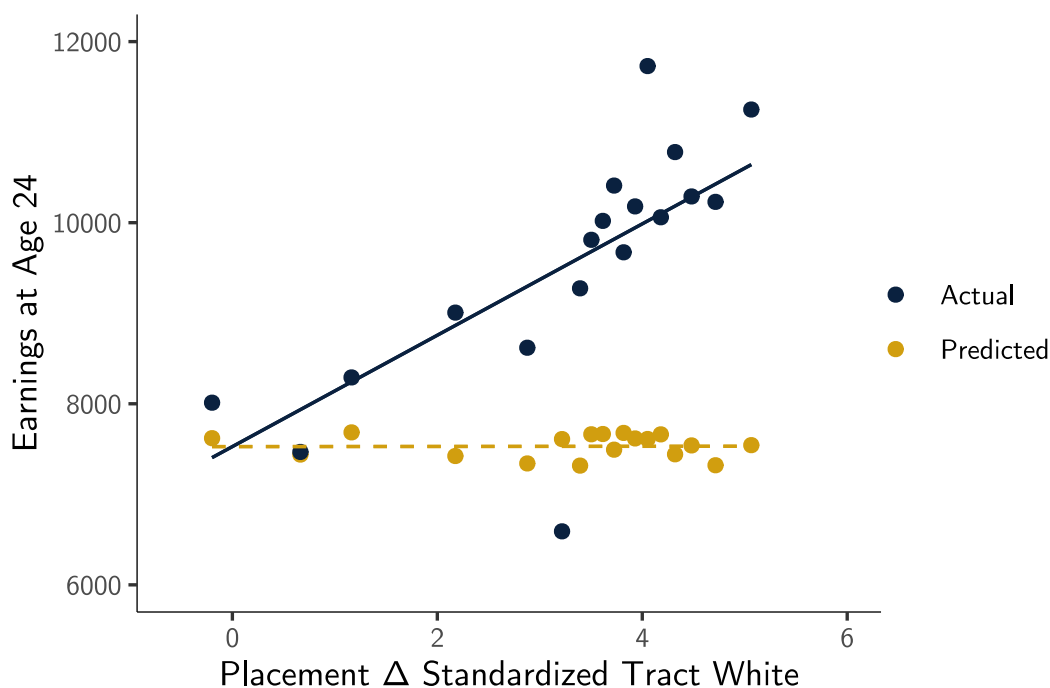
*Notes:* This table reports the effects of placement tract share white on the neighborhood racial composition (Tract Share Black) of children's adult neighborhood locations in 2019, including controls for other characteristics of the placement neighborhood. The independent variables of interest are standardized measures of the placement neighborhood share white and placement neighborhood economic characteristics. Each row lists an independent variable of interest, and each column provides results from a separate regression model. Column 1 reports results from a model where the only independent variable of interest is the standardized measure of the share white in an individual's placement tract. Columns 2-5 report estimates from multivariate specifications that include both the standardized share white and one economic characteristic of an individual's placement neighborhood. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY23-CES018-007. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Table 11: Within Gautreaux Comparison: Effects of Neighborhood Race, Poverty, and Other Neighborhood Characteristics on Earnings at Ages 24-28**

	Outcome: Earnings Ages 24-28				
	(1)	(2)	(3)	(4)	(5)
Std(Share White)	543*** (143)	398* (212)	521*** (158)	532*** (151)	330 (207)
Std(Poverty Rate)		-307 (353)			
Std(Median Income)			37 (140)		
Std(BA+)				-21 (262)	
Std(Unemployment)					-506 (403)
N	4,700	4,700	4,700	4,700	4,700
Specification Includes:					
Cohort FE	✓	✓	✓	✓	✓
Tract FE	✓	✓	✓	✓	✓
Individual Controls	✓	✓	✓	✓	✓

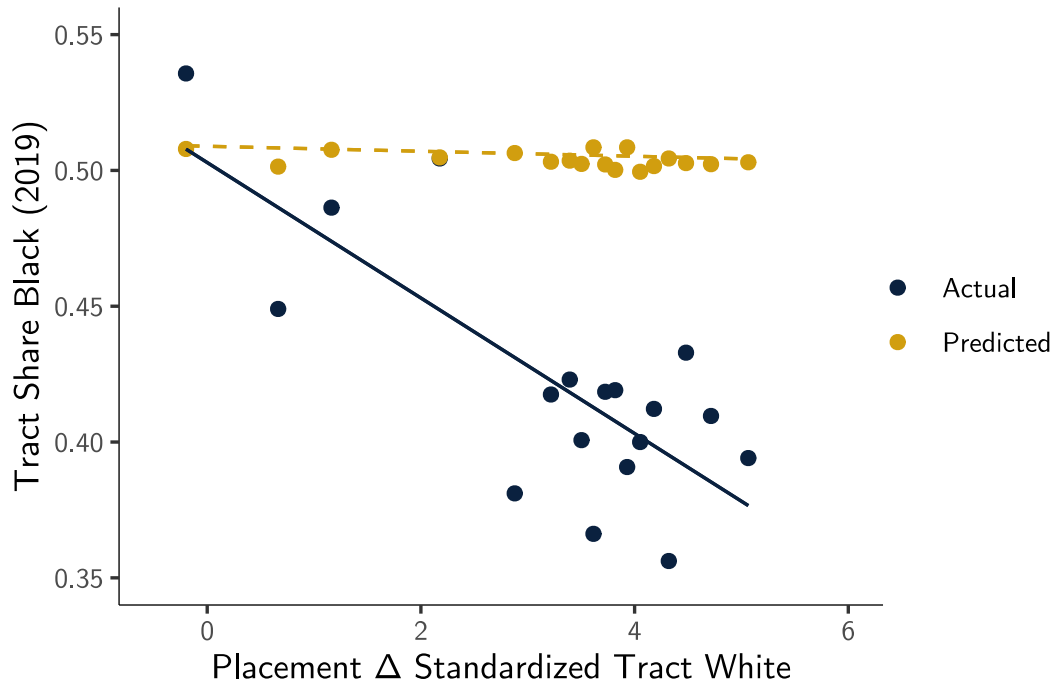
*Notes:* This table reports the effects of placement tract share white on the earnings of Gautreaux children at ages 24-28, including controls for other characteristics of the placement neighborhood. The independent variables of interest are standardized measures of the placement neighborhood share white and placement neighborhood economic characteristics. Each row lists an independent variable of interest, and each column provides results from a separate regression model. Column 1 reports results from a model where the only independent variable of interest is the standardized measure of the share white in an individual's placement tract. Columns 2-5 report estimates from multivariate specifications that include both the standardized share white and one economic characteristic of an individual's placement neighborhood. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY23-CES018-007. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Figure 1: Earnings in Adulthood (at Age 24) and Gautreaux Placement Neighborhood Racial Composition**



*Notes:* This figure provides a binned scatterplot (blue dots) of earnings at age 24 against a standardized measure of the tract-level white population share in an individual's Gautreaux placement neighborhood that is residualized by origin tract fixed effects, birth year, and registration cohort fixed effects. We standardize the share of white residents using the mean and standard deviation for the control group distribution of the tract-level white population share. In addition, the figure reports estimates of predicted earnings (in gold) based on pre-placement individual and household characteristics observed at the time a family registered for the Gautreaux program. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018.

