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Separate and Unequal in Suburbia

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Brian Stults (Florida State University) prepared the data files for metropolitan regions, cities, and suburban areas based on constant 2010 definitions. Julia Burdick-Will (Johns Hopkins University) prepared the school data for 2010.

Report Summary

The suburbs, which were nearly 90% white in 1980, have become much more racially and ethnically diverse. In fact suburbia is as diverse in 2010 as central cities were 30 years before. But suburban residents are divided by racial/ethnic boundaries. As is true in cities, blacks and Hispanics live in the least desirable neighborhoods, even when they can afford better. And their children attend the lowest performing schools. This is a familiar story in older central cities. Because moving to the suburbs was once believed to mean making it into the mainstream, these disparities are especially poignant, and they puncture the image of a post racial America.

Separate and Unequal in Suburbia

The events in a predominantly black suburb – Ferguson, MO – in 2014 have shone a light on an important shift in metropolitan America. The suburbs have become steadily more diverse by race and class. In the late 1970s the metropolis could be described as "Chocolate City, Vanilla Suburbs" (Farley et al 1978). Large cities were increasing in their black population, but many suburbs remained mostly white. That has changed. Influential research by William Julius Wilson (1987) pointed to one source: the continued growth of the black middle class and its efforts to find better conditions outside the historic ghetto. At the same time, many have pointed out a disturbing aspect of minority suburbanization, which is the tendency for separation into older, inner ring suburbs that had limited public services and were no longer attractive to whites (Schneider and Logan 1982, Massey and Denton 1988, Logan and Alba 1993).

This report offers an update of previous research using data as recent as 2010. It documents the change in the distribution of non-Hispanic whites, blacks, Hispanics, and Asians between city and suburban areas from 1980 to 2010, the trend in each minority group's segregation from whites, the class composition of the city and suburban neighborhoods where each group lives, and the differences in performance of schools that their children attend.

These data show growing suburban diversity and some moderation of residential segregation in the average suburban region, but continued high levels of inequality in the kinds of suburban neighborhoods where different groups live:

- Suburbs have grown more than central cities in the last three decades and now 60% of metropolitan area residents live in the suburban ring. This share varies by racial/ethnic group, with non-Hispanic whites most likely to live in suburbs. Minority groups nevertheless have been catching up. A surprising result is that suburbia in 2010 has about the same degree of racial/ethnic diversity as cities did in 1980.

- Blacks are less segregated from whites in suburbs than they are in central cities. Black-white segregation in suburbs is declining, though more slowly than in cities. Hispanics are also less segregated in suburbs than in cities, but there has been no change in their level of segregation since 1980. Suburban Asians are the least segregated group and on average they live in majority white neighborhoods. But their level of segregation also has not changed since 1980.

- One aspect of segregation is what researchers call "isolation" – members of every group tend to live in neighborhoods where they are over-represented. Isolation is strongly affected by changes in the group's relative size, so suburban black isolation has declined since 1980 while Hispanic and Asian isolation has increased. At the same time every group's exposure to whites has diminished.

- Another aspect of segregation is that groups' neighborhoods are unequal. Just as has been reported previously for metropolitan regions, suburban whites and Asians live in better neighborhoods (i.e., with lower poverty) than blacks and Hispanics. The overall disparity is so large that it overcomes the effect of income – blacks and Hispanics with

incomes over $75,000 live in neighborhoods with a higher poverty rate than do whites who earn less than $40,000.

- Inequalities also show up in public services, especially schools. The suburban schools attended by black and Hispanic children generally perform better on standardized tests than their schools in central cities. However these schools score considerably worse than schools attended by suburban whites and Hispanics. These disparities result partly from the higher level of poverty in blacks' and Hispanics' schools, but differences remain even after controlling for poverty.

Data and Methods

This research is mainly based on census data at the tract level from each decade 1980-2010 for people living in metropolitan areas. Metropolitan boundaries are held constant to their 2010 definitions, and the division between cities and suburbs is also studied as defined by the Census Bureau in 2010. The census data provide a count of the number of whites, blacks, Hispanics, and Asians in every tract, the income levels of households headed by a member of each group, and other characteristics of the tract. We focus on the percent of residents below the poverty line as an indicator of the condition of the neighborhood.

