



Published in final edited form as:

Ethn Racial Stud. 2018 ; 41(9): 1594–1611. doi:10.1080/01419870.2017.1312010.

Suburbanization and Segregation in the United States: 1970-2010

Douglas S. Massey¹ and Jonathan Tannen

Princeton University, NJ, USA

Abstract

Analysis of trends in the suburbanization of whites, blacks, Asians, and Hispanics reveal that all groups are becoming more suburbanized, though the gap between whites and minorities remains large. Although central cities have made the transition to a majority-minority configuration, suburbs are still overwhelmingly white. Levels of minority-white segregation are nonetheless lower in suburbs than cities. Blacks remain the most segregated group at both locations. Black segregation and isolation levels are declining in cities and suburbs, however, while Hispanic and Asian segregation levels have remained stable and spatial isolation levels have risen. Multivariate analyses suggest that Hispanics achieve desegregation indirectly by using socioeconomic achievements to gain access to less-segregated suburban communities and directly by translating status attainments into residence in white neighborhoods. Blacks do not achieve desegregation indirectly through suburbanization and they are much less able than Hispanics to use their socioeconomic attainments directly to enter white neighborhoods.

Keywords

Segregation; Isolation; Suburbs; Blacks; Asians; Hispanics; Stratification

In the second half of the 20th century, suburbs epitomized the American Dream of home ownership, good schools, low crime, and a supportive family environment (Duany, Plater-Zyberk, and Speck 2000). During the heyday of suburbanization, however, the benefits of suburban life were largely reserved for white Americans. Blacks, especially, found themselves systematically excluded from suburban residential locations by individual and institutional discrimination in the real estate and banking industries and by racially biased federal policies (Jackson 1985).

As white Americans took advantage of federal lending programs to buy new homes in the suburbs, black migrants from the rural south moved into the older homes in central cities (Katznelson 2005), yielding what Farley et al. (1978, 319) called “Chocolate Cities” and “Vanilla Suburbs.” Unfortunately for the chocolate cities, as they became darker their deterioration was all but guaranteed by the practice of redlining—the institutionalized refusal to issue mortgages to borrowers living in black or racially mixed neighborhoods (Jackson 1985). Although racial discrimination in housing was banned by the 1968 Fair

¹ dmassey@princeton.edu.

Housing Act, little enforcement occurred in subsequent years; and it was not until 1974 that the Equal Credit Opportunity Act outlawed racial discrimination in mortgage lending. Moreover, only in 1977 did the Community Reinvestment Act ban redlining (Metcalf 1988).

Whereas a majority of white Americans had suburbanized by 1980, suburbs housed but a tiny fraction of African Americans, leading Massey and Denton (1988a, 621) to conclude that “in spite of recent increases in suburbanization, blacks... remain highly concentrated in central cities, and within these areas they experience very high levels of residential dissimilarity and spatial isolation from non-Hispanic whites... [and] when suburban residence is achieved by blacks, segregation is reduced but remains quite high.”

The racial composition of American suburbs began to shift after 1980, as metropolitan areas were buffeted by a powerful “diversity explosion” driven by immigration from Asia and Latin America (Frey 2014). During the 1990s immigration also shifted away from traditional gateways toward new cities and suburbs throughout the nation (Massey and Capoferro 2008). As of 2000, Hispanic segregation levels in new destination areas appeared to be quite high, often higher than in traditional areas of settlement; but Asian segregation levels were generally low (Lichter et al. 2010).

For blacks, redlining and disinvestment within central cities caused urban ghettos to decay to the point where many homes were no longer habitable, leading to large-scale home abandonment. During the 1960s, urban renewal programs razed deteriorating neighborhoods and replaced them with high density public housing projects, but these structures soon deteriorated themselves (Hirsch 1983) and were demolished in the 1990s and replaced by voucher programs, which pushed former project residents into inner suburbs whose fortunes were themselves declining (Pattillo 2007). Nonetheless, the rise of a black middle class did lead to the emergence of affluent black suburbs in some metropolitan areas (Cashin 2001).

Here we update and expand prior research by examining the full trajectory of suburbanization for whites, Asians, Hispanics, and African Americans across census dates from 1970 through 2010, describing not only the changing share of suburban residents in each group, but also the shifting racial composition of cities and suburbs and trends in residential segregation and spatial isolation at both locations. We complement this descriptive analysis with a multivariate analysis of the determinants of black and Hispanic suburbanization and segregation in 2010.

Data and Methods

We extracted 1970 census tract data for U.S. metropolitan areas using the professional version of Social Explorer (www.socialexplorer.com) and combined them with tract data compiled by Logan and Stults (2011) for 1980-2010. Our final dataset consists of 287 consistently defined metropolitan statistical areas (MSAs) for which data on Asians, Hispanics, and African Americans were available at all dates. For descriptive purposes we measure suburbanization as the percentage of each group’s metropolitan population living outside the central city. In our multivariate analyses, however, analysis we measure *relative* suburbanization, dividing the level of minority suburbanization by that of whites, assuming

that metropolitan-wide levels of segregation will be lower to the extent that minority suburbanization levels match those of whites.

Our multivariate analysis focuses on the year 2010 and proceeds in three stages. First we estimate a weighted least squares regression to predict relative levels of black and Hispanic suburbanization from selected independent variables culled from prior research, taking as weights the number of blacks or Hispanics in each MSA. We then add indices of relative black and Hispanic suburbanization to the equation and estimate a weighted least squares regression to predict metropolitan-wide levels of black and Hispanic segregation. Finally, we include indices of both segregation and suburbanization measures in a final weighted least squares regression to predict metropolitan-wide levels of black and Hispanic spatial isolation. We chose not estimate models for Asians because we were unable to develop a reliable index of anti-Asian sentiment and Asians proved to have good access to suburbs and relatively low levels of segregation and isolation wherever they lived.

Our dependent and independent variables are defined in Table 1. We measure minority residential segregation using the index of dissimilarity (D) from non-Hispanic whites (henceforth simply whites) and assess spatial isolation using the P* isolation index for Hispanics and non-Hispanic blacks (henceforth just blacks). The former index gives the relative share of minority group members and whites who would have to exchange neighborhoods to achieve an even residential distribution and the latter indicates the share of minority group members living in the neighborhood of the average minority member. Definitions, formulae, and a detailed discussion of the properties of these indices are available in Massey and Denton (1988b). We approximate neighborhoods using census tracts, which are small areal units established by the U.S. Census Bureau working with local authorities. They vary in size between 1,200 and 8,000 persons and average around 4,000.