**Figure 2: Later-life Neighborhood Choice (in 2019) and Gautreaux Placement Neighborhood White Racial Composition**

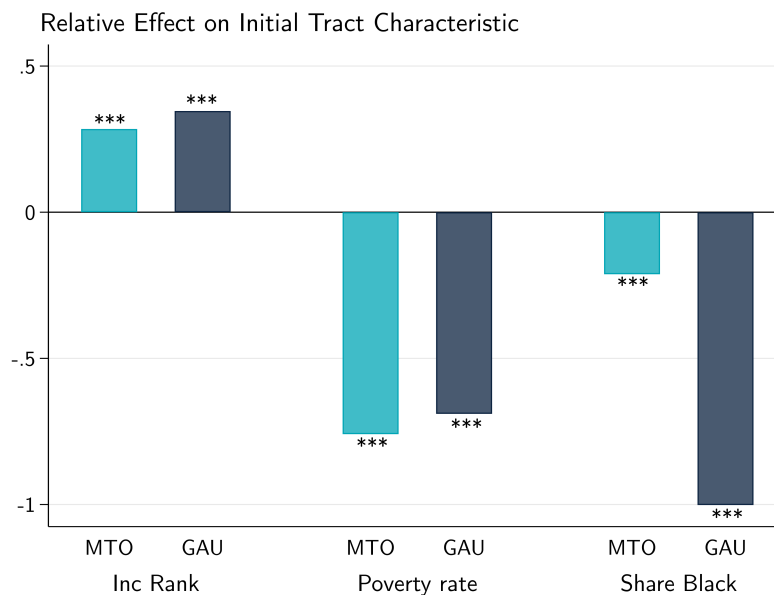


*Notes:* This figure provides a binned scatterplot (blue dots) of the Black population share in one's neighborhood based on 2019 address records against a standardized measure of the share of white resident's in an individual's Gautreaux placement neighborhood, after residualizing by origin tract fixed effects, birth year, and registration cohort fixed effects. Standardization is done based on the control group distribution of tract share white. In addition, the figure reports estimates of predicted Black population share in one's neighborhood (in gold) based on pre-placement individual and household characteristics observed at the time a family registered for the Gautreaux program. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018.

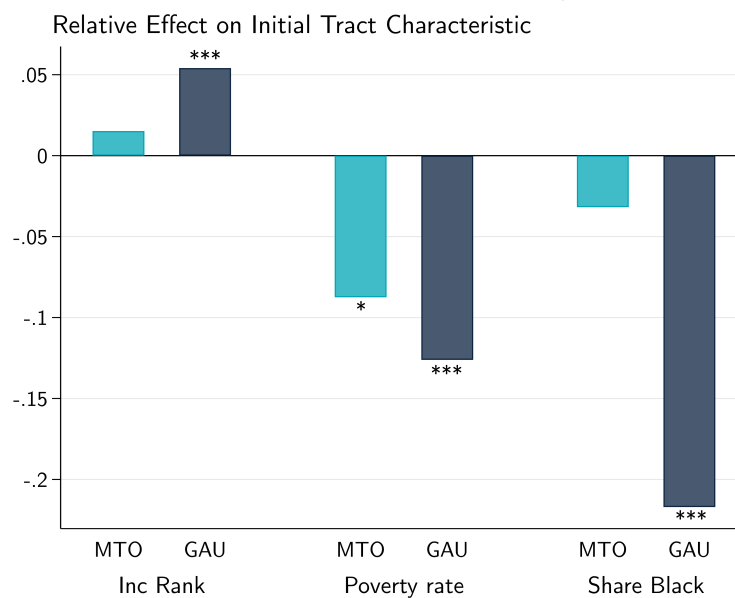


**Figure 3: Comparing the Effects of the MTO and Gautreaux Programs**

**(a) Impacts of Each Program on Initial Neighborhood (First Stage)**

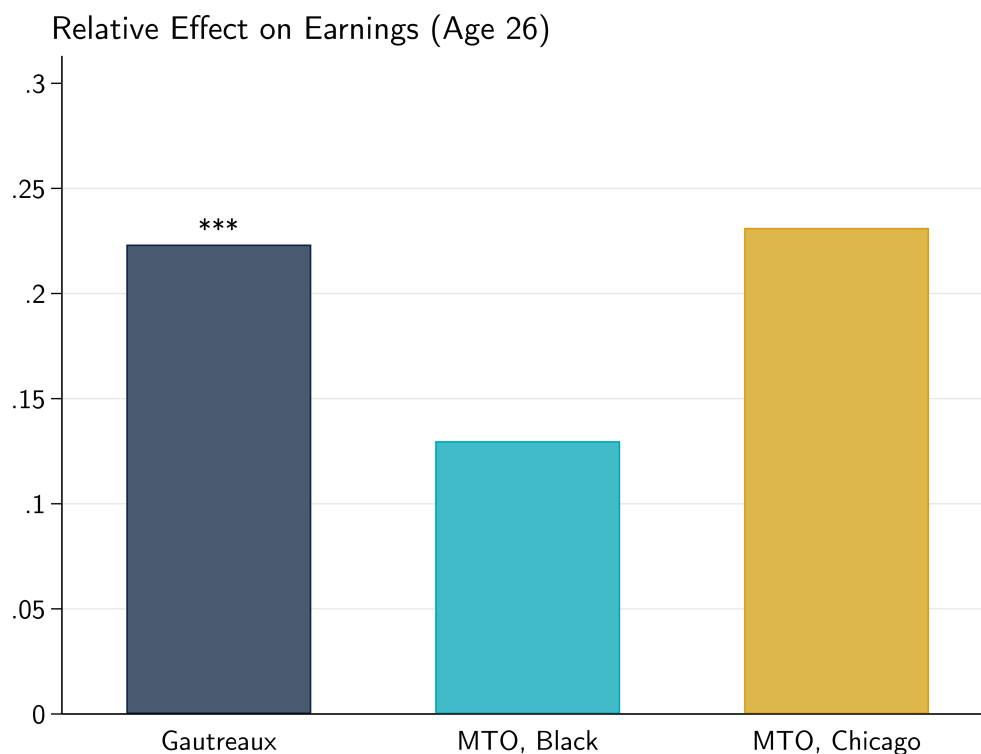


**(b) Impacts on Later-life Neighborhood Choice (Second Stage)**



*Notes:* The top panel illustrates estimates of the impact of moving through the MTO and Gautreaux programs on the initial neighborhood characteristics of treated families after they relocate. The bottom panel reports impacts of moving through MTO and Gautreaux on the later-life neighborhood characteristics of children when they are observed in adulthood. Later-life neighborhood characteristics are observed based on MAF-ARF records. For both the initial and later-life neighborhoods, we study the following tract-level characteristics: the “Inc. Rank” is the predicted income rank in adulthood for children from [Chetty et al. \(2018\)](#) (left-most bars); the “Poverty rate” is the fraction of residents below the federal poverty line (middle bars); the “Share Black” is the Black population share (right-most bars). Each bar reports an estimate of the relative effect from each program, which is defined as the estimated treatment-on-the-treated (TOT) effect divided by the respective control group mean. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Figure 4: Comparing the Effects of the MTO and Gautreaux Programs on Earnings**

