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# The Effect of HBCUs on Local Social Mobility

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## Abstract

We investigate the effects of 4-year public historically black colleges and universities (HBCUs) on social mobility of nearby Black and White children. To identify a causal effect, we use the historical fact that many HBCUs began as normal schools to train Black teachers, and we argue that the site selection was similar for insane asylums for Black individuals (as well as all asylums). We find that in recent years Black children from Black normal school counties are 7 percentage points more likely to graduate from college and move up 2 percentiles in the income rankings relative to Black children from control insane asylum counties. We do not see these effects for White children.

## JEL classification

I23, I24, J15

## Keywords

HBCUs, economic mobility, college access

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There is less upward social mobility for Black people than White people in the United States (Mazumder, 2014; Chetty et al., 2020). Some of this gap is because of differences in their surrounding areas (Derenoncourt, 2022; Aaronson, Hartley and Mazumder, 2021; Chetty and Hendren, 2018; Chetty, Hendren and Katz, 2016) and differences in their educational opportunities (Card and Krueger, 1992; Zimmerman, 2014; Chetty et al., 2017). Historically Black Colleges and Universities (HBCUs) are a public investment that may help close this gap and improve the social mobility of Black children. For example, according to their mission statement, one prominent HBCU aims to be a place that "provides access and opportunity for diverse students to excel intellectually, build character, and overcome barriers so that they can become productive leaders who make meaningful contributions to society..." (Alcorn State University, 2021).

Our paper estimates the causal effect of 4-year public HBCUs on social mobility of local Black children. We focus on their local effect because geographic frictions in college attendance imply HBCUs should have larger effects on nearby Black children than on children further away. We leverage the empirical strategy from Howard, Weinstein and Yang (2024), using the historical location assignment of normal schools, to estimate the causal effect of a university on a nearby area. The strategy relies on the fact that the location choices for normal schools and insane asylums were based on similar criteria—making same-state locations of insane asylums a good control group for estimating the effects of a university.[1]

We modify this strategy to focus on HBCUs by focusing on counties that received normal schools to train Black teachers as the treatment group because many of these turned into HBCUs. We consider two control groups: same-state counties that received insane asylums for Black people, or those that received any insane asylum. Because counties with Black insane asylums were relatively rare, the second control group offers more power, but the identification assumption may be less airtight. We show similar balance on observables in 1850 for these two control groups, as well as similar results.

[1] In Howard, Weinstein and Yang (2024), we document that both normal schools and insane asylums were typically located by the state legislature, and that the criteria were quite similar and primarily based on political influence, land availability, proximity to cities and railways, and scenic beauty. Both types of institutions were celebrated by the communities that received them.

We first show that counties assigned a normal school for Black students have nearly one additional four-year public HBCU today relative to same-state asylum counties, but there is no difference in the number of four-year universities.

Using data on children born around 1980 from Opportunity Insights (Chetty et al., 2018), we find that HBCUs improve local educational attainment and labor market outcomes for Black children. Black children growing up in Black normal school counties are approximately 7 percentage points more likely to get a four-year college degree than children growing up in the control counties. Similarly, their adult income rank increases by about 2 percentiles compared to the control group, and they are less likely to be incarcerated. We do not see these education or labor market effects for White children. We generally do not find significant effects on other social outcomes, although we cannot rule out economically-meaningful effects either.

As we discuss in Howard and Weinstein (Forthcoming), proximity to a normal school may affect outcomes of children 100 years later for a variety of reasons. The normal schools may have attracted new residents who place a greater value on college education. Alternatively, there may have been a causal effect on educational attainment for local children in the early 20th century, which raised the education levels of the next generation. Finally, these colleges may continue to affect the educational attainment of local children today, even if their parents were not directly affected by the college.

We do not see strong evidence that the normal schools dramatically changed the characteristics of the local community, similar to Howard, Weinstein and Yang (2024) and Howard and Weinstein (Forthcoming). Notably, among Black children in the 1980s, parental income ranks in Black normal school counties were not statistically different relative to asylum counties. However, the fraction of Black adults with a college degree in 1980 was substantially higher. While some of the effect on children may be explained by the effect of the normal school on their parents' education, we believe it is also operating through other channels. For example, we find similar effects on college attainment for children with parents at the 25th income percentile, who are arguably less likely to be college graduates.

We find proximity to public HBCUs raises college attainment of local Black children, relative to similar Black children in asylum counties who live near a similar number of four-year colleges, and even four-year public colleges. The additional impact of proximity to an HBCU could be explained by HBCU characteristics (e.g., greater support from peers or university personnel), better information about the college, or greater preferences for attending an HBCU. Alternatively, the HBCU may improve local K-12 education for Black children, raising high school graduation rates and college preparation. Black children in asylum counties could attend these same-state HBCUs. The differential impact for students growing up nearby is consistent with the importance of geographic frictions in college attendance because of costs, information, or preferences. Better K-12 education could also explain some of the results.

Our study is particularly policy relevant because 4-year public HBCUs are especially reliant on public funding, with 54 percent of their revenue coming from Federal, State, and Local Appropriations, Grants, or Contracts in 2015, compared to 38% at other 4-year public colleges (American Council on Education, 2019). In recent years, the federal government has put pressure on states to increase appropriations to some HBCUs (Cardona and Vilsack, 2023), citing historical gaps in funding that may have been illegal under the second Morrill Act of 1890 (Ndisabiye, 2023).[2]

Several other papers study the differential impact of attending HBCUs for Black students (Ehrenberg and Rothstein, 1993; Fryer Jr and Greenstone, 2010; Price, Spriggs and Swinton, 2011; Elu et al., 2019; Edwards et al., 2025). These papers differ from ours in that they focus on the effects of attending an HBCU among college attendees, or applicants in the case of Edwards et al. (2025). Our analysis focuses on growing up next to an HBCU. This may capture effects that would be missed when conditioning on applicants or enrollees, including effects on graduating high school and applying to college. Further, our analysis speaks to the role of geographic frictions in college attendance. Finally, we focus on HBCUs that are public regional universities, a relevant set of institutions for state policymakers given annual funding decisions. Of the 99 HBCUs in 2022, roughly half were public institutions (National Center for Education Statistics, 2025).

[2]Maryland settled a lawsuit in 2023 with its HBCUs over funding (Douglas-Gabriel and Wiggins, 2021). A separate lawsuit by Florida A&M students was dismissed in 2024 (Schwartz, 2024).

# 1 History of Normal Schools and Asylums for Black Individuals

In the mid-19th to early 20th century, states opened normal schools to meet the growing demand for teachers.[3] Southern states began opening these schools after the Civil War, and they opened separate schools to train Black teachers. In the 1880s and 1890s they opened similar numbers of normal schools for Black and for White students (Ogren, 2005). We discuss the history of the site selection and founding of these schools below. Section 2 discusses the evolution of the Black normal schools in our sample into general colleges and universities.

Around the time states were opening normal schools, many also opened insane asylums. When southern states opened asylums after the Civil War, Black and White patients were often segregated. Some asylums had separate wards for Black patients, or separate buildings on the same property as the buildings for White patients.[4] However, some states opened completely separate asylums, in separate locations, for Black patients (Geller, 2020). The opening of asylums for Black individuals was often linked to the sentiment among some state and medical leadership that insanity of Black individuals increased after emancipation (Grob, 2019),[5] as well as the belief that segregation of asylums was the best model for both races (Grob, 2019).[6]

As we discussed in Howard, Weinstein and Yang (2024), the site selection for these institutions was quite similar, with state legislatures either directly choosing locations or setting up commissions to determine the locations. This meant political considerations were of primary importance, but the other considerations were similar too: both types of institutions were designed to be near population centers and railways, to be near scenic beauty, and were sometimes reliant on land donations.

Our empirical strategy is to compare the locations selected for Black normal schools with those

[3] See Howard, Weinstein and Yang (2024) and Howard and Weinstein (Forthcoming) for more detail on history of these institutions across the U.S.

[4] Gamwell and Tomes (1995) and Grob (2019) describe these separate areas for Black patients as having fewer amenities.

[5] Adherents included the president of the predecessor to the American Psychiatric Association (APA) in the late 1800s (Geller, 2020).

[6] Adherents also included the previously mentioned president of the predecessor to the APA, as well as Thomas Kirkbride, president of this same organization in the 1860s and the designer of many asylums (Geller, 2020). Grob (2019) also cites evidence that the expenditures on the separate asylums for Black patients in the South were less than those for White patients.

selected for insane asylums within the same state. In our strictest regression specification, we focus on the asylums opened only for Black patients, as we think the counties receiving these institutions are plausibly most similar to those receiving a normal school for Black students.

One concern that a modern reader might have is that normal schools might generally be viewed as a public good, but asylums are more ambiguous, especially for locals. However, at the time, both institutions were viewed favorably by the local community. In this section, we aim to show through evidence primarily from newspapers and legislative histories that normal schools and asylums for Black people were desired by their local communities.

For example, in 1879, the Texas Legislature passed a bill establishing a normal school for Black students in Prairie View. While there was not universal support for this bill among Texas legislators, there was support from the local community.[7] The bill was introduced by W. M. Burton, a Black state senator who represented the county where the school would be located (Brewer, 1935; Journal of the Senate of the State of Texas, 1879).[8] Further, in the book *Negro Legislators of Texas*, this bill was listed as an example of Senator Burton's commitment to helping Black people in Texas (Brewer, 1935). The individual representing the county in the House of Representatives, who was also Black, voted in favor of the bill as well (Journal of the House of Representatives of the State of Texas, 1879*b*).[9] Ogren (2005) gives additional examples in which the local African American communities played an important role in the assignment of the normal school to their community.[10]

Local communities also desired the asylums for Black individuals. A 1917 article from *The Troup Banner* describes a delegation of individuals from nearby Rusk, Texas on their way to the state capital to lobby for the new insane asylum for Black patients to be located in Rusk (Going After Asylum, 1917).[11] Similarly, a 1902 article from *The Daily Town Talk* in Alexandria, Louisiana

[7]The day before it was passed, a representative moved to postpone the bill indefinitely. This motion to postpone received 24 votes versus 43 votes against (Journal of the House of Representatives of the State of Texas, 1879*a*). The bill was passed the next day by a vote of 41 to 25 (Journal of the House of Representatives of the State of Texas, 1879*b*).

[8]This was originally referred to as the school at Alta Vista.

[9]In the year the bill was passed, this county was represented by the only Black state senator in the Texas Senate and one of seven Black state representatives in the Texas House of Representatives (Brewer, 1935).

[10]Butchart (1975) describes how southern societies created normal schools for Black individuals to enable limited economic and social mobility (because these professionals would only serve the Black community).

[11]Even though this delegation did not include the legislators representing Rusk in the state legislature, those legislators did support the legislation to locate the asylum in Rusk (Journal of the House of Representatives of the State of Texas,

announces a candidate for US congress, and lists one of his main achievements as his role in bringing the "State insane asylum for colored people" to Alexandria, which the newspaper said would bring economic and financial benefits to the area (William Polk, 1902).[12] A third example is the city of Petersburg, Virginia, which bought property and then donated it to the state for the purpose of opening an asylum for Black individuals. Previous research has suggested that the support of the city's large middle class Black community was an important reason for its location in Petersburg (The Central State Hospital Digital Library and Archives Project, 2025). Notably, the county also lobbied for and received a normal school for Black students (The Central State Hospital Digital Library and Archives Project, 2025).[13] The community believed that both of these institutions would contribute to their already large middle class Black population by attracting new businesses, as well as teachers, doctors, and laborers (The Central State Hospital Digital Library and Archives Project, 2025).

