Social Science History (2021), **45**, 27–53
doi:10.1017/ssh.2020.36

CAMBRIDGE UNIVERSITY PRESS

RESEARCH ARTICLE

Residential Segregation at the Dawn of the Great Migration: Evidence from the 1910 and 1920 Census

Hyun Hye Bae and Lance Freeman*

Columbia University, USA
*Email: lf182@columbia.edu

(Received 11 June 2018; revised 15 March 2019; accepted 17 September 2019)

Abstract

The second decade of the twentieth century is viewed as the pivotal period for ghetto formation in the United States. This decade witnessed the onset of the Great Migration and it was during this time that modern ghettos, massive agglomerations of tens of thousands of Blacks and virtually only Blacks, became visible. Despite the importance of this period for ghetto formation and the subsequent segregation experienced by Blacks, our understanding of the dynamics of segregation during this period is incomplete. We utilize recently released fine-grained census data to present a more precise and complete picture of segregation in American cities in the second decade of the twentieth century and in doing so make several contributions to the historical literature on residential segregation. First, we document how segregation varied across the full range of American cities, including Southern and smaller cities overlooked in most historical accounts. Second, we assess how the influx of Southern Black migrants into Northern cities was related to increasing segregation. Third, we ascertain the role of Blacks' socioeconomic status in determining proximity to Whites. Fourth, we examine racial zoning's impact on segregation. Finally, we consider how the presence of immigrants in a city was related to the residential segregation experienced by Blacks. This research thus adds to the literature on residential segregation by providing more reliable estimates of the degree of residential segregation experienced by Blacks at the beginning of the Great Migration as well as exploring other factors associated with varying levels of segregation at that time.

Introduction

World War I changed the world in many ways, including setting off a chain of events that gave rise to modern American ghetto. The war shut off migration from Europe while also triggering demand for American manufactures, paving the way for the onset of the Great Migration. It was during this time that modern ghettos, massive agglomerations of tens (and in a few instances hundreds) of thousands of Blacks and virtually only Blacks, became visible. Despite the importance of this period for ghetto formation and the subsequent segregation experienced by

Blacks, our understanding of the dynamics of segregation during this period is incomplete. Both a paucity of data with which to precisely measure segregation as well as conflicting historical accounts have left a murky picture of segregation at the dawn of the Great Migration. Moreover, much of the historical research on the formation of ghettos during this time focuses on a few cities with the largest ghettos (e.g., Chicago, New York City). But the experience of residential segregation in smaller cities may have been quite different.

Recently, more fine-grained census data has been made available to researchers, allowing for the measurement of segregation with contemporary methods. We utilize this data to present a more precise and complete picture of segregation in American cities in the second decade of the twentieth century. We analyze segregation across a broad range of American cities, including Southern and smaller cities overlooked in most historical accounts. We also test whether the influx of Southern Black migrants into Northern cities was especially important to increasing levels of segregation. The role of Blacks' socioeconomic status in determining proximity to Whites during this period is also analyzed in a more systematic fashion. Our study is among the first to explore whether racial zoning had a discernible impact on segregation. Finally, we consider how the presence of immigrants in a city was related to the residential segregation experienced by Blacks. The research presented in this article thus adds to the literature on residential segregation by providing more reliable estimates of the degree of residential segregation experienced by Blacks at the beginning of the Great Migration as well as exploring other factors associated with varying levels of segregation at that time.

Background and Prior Literature

Blacks are portrayed as experiencing relatively low levels of segregation prior to the Great Migration (Katzman 1973: 69; Lane 1986: 20). For example, Allan Spear argues that pre–Great Migration Blacks in Chicago "were not confined to a ghetto" (Spear 1967: 6–7). World War I would change these residential patterns. The war cut off immigration from Europe fueling increased demand for Black labor in the North (Woodson 1918). Historians describe the resulting growing size and visibility of the Black population as triggering Whites' animosity, creating housing discrimination, and unleashing the forces that would create modern ghetto (Kusmer 1978; Osofsky 1971; Spear 1967).

The migration of Blacks into formerly all-White neighborhoods sparked such outrage among Whites that "in the 'invaded' neighborhoods bombs were thrown at the houses of Negroes who had moved in" (Chicago Commission on Race Relations 1922: 3). In city after city, the burgeoning Black population was blamed for increasing "race prejudice on the part of White people" (Washington 1920: 259). Northern-born Blacks, too, sometimes blamed Southern Blacks for the increase in racism citing the latter group's rural folkways and unsophisticated manners as a trigger for rising White hostility (Weaver 1948: 28).

Thus, the onset of the Great Migration, when tens of thousands of Black migrants from the South poured into Northern cities served to intensify Whites' racism, which subsequently led to dramatically increasing housing segregation.

Contemporary observers and the historical case studies tell a consistent story of segregation increasing in the first decades of the twentieth century as the Black population urbanized. The historical case studies, however, are incomplete with regard to several aspects of segregation in the second decade of the twentieth century. While these studies sometimes utilize quantitative data, they seldom calculate segregation indices that would allow one to assess just how segregated Blacks were.[1] Moreover, the case studies tend to focus on the largest cities with the largest ghettos, such as Chicago, Cleveland, and New York City. While these large cities did receive a disproportionate share of the Black migrants during the 1910s, there were a large number of other cities that also had sizable Black populations. A population that is at least 3 percent Black or with 2,000 Black residents is sometimes used as a threshold for a substantial enough Black population to calculate reliable segregation indices (Farley and Frey 1994). There were 117 cities with a population of at least 50,000 meeting these criteria in 1910, and the majority of these cities were in the South. Moreover, a number of studies have found that larger cities tend to be somewhat more segregated than smaller ones (Logan et al. 2004; Van Valey et al. 1977). Clearly, there are a large number of cities whose segregation patterns may not be captured by the historical case studies.

Other scholars have used contemporary measures of segregation (e.g., dissimilarity index, exposure index) to calculate segregation in late-nineteenth-century and early-twentieth-century cities. Stanley Lieberson (1963) calculated segregation indices based on 1910 and 1920 ward-level data between Blacks and both native-born and foreign-born Whites, respectively. Lieberson's work is likely the first attempt to measure segregation across a number of cities for these early years. More recently, Cutler et al. (1999: 500) calculate segregation indices for all cities with at least 1,000 Blacks from 1890 onward. Their ward-level measures show only large cities in the Northeast and Midwest had high levels (above .6) of segregation as measured by the dissimilarity index in 1920. The isolation index is low or moderate for all cities in 1920, with only large cities in the Northeast, Midwest, or South having isolation indices of roughly .3 in 1930.

Both Lieberson's (1963) and Cutler et al.'s (1999) study, however, rely on wards as the subcity unit of analysis. Wards are political geographies drawn for the purpose of electing officials. As Cutler et al. acknowledge, wards are not uniform in size and tend to be much larger than what one might consider to be a neighborhood.

More recently, social scientists have taken advantage of digitized census data such as that produced by Ancestry.com and have used small area geography such as enumeration districts to proxy for neighborhoods. For the years 1880 to 1940, John Logan and his colleagues (Logan et al. 2015b) calculate segregation indices for the 10 Northern cities with the largest Black populations in 1940. Logan and his colleagues find "the average Black person lived in a city with an enumeration-based value of D close to .6 as early as 1880" (ibid.: 25). By 1920 the average for their sample of 10 cities was above .7. The isolation index steadily rises but is lower than the dissimilarity index with an average between .4 and .5 for

[1]Kenneth Kusmer's (1978) *A Ghetto Takes Shape* is perhaps the exception as he does present dissimilarity indices for Cleveland for 1920. His indices, however are based on political wards that, as we discuss, are larger than ideal for calculating segregation.

the sample of cities included in their analysis. Logan et al.'s (2015b) study shows that when measured using more appropriate neighborhood proxies such as enumeration districts or tracts, segregation as measured by the dissimilarity index was high in the late nineteenth century and both the dissimilarity index and isolation index were high by 1920.

In sum, the historical case studies and more recent quantitative analyses agree that segregation rose over time. The more recent quantitative analyses debunk the notion that Blacks did not experience significant housing segregation (although one might still argue these Black enclaves to be too small to be considered ghettos) prior to the Great Migration that began in the second decade of the twentieth century.

But even with the more recent evidence compiled by social scientists, several questions remain unanswered. First, it is not clear if the high levels of segregation found by Logan et al. (2015b) would extend to cities with smaller populations. The Cutler et al. (1999) study and segregation studies for more recent (Krupka 2007) times suggests smaller cities have lower levels of segregation, but this question has not been definitively answered.