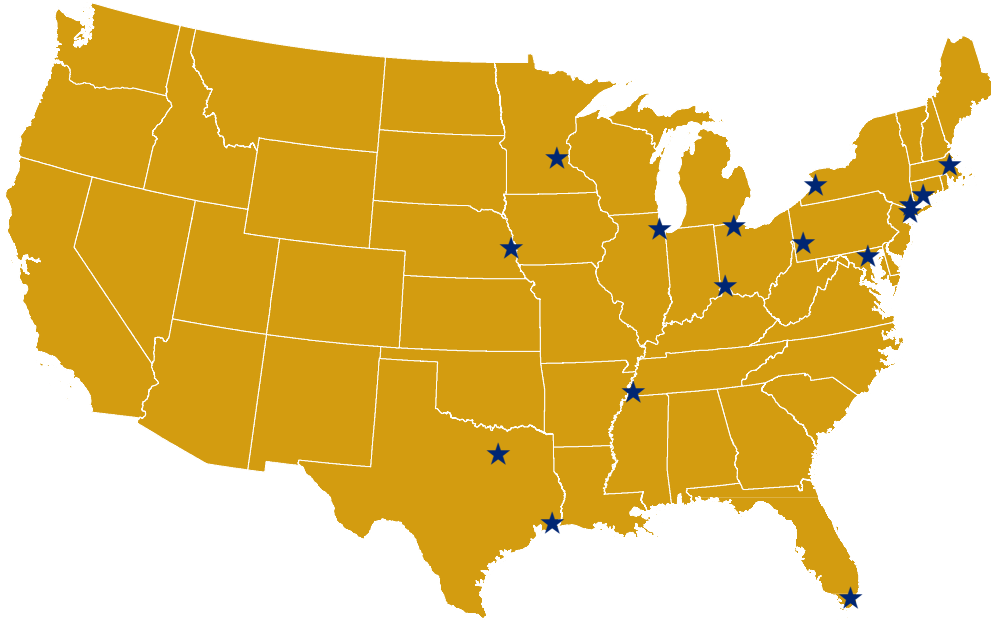


*Notes:* This figure reports estimates of moving through the MTO and Gautreaux programs on earnings in adulthood (measured at age 26) for children. The left-most bar reports estimates for the full Gautreaux sample. The middle bar reports results for the subsample of Black children in MTO who were less than age 13 at the time of randomization. The right-most bar reports results for the sample of all children in MTO who were less than age 13 at the time of randomization and lived in Chicago. Each bar plots an estimate of the relative effect from each program, which is defined as the estimated treatment-on-the-treated (TOT) effect divided by the respective control group mean. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Estimates of the earnings impacts from MTO are from [Chetty et al. \(2016\)](#). Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

## **Online Appendices**

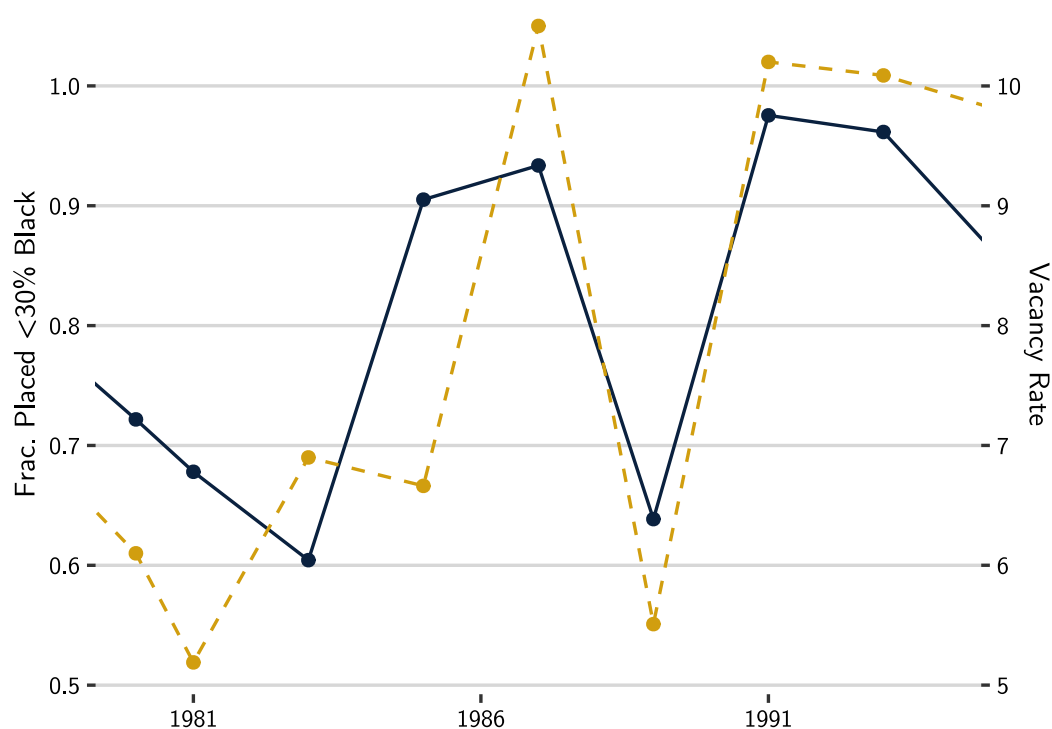
## A Appendix Figures and Tables

Appendix Figure A.1: Major Residential Racial Desegregation Lawsuits (1960s-1990s)