## 2 Data

We obtain data on normal schools, including their locations and opening years, from Ogren (2005).[14] They were located in 204 counties and opened between 1839 and 1930. The dataset identifies whether each normal school was designated specifically for Black individuals. Given our interest in identifying the effect of growing up next to an HBCU, we limit our analysis to the 16 states that opened normal schools for Black students. Within these 16 states, we identify 23 counties with normal schools specifically for Black individuals.

Most of our data on asylum locations and opening years are sourced from the 1923 special census of "institutions of mental disease" (Furbush et al., 1926), digitized in Howard, Weinstein

1917; Journal of the Senate of the State of Texas, 1917). Another 1917 article from *The Cherokee County Banner* in nearby Jacksonville said "Somehow we don't think we would fancy living near an insane asylum, but we presume it is all right for any town that wants it, and it seems that Rusk did. Perhaps it will be no worse than having a penitentiary next door" (McFarland, J. E. & Davis, B. F., ed., 1917).

[12] This asylum is not in our sample because Louisiana did not have a normal school for Black individuals.

[13] Because it got both a Black normal school and an asylum, it is not designated as an asylum county in our sample, but we include the anecdote as evidence of community support for an asylum.

[14] For details, see Howard, Weinstein and Yang (2024) and Howard and Weinstein (Forthcoming).

and Yang (2024). We additionally identify several asylums that were built between 1923 and 1933 using Geller (2020) and The Council of State Governments (1950).[15] We identify asylums for Black individuals based on Geller (2020).

We identify 43 asylum counties in the states that had normal schools for Black students, nine of which were established exclusively for Black patients. Asylums with separate buildings or wards for Black patients are not classified as exclusively for Black patients.

Figure 1 shows the 16 states that had a Black normal school, and counties within them that had either a normal school or an asylum. Of these, 15 had a Black normal school and an asylum in a different county. Appendix Figure A.5 shows opening years for these institutions.

Our restricted sample compares counties with normal schools for Black students to same-state counties with asylums for Black patients. Our extended sample compares to all same-state asylum counties. When showing balance in 1850, the restricted sample includes four states (Alabama, Maryland, South Carolina, and Texas) with five normal school counties and four asylum counties. Our extended sample includes 10 states (Alabama, Arkansas, Florida, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, and Texas), with 16 normal school counties and 23 asylum counties.[16]. In our main analysis using Opportunity Insights data (Chetty et al., 2018), we have five states in our restricted sample (adding Oklahoma which was not a state in 1850), with six normal school counties and five asylum counties. Our extended sample with the Opportunity Insights data is the same as the 1850 extended sample.

Our primary measures of social mobility are from Chetty et al. (2018), made available by Opportunity Insights. Using IRS and census data, this includes county-level adult outcomes of children born between 1978 and 1983 who grew up in the county, regardless of the county in which they live today. The sample includes 96 percent of children born in these cohorts, who were born in the U.S. or are authorized immigrants who arrived in the U.S. as children and whose parents

[15]This is a departure from our previous work (Howard, Weinstein and Yang, 2024; Howard and Weinstein, Forthcoming), and we explain the use of the additional asylums in Appendix C.

[16]This sample does not include all fifteen states with normal schools for Black students and asylums because we exclude states if any counties that would be in the sample are missing the fraction of Black children in the county who get a college degree in Chetty et al. (2018)

were U.S. citizens or authorized immigrants.[17]

We provide several further descriptive statistics on the evolution of the 17 normal schools in our final samples.[18] Eleven were opened in the 1870s and 1880s, four were opened in the 1890s, and two were opened in the 1910s. Five normal schools were also agricultural or industrial schools at the time the school opened, including these words in the name of the school, while the remaining 12 were strictly normal schools. Four of the schools closed before they evolved to become general colleges and universities, and before they removed from the name explicit mention that they were for Black individuals. Of the remaining 13 in 1940, nine still had names with "teachers" or "normal" (11 in 1920), and five still had names explicitly referencing they were for Black individuals (e.g., including the words "Negro" or "Colored") (nine in 1920).

[17] In Howard and Weinstein (Forthcoming), we used data from Chetty and Hendren (2018) in addition to the data from Chetty et al. (2018), to argue that the effects we found on social mobility reflected a causal effect on the children there, rather than universities causing certain types of high opportunity children to move in. These data are not available by race, but our general finding in Howard and Weinstein (Forthcoming) was that the effects did reflect a causal effect on the children rather than a selection effect.

[18] Here we pool the 17 Black normal school counties in the restricted and extended samples in the 1850 analysis and the Opportunity Insights analysis.

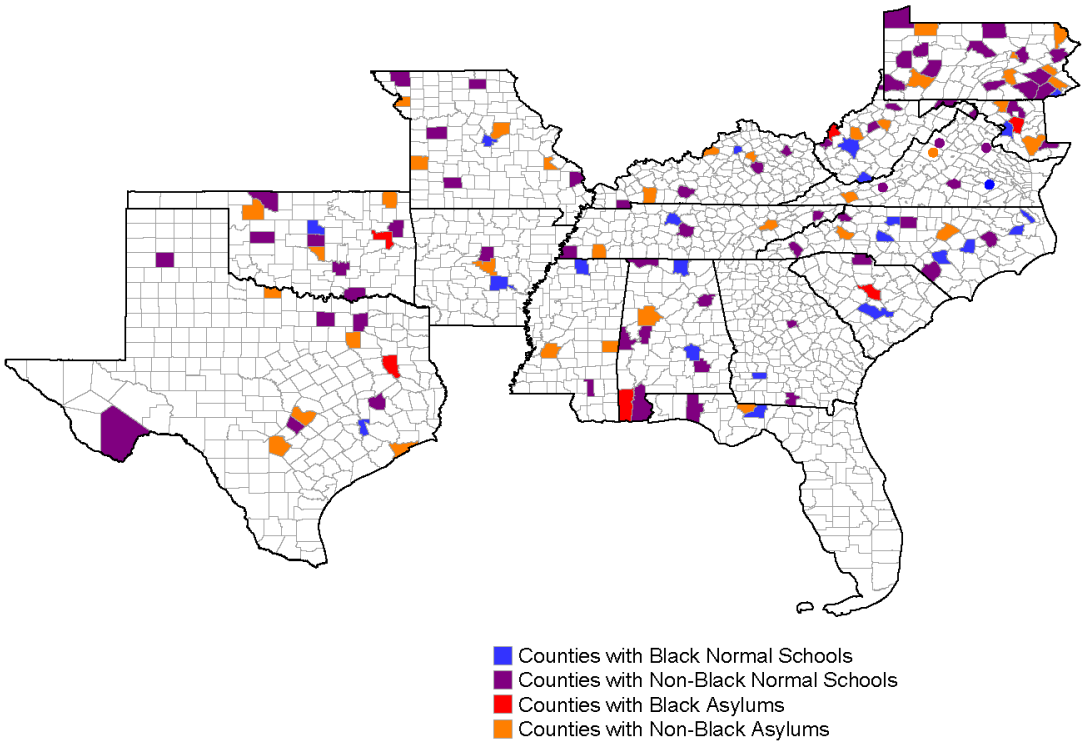



Figure 1: Normal School and Asylum Counties in States with Normal Schools for Black Students

# 3 Empirical Strategy

We leverage the quasi-random assignment of normal schools and asylums to counties, based on historical evidence that their locations were determined using similar selection criteria during the same period. One potential concern is that the allocation of normal schools for Black students may differ from the allocation of the average asylum in a state. One of our identification strategies uses counties with asylums specifically for Black patients as the control for counties with normal schools for Black students. The identification assumption is that the counties receiving asylums for Black patients are a good counterfactual for what would have happened in the counties receiving normal schools for Black students, if they had instead received a different institution for Black individuals that never grew into an HBCU. We also present results in which the control group includes all asylum counties in the state, many of which had segregated wards or buildings. This allows us to include a larger set of states.

We estimate the following specification separately for Black and White children, using data aggregated to the county-race level:

$$y_c = \beta \text{ Black Normal School}_c + \alpha_s + \varepsilon_c, \tag{1}$$

where $y_c$ is the outcome of interest; $c$ denotes a county; and $\alpha_s$ represents state fixed effects. The variable Black Normal School$_c$ equals 1 if county $c$ had a normal school for Black students, and $\beta$ captures the causal effect of having been assigned a Black normal school on the outcome $y$.

Given our small number of states and counties, we present standard errors clustered by state, following Imbens and Kolesar (2016) for small samples and number of clusters which builds on the adjustments in Bell and McCaffrey (2002).

## 3.1 Balance of County-level Characteristics in 1850

In this section we show balance when comparing counties assigned normal schools for Black students to same-state counties assigned asylums. We estimate equation (1), with the results in

Table 1. Column (5) shows the within-state difference when comparing Black normal school counties to Black asylum counties, while column (6) compares to all asylum counties within the state. The population of slaves is somewhat higher in Black normal school counties than same-state Black asylum counties, though we cannot rule out differences that are quite small. This difference is smaller when we compare Black normal school counties to all same-state asylum counties. On other dimensions, there are no significant differences using either set of controls, suggesting both Black asylum and all asylum counties are strong counterfactuals.

# 4 Results

## 4.1 Effects on Social Mobility 1920-1940

In this section we analyze effects on social mobility in the 1920-1940 period when most of the normal schools were colleges and still focused on training teachers. Further details and results can be found in Appendix B.3. We use Census Tree data (Price et al., 2023) to link children in 1920 to their adult outcomes in the 1940 census (Ruggles et al., 2021*b*). We see suggestive evidence that growing up next to an HBCU had large positive effects on Black women's college attainment (roughly 2 percentage points or 35-50% increase depending on the control, with a p-value of 0.11). We also see large relative effects on men's college attainment, but these are less significant. Other outcomes are also not significant.