Prior work has shown that levels of segregation and isolation vary with minority group characteristics such as relative size, socioeconomic status, and nativity (Farley and Frey 1994). Group size is measured using the proportion of blacks and Hispanics in each MSA area and socioeconomic status is assessed using the ratio of minority-to-white median income and the ratio of minority-to-white percent college educated. Nativity is assessed by the percentage foreign born within each minority group.

In addition to minority characteristics, studies have found residential segregation and spatial isolation to vary according to various metropolitan circumstances (Rugh and Massey 2014). One obviously relevant circumstance is the degree of prejudice prevailing locally against blacks and Hispanics. Stephens-Davidowitz (2012) derived an index of anti-black sentiment by tabulating Google Search frequencies for the word “Nigger” by geographic area, demonstrating a strong state-level correlation between these frequencies and the share of people supporting a ban on interracial marriage, the percentage lacking a college degree, and the percentage aged 65+. Across market areas, he also found that the search frequencies negatively predicted Obama’s share of the 2008 presidential vote and later work confirmed a positive association with black mortality rates (Chae et al. 2015). To measure anti-black sentiment here we draw on data developed by Rugh and Massey (2014), who used Google Trends to compile search frequencies on the N-word by MSA for the period 2008-2012.

They also compiled search frequencies for the term “illegal immigrant” to generate an index of anti-Hispanic sentiment.

Another factor known to affect racial segregation is density zoning and here we draw on a measure of density zoning permissiveness developed by Rothwell and Massey (2009), who based their work on a survey by Pendall, Puentes, and Martin (2006) in the 50 largest MSAs. The survey asked suburban officials to report the maximum density allowed for new residential construction and grouped their answers into five categories: <4 units per acre, 4-7 units per acre, 8-15 units per acre, 16-30 per acre, and >30 units per acre. Rothwell and Massey (2009) coded the categories 1 through 5 and computed the average density score for suburbs in each MSA. To demonstrate the causal effect of zoning they estimated a two-stage least squares equation that Rugh and Massey (2014) subsequently drew upon to generate density zoning indices for all MSAs in their dataset. Here we reverse-code the Rugh-Massey index to indicate the *restrictiveness* of density zoning.

Prior work also shows that MSAs with large military populations and newer housing are less segregated than other areas (Farley and Frey 1994). To measure these conditions we used census data to compute the number of people living in military quarters per 100,000 (logged) and the median year of home construction. Since large MSAs tend to display ecological structures more conducive to segregation, we assess size using each MSA’s population (logged); and because suburbanization proceeded at different rates in different places we also control for the percent suburban in 1970. We assess the effect of immigration using the MSA percentage foreign born, as prior work indicates that MSAs with more immigrants tend to be more segregated (Iceland and Scopilliti 2008). Since whites associate African Americans with crime and resist integration based on this perception (Emerson et al. 2001), we also include violent crime rates using data from the U.S. Federal Bureau of Investigation (2012). Because homeowners have a greater stake in the status of neighborhoods than renters, we include the percentage of homeowners as a predictor. Finally, metropolitan areas dominated by “creative class” service industries tend to be more diverse (Florida 2002) and to assess this effect we included the rate of patent production using data from the U.S. Patent and Trademark Office (2013).

Trends in Suburbanization

Figure 1 shows trends in the average percentage of MSA residents living in suburbs of central cities for each group from 1970 to 2010. Levels of suburbanization are computed separately as weighted averages for whites, blacks, Asians, and Hispanics, where the weights are the share of each group living in each MSA. The figures thus state the level of suburbanization experienced by the average group member at each census date. The second line from the top shows that in 1970 less than half of all MSA residents lived in suburbs but in 1980 the figure reached 50% and then rose gradually over the next three decades to hit 55% in 2010.

The figure also shows the great contrast in suburbanization levels experienced by minority and majority groups over time. Whites were already close to majority suburban in 1970, with 49% reporting a suburban residence. This share increased to 56% in 1980 and 59% in

1990. Thereafter the process of white suburbanization began to slow down, reaching 62% in 2000 and 63% in 2010. In contrast, only 18% of African Americans lived in suburbs in 1970, though the percentage rose rapidly in the ensuing decades with little sign of slowing down. Black suburbanization reached 24% in 1980, 30% in 1990, 35% in 2000, and 40% in 2010, thereby reducing the black-white differential from 31 points in 1970 to 23 points in 2010.

Hispanic and Asian suburbanization likewise increased rapidly during the 1970s but with slowing growth rates beginning in 1980s because of mass immigration into central cities. The two groups reached rough parity in suburbanization around 2010, when the share living in suburbs stood at 45% for Hispanics and 46% for Asians, compared with respective figures of 29% and 33% in 1970. Despite rising levels of nonwhite suburbanization, however, no minority group came close to the level of white suburbanization in 2010.

The suburbanization trends observed in Figure 1, when combined with rapid growth in the Hispanic and Asian populations, were nonetheless sufficient to change the racial-ethnic composition of both cities and suburbs. As shown in Figure 2, in 1970 whites still constituted the large majority of all city residents at 77%; but thereafter the white share of central cities steadily dropped, going to 68% in 1980, 63% in 1990 and 55% in 2000 before falling just to just under 50% in 2010. As a whole, then, central cities in America have already achieved majority-minority status, with Hispanics clearly rising most rapidly as a share of the population, going from 3% in 1970 to 22% in 2010. In contrast, the black percentage rose only from 18% in 1970 to 19% in 2010. Asians grew more rapidly as a share of the central city population, though from a much smaller base, rising from 1.5% in 1970 to almost 8% in 2010.

Despite America's diversity explosion, however, suburbs remain largely a white domain, though the white share dropped from 93% of all suburban residents in 1970 to 68% in 2010. Over the same period, the share of Hispanics grew from 2% to 15% while Asians rose from 1% to 6%. The share of African Americans within suburbs grew much more slowly, rising from around 5% in 1970 to 10% in 2010. Thus in suburban America today, white suburbanites' most frequent interactions are likely to be with Hispanics, followed by Asians, and lastly by African Americans. Of course, the potential for intergroup interaction within suburbs is also affected by the distribution of white and minority group members across suburban neighborhoods, a topic to which we now turn.