Second, it is also unclear if the pattern of dramatically increasing segregation found in many Northern cities at the inception of the Great Migration was in evidence in the South. A number of observers have noted that older Southern cities that urbanized in the antebellum era tended to have lower levels of segregation than other cities (Schnore and Evenson 1966). This was because, in the words of one social scientist,

> Small Negro settlements, comprised mostly of servants, have grown up close to the houses of the Whites in which Negroes served. This resulted in a "back-yard" or "alleyway" pattern of segregation whereby blacks lived close to whites, albeit in inferior "alleyway" housing. These settlements thus took root before the spatial pattern of the cities was affected by the economic forces which have shaped the pattern of our modern industrial and commercial cities. (Frazier 1957: 237)

Recent research has confirmed these anecdotal findings showing that in many older Southern cities Blacks were segregated from Whites, not at the neighborhood level but within city blocks with Whites residing on block faces while Blacks inhabited back alleyways (Grigoryeva and Ruef 2015). Many older Southern cities thus appear to be less segregated at the neighborhood level. Systematic explorations of the extent of neighborhood-level segregation in Southern cities, however, have not been undertaken for the period in question. Thus, the extent to which some older Southern cities maintained lower levels of neighborhood-level segregation in the 1910–20 years remains an open question.

Recall too, that it is the dramatic increase in the Black population that has been fingered as a major culprit behind the rising tide of White antagonism and discrimination in the urban north. But at the inception of the Great Migration, few Southern cities saw a major increase in their Black population on a scale similar to what was happening in the North. Memphis's Black population only increased from 52,441 to 61,181 and declined as a proportion of the total population. Atlanta's Black

population went from 51,902 to 62,796 and its share of the citywide population declined as well. Even Washington, DC, long a mecca for Blacks since the Civil War only saw a modest increase in its Black population from 94,446 to 109,966 and its share of the total population declined (Gibson and Jung 2005). Without a dramatic increase in their respective Black populations, there may have been less reason for segregation to surge in Southern cities.

Third, there is ongoing debate on the role of socioeconomic status in determining residential segregation experienced by Blacks. Some writers, such as Robert Weaver, suggest class did matter in determining segregation patterns prior to the Great Migration, writing "and such concentration of colored residents as existed was due chiefly to the voluntary actions of Negroes (largely inspired, of course, by their need for each other's society in a community which rejected them in many phases of its life) and to their restriction, because of income, to low-rent housing" (Weaver 1948: 21). Moreover, the increased racial antagonism arising from the Great Migration, described in the preceding text, has been blamed on increasing discrimination and White flight. The implication is that higher socioeconomic status Blacks did not necessarily live in segregated neighborhoods prior to the Great Migration. Alternatively, a study by the author using the 1 percent sample of the decennial census, however, found socioeconomic status did not influence Blacks' residential proximity with Whites (Freeman 2010). This study, however, only considered the Duncan Socioeconomic Index (described in more detail in the following text) as a measure of socioeconomic status, ignoring other important attributes such as tenure or migrant status. In the same study cited in the preceding text, John Logan and his colleagues examine the role of class in determining Blacks' residential patterns concluding that race, not class, is the determining factor (Logan et al. 2015b). As noted previously, however, this study focused on the Northern cities with the largest Black populations, raising the question as to the applicability of their findings to other cities.

Fourth, the impact of racial zoning on segregation patterns has not been examined systematically. Baltimore adopted such a zoning ordinance in 1911, forbidding Blacks from moving onto blocks where Whites were in the majority and Whites from moving onto blocks where Blacks were the majority. At least 21 cities followed Baltimore's lead before such zoning was ruled unconstitutional by the Supreme Court in *Buchanan v. Warley* in 1917.[2] There is reason to suspect such ordinances would have at least some impact on segregation. Anecdotal reports from Baltimore describe White realtors being upset about declining property values in mixed neighborhoods as a result of the ordinance limiting the market for their properties (Afro-American Ledger 1911). There are also news accounts of people being apprehended for violating these ordinances (Richmond Times Dispatch 1911). Although only in force for a few years in most cities, racial zoning laws, where enacted, may have

[2]The cities adopting racial zoning include Anderson (South Carolina), Ashville (North Carolina), Ashland (Virginia), Atlanta (Georgia), Baltimore (Maryland), Birmingham (Alabama), Dallas (Texas), Falls Church (Virginia), Greensboro (North Carolina), Greenville (South Carolina), Louisville (Kentucky), Madisonville (Kentucky), Mooresville (North Carolina), Newport News (Virginia), Norfolk (Virginia), Oklahoma City (Oklahoma), Portsmouth (Virginia), Richmond (Virginia), Roanoke (Virginia), St. Louis (Missouri), and Winston Salem (North Carolina).

helped cast the die for segregation patterns at the dawn of the Great Migration (Stephenson 1914).

Fifth and finally, the role of immigrants in shaping segregation patterns in the second decade of the twentieth century is also unclear. Late-twentieth-century studies of segregation have found the presence of immigrants to lower the segregation experienced by Blacks (Frey and Farley 1996). Some scholars speculate other minorities serve as a "buffer" between Whites and Blacks. In contrast to today's immigrants who hail mainly from Latin America and Asia, early-twentieth-century immigrants were overwhelmingly White. Moreover, the intense economic competition between recent White immigrants and Blacks made for frequent clashes between these groups. The Chicago Commission on Race Relations recorded many of the violent conflicts between Blacks and immigrants (Chicago Commission on Race Relations 1922). Drake and Cayton (1945: 62) go as far as to describe the Irish as the "traditional enemies of Negroes in Chicago in the early Great Migration era." Studies of neighborhood racial transition in the post–World War II era note how the presence of White ethnics in a neighborhood was often associated with intense hostility toward Black in-migration (Galster 1990). Consequently, the presence of immigrants might have served to increase segregation. The extent to which immigration is related to segregation in the second decade of the twentieth century, however, is unclear.

The research presented here seeks to further our understanding of segregation patterns at the dawn of the Great Migration by focusing on all cities with a population of 50,000, and/or where the Black population was at least 2,000, or 3 percent of the population. Demographers Reynolds Farley and William Frey (1994) suggest these minimal thresholds for the calculation of reliable segregation indices. By including cities outside the North, and assessing the effect of racial zoning we will gain a better understanding of segregation patterns during his crucial period.

Methodological Approach

To examine segregation in American cities at the dawn of the Great Migration we employ two approaches. First we examine segregation across cities to discern how city-level factors influenced segregation patterns at this time. Next, we use individual-level data to analyze Black's neighborhood level integration with Whites. The use of individual-level data facilitates analysis of the role of individual-level factors and complements our city-level analysis. We use enumeration districts as proxies for neighborhoods.

For our city-level analyses, we use the dissimilarity (D) and isolation (P*) indices, two commonly used metrics of segregation (Massey and Denton 1988). D is calculated using the following formula:

$$D = .5\left(\sum_{i=1}^{N}\left|\frac{b_i}{B} - \frac{w_i}{W}\right|\right)$$

where i indexes each neighborhood in a city, b is the Black population in the i^{th} neighborhood in the city, w is White population in the i^{th} neighborhood in the city, B is the Black population in the city, and W is the White population in the city.

D is a measure of the extent to which Blacks and Whites are evenly spread across neighborhoods in a city. It ranges from 0, when each group has the same proportion in each neighborhood as their overall proportion in the city.

P* is calculated by the following formula:

$$P^* = \left(\sum_{i=1}^{N} b_i B * b_i T \right)$$

where i indexes each neighborhood in a city, b is the Black population in the i^{th} neighborhood in the city, B is the Black population in the city, and T is the total population in the city. For a given city, P* can be thought of as the average percent Black in the typical Black person's neighborhood and gives a better sense of how each person experiences segregation.

For our individual-level analysis, we use the percentage White in a Black person's neighborhood to measure the degree of integration/segregation they experience. The racial composition of one's neighborhood has been used extensively in individual-level analyses of residential segregation (Alba and Logan 1992, 1993; Freeman 2000, 2002, 2008, 2010).

Data

The primary source of data for this project come from the University of Minnesota's Integrated Public Use Microdata project (Ruggles et al. 2010). For select years, including 1910 and 1920, complete counts of the census are available. As noted, we calculate segregation indices for all cities with a population of 50,000, where Blacks were at least 3 percent of the population or numbered at least 2,000 in 1910 and 1920. There was a total of 117 cities nationwide that met these criteria in 1920. For the sake of consistency, we limit our individual level analyses to the same 117 cities.

Census tracts, small units of geography of about 4,000 to 8,000 persons, were not in use in many American cities until the middle of the twentieth century. The earlier censuses, however, do identify the enumeration district of the respondent. As their name implies, enumeration districts were created for the purposes of enumerating respondents. Their size was dictated by two factors: (1) creating districts that resulted in a manageable workload for each enumerator and (2) the boundaries had to fall within the larger geographic entities for which tabulated data were provided (US Census Bureau 1977). Enumeration districts are roughly half the size of census tracts, but come much closer to approximating what we would think of as a neighborhood than the political wards often used in other historical quantitative studies. For example, among the 20 cities with the largest Black populations in 1920, the average population size for enumeration districts was 1,759 whereas the average ward size in these same cities was 27,980. Moreover, the size of the enumeration districts was more consistent. The standard deviation of the population size of the enumeration districts, 775, was much smaller than the average population size of the enumeration districts—1,759. In contrast, the standard deviation of the population size of wards, 26,018, was nearly as large as the average size of the wards—27,980.