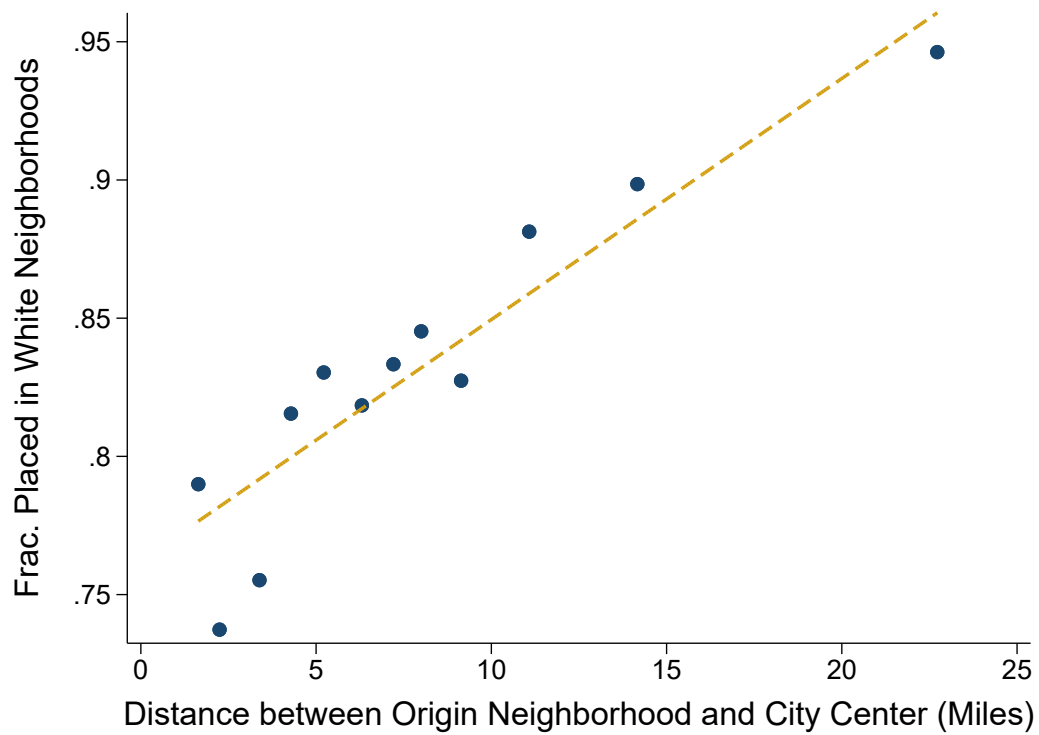
*Notes:* This map displays major desegregation lawsuits targeting HUD programs. The data source is Roisman (2000).

**Appendix Figure A.2: Placement in White (Less Than 30% Black) Neighborhoods and Chicago Vacancy Rates Over Time**



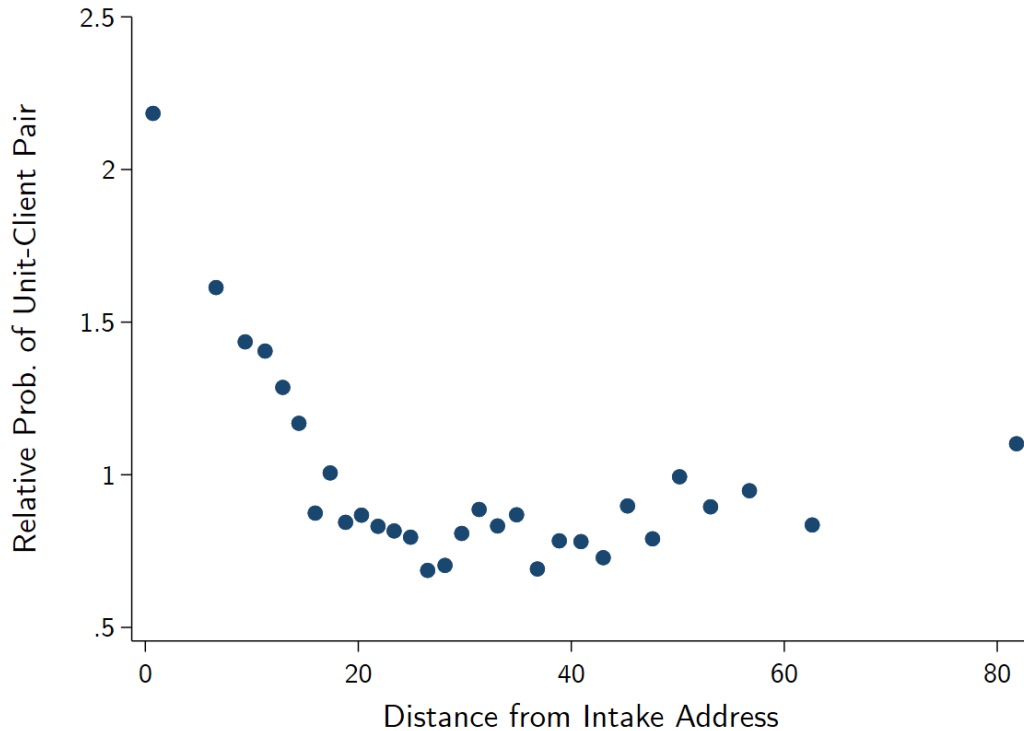
*Notes:* This figure plots the fraction of Gautreaux participants placed in a white (i.e., less than 30% Black) tract over time (in blue), and the estimated rental vacancy rate in the Chicago metro area (in gold). The estimated vacancy rates come from the American Housing Survey (except in 1980 and 1990, which come from the 1980 and 1990 Decennial Census, respectively).

**Appendix Figure A.3: Probability of Placement in Less Than 30% Black Tracts Given Origin Neighborhood Distance to the City Center**



*Notes:* This figure illustrates a binned scatter plot of the average rate of placement in a white (less than 30% Black) tract against the distance (in miles) between a Gautreaux family's registration address (i.e., origin neighborhood) and the center of the city of Chicago. Information on placement and the address at registration come from Gautreaux program records.

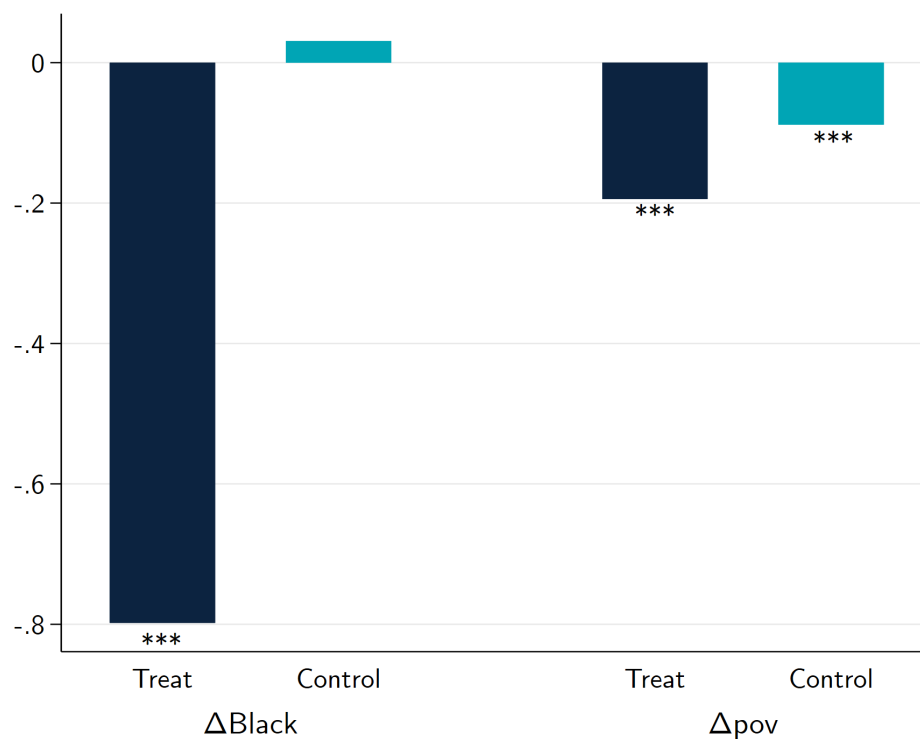
**Appendix Figure A.4: Probability of Apartment-Family Placement Match by Distance Between Apartment and Origin Neighborhood**