Segregation Trends in Cities and Suburbs

Figure 3 presents weighted average dissimilarity indices indicating the degree to which blacks, Hispanics, and Asians are segregated from whites in U.S. cities and suburbs. Indices of 60 or greater are considered to be "high," those below 30 are "low," and those in-between are "moderate." For ease of interpretation, the high and low thresholds have been highlighted. Although African Americans consistently have faced high average levels of segregation, the absolute dissimilarity from whites did fall from 77.5 in 1970 to 60.4 in 2010. In contrast, average levels of Hispanic and Asian segregation from whites remained fairly stable and in the moderate range within central cities over the past four decades with

no real trend up or down. Hispanic segregation thus stood at 47.1 in 1970, rose to 52.2 in 1980 where it more-or-less remained through 2000 before dropping to 50.5 in 2010. Likewise, Asian segregation levels varied narrowly between 41.0 in 1970 and 38.9 in 2010, declining very slightly over four decades.

The bottom panel of Figure 3 reveals African Americans to be less segregated in suburbs than central cities and that the degree of black suburban segregation has declined over time, going from a dissimilarity of 65.1 in 1970 to a value of 53.4 in 2010. In contrast, Asian segregation within suburbs moved modestly upward, going from 35.5 in 1970 to reach 41.0 in 2010. Hispanic-white dissimilarity indices varied narrowly between 46.0 and 48.8 with no real trend. As a result, the segregation gap between suburban Hispanics and Asians, on the one hand, and suburban African Americans on the other, narrowed substantially from 1970 to 2010, falling from around 30 to around 12 points. Although the gap also fell in central cities, going from about 37 to about 22 points, its absolute size remained much larger and black segregation in cities still remained in the high range.

Figure 4 shifts the focus by presenting P* isolation indices for central cities and suburbs from 1970 to 2010. For ease of interpretation, we highlight the line corresponding to an index value of 50, the point at which a group shifts to living with a majority of same-origin neighbors. Clearly white Americans are by far the most spatially isolated of all groups in both cities and suburbs, though the degree of isolation has moved downward from extreme levels that prevailed in 1970. In that year, the average white city dweller lived in a neighborhood that was 92% white and the average white suburbanite occupied a neighborhood that was 96% white, offering little opportunity for contact with other groups. By 2010 the figures had dropped to 68% in central cities and 80% in suburbs. Suburban whites thus continue to occupy a world where the vast majority of residents are also white, despite the diversity explosion.

If levels of residential dissimilarity from whites remain fairly constant during a period of rapid minority population growth levels of spatial isolation will necessarily rise. The increase was quite for Hispanics in cities, whose average isolation index went from 27 to 48 between 1970 and 2010. At present, city-dwelling Hispanics and blacks appear to be converging toward an isolation index of around 50. Although Asian isolation in cities also increased over time, in absolute terms it remains quite low. Whereas the average Asian city dweller lived in a neighborhood that was around 22% Asian in 1970 by 2010 this figure had risen only to around 25%. In suburbs, blacks are far less isolated than in central cities and the isolation index generally declined over time, going from 41 in 1970 to around 37 in 2010. In contrast, the degree of Hispanic isolation within suburbs rose to surpass that of blacks after 1990, going from just 19 in 1970 to reach 43 in 2010. As in central cities, Asians in suburbs have never been very spatially isolated. The isolation index fell from 24 in 1970 to 16 in 1990 but then rose back up to 21 in 2010.

Processes of Suburbanization and Segregation

Table 2 examines the process of suburbanization and segregation for blacks by estimating the three-equation model specified above. The left-hand columns show an equation

predicting relative black suburbanization, which carries an R^2 of only 0.307 and displays no significant effects for the characteristics of blacks themselves, suggesting that they are generally unable to translate socioeconomic achievements into suburban residence. Instead, relative black suburbanization is determined entirely by a handful of metropolitan characteristics, including the percentage foreign born, the median year of home construction, suburban density zoning restrictiveness, the percentage of homeowners, the degree of anti-black sentiment, metropolitan population size, and the percentage suburban in 1970, with the log of the military population being marginally significant at $p < 0.10$. The profile of a relatively suburbanized black population is one inhabiting a small MSA in which the overall level of suburbanization was already advanced in 1970 and which had a relatively large immigrant population, a newer housing stock, a less restrictive suburban density zoning regime, a large share of homeowners, and a large military population—all expected effects. The only surprise is that black suburbanization is *positively* predicted by higher levels of anti-black sentiment, which may indicate that authorities in racially prejudiced metropolitan areas were more aggressive in tearing down public housing projects during the 1990s and 2000s, thus displacing poor African Americans into inner ring suburbs.

The middle equation in Table 2 examines how relative black suburbanization affects metropolitan-wide black segregation controlling for other independent variables. As can be seen, each unit increase in relative suburbanization reduces black-white dissimilarity by three points. Moreover, although black socioeconomic status did not predict relative black suburbanization it does have a strong effect in predicting overall levels of black segregation. The model suggests that each unit increase in relative black income is associated with a 15.5 point decline in black segregation and that each unit increase relative black education ratio is associated with a segregation decline of 13.0 points. As a result, shifting the income and education ratios from their observed minima to maxima would decrease black residential segregation by 15.0 and 24.9 points, respectively.

A key group characteristic in theories of segregation is the minority percentage, and as expected its effect on segregation is significant and positive, with each point increase increasing the dissimilarity index by 0.263 points, yielding a total of 13.7 points going from minimum to maximum. In addition to these group effects, we observe strong effects for metropolitan characteristics such as the median year of home construction, the log of the metropolitan population, the percentage of homeowners, and the share foreign born. Shifting from the oldest to the newest median year of home construction predicts a 24.4 point drop in the level of black-white segregation. Likewise, moving the metropolitan population, the homeowner percentage, and the foreign percentage from their minima to maxima is predicted increase black-white segregation by 20.1, 17.5, and 16.3 points, respectively.

Other statistically significant effects in the model include those associated with the patent rate and the size of the military population, which predict respective declines of 26.9 and 5.8 points in the level of black segregation going from minimum to maximum values. Thus low levels of black residential segregation tend to prevail in smaller metropolitan areas with small proportions of African Americans who are well-educated, earn high incomes, and display a relatively high degree of suburbanization, and which also house a sizeable military population, a small immigrant population, a newer housing stock, and which display a high

patent and low home ownership rate. With 84 percent of the variance explained, the model fits the data quite well.

The right-hand equation examines how relative black suburbanization, black segregation, and other independent variables influence the degree of black spatial isolation. Although there are many significant coefficients in the equation, the model's explanatory power (with 94 percent of the variance explained) stems overwhelmingly from just two factors—the degree of black-white residential segregation and the relative proportion of African Americans—an outcome that reflects the properties of the P* index itself, which is fundamentally determined by the relative number of minority group members and how they are distributed in space (Massey and Denton 1988b). Other group and metropolitan characteristics essentially act on the margins to push isolation levels slightly up or down from the value determined by the degree of black segregation and the black percentage.