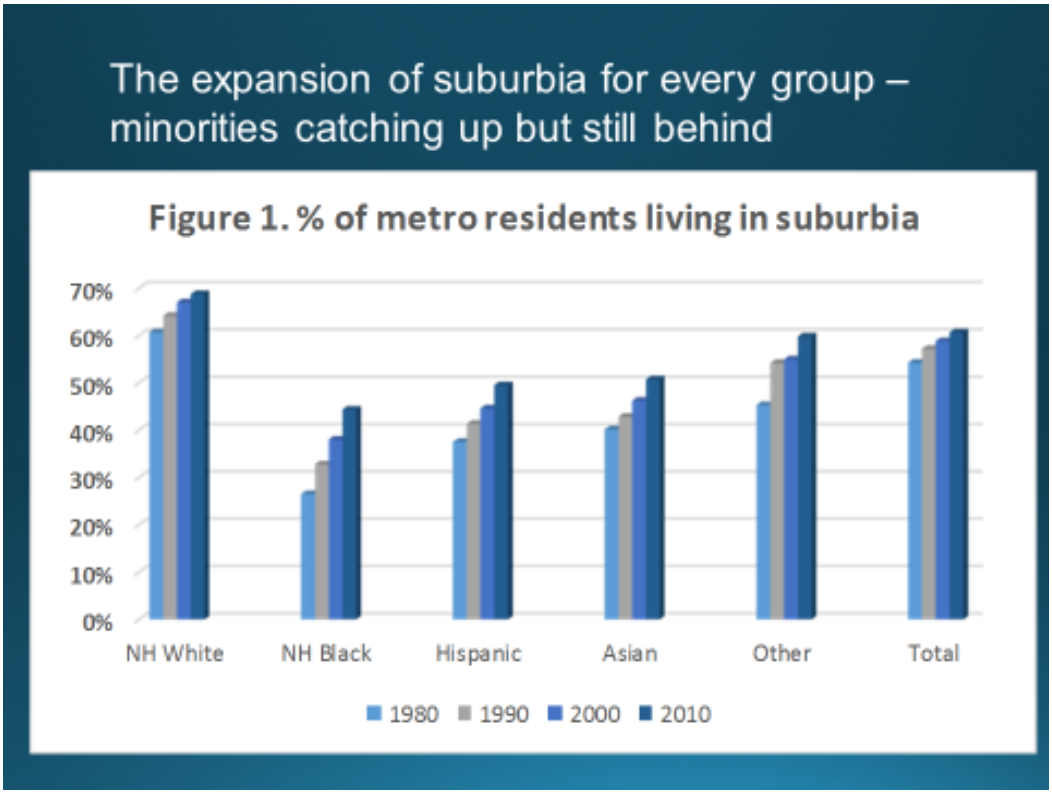
School data are from 2010 and are drawn from the National Center for Education Statistics (NCES). We focus on public elementary schools because their relatively narrow attendance zones provide information for the most local community area. These data include the racial composition of each school, the school's standardized test scores (measured in relation to other schools in the same state), and the percent of students who are eligible for free/reduced price lunches (an indicator of poverty).

See the technical appendix below for more details about measures and data used here.

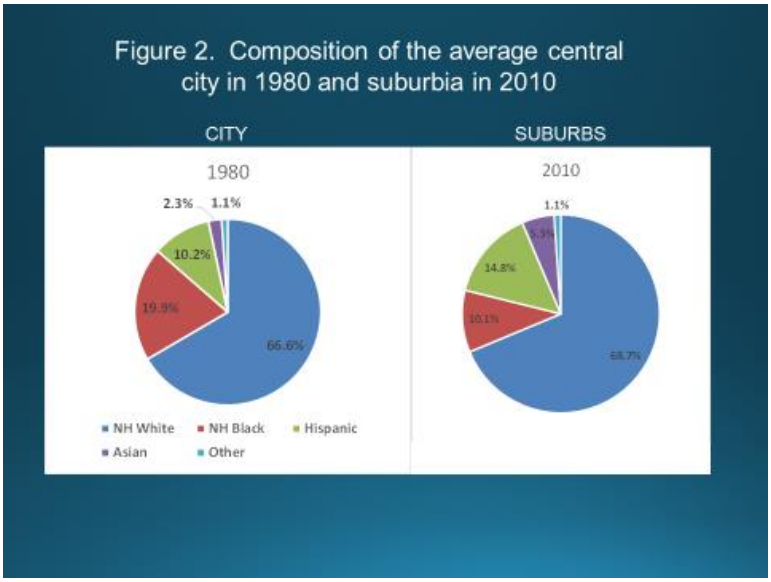
Suburban Racial/Ethnic Diversity and Residential Segregation

The first significant fact about suburbia is that its population is growing and becoming steadily more diverse. Figure 1 represents this change by charting the share of metropolitan whites, blacks, Hispanics and Asians who lived in the suburbs in each decade since 1980. For every group the suburban share is increasing. Whites were suburbanizing even before the vast expansion of suburbia after World War II. The white population in cities has actually declined since 1990, falling from about 51.1 million to 49.0 million in 2010. Their numbers continue to grow in suburbia, though at a declining rate (up 17% in the 1980s, up 8% in the 1990s, and up only 4% from 2000 to 2010).

Minorities were initially much more likely to live in cities. The suburban black population was under 6 million in 1980 but now has reached nearly 16 million. Because the overall Hispanic and Asian populations have grown so much, their increase in suburbia has been more dramatic: from under 5 million to 23 million for Hispanics, from 1.2 million to 8.3 million for Asians.