Analytical Approach

To illustrate what levels of segregation were like at the dawn of the Great Migration we calculate and present the D and P* indices for the 117 cities that were at least 3 percent Black or had 2,000 Black residents in 1910. We then we employ multivariate statistical methods to analyze the factors associated with variation in the level of D and P* across US cities. Based on our review of the literature and the discussion in the preceding text, the following variables are utilized to attempt to explain variation in the levels of residential segregation.

Growth in Southern Black migrant population

As described previously, the increase in the Southern Black migrant population is posited as providing the impetus for intensifying housing discrimination. The increase in Black Southerners may have also increased self-segregation as these migrants sought out Black neighborhoods and institutions to help ease the transition to their new homes. We operationalize this construct as the percentage of the Black population not native to the state but born in a Southern state.

The presence of racial zoning

Racial zoning was an attempt to codify residential segregation patterns into law. We reviewed literature on racial zoning and the *Buchanan v. Warley* Supreme Court case as well as contemporary news articles to identify cities that adopted racial zoning between 1910 and 1920. A total of 13 cities in our sample adopted racial zoning and are coded 1, whereas others are coded 0.

City size

Previous studies have shown that larger cities are somewhat more segregated although not always in a linear fashion. We use the city's population in tens of thousands as a measure of city size.

Immigrant population[3]

We include the percentage of the immigrant population in 1910 to test the hypothesis that the immigrant population influenced overall levels of segregation.

Socioeconomic status

The socioeconomic disparities between Blacks and Whites might have played a role in determining segregation levels for at least two reasons. First, to the extent Blacks and Whites have disparate purchasing power, and housing is segregated by cost, Blacks and Whites will be segregated by virtue of different purchasing power alone. Second, the spatial assimilation model suggests smaller differences in class or status should translate into less racial antagonism and consequently less discrimination from Whites. This too should be reflected in less spatial differentiation as well (Farley and Frey 1994). The ratio of average Black Duncan socioeconomic index

[3]Some immigrants were Black, hailing from the West Indies and to a lesser extent Africa. In most cities their numbers were relatively small and the available evidence suggests they had little opportunity to sort themselves spatially from other Blacks (Massey and Denton 1985).

(SEI) score in a city to the average White Duncan SEI in a city in 1910 is used to gauge socioeconomic status differentials. The Duncan SEI is based on occupational categories as they existed in 1950 and is a composite of the education, income, and prestige associated with each occupation in 1950 (Duncan 1961). As occupations and their respective statuses evolve over time, there will be some error associated with using this measure for 1910 and 1920 data. Unfortunately, more contemporary income and education data for the earlier years is not available.

It should be noted, however, at the level of the individual, socioeconomic status has proved a poor predictor of spatial outcomes for Blacks. Several studies using both early-twentieth- and late-twentieth-century data find Blacks' socioeconomic status to not be a consistent predictor of proximity to Whites. Findings show it is difficult for Blacks to translate human capital into improved spatial outcomes or proximity to Whites (Freeman 2010; Logan et al. 2015a). Thus, our analyses can be thought of as a test of the spatial assimilation model with regard to Blacks' proximity to Whites in the second decade of the twentieth century.

City age

As described previously, older cities in the South may evince lower levels of segregation due to the patterns of Blacks living in alleyways adjacent to Whites' housing that was situated on the block face. As our study focuses on neighborhood-level segregation, some cities may appear to have lower levels of segregation due to the "alleyway" pattern described previously. We thus ascertained the year of incorporation from *Financial Statistics of Cities Having a Population of over 30,000* (US Census Bureau 1921) and include the age of the city, measured as the time from incorporation, in our models.

Region of the country

Finally, as described in the previously mentioned literature review, the Southern region of the country may have had distinctive residential segregation patterns. We defined the South as all states that required separate educational facilities for public school children. We reason that such de jure segregation may have affected other interracial relations and may have manifested in different types of residential segregation patterns. Operationally speaking, our definition of the South is the same as the Census Bureau's with the addition of Missouri, the only non-Southern state with state-mandated school segregation.

We interact the region of the country with the *growth in Southern Black migrant population*. Our rationale for including this interaction term is that Southern migrants were often portrayed by some Northern Black elites as uncouth, and whose poor manners and unfamiliarity with city living served as the impetus for increased White racism. Thus, the growth in the Southern Black migrant population might have been particularly noticeable outside the South and led to increased segregation on non-Southern cities. We also include an interaction term between the region of the country and the age of the city. Older cities, particularly those in the South, may have a pattern of segregation that is not evident at the neighborhood level. The interaction term between the age of the city and the region of the country should capture any differential impact city age has on levels of segregation in that same city.

For our individual-level analyses we employ a locational attainment approach that is premised on the notion that individual-level traits will translate into spatial outcomes. A locational attainment approach assumes higher-status individuals translate their status into higher-status neighborhoods (Alba and Logan 1991). In a racially stratified society like the United States, higher-status neighborhoods are typically dominated by Whites. This is particularly true in the context of the early-twentieth-century America, when the racial caste system was at its strongest since the end of slavery, and the Black middle class was miniscule. Thus, a locational attainment approach implies that higher-status Blacks will have greater proximity to Whites.

In our locational attainment model we examine how individual level, city level, and the region of the country are related to a Black person's residential proximity to Whites. In addition, we seek to test whether being Southern born influences proximity to Whites amongst those Blacks residing outside of the South. As noted in the preceding text, Southern migrants' putatively "unrefined" manners triggered racial animus amongst Northern Whites and thus being a Southern-born migrant might lead to living in a more segregated environment outside the South.

Our locational attainment model is estimated using a multilevel model in the form:

$$\widehat{y_{ijk}} = \alpha + \beta_1 x_{ijk} + \beta_2 x_{jk} + + \beta_3 x_k + u_k + r_{jk} + e_{ijk}$$

where y_{ijk} is the percent White in each sample member's enumeration district; α is a constant; β_1 is estimate of the slope for variable x_{ijk}, which are individual-level covariates; β_2 is the slope for variable x_{jk}, which represents city-level covariates; β_3 is the slope for the region; and e_{ijk}, r_{jk}, and u_k are residuals. The variables included in the multilevel model include:

Census year
1910 or 1920.

Literate
A dummy variable = 0 if the person is illiterate, 1 otherwise.

SEI
The Duncan SEI as described previously.

Owner
A dummy variable = 0 if the person rents their home, and 1 otherwise.

Southern migrant[4]
A dummy variable = 0 if the person was born outside the South, excluding Missouri and 1 otherwise.

[4]We included Missouri in our definition of the South because Missouri had state-sanctioned school segregation and thus a form of race relations that in an important way was more similar to those in other Southern states than to those outside the South. Our analyses that excluded Missouri from the South produced similar results to those presented here.

Immigrant population

We include the percent of the immigrant population in 1910 to test the hypothesis that the immigrant population influenced overall levels of segregation.

City size

As noted previously, a city's size has been shown to be related to segregation. We therefore include the city's population as a measure of city size.

City age

Older cities may have lower levels of segregation due to the pattern of Blacks living in alleys close to the homes of Whites, whose houses typically were on the block face. The age of the city since incorporation is therefore included in our model.

The presence of racial zoning

Cities that adopted such zoning are coded 1, cities without, 0. We also include an interaction term with the year variable to test if this variable had a larger impact in 1920 after its implementation, than 1910.

In addition to the variables mentioned in the preceding text, we include two interaction terms. The first is the product of being a Southern migrant with *region*, and the second is the product of *city age* and *region*.

Continuous variables are centered to their higher-level means. For example, because *city size* is a city-level variable, it is centered to regional means, while SEI is centered to city means as it is an individual-level variable. Dichotomous variables are centered to zero by –0.5 subtracted from its original values. By centering, intercepts obtained from results can be interpreted as the expected outcome for an individual in a specific city (or a city in a specific region) whose covariate values are equal to the mean of the specific city (or the mean of the specific region). By centering, we can separate "the between-group and the within-group components from the total variation" to observe the effects of cities (or regions) on individuals (or cities) (Paccagnella 2006: 70). Table 1 lists the variables used in the city-level and individual-level models and their means or, in the case of categorical variables, their frequencies.