Turning to the determinants of relative Hispanic suburbanization, in Table 3 we note two major differences compared with model of black suburbanization. First, the share of variance explained is higher at 39 percent, and second, the relative level of Hispanic suburbanization *is* significantly influenced by group characteristics. Each point increase in the Hispanic percentage is predicted to increase relative Hispanic suburbanization by 0.015 points and each unit increase in relative Hispanic education is estimated to increase it by 0.959 points, yielding respective swings in relative suburbanization of 1.43 and 1.67 points going from minimum to maximum values (out of a total range of 7.1 points).

As among blacks, metropolitan size has a significant negative effect on relative Hispanic suburbanization, with each point increase in the log of the population reducing relative suburbanization by 0.138 points. The only other variable to attain statistical significance in the model is the percentage aged 65 or older (a negative effect), though two other variables are marginally significant at $p < 0.10$: the percentage suburban in 1970 (a negative effect) and the percentage of homeowners (a positive effect). In general then, relatively high levels of Hispanic suburbanization are predicted for small metropolitan areas containing a relatively large and well-educated Hispanic population, especially in MSAs evincing a high rate of home ownership, a relatively young population, and a low level of suburbanization in 1970.

The middle columns of Table 3 display the regression estimated to predict Hispanic segregation from relative Hispanic suburbanization controlling for other independent variables. As in the black model, relative suburbanization has a significant effect in lowering Hispanic segregation. Each unit increase in relative suburbanization is predicted to reduce Hispanic-white segregation by 1.563 points, or by 11.2 points over the observed range of Hispanic suburbanization. Although the raw coefficient for relative suburbanization among Hispanics is around half that observed in the black model (−1.563 versus −3.011), the more important difference between the two groups is that unlike Hispanics blacks do not benefit from an *indirect* effect of black socioeconomic through suburbanization. Specifically, whereas rising Hispanic income and education predicts greater Hispanic suburbanization that in turn predicts lower Hispanic segregation, a pathway that does not exist for blacks. In addition, the *direct* effects of relative income and education on segregation are much greater for Hispanics than blacks. Each increment in relative income and education are predicted to

reduce Hispanic segregation by 27.6 points and 24.0 points, respectively, compared to respective reductions of only 15.5 points and 13.0 points for blacks.

Turning to other group characteristics, Hispanic segregation is less influenced by the Hispanic percentage than black segregation is by the black percentage. Whereas each point increase in the percentage of blacks predicts an increase of 0.263 points in the degree of black segregation, each point increase in the Hispanic percentage predicts an increase of only 0.101 points in the degree of Hispanic segregation. However, unlike in the black model the percentage of foreign born Hispanics has a significant and relatively strong positive effect on Hispanic segregation. Each point increase in the percentage of Hispanic foreign born predicts an increase of 0.117 points in the degree of Hispanic segregation, yielding a shift of 7.2 points in dissimilarity going from minimum to maximum.

Among metropolitan characteristics, significant effects are observed for metropolitan population size and the median year of home construction, similar to what we observed in the black model. Each unit increase in the log of population size is predicted to increase Hispanic segregation by 3.185 points or by 9.6 points over the observed range of population sizes; and each year increase in the median age of housing is predicted to lower Hispanic segregation by 0.003 points, yielding a predicted decline of 12.7 points going from minimum to maximum. Beyond these effects, Hispanic residential segregation is predicted to increase by 0.073 points with each unit increase in anti-Hispanic sentiment, by 2.015 points with each unit increase in density zoning restrictiveness, and by 0.475 points with each unit increase in percentage aged 65 or older. Thus Hispanics tend to be less segregated from whites in smaller metropolitan areas with high levels of Hispanic suburbanization, low percentages of both Hispanics and foreign born Hispanics, relatively high levels of Hispanic income and education, and living in areas with a newer housing stock, low levels of anti-Latino sentiment, and a younger population.

Finally, the right hand columns of Table 3 display the weighted regression estimated to predict Hispanic spatial isolation from relative Hispanic suburbanization, Hispanic segregation, and other variables. Results are quite similar to those for blacks in that the equation has great statistical power ($R^2=0.98$) and is dominated by the outsized effects of segregation and the minority percentage. Each unit increase in Hispanic-white segregation is predicted to increase spatial isolation by 0.576 points, yielding an upward shift of 32.7 points going from minimum to maximum value; and each unit increase in the Hispanic percentage yields an increase in 0.888 points in Hispanic isolation, or a shift of 84.4 points going from smallest to largest percentage. Thus compared to blacks, the effect of segregation is relatively smaller and the effect of the minority percentage is relatively larger in determining spatial isolation. As in the black model, other variables in the model act marginally to push Hispanic spatial isolation slightly up or down from the value determined by segregation and the minority percentage alone.

Conclusion

Although prior studies have examined trends in minority suburbanization during various segments of time between 1970 and 2010, we are the first (to our knowledge) to consider

trends over the entire period using a consistently defined set of metropolitan areas. Despite rising suburbanization among African Americans, Hispanics, and Asians, there is a still sizeable gap in the access of whites and minority group members to suburbs. Although demographic shifts brought about by mass immigration have substantially altered the racial-ethnic composition of U.S. suburbs, whites still remain dominant, accounting for 68% of all suburban dwellers in 2010 compared with just under 50% of city dwellers.

A key factor promoting change has been Hispanic population growth, with Hispanics coming to outnumber African Americans in cities and suburbs by 2010. Since immigrants tend to settle near other immigrants, Hispanic segregation levels in cities and suburbs have increased while black segregation levels have declined. Levels of black and Hispanic segregation seem to be converging on dissimilarity values ranging from 50 to 60 in both locations. Hispanic isolation levels, meanwhile, have steadily increased while black isolation levels have fallen. Hispanic isolation levels now equal those of blacks in central cities and exceed those of blacks in suburbs. Asians display only moderate levels of segregation and low levels of isolation wherever they reside.

Multivariate analyses indicate that Hispanics are able to translate socioeconomic attainments into suburban residence and thus lower their segregation from whites; but this pathway is closed to African Americans. Black suburbanization depends entirely on structural characteristics of the metropolitan area, tending to be greater in small metropolitan areas that were already quite suburbanized in 1970 and those characterized by a newer housing stock, a higher rate of home ownership, a large military presence, a high share of immigrants, and more permissive suburban density zoning. Hispanic suburbanization tends to be greater in small metropolitan areas that were not suburbanized in 1970 and which displayed a higher percentage of homeowners and a lower share of elderly residents in 2010.