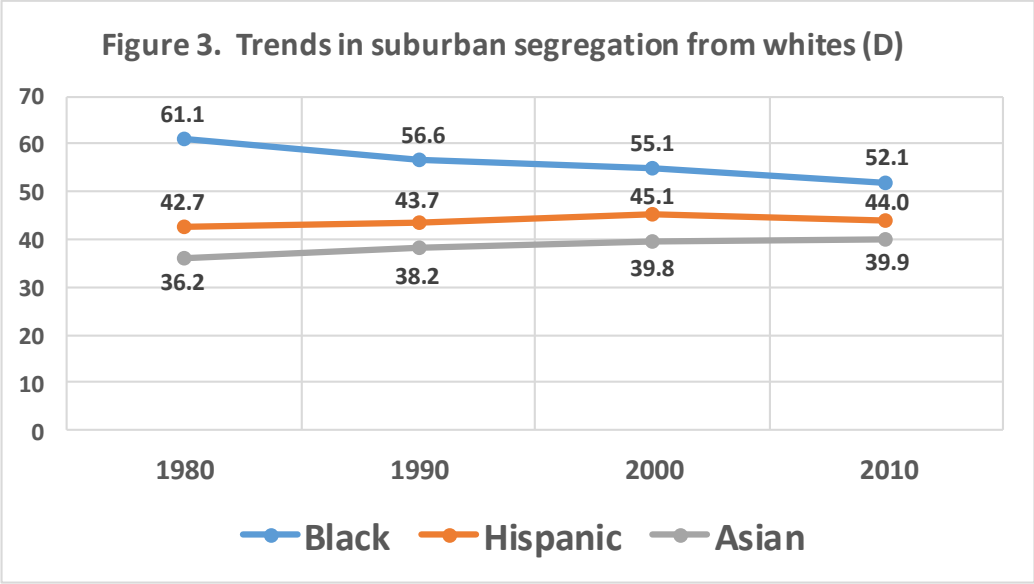


The trend toward suburban diversity is reflected in the pie charts in Figure 2. The pie on the left represents the total central city population in 1980, when whites were about two-thirds of residents. The pie on the right represents the suburban population thirty years later. Whites are just above two-thirds of the total in the suburbs, too. The major difference is the relative sizes of minority groups – fewer in today's suburbs are black, while more are Hispanic or Asian.



Suburban diversity does not mean that neighborhoods within suburbia are diverse. As is true in central cities, minorities are fairly highly segregated among suburban neighborhoods. Figure 3 reports the values of the most widely used measure of segregation, the Index of Dissimilarity (D). D ranges from 0 to 100, and social scientists generally consider values below 30 to be quite modest while values above 60 are very high. The averages shown here are weighted by the size of the minority population in an area; they can be described as the average level of segregation experienced by a minority group member. As Figure 3 shows, black segregation from whites in suburbs averaged above 60 in 1980; it has fallen slowly but steadily since then, and now averages slightly over 50. (By comparison, D in central cities averaged 75.0 in 1980 but has fallen to 59.6 in 2010).

Suburban Hispanic segregation from whites is lower (44.0), but it has not changed much since 1980. Suburban Asian segregation is now 39.9, somewhat higher than in 1980.

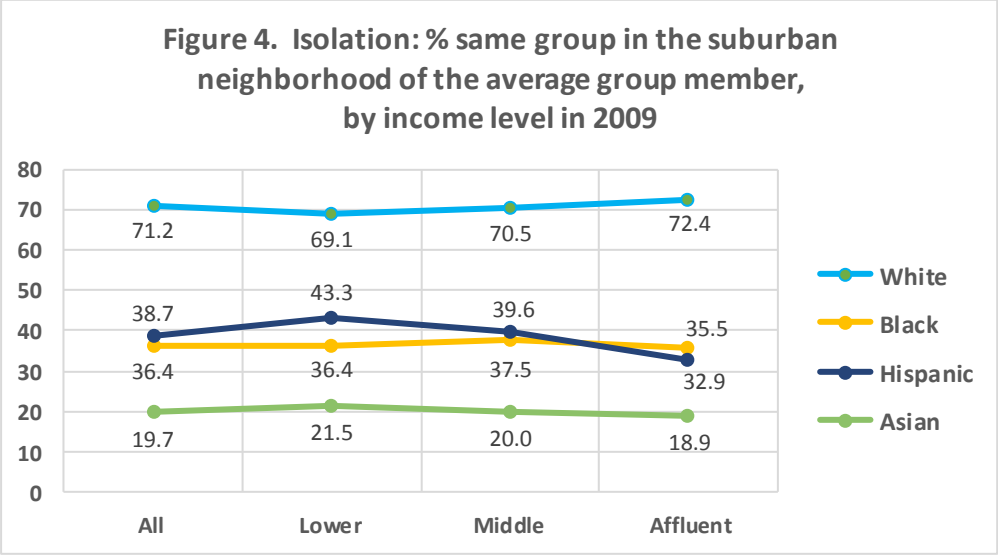


An intuitive sense of what these levels of segregation mean is given by other measures that describe the racial composition of the neighborhood where the average group member lives. These figures depend on both the overall racial composition of the region and on the degree of segregation across neighborhoods. Table 1 lists the values in central cities for comparison – they uniformly show that all groups' neighborhoods in the suburbs had a higher share of white neighbors and a lower share of black and Hispanic neighbors than in cities.

The focus here is on the trends in suburbia. Recall that 10.1% of the suburban population was black in 2010. Yet the average black suburbanite lived in a neighborhood that was 35.6% black in 2010, more than a three-to-one disproportion. Although 68.7% of suburban residents were white, the average black suburbanite's neighborhood was only 44.6% white. While black-white segregation was declining in this period, suburban blacks had fewer white neighbors and fewer black neighbors in 2010 than in 1980. This is a consequence of immigration – every group had more Hispanic and Asian neighbors in 2010 than in 1980.