*Notes:* This figure illustrates a binned scatter plot of the likelihood that an apartment-family pair is matched through the Gautreaux program against the distance between a given apartment and the family's origin neighborhood. The sample of apartments considered is a list of all apartments available to Gautreaux families in the year that a particular family registered. We create data on all pairwise combinations of these apartments and the set of Gautreaux families who registered in the same year. In this data, we create an indicator which takes a value equal to one if the family was actually placed in a given apartment and calculate the distance between a given apartment and the family's registration address (i.e., origin neighborhood). We calculate the mean rate of match probability within bins of the apartment-family distance variable.



**Appendix Figure A.5: Before-After Comparisons of the Effect of Being Placed in a White (Less Than 30% Black) Neighborhood**



*Notes:* This figure reports results based on comparing the original (pre-move) and placement neighborhoods for two groups of Gautreaux families: the treatment group of families who were placed in white (less than 30% Black) tracts and the control group of families who were placed in revitalizing Black neighborhoods. The left-most bars report the change in Black population share before and after relocation, while the right-most bars report changes in the poverty rate. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.1: Effects of Placement in White (Less Than 30% Black) Tracts on Earnings (Out-of-State Imputation)**

	Control Mean		Estimates		N
	(1)	(2)	(3)	(4)	(5)
<b>Panel A:</b> Earnings At Age(s) (No Imputation):					
Age 24	7,934 (12,140)	2,573*** (12,140)	2,584*** (576)	2,561*** (580)	4,700
Age 26	10,260 (15,310)	2,409*** (15,310)	2,207*** (703)	2,291*** (707)	4,300
Age 30	12,600 (19,410)	3,692** (19,410)	3,662** (576)	3,819** (580)	3,400
Age 40	16,860 (26,450)	3,690 (26,450)	2,883 (2,413)	3,875 (2,526)	850
<b>Panel B:</b> Earnings (With Out-of-State Imputation):					
Age 24	9,058 (12,080)	2,564*** (12,080)	2,588*** (562)	2,576*** (563)	4,700
Age 26	11,890 (15,130)	2,387*** (15,130)	2,246*** (682)	2,330*** (685)	4,300
Age 30	14,920 (19,220)	3,793** (19,220)	3,960** (562)	4,095** (563)	3,400
Age 40	19,450 (26,350)	4,750* (26,350)	4,723** (2,385)	5,183** (2,523)	850
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the earnings of Gautreaux children measured at several ages in adulthood. The results in Panel A are based on earnings measures based on LEHD data covering 22 states (described in Section 3) and do not include any imputation (i.e., individuals without LEHD earnings are coded as having zero earnings). The results in Panel B impute earnings from the mean earnings in our sample if an individual is known to be working in another state based on the LEHD national file. The sample consists of children in Gautreaux families who entered the program after 1981. In Panel A, Column 1 reports the average earnings at various ages for children placed in revitalizing Black neighborhoods. Columns 2-4 report results of estimating versions of equation 1. All dollar amounts are U.S. \$2018. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.2: Effects of Placement in White (Less Than 30% Black) Tracts on Local School Characteristics**

	Control Mean		Estimates		N
	(1)	(2)	(3)	(4)	(5)
<i>School Characteristic:</i>					
School: Share Black	0.922 (0.189)	-0.778*** (0.009)	-0.741*** (0.011)	-0.740*** (0.011)	3,563
School: Share White	0.035 (0.122)	0.577*** (0.009)	0.498*** (0.013)	0.497*** (0.013)	3,563
District Spending Per Pupil	5,455.725 (279.020)	170.332*** (27.716)	59.064 (38.010)	62.189 (38.112)	3,552
Class Size (Students per Teacher)	20.602 (3.076)	-1.130*** (0.160)	-0.808*** (0.181)	-0.793*** (0.182)	3,514
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on a range of local area school characteristics. The sample consists of eligible Gautreaux households who entered the program after 1981. For this analysis, we link each placement address to the nearest school and focus on measures of school racial composition, district-level spending per pupil and class size from the National Center for Education Statistics (NCES). The NCES measures are only available in the late 1980s and 1990s. We use the earliest academic year available for each characteristic (1987-1988 for school-level racial composition and class size; 1991-1992 for district-level spending). Column 1 reports the average school characteristics for households placed in revitalizing Black neighborhoods. Columns 2-4 report estimates based on versions of equation 1. Standard errors clustered at the household level are reported in parentheses.

**Appendix Table A.3: Effects of Placement in White (Less Than 30% Black) Tracts on Employment**

	Control Mean		Estimates		N
	(1)	(2)	(3)	(4)	(5)
<hr/>					
Frac. Years Employed At Age(s):					
Age 24-28	0.644 (0.399)	0.063*** (0.017)	0.063*** (0.018)	0.066*** (0.018)	4,700
Age 29-33	0.637 (0.410)	0.042** (0.019)	0.039* (0.020)	0.041** (0.020)	3,600
Age 34-38	0.612 (0.433)	0.048* (0.025)	0.029 (0.026)	0.033 (0.026)	2,300
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	
<hr/>					

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the employment of Gautreaux children measured at several ages in adulthood. The sample consists of children in Gautreaux families who entered the program after 1981. The outcome of interest is the fraction of years employed at various ages for children placed in revitalizing Black neighborhoods. Employment is defined as having positive W2 earnings in the LEHD data, as described in Section 3. Column 1 reports averages and standard deviations (in parentheses) for children placed in revitalizing Black neighborhoods. Columns 2-4 report estimated versions from equation 1. Standard errors are clustered at the household level and are reported in parenthesis. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.4: Effects of Placement in White (Less Than 30% Black) Tracts on Earnings by Gender**