Results

We first describe the patterns for the segregation indices before considering how the indices vary across cities. Table 2 lists dissimilarity and isolation indices for 1910 and 1920 for the 20 cities with the largest Black populations in 1920 as well as regional averages for those years, respectively. The last two columns also list dissimilarity and isolation indices based on wards for 1910. A few patterns are especially noteworthy. First, consistent with contemporary and historical accounts, there was an overall increase in segregation across cities. Whereas none of the regional averages for the dissimilarity index in 1910 were at or above .60, typically considered the demarcation for a high level of segregation (Kantrowitz 1973), by 1920 all the regional averages exceeded or were on the cusp of this demarcation line. Second,

Table 1. Descriptive statistics for regression models

City Level Models		Individual Level Models	
Variable	Mean/ Frequency	Variable	Mean/ Frequency
Isolation Index in 1910	.32	Percent White in Enumeration District	51%
Dissimilarity Index in 1910	.51		
Segregation Ordinance	11%	Segregation Ordinance	24%
City Population	177,648	City Population	670,300
Black Percentage in 1910	17%	Percent Immigrant in City	12.1%
Immigrant Population in 1910	13%	Home Owner	14%
Black to White SEI Ratio 1910	.55	Literate	81%
Northeast	21%	Northeast	68%
Midwest	24%	Midwest	17%
West	6%	West	13%
Change in % Black Population Who Are Migrants	27%	Southern Migrant	45%
n	117	n	851,290

segregation increased even in cities where the Black population did not expand much, such as Charleston, South Carolina or Nashville, Tennessee. Third, reflective of the smaller Black populations cities outside the South, the isolation index shows the average Black person in these same cities resided in majority White neighborhoods despite recent increases in segregation. Fourth, the ward-based segregation indices, listed in the last two columns, are substantially lower than those based on enumeration districts. Indeed, the ward-based indices suggest segregation was relatively low. But this is because wards tend to be larger than what are typically thought of as neighborhoods, as was discussed earlier in this article. This last finding underscores the importance of using enumeration districts to understand historical patterns of segregation. Finally, although there are some regional variations, they are not that great when using the dissimilarity index as the yardstick.

Multivariate Results

We also attempted a more systematic analysis of the variation in segregation patterns over the 1910–20 period using multivariate regression. Here we model the degree of segregation in 1920 in a city as measured by the dissimilarity index and isolation index, respectively, as a function of the degree of segregation in those cities in 1910 and other city-level characteristics. The results presented in table 3 have robust standard errors to account for the presence of heteroscedasticity.

Table 2. Segregation in 1910 and 1920

	1910			1920				
City	Black Population	Dissimilarity	Isolation	Black Population	Dissimilarity	Isolation	Dissimilarity (Ward)	Isolation (Ward)
New York, NY	99	.72	.27	152	.80	.51		
Philadelphia, PA	86	.69	.32	135	.74	.41	.22	.12
Washington, DC	95	.46	.48	109	.58	.53	n/a	n/a
Baltimore, MD	85	.61	.42	109	.70	.52	.20	.17
Chicago, IL	45	.80	.38	107	.85	.43	.23	.32
New Orleans, LA	91	.44	.42	101	.51	.47	.14	.19
Birmingham, AL	53	.36	.51	72	.55	.64	n/a	n/a
Saint Louis, MO	44	.70	.37	70	.80	.58	.21	.17
Atlanta, GA	52	.53	.55	63	.65	.65	.22	.29
Memphis, TN	53	.44	.56	61	.52	.60	.19	.14
Richmond, VA	47	.58	.62	56	.61	.63	n/a	n/a
Norfolk, VA	25	.74	.76	43	.80	.82	n/a	n/a
Jacksonville, FL	29	.67	.77	42	.65	.74	.21	.27
Detroit, MI	7	.75	.17	41	.73	.32	.14	.10
Louisville, KY	41	.49	.39	40	.58	.46	.26	.13
Savannah, GA	34	.57	.70	39	.54	.67	n/a	n/a
Pittsburgh, PA	26	.58	.19	38	.60	.27	.11	.12
Charleston, SC	32	.26	.58	37	.33	.57	.15	.18
Nashville, TN	37	.50	.53	36	.58	.57	.16	.11
Cleveland, OH	9	.74	.18	35	.77	.37	.20	.16
Average Southern (Jim Crow) Cities		.43	.44		.57	.50		
Average Northeastern		.49	.18		.60	.23		
Average Midwestern		.47	.17		.61	.23		
Average Western		.48	.09		.60	.14		

Note: n/a – ward data not available for that city.
Note: Population in thousands

Table 3. Multivariate models of segregation

	Dissimilarity	Isolation
Index in 1910	0.817	1.059
	(17.91)***	(9.60)***
Segregation Ordinance	0.046	0.046
	(2.80)***	(1.96)*
City Population (in tens of thousands)	0.000	0.000
	(2.17)**	(1.25)
Black Percentage in 1910	−0.001	−0.112
	(0.03)	(0.81)
Immigrant Population in 1910	−0.101	0.005
	(1.05)	(0.03)
Black to White SEI Ratio 1910	0.054	0.117
	(0.45)	(0.84)
Northeast	−0.018	−0.005
	(0.45)	(0.08)
Midwest	−0.080	−0.041
	(1.23)	(0.76)
West	−0.033	−0.115
	(0.44)	(1.97)*
Change in % Black Population Who Are Migrants	0.032	0.085
	(1.02)	(2.35)**
Interaction: Change in % Black Population Who Are Migrants*Northeast	−0.096 (2.20)**	−0.079 (1.44)
Interaction: Change in % Black Population Who Are Migrants*Midwest	0.028 (0.41)	0.003 (0.07)
Interaction: Change in % Black Population Who Are Migrants*West	0.002 (0.04)	−0.071 (1.62)
City Age	−0.001	−0.000
	(3.02)***	(1.74)*
Interaction: City Age*Northeast	0.000	0.000
	(1.71)*	(0.85)
Interaction: City Age*Midwest	0.001	0.001
	(1.54)	(1.10)
Interaction: City Age*West	0.001	0.002
	(0.85)	(2.26)**
Constant	0.184	−0.019
	(3.11)***	(0.24)
R^2	0.82	0.91
N	117	117

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

The second column presents the results with the dissimilarity index in 1920 as the dependent variable and is discussed first. The most important predictor of the degree of segregation as measured by the dissimilarity index is the dissimilarity score in 1910. There is clearly a degree of path dependence. The racial zoning ordinance variable is also a statistically significant and substantively meaningful variable in terms of predicting the dissimilarity index. Cities that adopted such an ordinance between 1910 and 1917 had a dissimilarity score nearly 5 points higher, even after accounting for the degree of segregation in 1910. City size is statistically significant, but the small magnitude of the relationship renders it unimportant.

We also tested whether the increase in Southern Black migrants influenced changes in segregation and whether this influence varied by region of the country. We tested this by interacting the percentage increase in Southern Black migrants with the region of the country. The results in rows 12–14 of the second column show that in the Northeastern region the relationship between the increase in Black migrants differed from that in the South. The direction of the relationship, however, is the opposite of what was hypothesized. In the Northeast, the greater influx of Southern migrants the *less* the dissimilarity index increased, relative to the South. The nature of the relationship between an influx of Southern Black migrants, the region of the country and the dissimilarity index can most easily be seen in figure 1. In the Northeast, an increase in Southern Black migrants is associated with a lower dissimilarity index, whereas in the South the direction of the relationship is the opposite.

The second set of interactions tests if the age of the city influenced changes in the dissimilarity index and whether this influence varied by region of the country. The average effect of a city's age, shown in row 15, is statistically significant but small. The interactions are shown in rows 16–18. In the Northeast, the relationship between a city's age and the dissimilarity index is different than that in the South. Compared to older cities in the South, older cities in the Northeast have

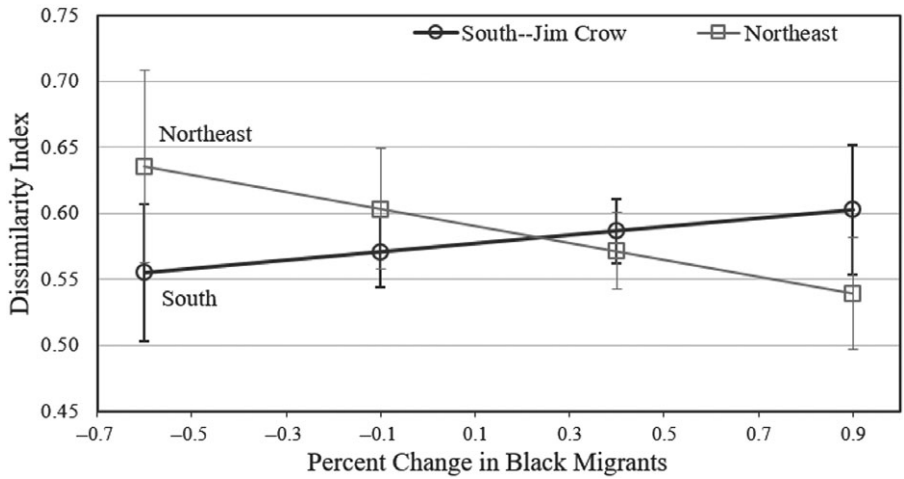

Figure 1. Change in dissimilarity index by region and growth in Black migrants from south.