Table 1. Average measures of isolation and exposure for group members in metro areas								
	Central Cities				Suburbs			
	1980	1990	2000	2010	1980	1990	2000	2010
Blacks lived in neighborhoods with:								
% white of	23.3	25.6	25.5	26.9	52.9	52.2	47.7	44.6
% black of	68.4	63.0	58.6	52.9	40.3	38.2	37.5	35.6
% Hispanic of	6.5	8.9	11.8	15.2	5.0	7.1	10.4	14.4
% Asian of	1.0	2.0	3.1	4.0	1.0	2.0	3.3	4.5
Hispanics lived in neighborhoods with:								
% white of	41.4	36.0	30.9	29.2	57.6	51.0	44.5	41.2
% black of	12.7	12.5	12.6	12.8	5.9	6.9	8.5	9.8
% Hispanic of	41.4	45.4	48.6	49.9	33.0	37.4	40.6	42.1
% Asian of	3.1	5.4	6.4	7.1	2.2	4.0	5.1	5.9
Asians lived in neighborhoods with:								
% white of	56.0	51.8	46.0	42.7	70.3	66.8	59.6	54.8
% black of	8.7	9.3	9.9	10.0	4.8	6.0	7.5	8.6
% Hispanic of	13.9	17.4	19.1	20.6	9.0	12.0	14.1	16.5
% Asian of	19.4	20.8	23.4	25.6	14.5	14.7	17.6	19.2

A standard theory in urban sociology is that a group's isolation – the degree to which group members live in separate racial/ethnic zones – depends on the income level of individual members. Higher income minorities are expected to live in less segregated settings. Figure 4 offers a test of that expectation, using data from the 2005-2009 American Community Survey that included information on race, income and where people lived.



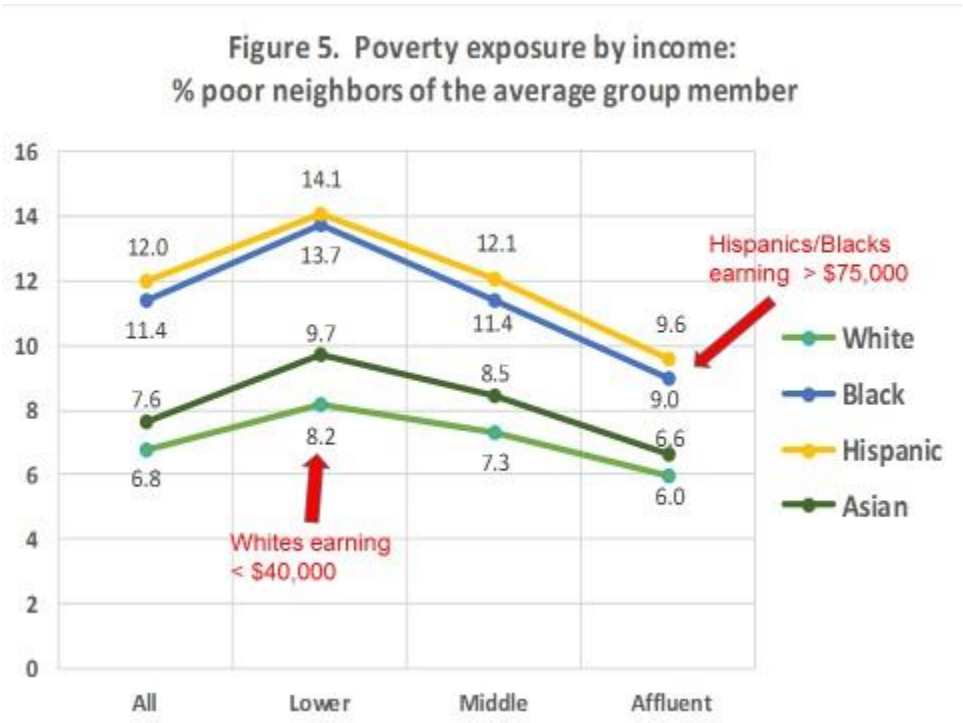
It turns out that the standard theory applies only to Hispanics. Lower income Hispanics (earning below $45,000) lived on average in suburban neighborhoods that were 43% Hispanic. Affluent

Hispanics' neighborhoods (those earning above $75,000) were only 35% Hispanic. But there was no such relationship for whites, blacks or Asians. For these groups, their isolation was unrelated to their income. Suburban residential boundaries for them are mostly based on race.

Separate and Unequal

There are two readily accessible sources of information about the quality of people's local environments. One is specifically about their neighbors – the poverty rate in the neighborhood where they live, reported by the 2005-2009 American Community Survey. The other is about local schools, specifically the test performance of schools that group members' children attend.

Figure 5 reports the poverty exposure of suburbanites. It shows that there are large differences in the quality of groups' neighborhoods. At one extreme, whites live on average in suburban neighborhoods where less than 7% of neighbors are below the poverty line. Hispanics' neighborhoods have an average poverty rate of 12.0%, nearly twice as high, and blacks' neighborhoods average 11.4% poor.



Again a standard expectation – one that seems intuitive to the average American – would be that these differences are mainly due to Hispanics' and blacks' relatively lower incomes (in the average metropolitan area, they earn only 60-70% as much as whites, while Asians earn more than whites). This expectation is tested in the same way as in Figure 4, by looking separately at group members in different income categories.

The result is similar to what has previously been reported for metropolitan regions as a whole (Logan 2011). In every group the more affluent households live in lower poverty

neighborhoods. But controlling for income does not remove the large disparities across groups. In fact, lower income whites live in neighborhoods with a lower poverty rate (8.2%) than affluent Hispanics (9.6%) or blacks (9.0%). This finding conflicts with the usual assumption that residential inequality in America is mostly class-based. In fact even when they experience much success in the labor market, many minority group suburbanites are relegated to neighborhoods with fewer resources.

Tables 2-3 below assess another indicator of neighborhood quality – the performance of public elementary schools in 2010. For these tables schools' test scores have been compared to other schools in the same state where students take the same 4th grade reading test. Values in the table are the schools' average percentile ranking within the state.