## 4.2 Effects on County Higher Education Sector and County Characteristics

In Table 2 we show the effects of receiving a Black normal school on the county's higher education sector in 1995 using the IPEDS complete data files (U.S. Department of Education, National Center for Education Statistics, 2020). Relative to same-state asylum counties, students growing up in counties assigned normal schools for Black students have greater proximity today to four-year public HBCUs. However, there are not statistically significant differences in the total number of

Table 1: 1850 County Characteristics

| | Restricted Sample | | Extended Sample | | Differences | |
|---|---|---|---|---|---|---|
| | (1) Black Normal | (2) Black Asylum | (3) Black Normal | (4) Any Asylum | (5) Within-State Difference (1) – (2) | (6) Within-State Difference (3) – (4) |
| Population, 1850 | 17,557 | 19,225 | 14,283 | 15,104 | -2,959.53 | -1,054.50 |
| | (9,373) | (8,879) | (7,982) | (13,377) | (2,668.94) | (3,189.35) |
| Proportion of population, 1850: | | | | | | |
| Urban, Places 2,500 and over | 0.05 | 0.28 | 0.06 | 0.19 | -0.26 | -0.09 |
| | (0.07) | (0.33) | (0.10) | (0.30) | (0.30) | (0.07) |
| In cities, 25,000 and over | 0.03 | 0.00 | 0.01 | 0.03 | 0.03 | -0.01 |
| | (0.06) | (0.00) | (0.03) | (0.15) | (0.05) | (0.03) |
| Non-white, free | 0.02 | 0.05 | 0.03 | 0.03 | -0.032 | -0.006 |
| | (0.02) | (0.06) | (0.03) | (0.05) | (0.030) | (0.010) |
| Non-white, slave | 0.55 | 0.38 | 0.43 | 0.29 | 0.17** | 0.12** |
| | (0.09) | (0.18) | (0.16) | (0.18) | (0.09) | (0.06) |
| Farmer | 0.29 | 0.22 | 0.26 | 0.24 | 0.07 | 0.01 |
| | (0.08) | (0.18) | (0.08) | (0.13) | (0.18) | (0.04) |
| Real estate value per capita | 406.59 | 315.18 | 321.80 | 311.48 | 106.84 | 73.40 |
| | (103.08) | (124.44) | (159.27) | (223.35) | (78.66) | (75.08) |
| First Principal Component | | | | | -0.70 | -0.27 |
| | | | | | (1.32) | (0.46) |
| Observations | 5 | 4 | 16 | 23 | 9 | 39 |

Notes: Data sources include the 1850 full-count census microdata (Ruggles et al., 2021*a*) (for fraction farmer and real estate value per capita), and county-level aggregates from NHGIS (for the remaining variables) (Manson et al., 2023), Columns 1–2 report county averages and standard deviations (in parentheses) for the four states in our restricted sample, including Alabama, Maryland, South Carolina, and Texas. Columns 3–4 report county averages and standard deviations (in parentheses) for states in our extended sample. The total sample size for the restricted sample (9 counties) differs from Columns 1–2 of Table 2 (11 counties) because Oklahoma was not a state in 1850, and we restrict to counties that had been admitted to the Union by the census date. The extended sample (39 counties) exactly matches the sample used in Columns 3–4 of Table 2. Columns 5 and 6 report the estimated coefficient on $\text{BlackNormal}_c$ from specification (1). Imbens and Kolesar (2016) standard errors for small samples and small number of clusters, clustered at the state level, are reported in parentheses. We use the Eckert et al. (2020) crosswalk to map to 1990 counties. The fraction of the population that are farmers is defined as the share of individuals aged 15 or older who are not residing in group quarters. Real estate value per capita is the total real estate value owned by individuals not in group quarters, divided by the non-group-quarters population. The final row reports results from a regression in which the dependent variable is the first principal component of the county-level characteristics listed above. * $p<.10$ ** $p<.05$ *** $p<.01$.

four-year colleges, or in the number of four-year public colleges (though in the restricted sample the magnitude is close to one). This suggests we are identifying any additional impact of proximity to a four-year public HBCU instead of another four-year or perhaps another four-year public institution.

Using 2009 IPEDS data U.S. Department of Education, National Center for Education Statistics (2020), we show in Table A.5 there are not statistically significant differences in cost, grants and aid, completion rates, admissions requirements, or spending per student between four-year colleges in Black normal school counties and asylum counties. Standardized test scores are much lower at universities in Black normal school counties, among those where scores are required and most students submit them. These differences are statistically significant when comparing to all asylum counties.

Returning to Table 2, when comparing to same-state counties with asylums for Black patients, we see some evidence that students growing up in Black normal school counties are in proximity to a smaller two-year college sector, in terms of enrollment relative to population. This is much less evident when comparing to all same-state asylum counties, though we also cannot rule out similar effects. This is important for interpreting the impacts on some-college attainment, as this may be elevated in asylum counties due to the larger two-year sector there.

Table A.3 shows there is generally no statistically significant difference in family composition or parental income for Black children in Black normal school relative to same-state asylum counties.[19] We also do not see differences in these characteristics for White children.

The share of Black individuals with a college degree in 1980 is higher by about six percentage points in Black normal school counties relative to asylum counties, and we do not see this difference for White individuals. This is consistent with Black normal schools attracting higher-educated individuals, as well as raising college attainment for local children over the past decades. Intergenerational transmission seems like a plausible channel through which the effects on today's children might operate. However, we will show effects on children from poor families for suggestive

[19] When comparing to all asylum counties, there is a statistically significant difference in likelihood of being claimed by a father on the tax return. This was also true when looking across the U.S. in Howard and Weinstein (Forthcoming), and the results there still held when dividing the sample into people growing up with a single parent versus two parents.

Table 2: Characteristics of the Higher Education Sector in Black Normal School and Asylum Counties in 1995

| | Restricted Sample | | Extended Sample | | Differences | |
|---|---|---|---|---|---|---|
| | (1) Black Normal | (2) Black Asylum | (3) Black Normal | (4) Any Asylum | (5) Within-State Difference (1) – (2) | (6) Within-State Difference (3) – (4) |
| **Panel A: Institution Counts** | | | | | | |
| Total Four Year | 2.500 | 2.800 | 2.688 | 2.913 | -0.375 | -0.003 |
| | (1.975) | (3.033) | (2.938) | (2.795) | (2.247) | (1.512) |
| Total Four Year Public | 1.333 | 0.400 | 1.000 | 0.739 | 0.938 | 0.379 |
| | (1.033) | (0.548) | (0.894) | (0.752) | (0.776) | (0.403) |
| Total Four Year Public HBCUs | 0.833 | 0.000 | 0.688 | 0.043 | 0.875*** | 0.707*** |
| | (0.408) | (0.000) | (0.479) | (0.209) | (0.171) | (0.166) |
| Total Two Year | 1.667 | 2.000 | 2.062 | 2.957 | -0.562 | -0.505 |
| | (2.251) | (0.707) | (3.043) | (2.671) | (1.217) | (1.286) |
| **Panel B: Enrollment Rates (Enrollment per County Population)** | | | | | | |
| Four Year Enr | 0.028 | 0.006 | 0.017 | 0.008 | 0.024 | 0.012 |
| | (0.028) | (0.009) | (0.020) | (0.009) | (0.022) | (0.011) |
| Four Year Public Enr | 0.025 | 0.005 | 0.014 | 0.007 | 0.023 | 0.011 |
| | (0.030) | (0.007) | (0.021) | (0.008) | (0.022) | (0.011) |
| Four Year Public Black Enr | 0.079 | 0.002 | 0.035 | 0.004 | 0.085 | 0.045* |
| | (0.099) | (0.003) | (0.056) | (0.005) | (0.066) | (0.028) |
| Four Year Public HBCU Black Enr | 0.077 | 0.000 | 0.034 | 0.001 | 0.085 | 0.047* |
| | (0.100) | (0.000) | (0.056) | (0.003) | (0.066) | (0.028) |
| Two Year Enr | 0.005 | 0.015 | 0.008 | 0.010 | -0.009* | -0.004 |
| | (0.006) | (0.008) | (0.007) | (0.009) | (0.005) | (0.004) |
| Observations | 6 | 5 | 16 | 23 | 11 | 39 |

Notes: Using 1995 IPEDS institutional and enrollment data merged with 1990 NHGIS county population data, the table reports county-level higher education characteristics. Columns 1–2 and 3–4 report means and standard deviations (in parentheses) for the Restricted and Extended Samples, respectively. Columns 5–6 report the estimated coefficient on $\text{BlackNormal}_c$ from specification (1). Imbens and Kolesar (2016) standard errors for small samples and small number of clusters, clustered at the state level, are reported in parentheses. Panel A reports institution counts by type. Panel B reports enrollment rates, defined as first-year undergraduate enrollment from the 1995 IPEDS normalized by 1990 county population from NHGIS. Total enrollment is divided by total county population, and Black enrollment is divided by the population of Black individuals in the county. * $p<.10$ ** $p<.05$ *** $p<.01$.

evidence of effects on children whose parents did not attain a college education.

The Black population share is higher by about 10 percentage points in Black normal school counties, though the differences are never significant when comparing to Black asylum counties, and are generally not significant when comparing to all asylum counties. Chetty et al. (2020) finds a negative correlation between share Black in childhood neighborhood and adult income percentile for Black individuals across the US. If this were also true for our sample, this could downward bias our results.

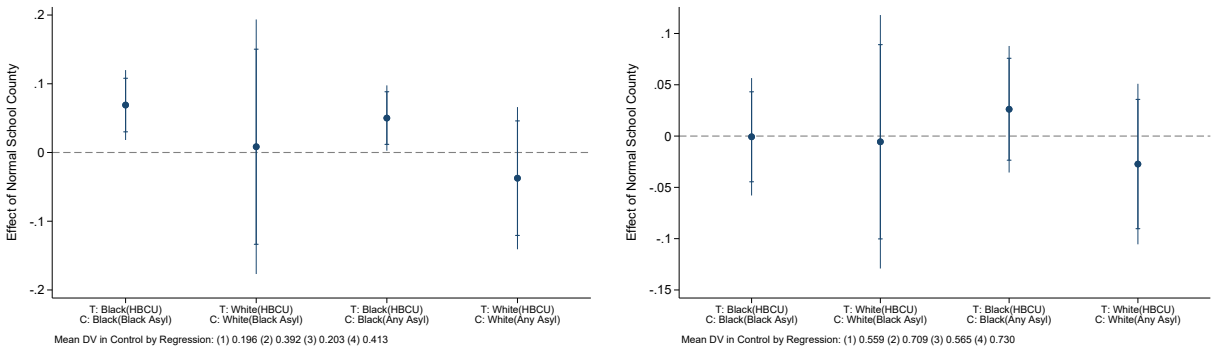
## 4.3 Effects on Social Mobility of Black Children in 2005-2015

### 4.3.1 Effects on Educational Attainment

In this section, we examine whether growing up in counties with Black normal schools affected Black children's educational attainment in 2005–2015. Using the 1978-1983 birth cohort data from Chetty et al. (2018), we estimate specification (1).

Figure 2 Panel (a) presents the estimated coefficients on college completion for Black and White children, with small-sample corrected 95% confidence intervals clustering at the state level following Imbens and Kolesar (2016). Growing up in a Black normal school county increased the likelihood of earning a four-year college degree by approximately 7 percentage points. This effect represents a substantial increase relative to the mean outcome for Black asylum counties, where the baseline college graduation rate among Black children was less than 20 percent. In contrast, we do not find evidence that growing up in such counties impacted White children, although the standard errors are large. Using the expanded sample of Black normal school counties and any same-state asylum counties, we see very similar results. Table A.4 shows that the effect for Black children in normal school counties versus any same-state asylum county is statistically different from the effect for White children at the 5% level.