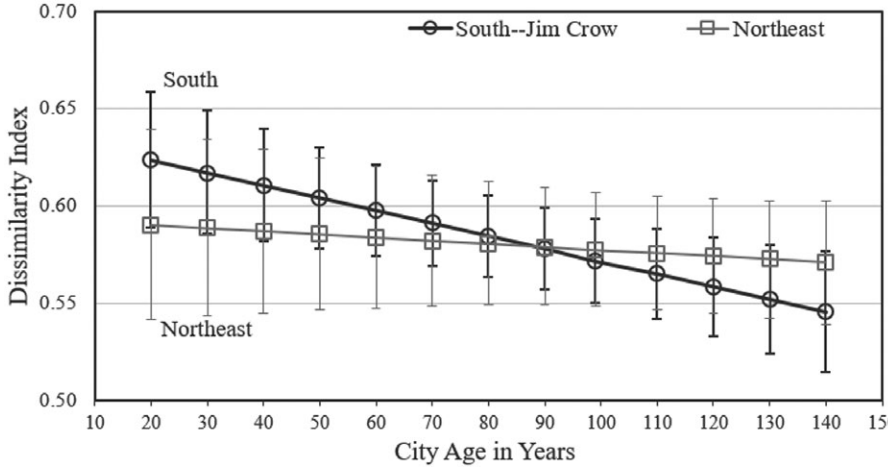

Figure 2. Change in dissimilarity index by region and age of city.

higher dissimilarity indices. Figure 2 focuses on the contrast between the Northeast and South because only these two regions have cities across the entire range of ages (cities in the Midwest and West could not incorporate until the country spread West in the mid-to-late nineteenth century). The chart shows hardly any relationship between a city's age and the dissimilarity index in the Northeast, whereas in the South, older cities have substantially lower dissimilarity indices.

The third column presents the results of a model with the isolation index as the dependent variable. As was the case when the dissimilarity index was the dependent variable, the level of the isolation index in 1910 is an important predictor of the isolation index in 1920. Despite the tremendous transformations in urban America during the 1910s, the segregation patterns that emerged at the end of the decade largely followed those in place by 1910.

The other independent variables that are statistically significant and substantively important predictors of the isolation index in 1920 are the growth in Black migrants from the South, and the adoption of a segregation ordinance. On average, the higher the percentage increase in Black migrants from the South, the greater the increase in the isolation index. This likely reflects these Southern migrants moving into existing Black neighborhoods. The adoption of a segregation ordinance is also associated with a higher isolation index in 1920.

The interaction term between region of the country and the growth in Southern migrants shows that relative to the South, growth in the number of Black migrants from the South was associated with a *lower* isolation index in Northeastern cities. Figure 3 illustrates this relationship.

We also test the interaction between a city's age and region of the country with the isolation index as the dependent variable. Only cities in the western region have a different relationship from southern cities between a city's age and that city's respective isolation index. In western cities, older cities have higher isolation indices, relative to older cities in the South. Figure 4 illustrates this pattern clearly. Isolation

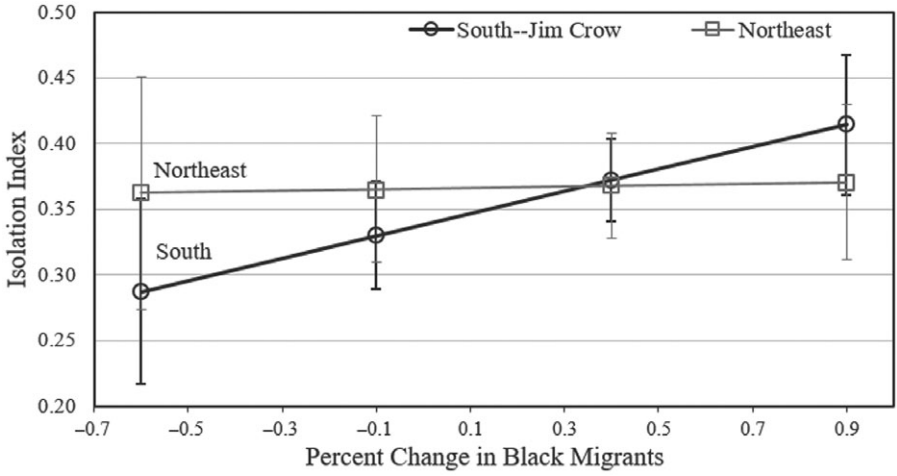

Figure 3. Change in isolation index by region and growth in Black migrants from south.

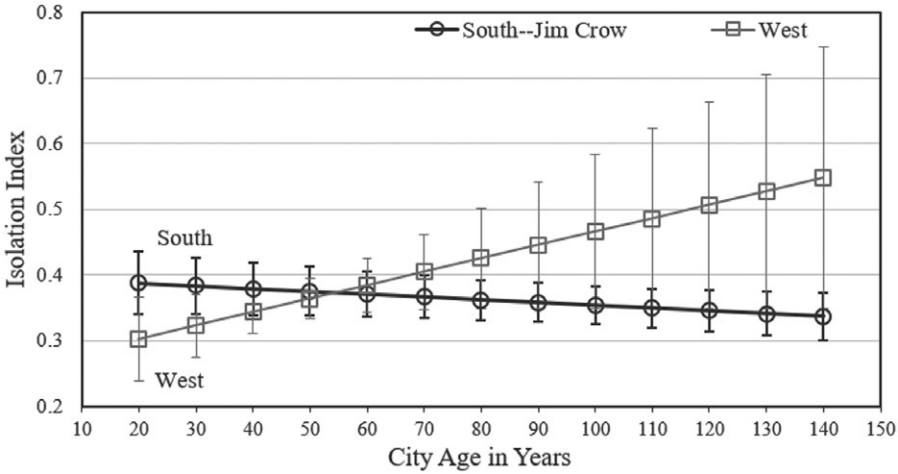

Figure 4. Change in isolation index by region and age of city.

indices are higher in older western cities, whereas these same indices are lower in older southern cities.

Overall, the multivariate regressions show that segregation levels in 1920 largely followed those in place in 1910. Also, the presence of a racial zoning ordinance had a statistically significant and substantially sizable association with higher dissimilarity and isolation indices. Older cities had lower levels of segregation, but this pattern was more pronounced in the South. This last finding is consistent with previous observations showing neighborhood-level segregation being relatively lower in older Southern cities. The West generally had both lower dissimilarity and isolation

indices, a pattern that persists to this day. The influx of Black Southern migrants into urban cities did impact residential segregation, as measured by the isolation index. This comes as no surprise as the isolation index is driven, in part, by the size of the Black population. The influx of Southern migrants, however, was not consistently related to increases in the dissimilarity index. This finding runs counter to several contemporary observations and historical accounts that describe rising discrimination due to the arrival of putatively uncouth and unkempt Southern migrants. The size of the immigrant population, and the proportion of a city's population that were Black, were not associated with changes in segregation levels.

In the next section we use individual-level data for our locational attainment models. This will allow us additional flexibility for testing how different contextual factors did or did not influence segregation outcomes.

Individual-Level Results

The individual-level models allow us to directly test some of the hypotheses put forth in the literature review. We can examine whether markers of class and assimilation including homeownership, literacy, socioeconomic status, and Southern origins are related to proximity to Whites, as the spatial assimilation model would predict. Moreover, we can discern the extent to which city and regional context, as measured by city size, the level of immigration in a city, the presence of racial zoning, and region of the country influenced proximity to Whites. Table 4 illustrates the results of our locational attainment approach, which were estimated using multilevel modeling. We supplement table 4 with graphs to illustrate the relationships between the dependent variable and the independent variable.

Overall, the individual-level model suggests the spatial assimilation model was a poor predictor of proximity to Whites. The coefficients for homeownership, literacy, and SEI are all negative. While the negative relationships are not that large, the direction of the relationship is the opposite of what the spatial assimilation model would predict. Literate individuals, compared to illiterates, resided in enumeration districts with 1.6 percent less Whites; homeowners, compared to renters, resided in neighborhoods with 0.1 less percent of Whites; and as the SEI of an individual increased by one unit, the proportion White a person's enumeration district decreased .02 percent. Figure 5 underscores the extent to which the relationship between SEI score and proximity to Whites is not that great. The only result somewhat consistent with the spatial assimilation thesis is that for the Southern born. Southerners living in the Midwest and Northeast had fewer White neighbors than non-Southerners in these respective regions. This is consistent with Southern migrants to this region concentrating in the emerging Black ghettos. But as figure 6 shows, these differences are modest. Overall, there is little support for the spatial assimilation perspective.