In addition to being less able to achieve desegregation indirectly by translating socioeconomic achievements into suburban residence, blacks are less able to achieve desegregation directly through socioeconomic advancement. The effects of socioeconomic status in reducing black-white segregation are about half those in reducing Hispanic-white segregation; and although segregation rises for both groups as the minority percentage increases the upturn is less sharp for Hispanics. Both groups display rising segregation as metropolitan size increases and declining segregation as the median year of home construction rises. Black segregation also increases as the percentages of foreigners and homeowners rise and decreases with the size of the military population and the patent rate. For Hispanics, greater segregation is predicted by higher levels of anti-Latino sentiment, more restrictive suburban density zoning, and a larger share of elderly residents. For both groups the degree of spatial isolation is determined primarily the level of segregation from whites and the group's percentage of the population, with other factors acting on the margins to push spatial isolation slightly up or down.

References

Cashin Sheryll. Middle Class Black Suburbs and the State of Integration: A Post-Integrationist Vision of Metropolitan America. *Cornell Law Review*. 2001; 86(4):729–776.

- Chae David H, Clouston Sean, Hatzenbuehler Mark L, Kramer Michael R, Cooper Hanna LF, Wilson Sacoby M, Stephens-Davidowitz Seth I, Gold Robert S, Link Bruce G. Association between an Internet-Based Measure of Area Racism and Black Mortality. *PLoS ONE*. 2015; 10(4):e0122963. doi: 10.1371/journal.pone.0122963 [PubMed: 25909964]
- Duany Andres, Plater-Zyberk Elizabeth, Speck Jeff. *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*. New York: North Point Press; 2000.
- Emerson Michael O, Chai Karen J, Yancey George. Does Race Matter in Residential Segregation? Exploring the Preferences of White Americans. *American Sociological Review*. 2001; 66(6):922–935.
- Farley Reynolds, Frey William H. Changes in the Segregation of Whites from Blacks during the 1980s: Small Steps toward a More Integrated Society. *American Sociological Review*. 1994; 59(1):23–45.
- Farley Reynolds, Schuman Howard, Bianchi Suzanne, Colasanto Diane, Hatchett Shirley. 'Chocolate City, Vanilla Suburbs: Will the Trend toward Racially Separate Communities Continue? *Social Science Research*. 1978; 7:319–344.
- Florida Richard. *The Rise of The Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life*. New York: Basic Books; 2002.
- Frey William H. *Diversity Explosion: How New Racial Demographics are Remaking America*. Washington, DC: The Brookings Institution; 2014.
- Hirsch Arnold R. *Making the Second Ghetto: Race and Housing in Chicago, 1940-1960*. Cambridge: Cambridge University Press; 1983.
- Iceland John, Melissa Scopilliti. Immigrant Residential Segregation in U.S. Metropolitan Areas 1990-2000. *Demography*. 2008; 45(1):79–94. [PubMed: 18390292]
- Jackson Kenneth T. *Crabgrass Frontier: The Suburbanization of the United States*. New York: Oxford University Press; 1985.
- Katznelson Ira. *When Affirmative Action Was White: An Untold History of Racial Inequality in Twentieth-Century America*. New York: Norton; 2005.
- Lichter Daniel T, Parisi Domenico, Taquino Michael C, Grice Steven Michael. Residential Segregation in New Hispanic Destinations: Cities, suburbs, and Rural Communities Compared. *Social Science Research*. 2010; 39(2):215–230.
- Logan John R, Stults Brian J. The Persistence of Segregation in the Metropolis: New Findings from the 2010 Census. Census Brief prepared for Project US2010. 2011. Accessed on February 27, 2017. <http://www.s4.brown.edu/us2010>
- Massey Douglas S, Capoferro Chiara. Assimilation in a New Geography. In: Massey Douglas S, editor *New Faces in New Places: The Changing Geography of American Immigration*. New York: Russell Sage Foundation; 2008. 343–354.
- Massey Douglas S, Denton Nancy A. Suburbanization and Segregation in U.S. Metropolitan Areas. *American Journal of Sociology*. 1988a; 94(3):592–626.
- Massey Douglas S, Denton Nancy A. The Dimensions of Residential Segregation. *Social Forces*. 1988b; 67:281–315.
- Metcalf George R. *Fair Housing Comes of Age*. New York: Greenwood Press; 1988.
- Pattillo Mary. *Black on the Block: The Politics of Race and Class in the City*. Chicago, IL: University of Chicago Press; 2007.
- Pendall R, Puentes R, Martin J. *From Traditional to Reformed: A Review of Land Use Regulations in the Nation's 50 largest Metropolitan Areas*. Washington, DC: The Brookings Institution; 2006.
- Rothwell Jonathan, Massey Douglas S. The Effect of Density Zoning on Racial Segregation in U.S. Urban Areas. *Urban Affairs Review*. 2009; 44:799–806.
- Rugh Jacob S, Massey Douglas S. Segregation in Post-Civil Rights America: Stalled Integration or End of the Segregated Century? *The DuBois Review: Social Science Research on Race*. 2014; 11(2):202–232.
- Stephens-Davidowitz Seth. The Effects of Racial Animus on a Black Presidential Candidate: Using Google Search Data to Find What Surveys Miss. 2012. Available at SSRN:
- U.S. Federal Bureau of Investigation. *Uniform Crime Reporting Statistics*. Washington, DC: U.S. Department of Justice; 2012.

U.S. Patent and Trademark Office. Website of the US Patent and Trademark Office. Washington, DC: U.S. Department of Commerce; 2013. Accessed February 27, 2017. <http://www.uspto.gov/about/stats/index.jsp>