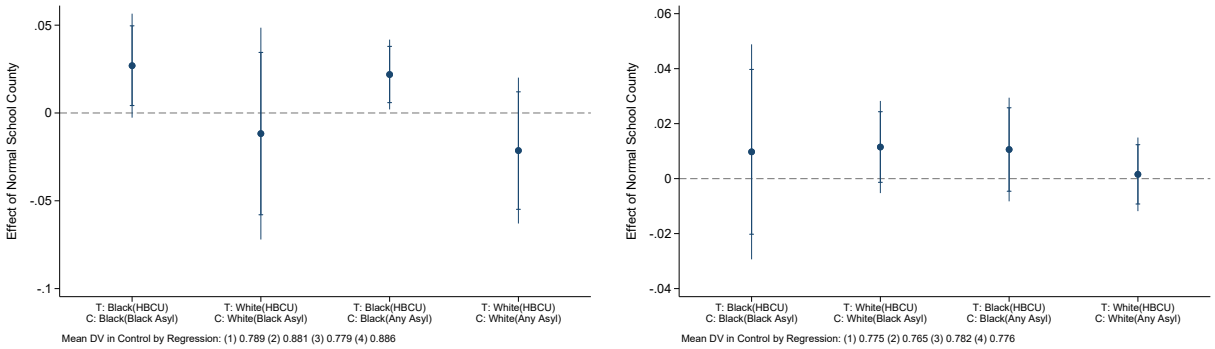
In Panel (b), we find no significant effect on Black children's likelihood of attending some college. This suggests that Black children in Black normal school counties may have been more likely to substitute two-year college attendance with four-year college enrollment or that growing




(a) At least 4-year college degree



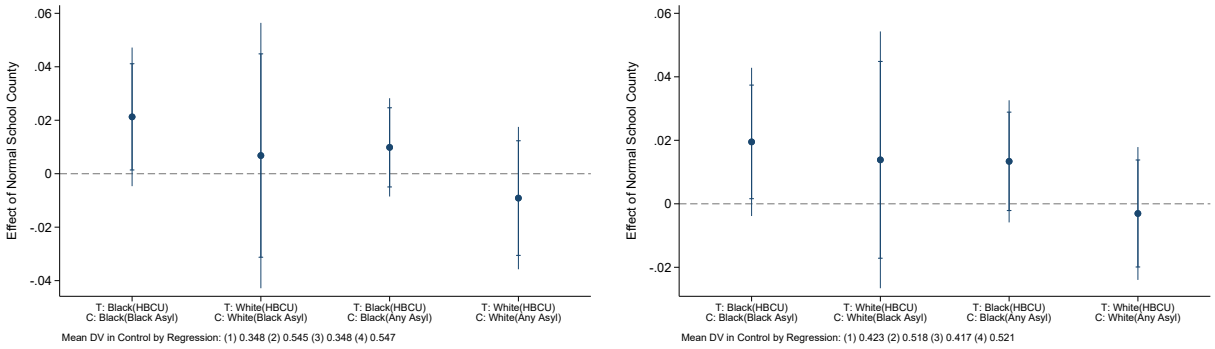

(b) At least some college




(c) At least high school degree or GED




(d) W-2 Earnings $\geq 0$




(e) Household income percentile rank




(f) Individual income percentile rank

Figure 2: Notes: This figure presents regression estimates for outcomes from Chetty et al. (2018). The first and second estimates compare same-state children who grew up in counties with Black normal schools ("HBCU") to those with Black asylums, using a sample of 11 counties, for Black and White children, respectively. The third and fourth estimates compare children who grew up in counties with Black normal schools to those from same-state counties with any asylum, using a sample of 39 counties, again for Black and White children, respectively. "T" and "C" denote treatment and control groups. Dots represent point estimates, and bars show 95% confidence intervals with crosses at the 90% confidence intervals, with standard errors clustered at the state level following Imbens and Kolesar (2016), for small samples and small number of clusters.

up in these counties increased their likelihood of completing a four-year degree.[20] These effects on completion, but not on enrollment, could be because of lower costs (e.g,, from living at home), maintained supportive networks (e.g., from living close to home), or something about the HBCUs themselves (e.g., greater support for students). We find no significant effect on at least some college for White children either.

Panel (c) shows a significant increase of about 3 percentage points in the probability of earning a high school diploma or GED among Black children who grew up in Black normal school counties. We do not find this result for White children, although again the standard errors for White children are particularly large. Table A.4 shows the effect for Black children in Black normal school counties versus Black asylum counties, and any asylum county, are statistically different from the effect for White children at the 5% level. One possible explanation is that Black children in Black normal school counties had a higher expected return to high school completion given proximity to an HBCU. However, the absence of an effect on some college makes this seem less likely. Alternatively, this effect may reflect improvements in K-12 teacher supply and quality due to proximity to a regional public university (Howard and Weinstein, 2025), and also specifically an HBCU that is training Black educators. Previous literature has shown positive effects when students are paired with same-race teachers (Dee, 2004; Gershenson et al., 2022). This also could reflect the HBCU's persistent effects on characteristics of people living in the county, which raises the likelihood of completing high school and college degrees.

In Appendix B.2, we show that our results from Figure 2 remain qualitatively similar when we estimate the effect for children whose parental income is at the 25th percentile. This mitigates concerns that the results are driven by differences in parental income across counties. Given that these parents are less likely to have a college degree, it also suggests the normal schools are impacting local children other than through raising the likelihood their parents got a college degree.

Our estimated effect on college completion is substantially higher than Howard and Weinstein

[20]The point estimates on at least community college (Figure A.2) are close to the estimates for at least bachelor's degree, consistent with the effects not being driven by substitution between two- and four-year degrees. However, the lower bound of the confidence interval suggests only a small positive effect on at least community college, so we are careful not to make strong claims on substitution.

(Forthcoming)'s finding that growing up in normal school counties (not specifically Black normal school counties in the South) increases four-year college attainment by 2 percentage points when pooling races. This could reflect race-congruent matching effects (Dee, 2004; Gershenson et al., 2022) at HBCUs, or other features of those universities, better information about the college, stronger preferences for attending HBCUs, stronger geographic frictions, or better K-12 education because of the local HBCU.

#### 4.3.2 Effects on Labor Market Outcomes

In Figure 2 Panel (d), we examine the impact on the extensive margin of labor supply by looking at the fraction of children with any W-2 earnings in 2015, when they were 32-37 years old. The results show Black children growing up in Black normal school counties are roughly 1 percentage point more likely to have W-2 earnings, relative to Black children in same-state Black asylum counties. The effect is similar when comparing to all asylum counties, though neither is statistically significant. The results are similar for children whose parental income was at the 25th percentile (Appendix B.2).[21]

Figure 2 shows that growing up in Black normal school counties increases Black household (panel e) and individual income (panel f) percentile rank by roughly 2 percentile ranks, which is significant at the 90 percent level in our restricted sample.[22] The mean percentile rank for individual income for Black children in asylum counties is roughly 42. Based on the crosswalks in Chetty et al. (2018), moving from the 42nd to 44th percentile translates into an income gain of about $1700, roughly an 8% increase. Given the 7 percentage point increase in college attainment, this would imply large returns to HBCU completion if the gains were only driven by the marginal college completers (similar to Zimmerman (2014)). However, not all of the income gain can be attributed to college, given the effects on high school attainment, for example.

[21] In comparison, Howard and Weinstein (Forthcoming) find that growing up in normal school counties increases the likelihood of having positive W-2 earnings by 0.6 percentage points for children whose parental income was at the 25th percentile, so even though the effects are insignificant, the point estimate is economically meaningful, and consistent with the larger effect we find on college attainment.

[22] When focusing on children at the 25th percentile of parental income, the results are consistent and more statistically significant (Figure A.3).

The point estimates for White children are generally closer to zero, though with wide confidence intervals. Table A.4 shows these effects on income and W-2 earnings for Black children are not statistically different from those for White children.

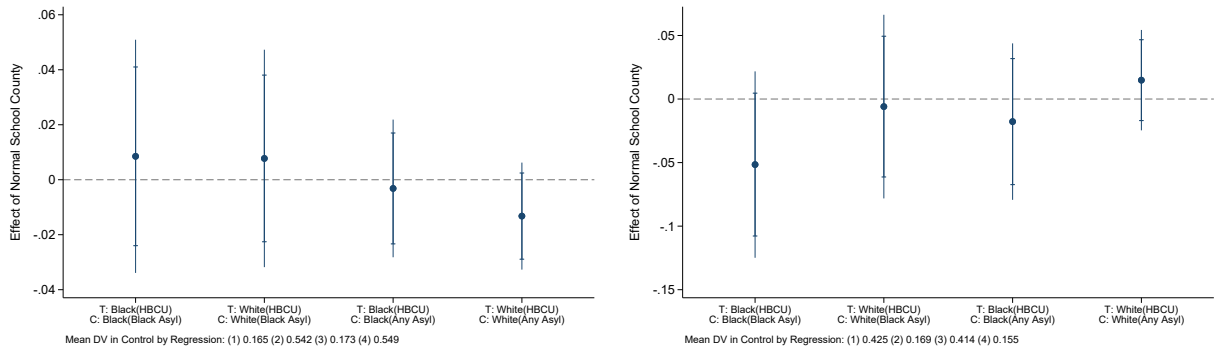
#### 4.3.3 Effects on Other Social Outcomes

We find no effects on the probability of marriage for White or Black children across either specification in Figure 3 Panel (a), although we cannot rule out economically meaningful numbers. In Panel (b), we find slightly lower teen-birth rates for female Black children growing up in Black normal school counties compared to Black asylum counties, but the effect is not statistically significant, and the result is attenuated when we use any asylum as a control group.

Figure 3 Panel (c) shows that growing up in Black normal school counties reduces the probability of being incarcerated as of April 1, 2010, by 1 percentage point for Black children, significant at the 1% level when comparing to Black asylum counties. Given that the control group mean is 5 percent, this represents a substantial 20 percent reduction. However, this result is also substantially attenuated when we use any asylum as the control group. For both control groups, the effects on incarceration for Black children relative to White children are statistically different (at the 1% level when comparing to Black asylum counties and at the 10% level when comparing to any asylum county).

There is no statistically significant effect on migration away from parent's home or childhood CZ. The positive point estimates contrast with the findings of Howard and Weinstein (Forthcoming), who document a significant negative effect of growing up in normal school counties on the likelihood of remaining in one's childhood CZ. Table A.4 shows that the effects on social outcomes for Black children in Black normal school counties relative to asylum counties are not statistically different from the effect for White children, except for incarceration.

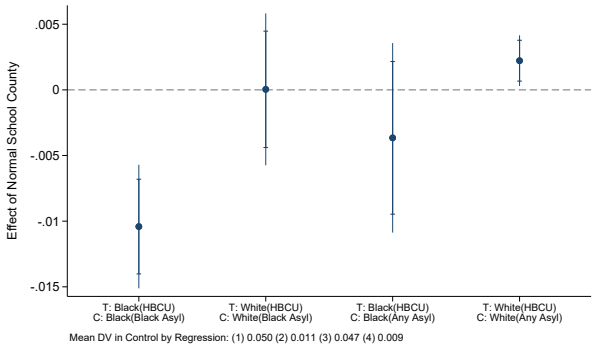
Given the similarity of most family characteristics (Table A.3), including parental income, it is unlikely that the effects on education, income, and incarceration are explained by the Black normal school's effect on the local economy. However, as we discussed, there are large differences in the



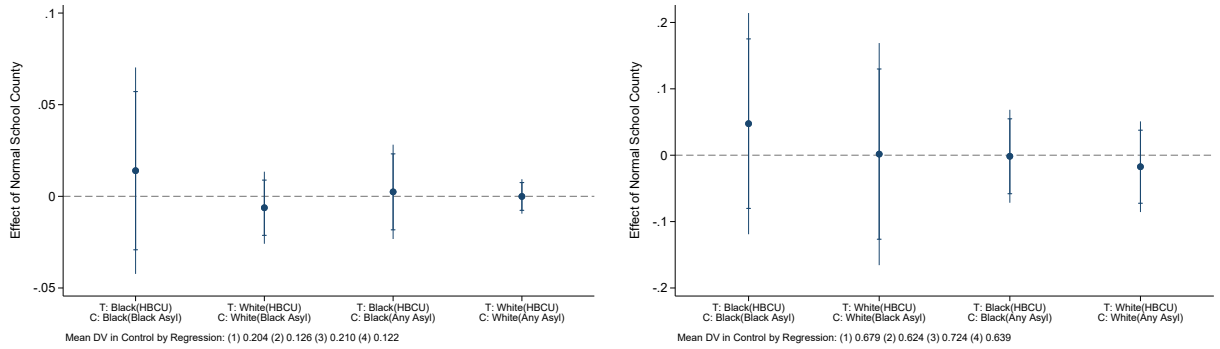

(a) Married




(b) Teen birth




(c) Incarcerated




(d) Staying with parents




(e) Living in childhood CZ

Figure 3: Notes: This figure presents regression estimates for the coefficient on Black normal school county in specification (1), for various outcomes from Chetty et al. (2018). The first and second estimates compare children who grew up in counties with Black normal schools ("HBCU") to those with Black asylums, using a sample of 11 counties, for Black and White children, respectively. The third and fourth estimates compare children who grew up in counties with Black normal schools to those from counties with any asylum, using a sample of 39 counties, again for Black and White children, respectively. "T" and "C" denote treatment and control groups. Dots represent point estimates, and bars show 95% confidence intervals with crosses at the 90% confidence intervals, with standard errors clustered at the state level, following Imbens and Kolesar (2016) for small samples and small number of clusters.

fraction of adults in the community with a college degree. Intergenerational transmission seems like a plausible channel through which the effects on today's children are operating. However, the effects on children from poor families also suggest effects on children whose parents did not attain a college education.