	Control Mean (1)	Est. (2)	N (3)
<b>Panel A:</b> Full Sample, Earnings At Age(s):			
Age 24-28	9,962 (13,460)	2,184*** (634)	4,700
Age 29-33	13,110 (19,190)	2,500** (1,143)	3,600
Age 34-38	14,740 (22,480)	1,815 (1,340)	2,300
<b>Panel B:</b> Boys, Earnings At Age(s):			
Age 24-28	8,077 (12,660)	1,859** (871)	2,300
Age 29-33	11,050 (18,410)	2,796 (1,855)	1,700
Age 34-38	12,410 (20,880)	1,830 (1,752)	1,100
<b>Panel C:</b> Girls, Earnings At Age(s):			
Age 24-28	11,710 (13,980)	2,116** (907)	2,400
Age 29-33	15,000 (19,770)	2,069 (1,350)	1,900
Age 34-38	16,830 (23,790)	844 (2,025)	1,200
Specification Includes:			
Cohort FE		✓	
Tract FE		✓	
Individual Controls		✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the earnings of Gautreaux children by gender, measured at several ages in adulthood. The sample consists of children in Gautreaux families who entered the program after 1981. All earnings measures are based on the LEHD data described in Section 3. Panels A, B and C analyze effects on the average earnings at various ages for all children, boys, and girls, respectively. Column 1 reports averages for children placed in revitalizing Black neighborhoods. Columns 2-4 report results based on estimating versions of equation 1. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.5: Effects of Placement in White (Less Than 30% Black) Tracts on Later-life Neighborhoods in 2010**

	Control Mean	Estimates			N
<b>Panel A:</b> Decennial 2010:					
Share Black	0.500 (0.370)	-0.108*** (0.020)	-0.107*** (0.020)	-0.104*** (0.020)	3,500
Share White	0.305 (0.290)	0.078*** (0.016)	0.078*** (0.016)	0.076*** (0.016)	3,500
Poverty Rate	0.240 (0.152)	-0.043*** (0.008)	-0.043*** (0.008)	-0.042*** (0.008)	3,500
<b>Panel B:</b> MAFARF 2010:					
Share Black	0.494 (0.362)	-0.134*** (0.018)	-0.125*** (0.018)	-0.125*** (0.018)	4,200
Share White	0.283 (0.276)	0.081*** (0.014)	0.078*** (0.014)	0.077*** (0.014)	4,200
Poverty Rate	0.213 (0.139)	-0.036*** (0.007)	-0.037*** (0.007)	-0.036*** (0.007)	4,200
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the neighborhood characteristics in children’s adult neighborhood locations in 2010 using two different data sources. The sample consists of children in Gautreaux families who entered the program after 1981. Column 1 reports the average neighborhood characteristic for children placed in revitalizing Black neighborhoods (tracts with > 30%). Columns 2-4 report results of estimating versions of equation 1. The results in Panel A use neighborhood location data from the MAF-ARF, as described in Section 3. The results in Panel B use neighborhood location data from the 2010 Decennial Census, as described in Section 3. Neighborhood characteristics are measured at the Census tract level. Racial composition, poverty rates, and neighborhood characteristics come from the American Community Survey 2015-2019 estimates. The outcome “Inc. Rank in Adulthood” is the average income rank in adulthood for a child whose parents are at the 25th percentile of the income distribution from the Opportunity Atlas (Chetty et al., 2018). All standard errors are robust and clustered at the household level. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.6: Effects of Placement in White (Less Than 30% Black) Tracts on the Likelihood of Later-life Residence in the Same Placement Tract**

	Control Mean	Estimates			N
	(1)	(2)	(3)	(4)	(5)
Living in Same Tracts as Placement	0.027 (0.161)	-0.018 (0.016)	-0.020 (0.016)	-0.021 (0.016)	4,200
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the likelihood of adult Gautreaux children living in the same Census tract in 2019 as they were placed-in initially through the program. The sample consists of children in Gautreaux families who entered the program after 1981. Column 1 reports the probability of living in the same tracts in 2019 as the initial placement tract for children placed in revitalizing Black neighborhoods. Columns 2-4 report results of estimating versions of equation 1. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .



**Appendix Table A.7: Effects of Placement in White (Less Than 30% Black) Tracts on ~~Mortality~~ and Incarceration**

	Full Sample		Boys		Girls	
	Control Mean	Est.	Control Mean	Est.	Control Mean	Est.
	(1)	(2)	(3)	(4)	(5)	(6)
Mortality	0.046 (0.211)	-0.004 (0.010)	0.066 (0.249)	-0.025 (0.018)	0.028 (0.166)	0.015 (0.011)
Incarceration	0.044 (0.206)	-0.003 (0.009)	0.067 (0.251)	-0.006 (0.018)	0.023 (0.149)	0.000 (0.007)
N		5,000		2,400		2,600
Specification Includes:						
Cohort FE		✓		✓		✓
Tract FE		✓		✓		✓
Individual Controls		✓		✓		✓

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on measures of mortality and incarceration, for our full sample, and also separately by gender. For mortality, the sample consists of all Gautreaux children who come from families that entered the program after 1981. For incarceration, the sample consists of Gautreaux children who come from families that entered the program after 1981 and who responded to the 2010 Decennial Census. Both measures are described in more detail in Section 3. Columns 1, 3, and 5 report the mean of the listed outcome for children placed in revitalizing Black neighborhoods (tracts with more than 30% Black population share). Columns 2, 4, and 6 report results of our preferred specification using equation 1. Individual controls are listed in Column 3 of Table 1. All standard errors are robust and clustered at the household level. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.8: Effects of Placement in White (Less Than 30% Black) Tracts on Earnings Ages 24-28 After Controlling for Schooling**

	Outcome: Earnings Age 24-28		
	(1)	(2)	(3)
1(Placed Tract <30% Black)	2,184*** (634)	2,198*** (633)	2,180*** (635)
Pupil per Teacher Ratio		26 (58)	
Spending per Pupil			0.408* (0.236)
N	4,700	4,700	4,700
Specification Includes:			
Cohort FE	✓	✓	✓
Tract FE	✓	✓	✓
Individual Controls	✓	✓	✓

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on average annual earnings of Gautreaux children measured during ages 24-28. The sample consists of children in Gautreaux families who entered the program after 1981. Column 1 reports impacts from equation 1. Columns 2 and 3 report results estimated from augmented versions of this specification that controls for alternative measures of local area school characteristics. For this analysis, we link an individual's placement address to their nearest school and focus on measures of school class size and district-level spending per pupil from the National Center for Education Statistics (NCES). The NCES measures are only available in the late 1980s and 1990s. We use the earliest academic year available for each characteristic (1987-1988 for school-level class size; 1991-1992 for district-level spending). The individual controls are listed in Column 3 of Table 1. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.9: Effects of Placement in White (Less Than 30% Black) Tracts on the Likelihood of Parental Tract Co-residence**