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

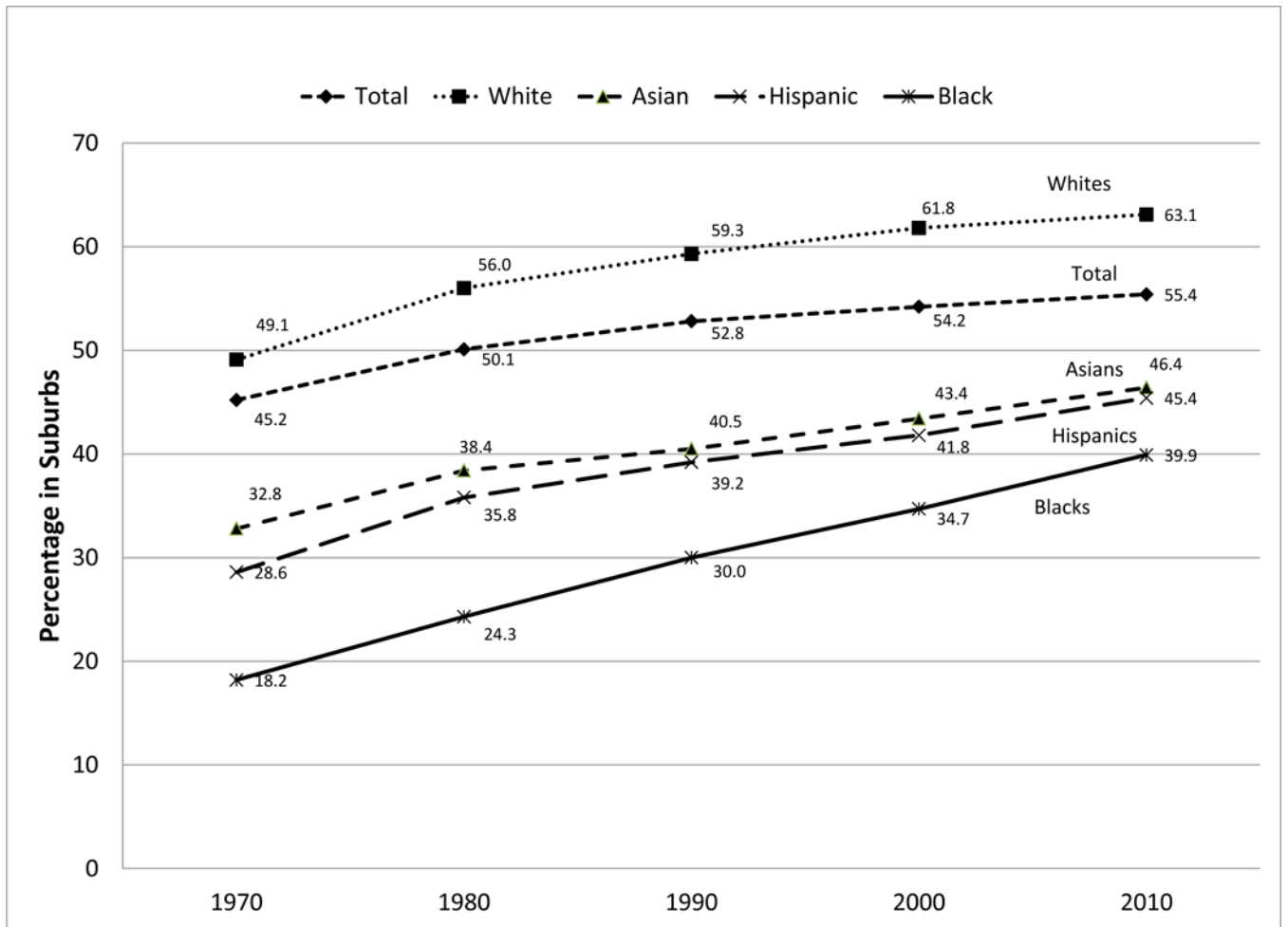


Figure 1.
Level of suburbanization in U.S. metropolitan areas 1970-2010

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

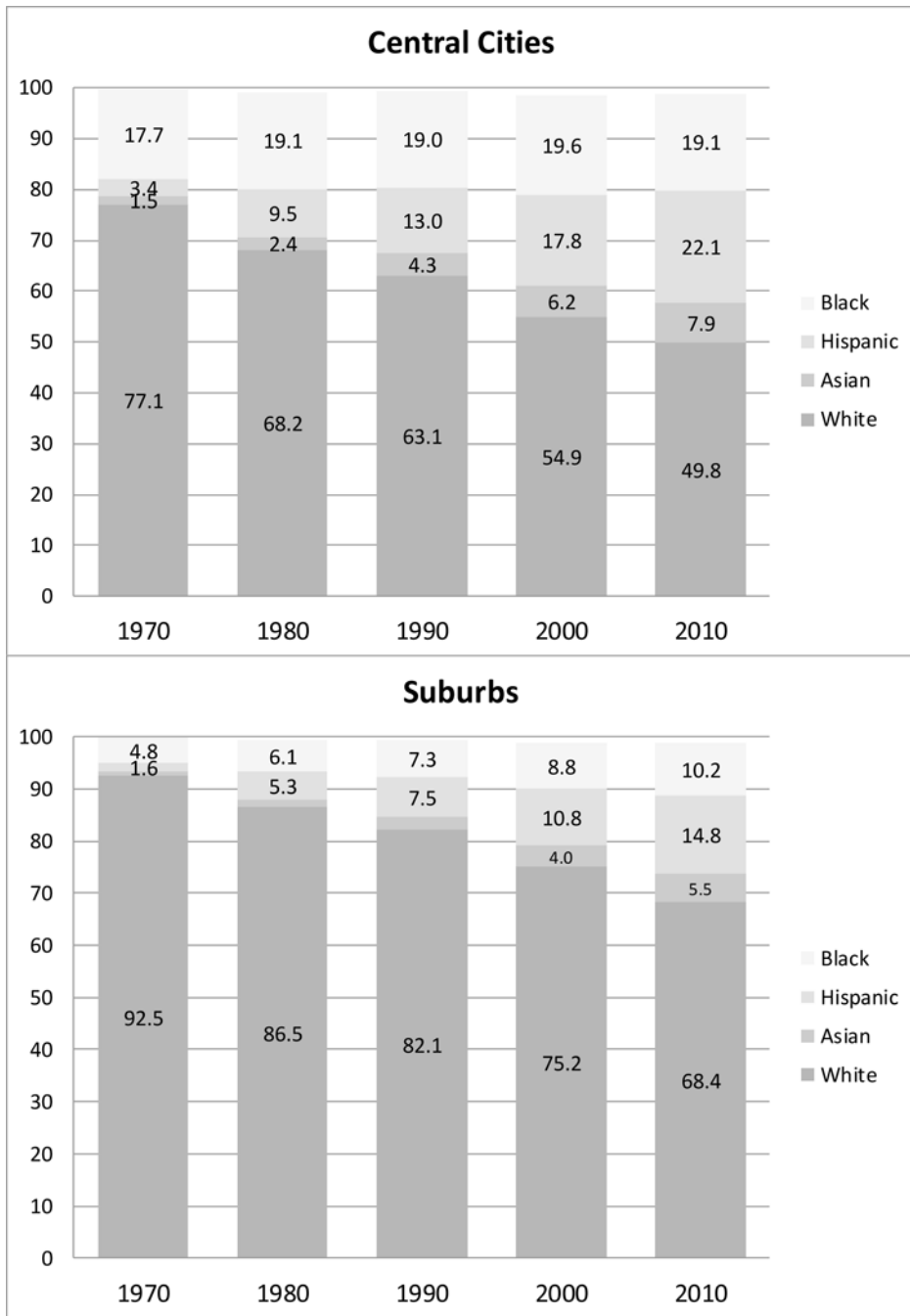


Figure 2.
Racial composition of cities and suburbs of U.S. metropolitan areas 1970-2010