Table 2 shows that schools in suburbs perform better than city and non-metropolitan schools. However disparities across race and ethnicity are found in all three settings. The average suburban black or Hispanic elementary student attends a school that ranks below the 45th percentile in the state, despite the suburban advantage. The average suburban white or Asian child's school is above the 60th percentile. Even within suburbia, schools are both separate and unequal.

Table 2. Achievement of schools attended by race/ethnicity

[Elementary reading score percentiles in 2010]

	City	Suburban	Non-Metro
White	54.1	63.8	51.9
Asian	48.2	62.7	53.2
Black	27.8	43.3	38.2
Hispanic	31.4	44.9	41.9

Table 3 begins to explain the cause. It was already shown above that black and Hispanic residents live in poorer neighborhoods. They also attend schools with higher poverty concentration (as reflected in the percent of student eligible for free or reduced price lunches). Table 3 divides schools into three roughly equal categories of poverty (over 55%, 25-55%, and below 25%). It still shows disparities among suburban schools that have similar poverty levels, but the differences are reduced considerably. The conclusion is that a large part of the disparity in school performance between schools attended by white/Asian or black/Hispanic students is because the latter children attend higher poverty schools.

Table 3. Achievement of schools attended by race/ethnicity

[Elementary reading score percentiles in 2010]

	High Poverty			Medium Poverty			Low Poverty		
	City	Suburb	Non-Metro	City	Suburb	Non-Metro	City	Suburb	Non-Metro
White	32.5	40.4	43.7	57.2	54.4	54.0	76.7	72.3	63.2
Asian	26.5	29.1	40.5	55.5	50.8	54.5	80.2	74.3	70.6
Black	22.2	28.4	34.1	52.9	48.2	55.6	66.2	66.1	66.5
Hispanic	27.2	31.4	37.4	51.3	49.1	50.2	47.0	63.2	51.9

The case of St. Louis

This analysis of patterns and trends is based on national averages, although very similar results are found in most metropolitan areas of the country. What is the situation with respect to blacks and whites in St. Louis suburbs like Ferguson?

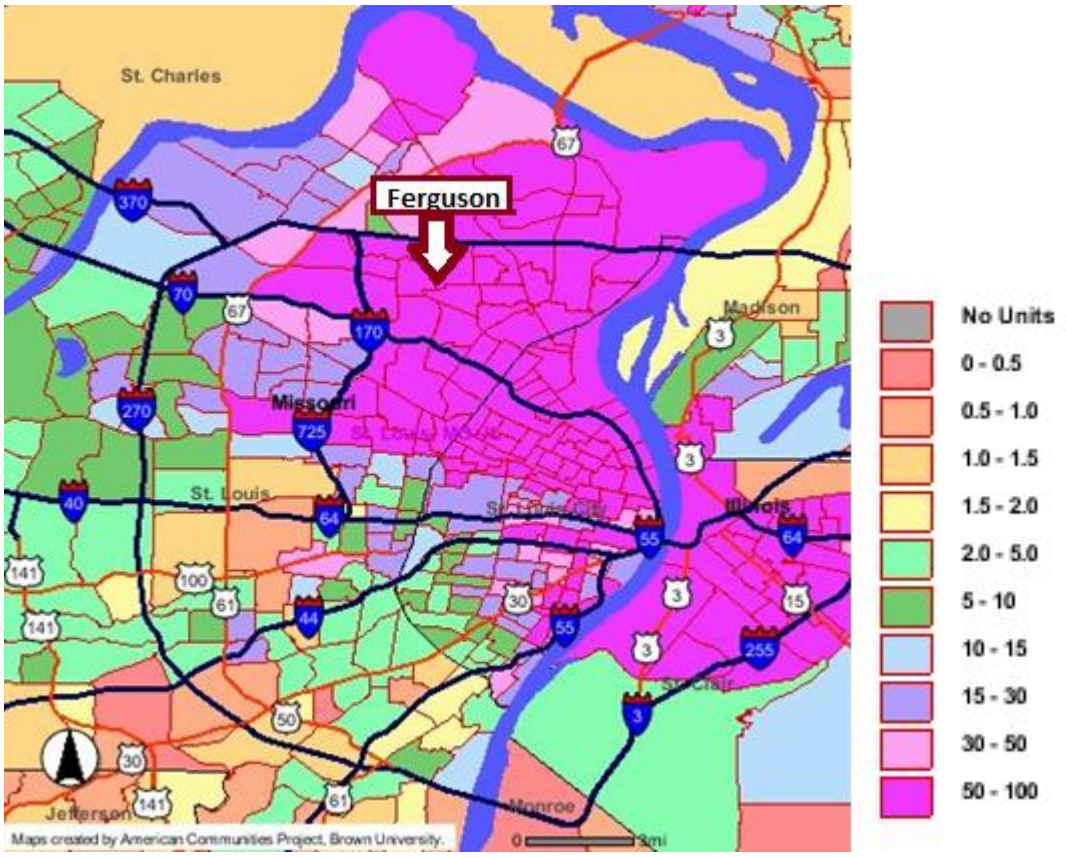


Figure 6. % black in 2010 by census tract in the St. Louis area. Ferguson is a suburb just east of I-170 and south of I-270, within the zone that is above 50% black.