The results suggest proximity to an HBCU continues to affect local Black children, because of some differential impact that HBCUs have on four-year college attendance and completion for Black individuals relative to other colleges. But this alone would not yield positive effects if children from asylum counties went to the same-state HBCUs in Black normal school counties. Thus, our results also suggest geographic frictions in college attendance (affecting cost, information, or preferences) that keep Black children in asylum counties from graduating from these same institutions. We also cannot rule out that proximity to HBCUs improved K-12 education.

# 5 Conclusion

In this paper, we document that HBCUs promote social mobility for local Black children, but we do not find statistically significant effects for White children.

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# Appendix

## A Additional Data Notes

In our descriptive analysis of the evolution of the Black normal schools in Section 2, we identified the years in which the name of the college no longer mentioned that it was specifically for Black students based on Ogren (2005). However, Ogren (2005) does not specify the year in which "Colored" was removed from the name of the school in Fayetteville, NC, but we determined that it was 1921 based on Fayetteville State University (2026).

## B Additional Figures and Tables

### B.1 Effects on Attaining at Least a Community College Degree

Figure A.2 shows effects on attaining at least a community college degree, using the same specification we use in Figure 2.

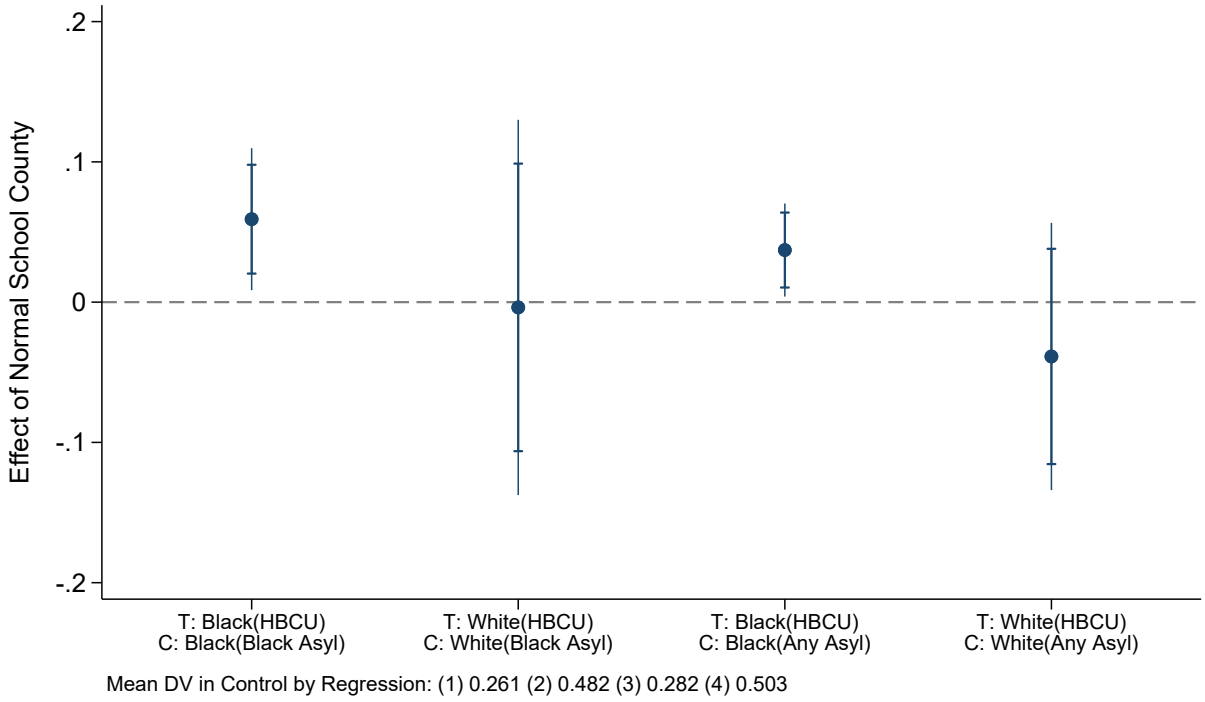


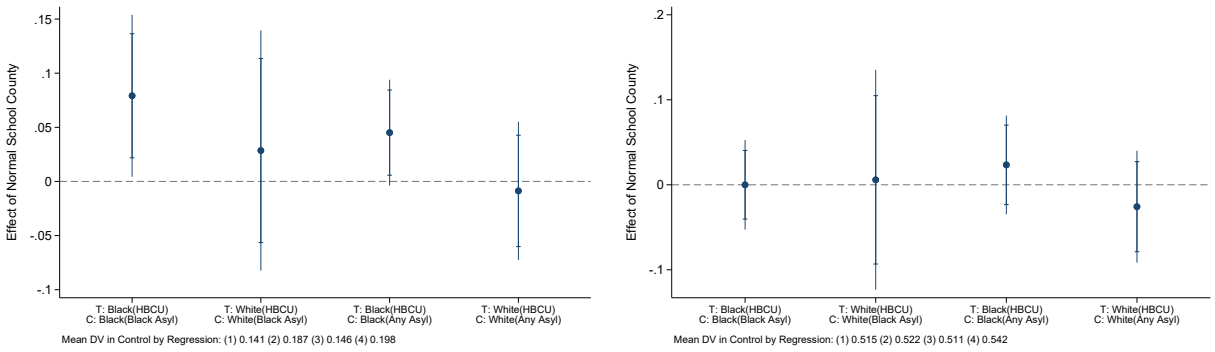

Figure A.1: At least community college degree

Figure A.2: Notes: This figure presents regression estimates for attaining at least a community college degree from Chetty et al. (2018). The first and second estimates compare children who grew up in counties with Black normal schools ("HBCU") to those with Black asylums, using a sample of 11 counties, for Black and White children, respectively. The third and fourth estimates compare children who grew up in counties with Black normal schools to those from counties with any asylum, using a sample of 39 counties, again for Black and White children, respectively. "T" and "C" denote treatment and control groups. Dots represent point estimates, and bars show 95% confidence intervals with crosses at the 90% confidence intervals, with standard errors clustered at the state level, following Imbens and Kolesar (2016) for small samples and small number of clusters.

## B.2 Effects for Children at the 25th Percentile of Parental Income

Figures A.3 and A.4 show the results for our main outcomes from Chetty et al. (2018), but instead of using the average adult outcome for all people of a racial group, we focus on the effects by race for children who grew up with parents at the 25th percentile of the national parental income distribution.

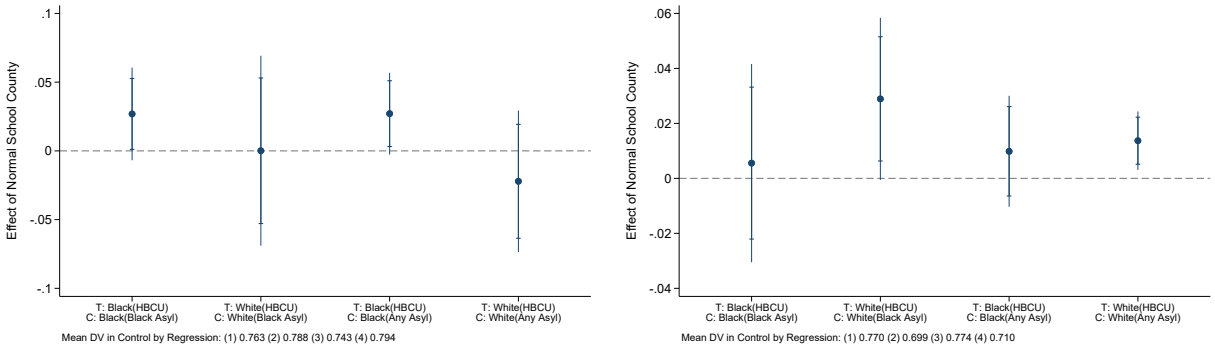
We estimate these regressions because they inherently control for differences in income across place for Blacks (or Whites), and to evaluate whether the results look different for children from poorer families. However, given that Table A.3 shows the average parental income percentiles are similar in normal school and asylum counties, and that the average percentile for Black children is roughly 35, it is not surprising that these figures look similar to Figure 2 and Figure 3.