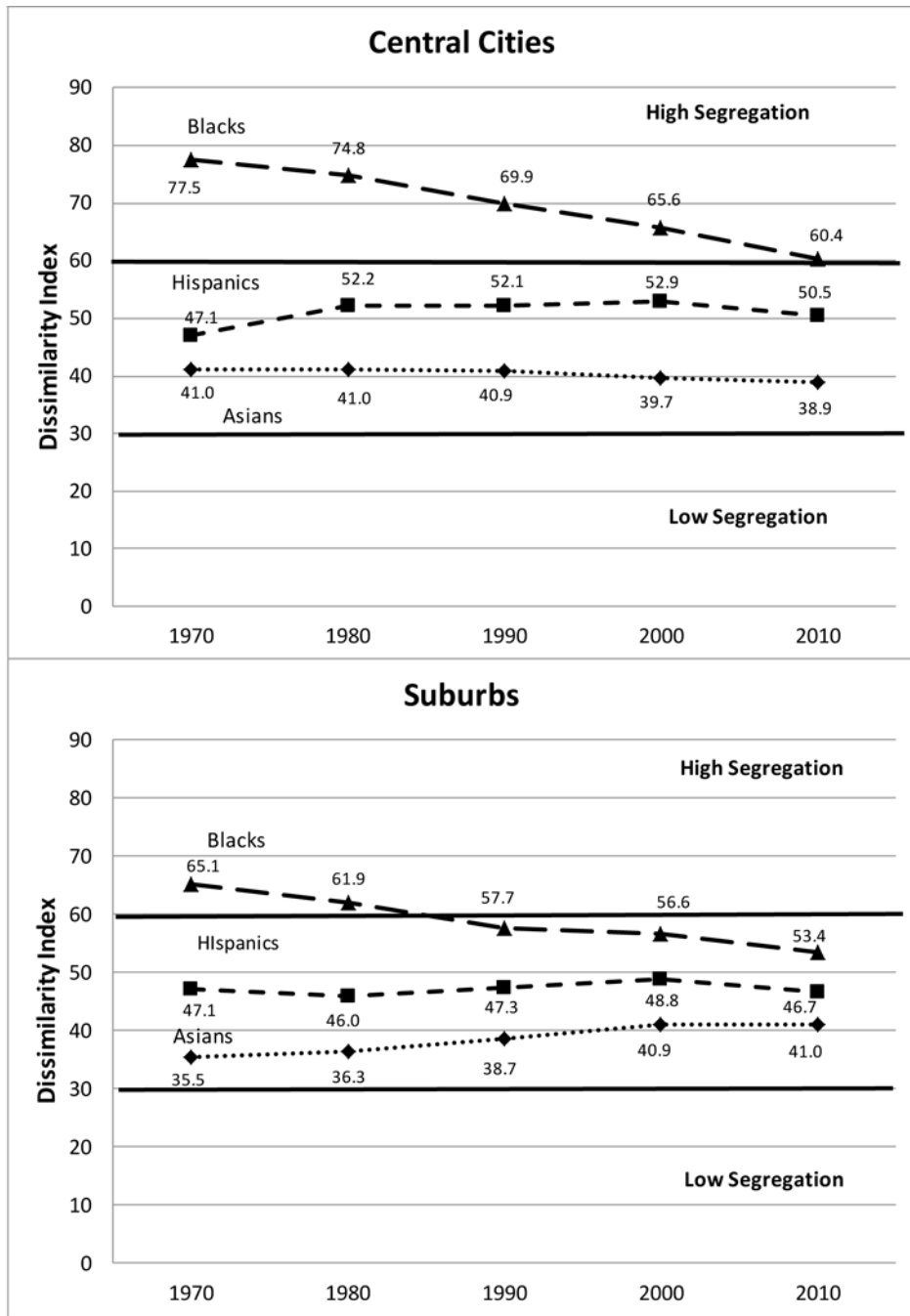


Figure 3. Asian, Hispanic, and black segregation in central cities and suburbs 1970-2010.