The results of the city-level and regional variables allows us to further understand the context under which segregation was experienced by Blacks in the early twentieth century. As hypothesized earlier in this article and as shown in figure 7, proximity to Whites is negatively correlated with *city size*. The larger the city, the fewer Whites in a Black person's enumeration district. The magnitude of this relationship, which figure 7 also illustrates, is small. Blacks had fewer White neighbors in larger

Table 4. Multilevel locational attainment model

Dependent Variable	Percent White in Enumeration District	
Independent Variables		
Census Year		
1920	−6.813 (0.064)***	
Home Owner (Centered)	−0.122 (0.082)	
Literate (Centered)	−1.616 (0.072)***	
SEI (Centered)	−0.015 (0.002)***	
Immigrant Percentage in City (Centered)	39.611 (16.168)**	
City Population (Centered)	0.000 (0.000)**	
Region		
Northeast	25.279 (3.248)***	
Midwest	24.111 (3.095)***	
West	33.906 (5.224)***	
Presence of Racial Zoning Ordinance	−6.344 (4.139)	
Interaction: Year*Racial Zoning Ordinance		
1920*Racial Zoning Ordinance	−3.452 (0.129)***	
Southern Migrant	−1.684 (0.163)	
Interaction: Southern Migrant*Region		
Southern Migrant*Northeast	−0.401 (0.216)*	
Southern Migrant*Midwest	−0.534 (0.233)**	
Southern migrant*West	0.577 (0.524)	
City Age	0.002 (0.049)	
Interaction: City Age*Region		
City Age*Northeast	0.044 (0.082)	
City Age*Midwest	0.024 (0.115)	
City Age*West	−0.399 (0.473)	
Constant	57.600 1.926	
N	847,452	
Variance Components	**Estimate**	**Standard Error**
Region	1.3e-08	3.02e-07
City	163.585	21.458
Individual	633.493	0.973
Interclass Correlation		
Region	1.63e-11	0.000
City | Region	0.205	0.021

*$p < .1$. **$p < .05$. ***$p < .001$.

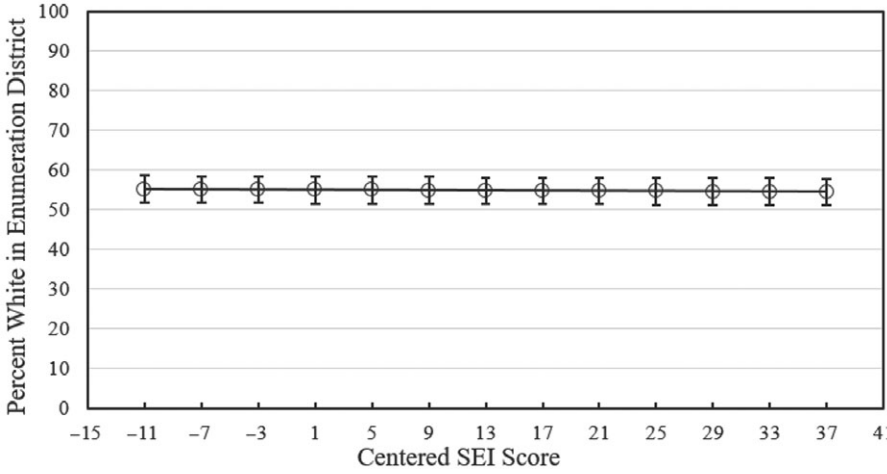

Figure 5. SEI score and percent White in enumeration district.

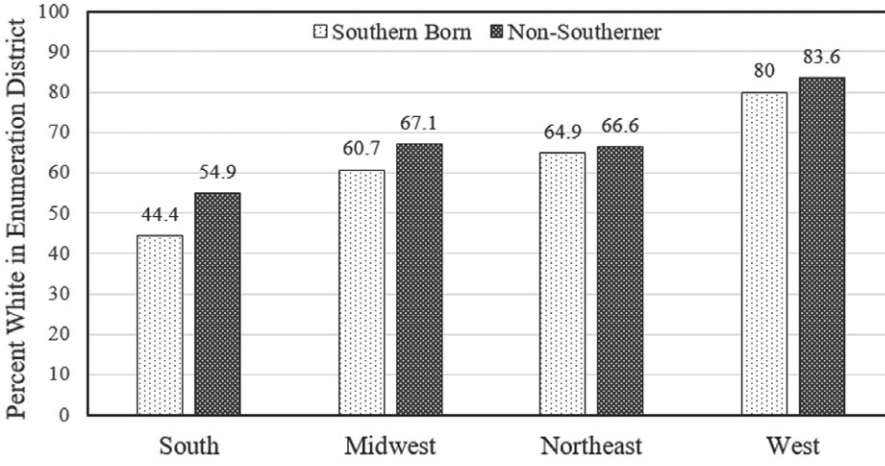

Figure 6. Southern-born status and percent White in enumeration district.

cities, *but not that many fewer.* Figure 8 also shows the relative size of the *immigrant population* to be positively correlated with the proportion of White neighbors in a Black person's enumeration district. This result suggests that whatever animosity there may have been between White immigrants and Blacks, as described earlier in this article, in a relative sense at least, the lower socioeconomic status of these groups may have forced them to share residential space.

The next city-level variable is the *presence of racial zoning*. As was the case with our city-level regression model, we find racial zoning was negatively correlated with

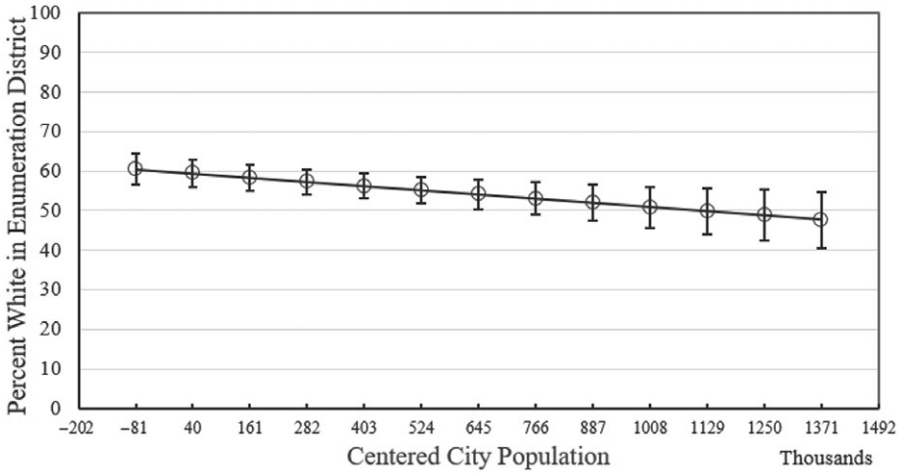

Figure 7. City size and percent White in enumeration district.

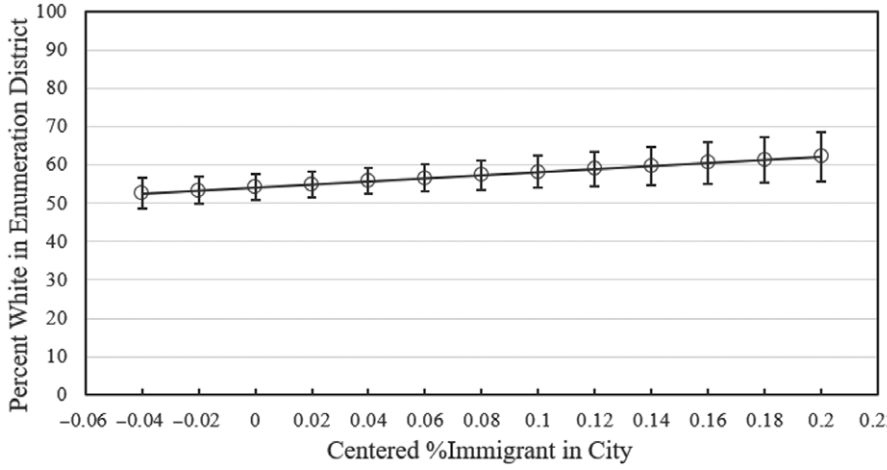

Figure 8. Percent immigrant in city and percent White in enumeration district.

the presence of Whites in an enumeration district. Figure 9 illustrates the interaction between the presence of racial zoning and time. In general, the enumeration districts that Blacks were residing in were becoming less White. This reflects the overall rise in segregation described earlier in this article. Enumeration districts in cities that adopted racial zoning had fewer Whites to begin with in 1910. But enumeration districts in cities that adopted racial zoning saw a more rapid decline in Whites than enumeration districts elsewhere. This pattern is consistent with racial zoning increasing Blacks' isolation where it was implemented.