(a) At least 4-year college degree



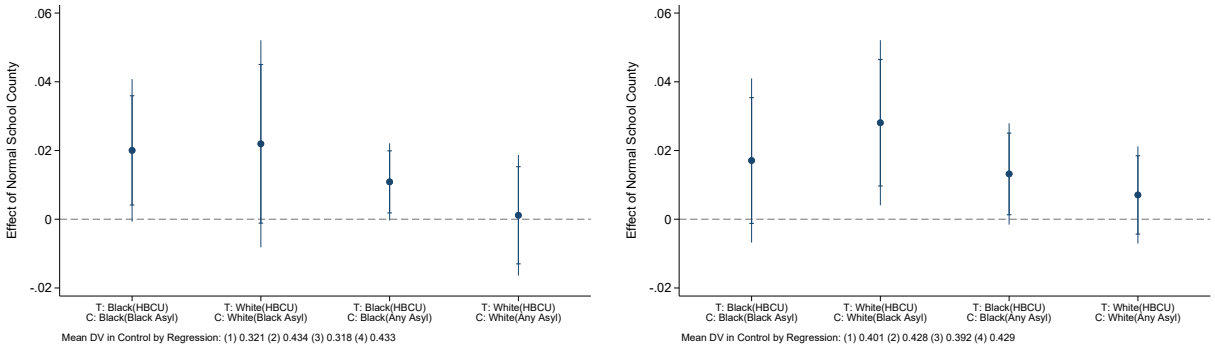

(b) At least some college




(c) At least high school degree or GED




(d) W-2 Earnings $\geq 0$

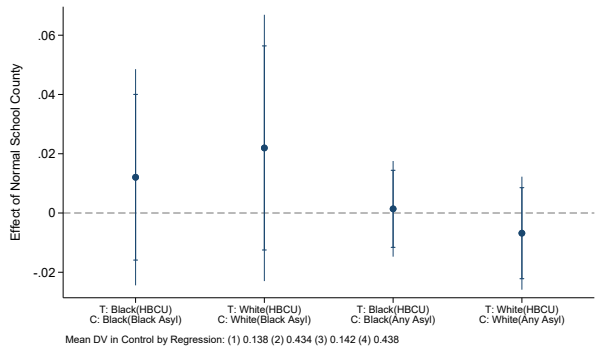



(e) Household income percentile rank

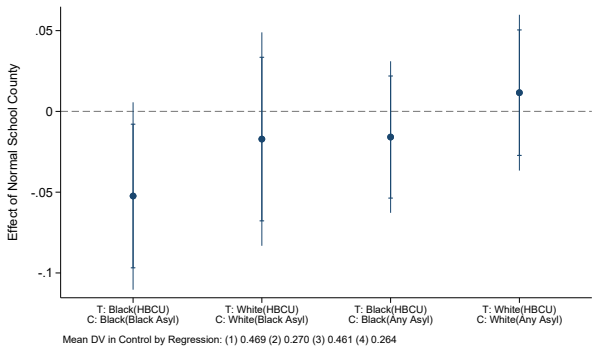



(f) Individual income percentile rank

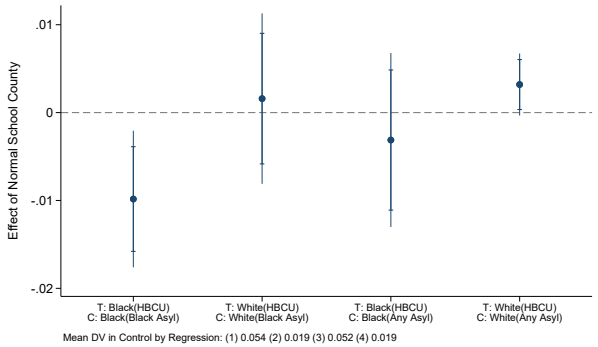
Figure A.3: Notes: This figure presents regression estimates for outcomes from Chetty et al. (2018), for children with parents at the 25th percentile of the income distribution. The first and second estimates compare children who grew up in counties with Black normal schools ("HBCU") to those with Black asylums, using a sample of 11 counties, for Black and White children, respectively. The third and fourth estimates compare children who grew up in counties with Black normal schools to those from counties with any asylum, using a sample of 39 counties, again for Black and White children, respectively. "T" and "C" denote treatment and control groups. Dots represent point estimates, and bars show 95% confidence intervals with crosses at the 90% confidence intervals, with standard errors clustered at the state level, following Imbens and Kolesar (2016) for small samples and small number of clusters.



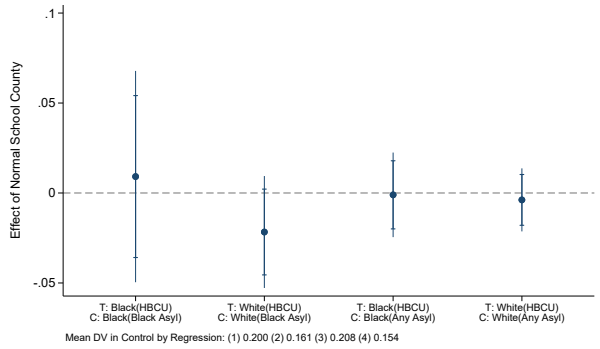

(a) Married



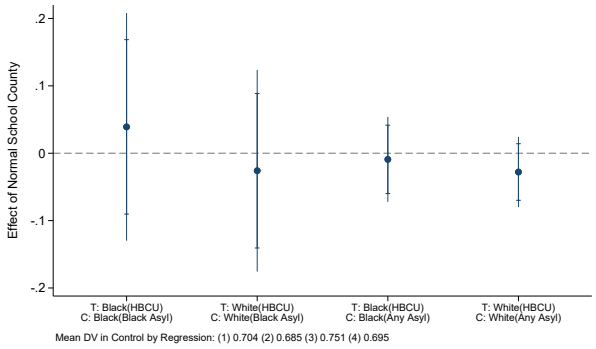

(b) Teen birth




(c) Incarcerated




(d) Staying with parents




(e) Living in childhood CZ

Figure A.4: Notes: This figure presents regression estimates for outcomes from Chetty et al. (2018) for children at the 25th percentile of the parental income distribution. The first and second estimates ($\hat{\beta}$, from specification (1)), compare children who grew up in counties with Black normal schools ("HBCU") to those with Black asylums, using a sample of 11 counties, for Black and White children, respectively. The third and fourth estimates compare children who grew up in counties with Black normal schools to those from counties with any asylum, using a sample of 39 counties, again for Black and White children, respectively. "T" and "C" denote treatment and control groups. Dots represent point estimates, and bars show 95% confidence intervals with crosses at the 90% confidence intervals, with standard errors clustered at the state level following Imbens and Kolesar (2016) for small samples and small number of clusters.

## B.3 Effects on Social Mobility of Children in 1920

This appendix examines the impact of growing up in counties with Black normal schools on the social mobility of Black and White children in 1920, during a period when many of the Black normal schools were becoming colleges. As we noted above, by 1940 most of these were still focused on training teachers, and many still had names referencing they were for Black individuals. To this end, we analyze the social mobility outcomes in 1940 for Black children who were 6 to 15 years old in 1920 and lived in counties with Black normal schools or asylums, using data from The Census Tree (Price et al., 2023).

We link individuals in the 1920 full count census to their records in the 1940 full count census using the 1920 to 1940 Census Tree crosswalk (Price et al., 2023). Of 34,614 Black males ages 6–15 in the 1920 census who grew up in Black normal school or Black asylum counties in our restricted sample, 13,664 (roughly 39 percent) have links to the 1920–1940 Census Tree crosswalk based on their 1920 record. Of 35,235 Black females in our restricted sample, 3,809 (roughly 11 percent) have links. In our extended sample, of 88,994 Black males who grew up in Black normal school or any asylum counties, 35,899 (roughly 40 percent) have links. Of 91,034 Black females, 11,326 (roughly 12 percent) have links.

There are no statistically significant differences between Black normal school and asylum counties in the fraction linked for Black males in our restricted sample or for Black females in our extended sample. For Black females in our restricted sample, we find a small but statistically significant difference (0.7 percentage points, $p = 0.028$), with asylum counties exhibiting slightly higher match rates. For Black males in our extended sample, we also find a statistically significant difference (1.4 percentage points, $p < 0.001$), again with asylum counties exhibiting slightly higher match rates. One possibility is that going to college reduces the likelihood of being linked because it affects marriage or future geographic mobility. Given that we find in more recent data that children growing up in normal school counties are more likely to graduate from college, this would suggest the linked sample is missing some of the children who are affected by proximity to the normal school, and give us an underestimate.

We show in Howard and Weinstein (Forthcoming) that there is selection into being in the Census Tree linked sample. In particular, both for White and Black individuals, being in the linked sample is positively correlated with living in their birth state in 1920 when we observe them as children. This suggests individuals in the linked sample may be less geographically mobile, and thus the effects of college proximity may be particularly important for this sample. As a result, the effects may be smaller if we had all individuals.

In Table A.1, we show the within-state comparison of adult outcomes of Black children who grew up in Black normal school counties versus Black asylum counties. We split the sample by male and female. We find no significant effects, although we cannot rule out economically meaningful effects on college attainment of Black individuals. Our point estimate for Black women suggests an increase of 2.3 percentage points in college completion, off a baseline of roughly 5 percentage points. For men, the magnitude suggests an increase of .5 percentage points, off a baseline of 2.6% (a 20% increase). We do not see positive magnitudes for White individuals.

In Table A.2, we show the same regressions, but use all asylum counties as our control group. Here the effect for Black children in Black normal school counties is similar in magnitude. For women, the magnitude suggests a 2.2 percentage point increase in college attainment ($p = .11$). Given the mean of the dependent variable in asylum counties is 6.5%, this represents a 34% increase. For men, the magnitude again suggests a .6 percentage point increase, off a baseline of 2.4% (25%), but this is not statistically significant. Interestingly, while we are seeing large effects on college attainment of a group that we would expect to be impacted by the policy, we do not see that this translated to effects on marriage (except for men), employment or household income. However, the effects are quite noisy and we cannot rule out modest effects. Again, we do not see positive magnitudes on educational attainment for White children.

| | ≥ HS | ≥ Some College | ≥ College | Married | Employed | Ln(HH Income) |
|---|---|---|---|---|---|---|
| **Panel A: Black Males** | | | | | | |
| Grew up in Black Normal School County | -0.011 | 0.007 | 0.005 | 0.044 | 0.026 | -0.061 |
| | ( 0.035) | ( 0.020) | ( 0.012) | ( 0.054) | ( 0.027) | ( 0.089) |
| Observations | 11 | 11 | 11 | 11 | 11 | 11 |
| Ran. p-value | 0.658 | 0.624 | 0.514 | 0.308 | 0.206 | 0.334 |
| Mean DV, Black Asylum Counties | 0.130 | 0.055 | 0.026 | 0.628 | 0.840 | 6.437 |
| **Panel B: Black Females** | | | | | | |
| Grew up in Black Normal School County | -0.026 | 0.016 | 0.023 | 0.021 | -0.051 | 0.014 |
| | ( 0.071) | ( 0.043) | ( 0.042) | ( 0.069) | ( 0.044) | ( 0.075) |
| Observations | 11 | 11 | 11 | 11 | 11 | 11 |
| Ran. p-value | 0.526 | 0.636 | 0.538 | 0.728 | 0.324 | 0.788 |
| Mean DV, Black Asylum Counties | 0.253 | 0.133 | 0.054 | 0.310 | 0.527 | 6.099 |
| **Panel C: White Males** | | | | | | |
| Grew up in Black Normal School County | -0.026 | -0.017 | -0.011 | 0.005 | 0.009 | -0.035 |
| | ( 0.061) | ( 0.022) | ( 0.014) | ( 0.025) | ( 0.011) | ( 0.181) |
| Observations | 11 | 11 | 11 | 11 | 11 | 11 |
| Ran. p-value | 0.772 | 0.606 | 0.632 | 0.834 | 0.286 | 0.980 |
| Mean DV, Black Asylum Counties | 0.365 | 0.177 | 0.095 | 0.729 | 0.910 | 7.117 |
| **Panel D: White Females** | | | | | | |
| Grew up in Black Normal School County | -0.021 | -0.005 | -0.003 | 0.045* | -0.017 | -0.028 |
| | ( 0.091) | ( 0.018) | ( 0.018) | ( 0.027) | ( 0.047) | ( 0.191) |
| Observations | 11 | 11 | 11 | 11 | 11 | 11 |
| Ran. p-value | 0.990 | 0.922 | 0.652 | 0.074 | 0.700 | 0.774 |
| Mean DV, Black Asylum Counties | 0.453 | 0.190 | 0.087 | 0.686 | 0.303 | 7.147 |

Table A.1: Effects of Black Normal Schools in 1920-1940, comparing to same-state Black asylum counties. Dependent variables are 1940 adult outcomes of children who lived in Black normal school counties or same-state Black asylum counties and who were ages 6-15 in 1920. Standard errors are clustered at the state level, following Imbens and Kolesar (2016) for small samples and small number of clusters. * $p<.10$ ** $p<.05$ *** $p<.01$.