	Control Mean	Estimates			N
	(1)	(2)	(3)	(4)	(5)
Living in the Same Tract as Parent/Head	0.200 (0.400)	-0.019 (0.020)	-0.016 (0.020)	-0.018 (0.020)	4,200
Specification Includes:					
Cohort FE		✓	✓	✓	
Tract FE		✗	✓	✓	
Individual Controls		✗	✗	✓	

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the likelihood of adult Gautreaux children living in the same Census tract as their Gautreaux parent/care-giver in 2019. The sample consists of children in Gautreaux families who entered the program after 1981. Column 1 reports the probability of living in the same tracts a parent/care-giver in 2019 for children placed in revitalizing Black neighborhoods. Columns 2-4 report results of estimating versions of equation 1. Co-location is derived from linking the neighborhood locations for children as adults in Table 5 with parental locations in Table 7. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.10: Effects of Placement in White (Less Than 30% Black) Tracts on Future Neighborhood Choices, Excluding Parental Tract Co-resident Children**

	Base Sample (1)	Sample Excl. Living in Parent Tracts (2)
<i>MAFARF 2019:</i>		
Share White	-0.098*** (0.020)	-0.109*** (0.020)
Share White	0.066*** (0.016)	0.077*** (0.016)
Poverty Rate	-0.025*** (0.006)	-0.024*** (0.006)
Inc Rank Adulthood	0.020*** (0.004)	0.021*** (0.004)
Specification Includes:		
Cohort FE	✓	✓
Tract FE	✓	✓
Individual Controls	✓	✓

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on the neighborhood characteristics in children’s adult neighborhood locations in 2019. Column 1 reproduces the results from Table 5, which rely on our main sample of children who entered the program after 1981. Column 2 repeats the specification for a sample that excludes children who are living in the same Census tract as their Gautreaux parents/care-giver in 2019. Neighborhood location data comes from the MAF-ARF, as described in Section 3. Neighborhood characteristics are measured at the Census tract level. Racial composition, poverty rates, and neighborhood characteristics come from the American Community Survey 2015-2019 estimates. The outcome “Inc. Rank in Adulthood” is the average income rank in adulthood for child whose parents are at the 25th percentile of the income distribution from the Opportunity Atlas (Chetty et al., 2018). All standard errors are robust and clustered at the household level. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.11: Effects of Placement in White (Less Than 30% Black) Tracts, Alternative Specifications and Samples**

	Alternative Specifications/Samples:					
	Base	First Offer	Exclude 1990s	Include 1970s	Low Vacancy	Suburb
	(1)	(2)	(3)	(4)	(5)	(6)
Earnings at Age 24	2,561*** (580) [N=4,700]	2,346*** (689) [N=3,300]	2,342*** (641) [N=3,100]	2,312*** (580) [N=4,900]	2,096*** (793) [N=1,500]	2,084*** (551) [N=4,700]
Earnings at Age 24-28	2,184*** (634) [N=4,700]	1,884*** (774) [N=3,300]	2,241*** (708) [N=3,100]	1,990*** (630) [N=5,000]	2,252*** (876) [N=1,600]	1,982*** (591) [N=4,700]
MAFARF 2019, Share Black	-0.098*** (0.020) [N=4,200]	-0.118*** (0.025) [N=2,900]	-0.088*** (0.021) [N=2,500]	-0.100*** (0.019) [N=4,400]	-0.069*** (0.026) [N=1,300]	-0.111*** (0.017) [N=4,200]
MAFARF 2019, Inc. Rank in Adulthood	0.020*** (0.004) [N=4,200]	0.022*** (0.005) [N=2,900]	0.019*** (0.004) [N=2,500]	0.021*** (0.004) [N=4,400]	0.017*** (0.005) [N=1,300]	0.025*** (0.004) [N=4,200]

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on key long-run outcomes of children. The sample consists of children in Gautreaux families who entered the program after 1981. Outcomes are described in detail in Section 3. Columns 1-6 provide estimates based on alternative specifications and samples. Column 1 reproduces our main estimate based on equation 1 for comparison. Columns 2-6 provide results where we vary the sample by; only considering those who accepted their first housing offer through Gautreaux (2), excluding those placed during the 1990s (3), including households placed before the 1981 consent decree (4), or including those who were placed during the years when Chicago's housing market had relatively low vacancy rates (5). Column 6 provides results from an alternative specification where we define treatment as being placed in a suburban Census tract. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.12: Cross-Study Comparison of the Effects of Racial Segregation and the Effects of Income Segregation (at Age 26)**

	Gautreaux	MTO	
	Estimates		Diff.
	(1)	(2)	(3)
<i>MAFARF at Age 26:</i>			
Share Black	-0.125*** (0.028)	-0.042* (0.025)	-0.083** (0.037)
Share White	0.085*** (0.021)	0.054** (0.023)	0.031 (0.031)
Poverty Rate	-0.039*** (0.010)	-0.043*** (0.013)	0.004 (0.017)
Income Rank in Adulthood	0.028*** (0.005)	0.014*** (0.005)	0.014* (0.007)
N	2,400	4,100	

*Notes:* This table reports impacts of relocating through the MTO and Gautreaux programs on the neighborhood characteristics in children’s adult neighborhood locations at age 26. Later-life neighborhood characteristics are based on neighborhood locations in the MAF-ARF at age 26. Column 1 repeats results that appear in Table 5 from our preferred specification using equation 1. Column 2 reports TOT estimates of the effects of moving with the experimental low-poverty voucher in MTO on neighborhood characteristics at age 26 using the sample of Black children less than age 13 at the time of random assignment. Column 3 is the estimated difference between the point estimates in Columns 1 and 2. All neighborhood location data comes from the MAF-ARF, as described in Section 3. Neighborhood characteristics are measured at the Census tract level. Racial composition, poverty rates, and neighborhood characteristic come from the American Community Survey 2015-2019 estimates. The outcome “Income Rank in Adulthood” is the average income rank in adulthood for a child whose parents are at the 25th percentile of the income distribution from the Opportunity Atlas (Chetty et al., 2018). All standard errors are robust and are clustered at the household level. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.13: Effects of Placement Tract Measures of Mobility and Social Connectedness on Earnings Ages 24-28**

	Outcome: Earnings 24-28	
	(1)	(2)
<i>Opportunity Atlas:</i>		
Std(Income Rank)	336*** (117)	
<i>Social Atlas:</i>		
Std(Economic Connectedness)		396** (170)
N	4,700	4,700
Specification Includes:		
Cohort FE	✓	✓
Tract FE	✓	✓
Individual Controls	✓	✓

*Notes:* This table reports the effects of measures of mobility (Column 1) and social connectedness (Column 2) in an individual's placement tract on average earnings during ages 24-28. The mobility measure is from [Chetty et al. \(2018\)](#) and is defined as the average income rank for children born from 1978-1983 to parents at the 25th percentile of the income distribution. The social connectedness measure is from [Chetty et al. \(2022\)](#) and is defined as the extent to which low- and high-socioeconomic status individuals are friends with each other based on Facebook social network data from 2019. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number: CBDRB-FY23-CES018-007. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