We hypothesized that older cities have lower levels of segregation due to the pattern of Blacks living in alleys close to the homes of Whites. As hypothesized, if a city

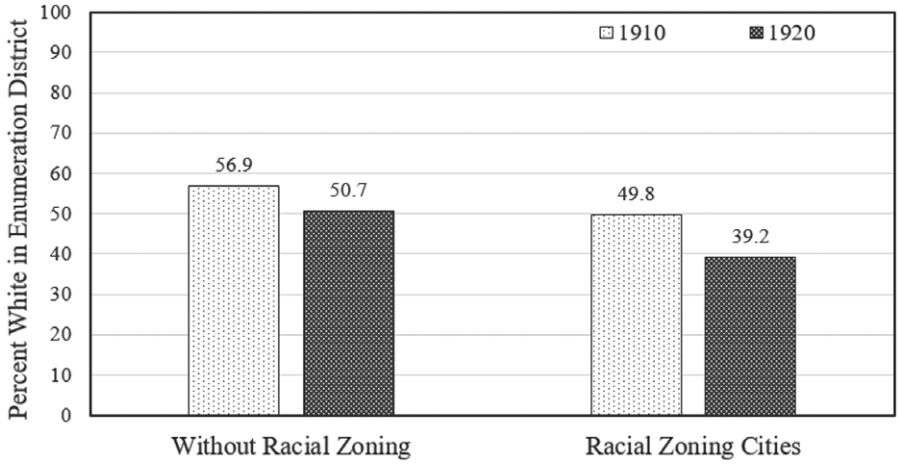

Figure 9. Racial zoning and percent White in enumeration district.

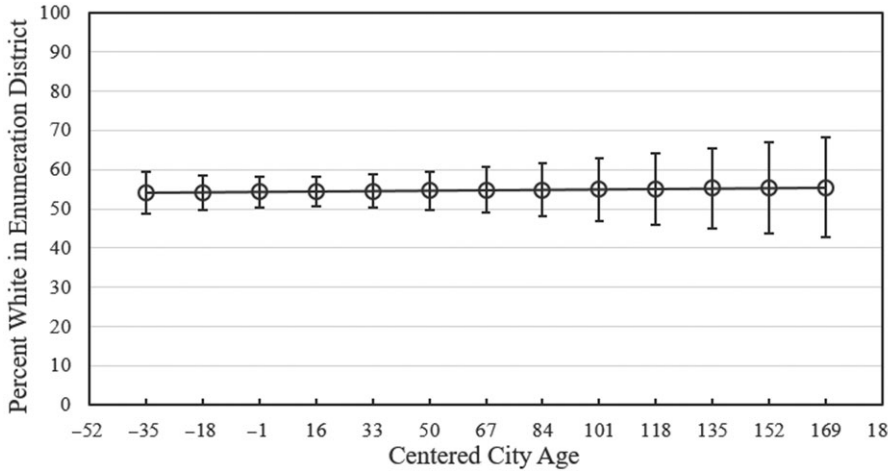

Figure 10. City age (in 1920) and percent White in enumeration district.

is older, more Whites resided in a Black person's enumeration district. However, the difference, as shown in figure 10 is very small. A 100-year increase of a city age only increases percent White in an enumeration district by 0.2 percent. Furthermore, the interaction terms with the region of the country show that compared to the enumeration districts in the South, the percent White for the enumeration districts in the Northeast and Midwest increased at slightly higher rates, whereas the percent White for the enumeration district in West decreased rapidly (figure 11). However, the coefficient for city age variable and its interaction terms were not statistically significant, indicating our estimate cannot confidently be distinguished from zero.

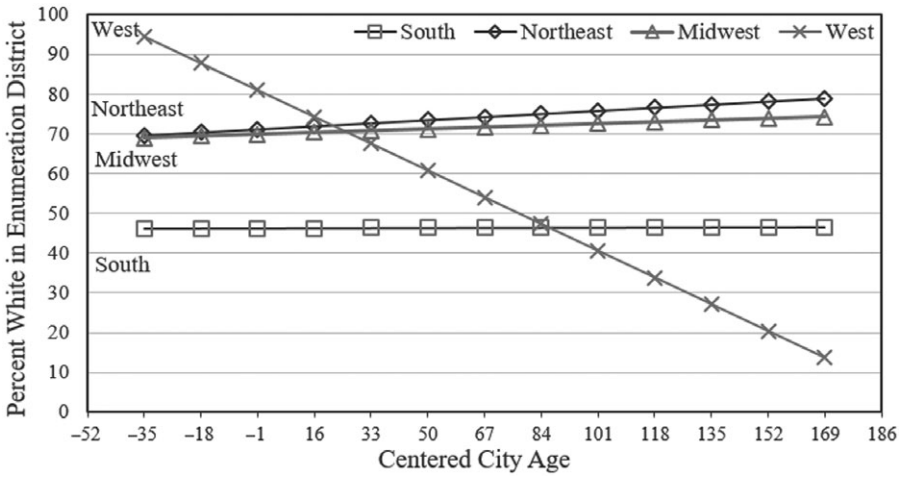

Figure 11. City age (in 1920) and percent White in enumeration district by region.

Lastly, regional variables find that compared to the enumeration districts in the South, enumeration districts in other regions (Northwest, Midwest, and West) had higher percentages of Whites (25.3 percent, 24.1 percent, and 33.9 percent, respectively).

The individual results showing that higher socioeconomic status does not predict greater proximity to Whites leads us to reject the spatial assimilation model as an explanation of proximity to Whites. Other studies have posited a place stratification model, or the primacy of race, where race as a master trait that trumps all others, offers more explanatory power (Freeman 2002). Our analysis, which takes place during a period when racism was at high tide, housing discrimination was intensifying and was in many instances being institutionalized, shows measures of human capital did not translate into more proximity to Whites. This result is consistent with other findings that have found the spatial assimilation model to be an inadequate predictor of proximity to Whites (Freeman 2010; Logan et al. 2015a).

Our results, however, show higher-status Blacks to have *fewer* White neighbors. One possible explanation is the residential patterns of household servants who may have lived near their predominantly White employers.[5] This explanation seems unlikely as household servants would have been only a small portion of the Black population in rapidly industrializing cities. Moreover, in the case of married or cohabiting couples it is not clear why the location needs of the partner employed as a household servant would take precedence. Unfortunately, the full count versions of the 1910 and 1920 census data do not have occupation data that would allow us to test this hypothesis.

Interclass Correlation and Proportion of Variance

Our use of multilevel modeling allows us to partition the variance into the different levels of our three-level model. The results in the last panel of table 4 show virtually

[5]A thoughtful reviewer suggested this to us.

all the variance is explained at the city level (about 20 percent) and at the individual level (about 80 percent). Moreover, interclass correlations allow us to separate and compare the correlations of individuals within the same region, individuals in the same city, and cities within the same region. The correlations of individuals within the same region, irrespective of cities is 0.0 percent, which means that similarities among individuals living in the same region, regarding their exposure to Whites, are low. Meanwhile, the correlations of individuals in the same city is 20.5 percent. This shows that individuals in the same city had comparatively similar exposure to Whites. Lastly, the correlations of cities within the same region is 0.0 percent, which indicates that a large variation of exposure to Whites existed across cities within the same region. These results suggest that individuals living in the same cities had similar exposure to Whites, while there was a great deal of variation across cities even if the cities were in the same region. In sum, the multilevel models show most of the variance in percent Whites in enumeration districts is explained by individual factors and to a lesser extent city level factors. Individuals living in the same cities had comparatively high similarities, while individuals or cities in the same region had low similarities.

Conclusion and Discussion

The findings of this study further our understanding of the dynamics of ghettoization and segregation during the pivotal second decade of the twentieth century. We revisit the five questions posed at the beginning of this article that motivated our inquiry.

Southern and smaller cities had somewhat different experiences regarding segregation, but the differences were not dramatic. Larger cities were more segregated but the relationship between city size and segregation was modest. With the exception of Western cities, which had lower isolation levels, regional differences were not statistically significant in our multivariate city-level models. Our locational attainment model showed Blacks outside the South had significantly more White neighbors. Our results also confirm earlier research that suggests older Southern cities are less segregated at the neighborhood level. In both of our city-level models we find evidence that older cities are less segregated in the South than elsewhere.

The theory that Southern migrants, with their rural folkways and unsophisticated habits, triggered segregation also receives little support from our analyses. Southern migrants experienced only modestly higher levels of segregation than their Northern-born brethren. Moreover, the amount of migration from the South, while related to the isolation index, did little to alter the dissimilarity index that measures how evenly spread Blacks were throughout cities. That the isolation index, which is determined in part by the size of the Black population, would increase with an influx of Southern Black migrants is not surprising and this finding alone does not provide much support for the notion that Southern migrants triggered White racism. Conversely, the dissimilarity index was not related to the rate at which Southern migrants were flowing into a city, in direct contradiction to the notion that Southern migrants triggered White racism.

Our findings remind us of the importance of the sometimes overlooked *Buchanan v. Warley* Supreme Court decision that outlawed segregation.

Although heralded by the Black press at the time, this decision of the US Supreme Court is seldom afforded the prominence of other Fair Housing milestones such as *Shelley v. Kraemer* or the Fair Housing Act of 1968. The evidence presented here, however, suggests racial zoning had a significant and quantifiable impact on segregation levels. Had such zoning been allowed for decades rather than a mere seven years, the segregation that has characterized American cities for more than a century would have likely been even more intense and durable.