| | ≥ HS | ≥ Some College | ≥ College | Married | Employed | Ln(HH Income) |
|---|---|---|---|---|---|---|
| **Panel A: Black Males** | | | | | | |
| Grew up in Black Normal School County | 0.021 | 0.014 | 0.006 | 0.032* | 0.017 | -0.005 |
| | ( 0.036) | ( 0.015) | ( 0.007) | ( 0.022) | ( 0.016) | ( 0.049) |
| Observations | 39 | 39 | 39 | 39 | 39 | 39 |
| Ran. p-value | 0.406 | 0.208 | 0.242 | 0.062 | 0.382 | 0.974 |
| Mean DV, Any Asylum Counties | 0.130 | 0.055 | 0.024 | 0.620 | 0.842 | 6.395 |
| **Panel B: Black Females** | | | | | | |
| Grew up in Black Normal School County | -0.004 | 0.021 | 0.022 | 0.013 | -0.034 | -0.003 |
| | ( 0.043) | ( 0.022) | ( 0.014) | ( 0.030) | ( 0.027) | ( 0.065) |
| Observations | 39 | 39 | 39 | 39 | 39 | 39 |
| Ran. p-value | 0.922 | 0.250 | 0.102 | 0.630 | 0.260 | 0.992 |
| Mean DV, Any Asylum Counties | 0.246 | 0.122 | 0.065 | 0.307 | 0.534 | 6.123 |
| **Panel C: White Males** | | | | | | |
| Grew up in Black Normal School County | -0.007 | -0.010 | -0.006 | -0.002 | -0.004 | 0.009 |
| | ( 0.028) | ( 0.019) | ( 0.012) | ( 0.009) | ( 0.008) | ( 0.081) |
| Observations | 39 | 39 | 39 | 39 | 39 | 39 |
| Ran. p-value | 0.822 | 0.588 | 0.608 | 0.890 | 0.874 | 0.896 |
| Mean DV, Any Asylum Counties | 0.339 | 0.162 | 0.081 | 0.727 | 0.910 | 7.084 |
| **Panel D: White Females** | | | | | | |
| Grew up in Black Normal School County | -0.019 | -0.015 | -0.009 | 0.026 | -0.023 | 0.002 |
| | ( 0.031) | ( 0.012) | ( 0.011) | ( 0.014) | ( 0.024) | ( 0.079) |
| Observations | 39 | 39 | 39 | 39 | 39 | 39 |
| Ran. p-value | 0.568 | 0.536 | 0.532 | 0.198 | 0.340 | 0.952 |
| Mean DV, Any Asylum Counties | 0.437 | 0.187 | 0.084 | 0.679 | 0.324 | 7.125 |

Table A.2: Effects of Black Normal Schools in 1920-1940, comparing to same-state asylum counties (not restricting to Black asylum counties). Dependent variables are 1940 adult outcomes of children who lived in Black normal school counties or same-state asylum counties and who were ages 6-15 in 1920. Standard errors are clustered at the state level following Imbens and Kolesar (2016) for small samples and small number of clusters. *$p<.10$ ** $p<.05$ *** $p<.01$.

## B.4 Do differences in demographics explain the results?

In this appendix, we investigate whether Black families in Black normal school counties look different than Black families in other same-state asylum counties.

Colunns (5) shows the coefficient on Black normal school when estimating specification (1), in which the outcome is the county average by race for the variables listed in the row, and we compare to same-state Black asylum counties. Column (6) is the same, but using our extended sample, comparing Black normal school counties to all same-state asylum counties.

| | Restricted Sample | | Extended Sample | | Differences | |
|---|---|---|---|---|---|---|
| | (1) Black Normal | (2) Black Asylum | (3) Black Normal | (4) Any Asylum | (5) Within-State Difference (1) – (2) | (6) Within-State Difference (3) – (4) |
| **Panel A: Characteristics of Black Children** | | | | | | |
| Has Mother | 0.828 | 0.857 | 0.837 | 0.852 | -0.018 | -0.019 |
| | (0.079) | (0.042) | (0.054) | (0.049) | (0.013) | (0.014) |
| Has Father | 0.547 | 0.519 | 0.540 | 0.510 | 0.028 | 0.022** |
| | (0.029) | (0.063) | (0.049) | (0.059) | (0.029) | (0.010) |
| Share of Black children under 18 in county | 0.456 | 0.290 | 0.434 | 0.284 | 0.150 | 0.113 |
| | (0.300) | (0.180) | (0.202) | (0.200) | (0.138) | (0.077) |
| Below-median parental income | 0.749 | 0.763 | 0.751 | 0.762 | -0.023 | -0.016 |
| | (0.163) | (0.126) | (0.102) | (0.099) | (0.041) | (0.030) |
| Mean parental income rank | 0.347 | 0.335 | 0.349 | 0.344 | 0.018 | 0.010 |
| | (0.105) | (0.086) | (0.065) | (0.063) | (0.026) | (0.021) |
| Frac. of 25+ w/ college degree, 1980 | 0.142 | 0.086 | 0.126 | 0.079 | 0.062* | 0.060** |
| | (0.055) | (0.021) | (0.053) | (0.034) | (0.037) | (0.025) |
| **Panel B: Characteristics of White Children** | | | | | | |
| Has Mother | 0.933 | 0.943 | 0.937 | 0.942 | -0.009 | -0.007 |
| | (0.014) | (0.006) | (0.013) | (0.008) | (0.006) | (0.005) |
| Has Father | 0.877 | 0.860 | 0.866 | 0.861 | 0.016 | -0.001 |
| | (0.012) | (0.018) | (0.024) | (0.019) | (0.012) | (0.009) |
| Share of White children under 18 in county | 0.423 | 0.556 | 0.474 | 0.577 | -0.132 | -0.109 |
| | (0.257) | (0.137) | (0.184) | (0.183) | (0.187) | (0.084) |
| Below-median parental income | 0.394 | 0.393 | 0.386 | 0.363 | -0.005 | 0.024 |
| | (0.123) | (0.155) | (0.088) | (0.106) | (0.085) | (0.035) |
| Mean parental income rank | 0.565 | 0.573 | 0.571 | 0.592 | -0.004 | -0.021 |
| | (0.083) | (0.104) | (0.061) | (0.074) | (0.054) | (0.024) |
| Frac. of 25+ w/ college degree, 1980 | 0.165 | 0.174 | 0.165 | 0.177 | -0.009 | -0.010 |
| | (0.050) | (0.073) | (0.067) | (0.075) | (0.048) | (0.032) |
| **Panel C: Black Population Share** | | | | | | |
| Share Black, 1920 | 0.452 | 0.335 | 0.454 | 0.297 | 0.104 | 0.127** |
| | (0.203) | (0.095) | (0.187) | (0.163) | (0.074) | (0.046) |
| Share Black, 1940 | 0.417 | 0.310 | 0.408 | 0.263 | 0.094 | 0.119** |
| | (0.226) | (0.071) | (0.189) | (0.140) | (0.081) | (0.052) |
| Share of Black adults age 30+, 1970 | 0.291 | 0.207 | 0.281 | 0.191 | 0.073 | 0.074 |
| | (0.191) | (0.083) | (0.147) | (0.107) | (0.053) | (0.048) |
| Share of Black adults age 30+, 1990 | 0.338 | 0.203 | 0.301 | 0.192 | 0.127 | 0.089* |
| | (0.201) | (0.114) | (0.143) | (0.123) | (0.088) | (0.054) |
| Share of Black adults age 30+, 2000 | 0.369 | 0.218 | 0.331 | 0.206 | 0.143 | 0.101 |
| | (0.246) | (0.129) | (0.167) | (0.142) | (0.121) | (0.065) |
| Share of Black adults age 30+, 2010 | 0.382 | 0.228 | 0.346 | 0.222 | 0.143 | 0.097 |
| | (0.271) | (0.145) | (0.178) | (0.159) | (0.131) | (0.071) |
| Observations | 6 | 5 | 16 | 23 | 11 | 39 |

Table A.3: Characteristics of children by race in Black normal school counties versus Black asylum counties

Notes: This table reports summary statistics and regression estimates for outcomes from Chetty et al. (2018). Panel A reports characteristics for Black children, and Panel B reports characteristics for White children. Columns 1 and 2 report means with standard deviations (SDs) in parentheses for counties with Black normal schools and counties with Black asylums in our restricted sample of five states (Alabama, Maryland, Oklahoma, South Carolina, and Texas). Columns 3 and 4 report means with SDs in parentheses for our sample when we compare Black normal school counties to all same-state asylum counties (extended sample), which includes 10 states. Columns 5 and 6 report estimates of the coefficient on $\text{BlackNormal}_c$ ($\hat{\beta}$) from specification (1), representing within-state differences. Panel C presents the share of the county population that is Black in 1920 and 1940 from NHGIS Manson et al. (2023), and the share over age 30 that is Black in 1970, 1990, 2000, and 2010 Manson et al. (2023). All standard errors in Columns 5 and 6, reported in parentheses, are clustered at the state level, following Imbens and Kolesar (2016) for small samples and small clusters. * $p < .10$, ** $p < .05$, *** $p < .01$.

## B.5 Tests of Statistical Significance for Differences in the Effects on Black and White Children

In Table A.4, we show the results of the following regression:

$$y_{c,r} = \alpha_{s(c),r} + \tau \text{Black Normal}_c + \beta(\text{Black Normal}_c \times \mathbf{1}\{\text{Black children}\}) + \epsilon_{cr}$$

where $r$ is equal to race, and we are interested in $\hat{\beta}$. In effect, this tests for whether the coefficients for Black children and White children in our main figures are statistically different from one another.

| | Interaction Coefficient: Black Normal$_c$ × **1**{Black children} | |
|---|---|---|
| | Black Normal vs. Black Asylum (1) | Black Normal vs. Any Asylum (2) |
| **Panel A: Educational Outcomes** | | |
| At least 4-year college degree | 0.0607 | 0.0875** |
| | (0.0807) | (0.0423) |
| At least some college | 0.0049 | 0.0534 |
| | (0.0650) | (0.0402) |
| At least high school degree or GED | 0.0387** | 0.0433** |
| | (0.0191) | (0.0187) |
| **Panel B: Labor Market Outcomes** | | |
| W-2 earnings ≥ 0 | -0.0018 | 0.0090 |
| | (0.0180) | (0.0111) |
| Household income percentile rank | 0.0145 | 0.0190 |
| | (0.0216) | (0.0144) |
| Individual income percentile rank | 0.0056 | 0.0164 |
| | (0.0144) | (0.0110) |
| **Panel C: Social Outcomes** | | |
| Married | 0.0008 | 0.0101 |
| | (0.0124) | (0.0184) |
| Teen birth | -0.0456 | -0.0326 |
| | (0.0401) | (0.0350) |
| Incarcerated | -0.0105*** | -0.0059* |
| | (0.0008) | (0.0036) |
| Staying with parents | 0.0202 | 0.0025 |
| | (0.0224) | (0.0096) |
| Living in childhood CZ | 0.0459 | 0.0157 |
| | (0.0699) | (0.0303) |
| **Panel D: Characteristics of Children** | | |
| Has mother | -0.0091 | -0.0116 |
| | (0.0099) | (0.0146) |
| Has father | 0.0127 | 0.0232** |
| | (0.0214) | (0.0093) |
| Below-median parental income | -0.0181 | -0.0408 |
| | (0.0699) | (0.0303) |
| Mean parental income rank | 0.0217 | 0.0313 |
| | (0.0402) | (0.0213) |
| Observations | 11 | 39 |

Table A.4: Effect on Black children relative to White Children in Black Normal School Counties versus Same-State Asylum Counties

Notes: Column 1 of this figure presents the difference-in-difference estimate comparing effects of growing up in a Black normal school county relative to Black asylum county for Black children relative to White children (the first two estimates in Figures 2 and 3 and Table A.3, while column 2 shows the difference-in-difference comparing the third and fourth estimates in Figures 2 and 3 and Table A.3, Specifically, the first column reports $\hat{\beta}$ from the specification $y_{c,r} = \alpha_{s(c),r} + \tau \text{Black Normal}_c + \beta(\text{Black Normal}_c \times \mathbf{1}\{\text{Black children}\}) + \epsilon_{cr}$, where $\beta$ captures the differential effect of growing up in Black normal school counties relative to Black asylum counties on Black children compared with White children, using a sample of 11 counties. Column (2) reports $\hat{\beta}$ from the same specification, comparing counties with Black normal schools to those with any asylum, using a sample of 39 counties. Standard errors are in parentheses, clustered at the state level, following Imbens and Kolesar (2016) for small samples and small number of clusters.. * $p<.10$ ** $p<.05$ *** $p<.01$.