Figure 6 (above) presents a map of St. Louis that shows the percentage of black residents in census tracts in 2010. Not only the city itself but also a large zone of inner suburbs is over 50% black, including Ferguson (in the northwest part of the predominantly black area). Most suburbs further away from the city are less than 10% black, many in the range of 1-5%. These differences that are so evident on the map translate into a high level of residential segregation. In fact, St. Louis's suburban ring is among the most segregated in the nation (D = 69.2, compared to the national average in suburbs of only 52.1). Only Newark, NJ; Miami, FL; and Cleveland, OH suburbs are more segregated, and St. Louis is tied with the Nassau-Suffolk, NY suburbs for 4th highest. It is also notable that segregation in this suburban region has hardly changed since 1980. It declined from 76.4 in 1980 to 71.9 in 1990, then only to 70.5 in 2000.

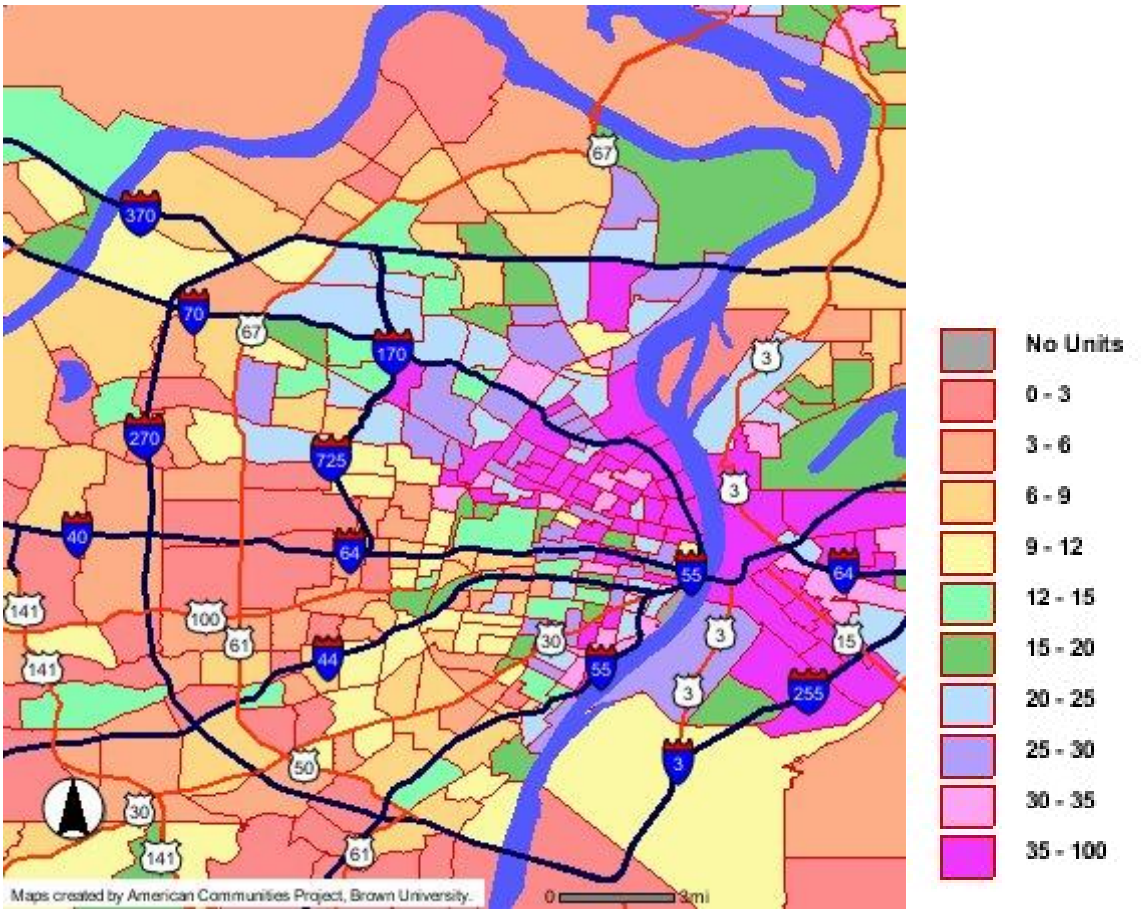


Figure 7. % below poverty in 2005-2009 by census tract in the St. Louis area

Figure 7 depicts the spatial pattern of poverty in St. Louis. Many areas of the city and also East St. Louis, IL, are above 35% poor. Poverty in most of the suburban ring is below 12%. Ferguson itself is divided between tracts in the southern portion of the town in the range of 20%-25% poor and those more to the north in the range of 12%-20% poor. Other nearby predominantly black suburban areas have higher poverty than Ferguson.

On average, suburban whites in St. Louis live in neighborhoods with a 6.2% poverty rate, while suburban blacks' neighborhoods average 16.4% poor. Exposure to poverty does vary by households' income, but income differences don't explain the race differences. Lower income

whites (earning under $40,000) live in neighborhoods with a poverty rate of 7.8%; comparable blacks' neighborhoods are 19.5% poor. Even affluent blacks (earning over $75,000) live in neighborhoods averaging 10.6% poor. Affluent blacks, in St. Louis suburbs as in most of the country, live in poorer neighborhoods than lower income whites.

A final relevant statistic concerns the elementary schools attended by whites and blacks in the St. Louis suburbs. The average white student attends a school that scores at the 59th percentile on the 4th grade reading test. The average black student's school is at the 25th percentile.