The role of class in determining Blacks' segregation from Whites is also illuminated by our findings. Higher socioeconomic status did not translate into increased proximity to Whites. Anecdotal reports of Black elites living proximate to Whites must represent such a miniscule portion of the Black population that it cannot be detected in systematic analyses of segregation. Our findings show that even at this early stage of ghettoization, class was unimportant in determining Blacks' residential segregation from Whites—a pattern found elsewhere (Logan et al. 2015a, 2015b; Freeman 2010).

Finally, our analyses suggest the presence of immigrants in a city was positively correlated with Blacks' exposure to Whites. This may be due to the fact that most immigrants at this time were from Europe and the lower socioeconomic status of White immigrants forced them to share residential space with Blacks, at least relatively speaking.

The research presented in this article thus adds to the literature on residential segregation by providing more reliable estimates of the degree of residential segregation experienced by Blacks at the beginning of the Great Migration as well as exploring other factors associated with varying levels of segregation at that time. The findings are consistent with both contemporary observations and historical accounts in finding that there was a marked increase in segregation during this period. The findings also help clarify what has been, until recently, a cacophony of views on the role of the Great Migration, and to a lesser extent racial zoning on patterns of residential segregation.

The role of the Great Migration in setting the stage for later twentieth-century ghettoization was perhaps not as important as commonly thought, yet it was still a necessary ingredient for the creation of the modern twentieth-century ghetto. As evidenced by the increasing levels of segregation in cities where there was no big increase in the Black population as well as the very small differences in levels of segregation experienced by Southern migrants and natives, ghettoization and segregation were increasing across the board. This point is underscored by the relatively high levels of segregation in some cities by 1910, before the onset of the Great Migration and the importance of segregation levels in 1910 for predicting segregation levels in 1920. The ghettoization and segregation that would characterize much of urban America throughout the twentieth century were already in place, albeit in embryonic form, in many cities by 1910.

The Great Migration was undoubtedly important because it amplified the ghettoization patterns that had already crystalized by 1910. The budding ghettos of 1910, whose populations doubled and in some instances trebled (e.g., Chicago and Detroit) in some cities created a dramatic impression among contemporary observers and historians alike. In most cities, the increase was perhaps less dramatic but ghettoization nevertheless accelerated in these same cities.

The second decade of the twentieth century was indeed a pivotal one for ghettoization and residential segregation. This study elucidates why this is true.

References

Afro-American Ledger (1911) "West segregation law still causing trouble among Baltimore's solons: Arrests almost as frequent as drunk cases—white man rails against the law, as it prevents whites doing business in colored blocks." Afro-American Ledger, January 14: 5.

Alba, Richard D., and John R. Logan (1991) "Variations on two themes: Racial and ethnic patterns in the attainment of suburban residence." Demography **28** (3): 431–53.

—— (1992) "Analyzing locational attainments: Constructing individual-level regression models using aggregate data." Sociological Methods & Research **20** (3): 367–97.

—— (1993) "Minority proximity to Whites in suburbs: An individual-level analysis of segregation." American Journal of Sociology **98** (6): 1388–1427.

Chicago Commission on Race Relations (1922) The Negro in Chicago: A Study of Race Relations and a Race Riot. The University of Chicago Press.

Cutler, David M., Edward L. Glaeser, and Jacob L. Vigdor (1999) "The rise and decline of the American ghetto." Journal of Political Economy **107** (3): 455–506.

Drake, St. Clair, and Horace A. Cayton (1945) Black Metropolis: A Study of Negro Life in a Northern City. Harcourt, Brace and Company.

Duncan, Otis Dudley (1961) "A socioeconomic index for all occupations," in Albert J. Reiss, Otis Dudley Duncan, Paul K. Hatt, and Cecil C. North (eds.) Occupations and Social Status. Free Press.

Farley, Reynolds, and William H. Frey (1994) "Changes in the segregation of Whites from Blacks during the 1980s: Small steps toward a more integrated society." American Sociological Review **59** (1): 23–45.

Frazier, E. Franklin (1957) The Negro in the United States. Macmillan.

Freeman, Lance (2000) "Minority housing segregation: A test of three perspectives." Journal of Urban Affairs **22** (1): 15–36.

—— (2002) "Does spatial assimilation work for Black immigrants in the US?" Urban Studies **39** (11): 1983–2002.

—— (2008) "Is class becoming a more important determinant of locational attainment amongst African Americans?" Urban Affairs Review **44** (1): 3–26.

—— (2010) "African American locational attainment before the civil rights era." City and Community **9** (3): 235–55.

Frey, William H., and Reynolds Farley (1996) "Latino, Asian, and Black segregation in U.S. metropolitan areas: Are multiethnic metros different?" Demography **33** (1): 35–50.

Galster, George C. (1990) "Neighborhood racial change, segregationist sentiments, and affirmative marketing policies." Journal of Urban Economics **27** (3): 344–61.

Gibson, Campbell, and Kay Jung (2005) Historical Census Statistics on Population Totals by Race, 1790 to 1990, and by Hispanic Origin, 1970 to 1990, for Large Cities and Other Urban Places in the United States. US Census Bureau.

Grigoryeva, Angelina, and Martin Ruef (2015) "The historical demography of racial segregation." American Sociological Review **80** (4): 814–42.

Kantrowitz, Nathan (1973) Ethnic and Racial Segregation in the New York Metropolis: Residential Patterns among White Ethnic Groups, Blacks, and Puerto Ricans. Praeger Special Studies in U.S. Economic, Social, and Political Issues. Praeger.

Katzman, David M. (1973) Before the Ghetto. University of Illinois Press.

Krupka, Douglas J. (2007) "Are big cities more segregated? Neighbourhood scale and the measurement of segregation." Urban Studies **44** (1): 187–97.

Kusmer, Kenneth L. (1978) A Ghetto Takes Shape. University of Illinois Press.

Lane, Roger (1986) Roots of Violence in Black Philadelphia: 1860–1900. Harvard University Press.

Lieberson, Stanley (1963) Ethnic Patterns in American Cities. Free Press.

Logan, John R., Brian J. Stults, and Reynolds Farley (2004) "Segregation of minorities in the metropolis: Two decades of change." Demography **41** (1): 1–22.

Logan, John R., Weiwei Zhang, and Miao David Chunyu (2015a) "Emergent ghettos: Black neighborhoods in New York and Chicago, 1880–1940." American Journal of Sociology **120** (4): 1055–94.

Logan, John R., Weiwei Zhang, Richard Turner, and Allison Shertzer (2015b) "Creating the Black ghetto: Black residential patterns before and during the Great Migration." The ANNALS of the American Academy of Political and Social Science **660** (1): 18–35.

Massey, Douglas S., and Nancy A. Denton (1985) "Spatial assimilation as a socioeconomic outcome." American Sociological Review **50** (1): 94–106.

—— (1988) "The dimensions of residential segregation." Social Forces **67** (2): 281–315.

Osofsky, Gilbert (1971) Harlem: The Making of a Ghetto; Negro New York, 1890–1930. 2nd ed. Harper & Row.

Paccagnella, Omar (2006) "Centering or not centering in multilevel models? The role of the group mean and the assessment of group effects." Evaluation Review **30** (1): 66–85.

Richmond Times Dispatch (1911) "Robert Green, colored, reported for violation of segregation ordinance." Richmond Times Dispatch, June 18.

Ruggles, Steven, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek (2010) Integrated Public Use Microdata Series: Version 5.0. [dataset]. University of Minnesota.

Schnore, Leo F., and Philip C. Evenson (1966) "Segregation in Southern cities." American Journal of Sociology **72** (1): 58–67.

Spear, Allan H. (1967) Black Chicago: The Making of a Negro Ghetto, 1890–1920. University of Chicago Press.

Stephenson, Gilbert T. (1914) "The segregation of the White and Negro races in cities by legislation." National Municipal Review **3** (3): 496–504.

US Census Bureau (1921) Financial Statistics of Cities Having a Population of over 30,000. US Census Bureau.

—— (1977) Reference Manual on Population and Housing Statistics from the Census Bureau. US Census Bureau.

Van Valey, Thomas L., Wade Clark Roof, and Jerome E. Wilcox (1977) "Trends in residential segregation: 1960–1970." American Journal of Sociology **82** (4): 826–44.

Washington, Forrester B. (1920) The Negro in Detroit: A Survey of the Conditions of a Negro Group in a Northern Industrial Center during the War Prosperity Period. Associated Charities of Detroit.

Weaver, Robert C. (1948) The Negro Ghetto. Harcourt, Brace & Company.

Woodson, Carter Godwin (1918) A Century of Negro Migration. The Association for the Study of Negro Life and History.

Cite this article: Bae, Hyun Hye and Lance Freeman (2021) "Residential Segregation at the Dawn of the Great Migration: Evidence from the 1910 and 1920 Census," *Social Science History* **45**:27–53. doi:10.1017/ssh.2020.36