## B.6 Comparison of Four-Year Universities in Black Normal School Counties and Asylum Counties

In Table A.5, we compare the characteristics of four-year universities in our asylum and Black normal school counties, using the same specifications as in the main text.

| | Restricted Sample | | Extended Sample | | Differences | |
|---|---|---|---|---|---|---|
| | (1) Black Normal | (2) Black Asylum | (3) Black Normal | (4) Any Asylum | (5) Within-State Difference (1) – (2) | (6) Within-State Difference (3) – (4) |
| Public university | 0.72 | 0.28 | 0.57 | 0.57 | 0.463 | 0.033 |
| | [0.39] | [0.38] | [0.42] | [0.36] | (0.453) | (0.222) |
| Staff per student | 0.20 | 0.17 | 0.22 | 0.23 | 0.015 | 0.007 |
| | [0.06] | [0.06] | [0.11] | [0.13] | (0.053) | (0.051) |
| Expenditure per student | 14357.14 | 10148.91 | 18696.98 | 24736.07 | 4595.039 | -1281.181 |
| | [6207.74] | [8346.41] | [16717.52] | [35617.46] | (5484.586) | (8310.728) |
| Tuition and fees | 8152 | 18649 | 10496 | 12563 | -0.704 | -0.196 |
| | [3044] | [14497] | [5891] | [9609] | (0.620) | (0.267) |
| Grant and scholarship aid | 6791 | 13324 | 7854 | 8594 | -0.583 | -0.012 |
| | [1831] | [7987] | [3054] | [5334] | (0.711) | (0.234) |
| Net price, students receiving grant or scholarship aid | 12417 | 16468 | 12412 | 13560 | -0.259 | -0.118 |
| | [1287] | [4922] | [3557] | [4650] | (0.210) | (0.130) |
| Grant and scholarship aid in income level (0-30,000) | 9103 | 16293 | 10084 | 12533 | -0.483 | -0.153 |
| | [2956] | [8664] | [4660] | [6636] | (0.498) | (0.187) |
| Grant and scholarship aid in income level (30,001-48,000) | 7684 | 14605 | 8811 | 10755 | -0.535 | -0.109 |
| | [2577] | [9082] | [4296] | [6858] | (0.576) | (0.216) |
| Net price in income level (0-30,000), students receiving Title IV federal financial aid | 10492 | 12094 | 10702 | 10074 | -0.018 | 0.019 |
| | [1840] | [7705] | [3318] | [4909] | (0.661) | (0.234) |
| Net price in income level (30,001-48,000), students receiving Title IV federal financial aid | 11911 | 13772 | 11975 | 11848 | -0.050 | -0.043 |
| | [1343] | [7229] | [3298] | [4551] | (0.473) | (0.155) |
| BA completion within 150% normal time | 0.41 | 0.45 | 0.42 | 0.52 | -0.010 | -0.136** |
| | [0.17] | [0.22] | [0.17] | [0.17] | (0.132) | (0.060) |
| Open admission policy | 0.20 | 0.04 | 0.02 | 0.14 | 0.181 | -0.098 |
| | [0.40] | [0.10] | [0.05] | [0.29] | (0.284) | (0.090) |
| **Conditional on non-open admission** | | | | | | |
| Fraction admitted | 0.57 | 0.76 | 0.54 | 0.70 | -0.214 | -0.166* |
| | [0.17] | [0.10] | [0.15] | [0.13] | (0.173) | (0.087) |
| Letters of recommendations required or recommended | 0.81 | 0.44 | 0.58 | 0.46 | 0.321 | 0.167 |
| | [0.37] | [0.51] | [0.44] | [0.44] | (0.363) | (0.185) |
| Test scores required or recommended | 0.98 | 0.57 | 0.95 | 0.82 | 0.482 | 0.122 |
| | [0.05] | [0.53] | [0.13] | [0.34] | (0.457) | (0.087) |
| **Conditional on non-open admission, test scores required, and ≥60% of enrolled students submitted** | | | | | | |
| ACT Composite, 25th percentile | 16.53 | 19.39 | 16.64 | 20.71 | -3.971 | -4.344*** |
| | [1.77] | [3.89] | [2.73] | [2.28] | (26.220) | (1.130) |
| ACT Composite, 75th percentile | 21.89 | 23.69 | 21.23 | 26.00 | -3.636 | -4.933*** |
| | [4.52] | [4.38] | [3.55] | [2.34] | (33.859) | (1.470) |
| SAT Verbal, 25th percentile | 442.82 | 469.37 | 433.07 | 487.27 | -73.996 | -63.523** |
| | [76.89] | [68.28] | [69.09] | [34.69] | (417.528) | (29.634) |
| SAT Verbal, 75th percentile | 533.96 | 564.31 | 523.12 | 595.75 | -92.062 | -77.258** |
| | [76.85] | [83.12] | [64.37] | [42.39] | (297.856) | (27.790) |
| SAT Math, 25th percentile | 445.82 | 469.95 | 426.89 | 500.02 | -77.063 | -78.959** |
| | [87.58] | [67.44] | [71.85] | [40.97] | (487.697) | (35.227) |
| SAT Math, 75th percentile | 539.26 | 561.12 | 519.37 | 603.07 | -79.639 | -87.199** |
| | [84.35] | [79.70] | [72.78] | [45.67] | (476.133) | (33.942) |

Table A.5: Characteristics of Four-Year Universities in 2009: Black Normal School Counties vs. Asylum Counties

Notes: These data are from the IPEDS Complete Data Files in 2009 U.S. Department of Education, National Center for Education Statistics (2020). Column 1 gives the enrollment-weighted average of the variable for four-year universities in Black normal school counties in the restricted sample, and column 2 gives the average in Black asylum counties. Column 3 gives the enrollment-weighted average of the variable for four-year universities in Black normal school counties in the extended sample, and column 4 gives the average in asylum counties in the extended sample. Standard deviations are in brackets in columns 1 through 4. Column 5 presents the coefficient on Black normal school county when regressing the variable on Black normal school county and state fixed effects in the restricted sample, and column 6 shows this for the extended sample. For tuition, aid, and net price variables, column 3 shows the difference in logs. Standard errors are in parentheses, clustered at the state level, following Imbens and Kolesar (2016) for small samples and small number of clusters. *$p$<.10 ** $p$<.05 *** $p$<.01. See Howard and Weinstein (Forthcoming), Appendix A1 for details on variables.

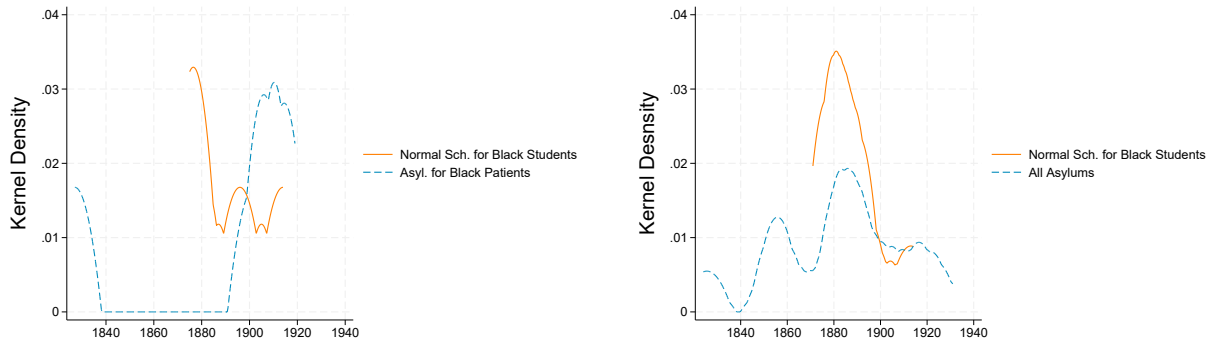
# C Changes to Asylum Sample

In this section we further describe the construction of our asylum sample. Geller (2020) identified three asylums for Black individuals that were not in the 1923 special census (Furbush et al., 1926) that we use in our previous work (Howard, Weinstein and Yang, 2024; Howard and Weinstein, Forthcoming). One asylum (Palmetto State Hospital in South Carolina) was not included in the 1923 special census likely because it was officially a second campus of the original asylum. However, given that it was seven miles from the original asylum, we now code it as a separate asylum. The original asylum (South Carolina State Hospital) was established in 1827, and so is not included in our previous research (Howard, Weinstein and Yang, 2024; Howard and Weinstein, Forthcoming) because in those papers we excluded asylums established before 1830. This exclusion was in order to have our asylum timeline more consistent with the timeline of normal schools from 1839 to 1930. Including this asylum and the 1827 original asylum seem reasonable, given the small number of asylums that were for Black individuals. Because we extend the sample back to 1827, we also do so for two other asylums established in 1824 (Eastern State Hospital in Kentucky) and 1828 (Western State Hospital in Virginia). We do not include two asylums that were established in the 1700s because these seem to pre-date the social reform asylum movement in the 1800s that is our focus.

Two asylums for Black individuals in Geller (2020) were not in the 1923 special census because they were established after 1923 (Lakin State Hospital in West Virginia in 1926 and Taft State Hospital for the Negro Insane in Oklahoma in 1933). Given that our timeline for the sample of normal schools is 1839 to 1930, we added these two additional asylums because there is already a small sample of asylums that were specifically for Black individuals. Since we are extending the sample of asylums to those established until 1933 based on Black asylums, we also check whether there are additional non-Black asylums that were established in these years. We do so by using digitized data on state-maintained mental hospitals listed in a report of The Council of State Governments (The Council of State Governments, 1950). For the additional asylums not captured in the previous sources, we manually record the year they opened as asylums and the year they

were transferred to state control. We set 1933 as the cutoff year for comparability, including only asylums that came under full state control by that year, which adds one more asylum to our sample (Galveston State Psycopathic Hospital in Texas).

In Figure A.5 we graph the opening years of all the normal schools and asylums from our states.




(a) States with Black Normal Schools and Black Asylums

(b) States with Black Normal Schools and Any Asylums

Figure A.5: Opening Years of Normal Schools and Asylums