This disparity is partly due to the much higher concentration of black students in high-poverty schools (free/reduced lunch over 55%) – 75% of black students vs 17% of white students attend such schools. But the schools' poverty level leaves some disparities unexplained. The low-poverty schools attended by blacks and whites are similar, averaging in the 78th and 76th percentile respectively. But in medium poverty schools there is a 10-point performance gap (44th percentile for schools attended by blacks vs 54th percentile for schools attended by whites). And in high poverty schools the disparity is larger (15th percentile for blacks, 33rd for whites).

Ferguson's seventeen K-6 schools are typical of schools attended by black students in St. Louis suburbs. They range from 51% to 98% black. All but four are in the high-poverty category. Two schools stand out for higher performance (in the 43rd and 55th percentile in reading). The other fifteen range from the 5th to the 25th percentile.

Discussion and conclusion

Moving to the suburbs has generally been understood as a step up from older central city neighborhoods. And on the whole it is. Segregation is lower in the suburbs, neighbors have higher class standing, community resources are higher, and schools have higher performance on test scores. But minorities confront boundaries in suburbia that are very similar to those they live with in cities.

As the suburbs have become more diverse by race and ethnicity, they have also separated groups into different and unequal neighborhoods. African Americans and Hispanics face persistent obstacles to achieving the suburban dream. They tend to live in different communities, often in the older, inner suburbs that have become less desirable as places to live. They live in poorer neighborhoods, even poorer neighborhoods than whites who fall well below them in earnings. And their usual school choice is an elementary school that performs well below the state average.

These same patterns appear clearly in the case of St. Louis. Blacks are much more highly segregated in St. Louis suburbs than in most of the country. They face similar disparities in the class composition of their neighborhoods, and this result holds even when taking into account their own incomes. Their children attend worse performing schools than whites in nearby suburbs.

Ferguson itself is a predominantly black suburb. Parts of the community have lower poverty than is common in black neighborhoods, but the town as a whole is strikingly different from the majority white suburbs that lie to its north and west. Parents in the Ferguson-Florissant School District mostly have to choose among elementary schools that rank in the bottom 10% or 15% in the state, only modestly better than the average central city school in the region.

In all these respects Ferguson in particular and St. Louis more broadly are representative of the pattern reported here for the nation. Ferguson has motivated much discussion in recent months. Understanding the extent of segregation and unequal opportunity that residents in this town live with on a daily basis is a step toward understanding the often violent protests that followed the shooting death of a local teenager. The most important message here is that the background conditions in this case are widespread in suburban America. There are variations in different regions, and there are exceptional cases even in the typical metropolitan area. But this is the usual situation. The residential environment of suburban blacks and Hispanics nationwide is separate and unequal.

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Appendix on methodology

How Do We Measure Segregation?

The decennial census provides information on segregation at the level of census tracts, areas that typically have 3000-5000 residents. We report segregation for metropolitan regions beginning in 1980, using exactly the same geographic boundaries in each year. Metropolitan areas in every year are standardized to their Census 2010 boundaries.

For aggregated population data and for segregation measures that we have calculated for individual metropolitan regions, or for individual cities over 10,000 population, see: http://www.s4.brown.edu/us2010/Data/Data.htm. This report presents indices for 1980-2010.

Measuring race and Hispanic origin

The measurement of race is complicated by changes over time in the questions used by the Census Bureau to ask about race and the categories used in tabulations provided by the Census Bureau. Since 1980 two questions have been used: 1) is the person of Hispanic origin or not, and 2) what race does the person belong to? Beginning with the 2000 Census people have been allowed to list up to four different racial categories to describe themselves. Our goal is to create consistent categories similar to the way the federal government classifies minority groups for reporting purposes: Hispanic, non-Hispanic white, non-Hispanic black, non-Hispanic Asian/Pacific Islander, and non-Hispanic Native Americans and other races. (For convenience, generally in the remainder of this report we will use shorthand terms for the non-Hispanic groups: white, black, Asian, and other race.)

In every year the Hispanic category simply includes all persons who self-identify as Hispanic regardless of their answer to the race question. It is more complicated to calculate the number of non-Hispanics in each race category.

1. Our approach for handling multiple race responses in 2000 and 2010 is to treat a person as black if they described themselves as black plus any other race; as Asian if they listed Asian plus any other race except black; and as Native American/other race for any other combination.

2. It would be preferable to be able to calculate the number of non-Hispanic persons in each race category by subtracting the Hispanics from the total in each category. This is easy for our non-Hispanic white category because it includes no multiple-race persons and the necessary tables are available for every year in our study. It is also possible for blacks, Asians, and Native American/other race in 1990, 2000, and 2010 because tables are available for detailed multi-race categories by Hispanic origin.

3. For 1980 some of the necessary tables are not available, so we use estimation procedures for non-Hispanic blacks, non-Hispanic Asians, and non-Hispanic other race. We can calculate non-Hispanic blacks by subtracting the number of Hispanic blacks from the black total. But in 1980 there is no table separating out Asians from other races in the non-Hispanic population. Our solution is to make an estimate of non-Hispanic Asians and non-Hispanic other race using tract-level data, assuming that the ratio of Asians to other races among non-Hispanics is the same as the ratio of Asians to other races in the total tract population (which is given).

Index of Dissimilarity
The standard measure of segregation is the Index of Dissimilarity (D), which captures the degree to which two groups are evenly spread among census tracts in a given city. Evenness is defined with respect to the racial composition of the city as a whole. With values ranging from 0 to 100, D gives the percentage of one group who would have to move to achieve an even residential pattern - one where every tract replicates the group composition of the city. A value of 60 or above is considered very high. For example, a D score of 60 for black-white segregation means that 60% of either group must move to a different tract for the two groups to become equally distributed. Values of 30 to 60 are usually considered moderate levels of segregation, while values of 30 or less are considered low.