**Appendix Table A.14: Within Gautreaux Analysis Comparing the Effects of Racial Segregation and the Effects of Poverty on Marriage to a White Spouse**

	Outcome: Married White Spouse				
	(1)	(2)	(3)	(4)	(5)
Std(Share White)	0.007** (0.003)	0.006* (0.003)	0.007** (0.003)	0.008*** (0.003)	0.008** (0.003)
Std(Poverty Rate)		-0.002 (0.006)			
Std(Median Income)			-0.001 (0.003)		
Std(BA+)				-0.009* (0.004)	
Std(Unemployment)					0.006 (0.005)
N	2,000	2,000	2,000	2,000	2,000
Specification Includes:					
Cohort FE	✓	✓	✓	✓	✓
Tract FE	✓	✓	✓	✓	✓
Individual Controls	✓	✓	✓	✓	✓

*Notes:* This table reports the effects of placement in a white (less than 30% Black) tract on an indicator for being married to a white spouse, including controls for other characteristics of the placement neighborhood. The independent variables of interest are standardized measures of the placement neighborhood share white and placement neighborhood economic characteristics. Each row lists an independent variable of interest, and each column provides results from a separate regression model. Column 1 reports results from a model where the only independent variable of interest is the standardized measure of the share white in an individual's placement tract. Columns 2-5 report estimates from multivariate specifications that include both the standardized share white and one economic characteristic of an individual's placement neighborhood. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number: CBDRB-FY23-CES018-007. Statistical significance is denoted by: \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .



**Appendix Table A.15: Placement Neighborhood Characteristic Correlations**

	Placement Tract Characteristics				
	% White (1)	Poverty Rate (2)	Median Income (3)	BA+ (4)	Unemployment (5)
% White	1.000				
Poverty Rate	-0.842	1.000			
Median Income	0.724	-0.837	1.000		
BA+	0.356	-0.463	0.478	1.000	
Unemployment	-0.826	0.874	-0.746	-0.604	1.000
N	3,563	3,563	3,563	3,563	3,563

*Notes:* This table reports the correlation matrix for placement neighborhood characteristics in the sample of Gautreaux households. All neighborhood measures are tract-level estimates from the 1980 Decennial Census.

## B Data Appendix

### B.1 Details on the Census Match

In this appendix, we evaluate whether our data linkages are correlated with placement into white neighborhoods. Table A.16 reports the results of regressing an indicator of successful data link on an indicator for being placed in a white neighborhood. In Column 1, we use the sample of all adults and children in Gautreaux households, and regress whether the individual was assigned a PIK on our measure of treatment. Overall, 90.2 percent of persons in Gautreaux households are assigned a PIK. Individuals placed in white neighborhoods were 1 percentage point less likely to have a PIK, but this difference is not statistically different than zero. Column 2 shows that the PIK rate for children is slightly lower at 86.2 percent, but, again, being assigned a PIK is not correlated with being placed in a white neighborhood.

Of the sample of Gautreaux children with PIKs, 67.4 percent responded to the 2010 Census. The 2010 Census provides our measures of marriage, homeownership, and incarceration. In Column 3, we show that being placed in a predominately white neighborhood is not correlated with the likelihood of responding to the 2010 Census.

Our results on later-life neighborhood characteristics rely on addresses from a match to an administrative address panel, the MAF-ARF. The sample of Gautreaux children with a PIK, matches to the 2010 MAF-ARF, at a rate of 79.4 percent. In 2019, the match rate increases to 81.1 percent, which reflects higher match rates at older ages and improvements to the address panel over time. In Columns 4 and 5, we find no evidence that being placed in a white neighborhood significantly impacts the likelihood of appearing in the MAF-ARF in either 2010 or 2019. Column 6 reports the same likelihood for appearance in the MAF-ARF at age 26. Because MAF-ARF coverage is limited prior to 2007, the fraction of Gautreaux children who have an address at age 26 is lower at 32.2 percent.

The marriage and homeownership variables are only available for household heads and spouses. Column 7 shows that of those that responded to the 2010 Census, 59.8 percent were household heads or spouses. This percentage increases to 83.3 percent if we restrict our sample to individuals who were 35 years of age or older in 2010, which is the sub-sample we use to evaluate impacts on homeownership in Section 5. Again, placement into a predominately white neighborhood is not significantly correlated with appearance as a head of household or as a spouse in the 2010 Decennial Census.

### B.2 LEHD State Coverage

For our main analysis, we rely on LEHD earnings data from a set of 22 states. All individuals who have earnings in states not covered by our LEHD extract are assigned 0 earnings in our main measures described in Section 3. To address concern over incomplete data coverage, we rely on a supplemental LEHD data file that contains indicators for employment in any U.S. state. Using this national coverage data, we create an alternate version of our main earnings measures that includes imputed values for individuals who are observed working in a state outside of our LEHD data extract but have zero earnings

in our covered states. We use the mean earnings in the Gautreaux sample for this imputation. The results in Appendix Table A.1 are qualitatively similar to our main findings in Table 3.

**Appendix Table A.16: Census Match Results**

	Outcome:			
	Has PIK	Has PIK	Has 2010 Census	Has 2010 MAFARF
	(1)	(2)	(3)	(4)
1(Pct Black < 30%)	-0.011 (0.009)	-0.017 (-0.017)	0.011 (0.021)	0.026 (0.017)
N	10,000	6,300	5,000	5,000
Sample	All	Children	Had PIK	Had PIK
Dep. Var. Mean	0.902	0.862	0.674	0.794
Specification Includes:				
Tract FE	✓	✓	✓	✓
Individual Controls	✗	✗	✗	✗
	Outcome:			
	Has 2019 MAFARF Tract	Has Age 26 MAFARF Tract	Head or Spouse in Census 2010	Head or Spouse in Census 2010
	(5)	(6)	(7)	(8)
1(Pct Black < 30%)	0.007 (0.017)	0.010 (0.019)	-0.021 (0.026)	-0.044 (0.050)
N	5,000	5,000	3,300	650
Sample	Had PIK	Had PIK	In Census	In Census: Age 35+
Dep. Var. Mean	0.811	0.322	0.598	0.833
Specification Includes:				
Tract FE	✓	✓	✓	✓
Individual Controls	✗	✗	✗	✗

*Notes:* This table reports the relationship between placement in a white (less than 30% Black) tract and indicators reflecting data linking and missing data. Further details appear in Appendix Section B.1. Standard errors are clustered at the household level and are reported in parentheses. Results were approved for release by the U.S. Census Bureau, authorization number CBDRB-FY22-CES018-018.