Demographers typically interpret change either up or down in the following way:

- Change of 10 points and above in one decade - Very significant change
- Change of 5-10 points in one decade - Moderate change
- Below 5 points in one decade - Small change or no real change at all

Change can be cumulative, and small changes in a single decade – if they are repeated over several decades – can constitute a significant trend.

Exposure and Isolation Indices
Another widely used measure of segregation is a class of Exposure Indices (P*) that refers to the racial/ethnic composition of a tract where the average member of a given group lives. Exposure of a group to itself is called the Index of Isolation, while exposure of one group to other groups is called the Index of Exposure. Both range from 0 to 100. For example, an Isolation score of 80.2 for whites means that the average white lives in a neighborhood that is 80.2% white. An Exposure score of 6.7 for white-black exposure indicates that the average white lives in a neighborhood that is 6.7% black.

Even if segregation (measured by the Index of Dissimilarity) remains the same over time, growth in a minority population will tend to leave it more isolated - that is, leaving group members in neighborhoods where they are a larger share of the population. But at the same time the minority group's growth also tends to increase the exposure of non-Hispanic whites to that minority population. These are common phenomena in recent years when the white share of the typical metropolis is declining. Even if there were no change in the distribution of whites and minorities across census tracts (which is what we measure with D), there could be change in each one's exposure to the other (measured by P*).

Household and Neighborhood Income Data.
Analyses of inequality in neighborhood conditions are based on census tract data from the 2005-2009 American Community Survey (ACS). These sources include tables listing the household income distribution for specific racial and ethnic groups in every tract. All income data referred to in this report are for households, classified by the race/ethnicity of the household head

We aggregated data from census tracts in each year to provide totals for metropolitan regions as defined in 2010. Income data are taken directly from tables prepared by the Census Bureau for non-Hispanic whites (people who reported only white race) and Hispanics. We define "black" households as those headed by persons who reported only black race, without regard to

Hispanic origin. The same approach is used to identify Asians. For convenience, we use the terms white (or non-Hispanic white), black, Hispanic and Asian to refer to these groups.

Median incomes have been estimated from the grouped income data. To facilitate a breakdown of residential patterns by the income level of households, incomes have been categorized into three consistent categories: "poor" (income below 175 percent of the poverty line for a family of four, "affluent" (income more than 350 percent of the poverty line,), and "middle income" (those falling in between). Our choices of cutting points were constrained by the categories provided in the data. For “poor” we used values under $40,000 in 2005-2009. For “affluent” we used values over $75,000 in 2005-2009.

In this report, neighborhood quality is measured as the percentage of families below the official poverty line. The ACS calculates these data taking into account both size and age composition of families. The figures presented here are exposure indices: they show the values for the neighborhood where the average group household lives.

Typically researchers use characteristics of the census tract where people live as a measure of their “neighborhood.” In this report we use a larger area: the census tract plus each adjacent tract. There are several advantages of this approach which is now possible through computer mapping techniques. First, many studies have shown that people are affected not only by conditions in their own tract but also by the larger area in which the tract is embedded. These are often referred to as “spatial” effects. Second, especially for people who live near a tract’s outer edge, residents often live in closer proximity to many people in an adjacent tract than to many people in their own, and it makes sense to take the adjacent tract into account. Third, there are potential problems with the reliability of data from a single tract, especially for socioeconomic characteristics. The 2005-2009 American Community Survey data are based on smaller samples than the 2010 census. Furthermore, a substantial share of Americans provides no answers to key questions such as income, and the Census Bureau filled in the missing information with imputed data for households that were similar in other respects. Hence all of these estimates are affected by both missing data and sampling error. Dealing with groups of adjacent tracts rather than single tracts should improve the reliability of data.

School data

This study includes all public schools in the United States for which relevant data are available from national sources. It draws on school results on statewide standardized tests for 2010 and data about public elementary schools gathered by the National Center for Education Statistics. The testing data are from reading and mathematics tests for elementary school grades. Data are drawn from each state’s school report cards assembled by NCES. In most cases, the elementary tests are for the fourth grade; where that is not available, we selected the closest available grade. We have recalibrated these data as percentiles of school performance within each state. This allows us to make comparisons across schools in different states, because the reference point in every case is how the school’s performance ranks in relation to other schools in the same state. We cannot say that students in a school at the 80th percentile in one state are learning at the same level as those in a school at the 80th percentile in another state, because these scores are based on different tests. But being at the 80th percentile has the same meaning in relation to peer schools in every state, and in this sense the performance measures are standardized.

NCES (http://nces.ed.gov/ccd) provides several requisite characteristics for each individual public school. Data on the number of students by race/ethnicity and grade are used to compute total school size; whether elementary students (grades K-6) are in the same school with students in higher grades; and the racial/ethnic composition of the grade for which test results are used. Race/ethnicity is reported in the following categories: non-Hispanic white, black, Hispanic, Asian, and Native American/other races. NCES also reports for most states the number of students who are eligible for free or reduced-price lunches, which we use as an indicator of poverty. The metropolitan location of the school (central city, suburban, or non-metropolitan) was also coded by NCES. Test scores in these cases are grade-specific, as are the number of students by race and ethnicity. Other school characteristics (e.g., eligibility for reduced-price lunches) are for the entire school.