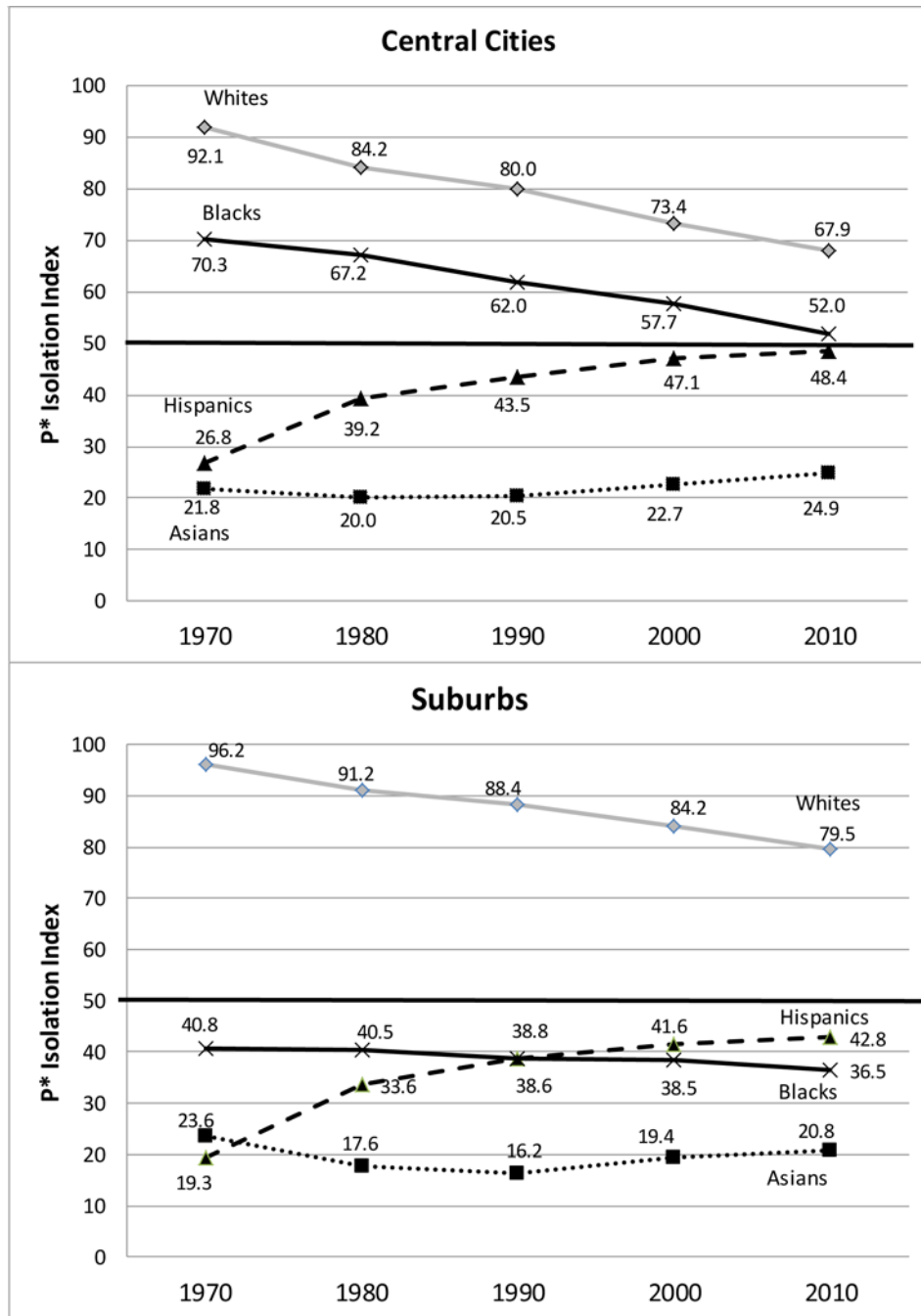


Figure 4. Racial isolation of Asians, Hispanics, and blacks in central cities and suburbs 1970-2010

Table 1

Variables used in analysis of suburbanization and segregation.

Variable	Definition
Suburbanization	
Level of Suburbanization	Percentage of group living in MSA's suburbs
Relative Suburbanization	Ratio of minority to white suburbanization
Segregation	
Residential Segregation	Minority-White Dissimilarity Index
Spatial Isolation	Minority-Minority P* Index
Minority Characteristics	
Percent Minority	Percentage of Blacks or Hispanics in MSA
Minority Percent Foreign Born	Percentage of Blacks or Hispanics who are Foreign Born
Relative Minority Income	Ratio of Minority-to White Household Income
Relative Minority Education	Ratio of Minority to White Percent College Educated
Metropolitan Characteristics	
Anti-Black Index	Relative Frequency of Google Searches for word "Nigger"
Anti-Latino Index	Relative Frequency of Google Searches for "Illegal Alien"
MSA Population Size	Log of Total Metropolitan Population
Percent Suburban in 1970	Percent of MSA Population Living in Suburbs in 1970
Zoning Restrictiveness	Reverse-Coded IV from Rothwell and Massey (2009)
Percent Foreign Born	Percentage of Total Population Born Outside the US
Percent Aged 65+	Percentage of Population Aged 65 or Older
Log Military Population	Log of Persons in Military Quarters per 100,000 Persons
Median Year Housing Built	Median Year that Housing Was Built
Percent Homeowner	Percent of Homes That Are Owned
Violent Crime Rate	Violent Crimes per 100,000 Persons
Patent Rate	Patents per 100,000 Persons

Table 2

Weighted OLS estimates of selected variables on black suburbanization, segregation, and isolation in US metropolitan areas, 2010.

Independent Variable	Relative Suburbanization		Black-White Segregation		Black Spatial Isolation	
	B	SE	B	SE	B	SE
Segregation						
Black-White Segregation	----	----	----	----	0.955***	0.043
Suburbanization						
Relative Black Suburbanization	----	----	-3.011***	0.804	0.862	0.759
Minority Group Characteristics						
Percent Black	0.005	0.003	0.263***	0.040	1.006***	0.040
Black Percent Foreign Born	-0.004	0.003	-0.053	0.044	-0.100	0.041
Relative Black Income	0.004	0.361	-15.514***	4.777	9.620*	4.483
Relative Black Education	0.039	0.244	-12.999***	3.233	-10.880***	3.064
Metropolitan Characteristics						
Anti-Black Sentiment	0.008**	0.003	0.034	0.039	0.106**	0.036
Density Zoning Restrictiveness	-0.192*	0.088	1.787	1.174	1.999+	0.873
Log of Metropolitan Population	-0.070*	0.030	4.603***	0.401	0.891*	0.451
Percent Suburban in 1970	0.003*	0.002	-0.019	0.022	-0.024	0.020
Total Percent Foreign Born	0.018***	0.006	0.324***	0.076	-0.056	0.072
Percent Aged 65+	-0.017	0.014	-0.009	0.184	0.587***	0.169
Log of Military Population	0.019+	0.012	-0.681***	0.157	0.236	0.150
Violent Crime Rate	0.000	0.000	0.001	0.002	-0.002	0.002
Median Year Housing Built	0.011*	0.004	-0.556***	0.050	0.185***	0.056
Percent Homeowner	0.012*	0.010	0.422***	0.069	0.142*	0.068
Patent Rate	0.000	0.001	-0.049***	0.010	-0.004	0.009
Intercept	-21.802**	7.385	1067.135***	99.220	-437.159***	109.189
N	287		287		287	
Adjusted R ²	0.307		0.843		0.937	

1000>d

;100> d
**
;500 > d
*

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 3

Weighted OLS estimates of selected variables on Hispanic suburbanization, segregation, and isolation in US metropolitan areas, 2010.

Independent Variable	Relative Suburbanization		Hispanic-White Segregation		Hispanic Spatial Isolation	
	B	SE	B	SE	B	SE
Segregation						
Hispanic-White Segregation	----	----	----	----	0.576***	0.045
Suburbanization						
Relative Hispanic Suburbanization	----	----	-1.573***	0.467	-0.355	0.355
Minority Group Characteristics						
Percent Hispanic	0.015***	0.005	0.101**	0.036	0.888***	0.027
Hispanic Percent Foreign Born	0.008	0.005	0.117**	0.042	-0.113***	0.032
Relative Hispanic Income	-0.408	0.433	-27.620***	3.340	10.747***	2.782
Relative Hispanic Education	0.959**	0.334	-24.043***	2.612	-11.140***	2.228
Metropolitan Characteristics						
Anti-Hispanic Sentiment	0.004	0.003	0.073**	0.026	-0.032	0.019
Density Zoning Restrictiveness	-0.089	0.114	2.052***	0.880	0.805	0.661
Log of Metropolitan Population	-0.138***	0.040	3.185***	0.312	0.115	0.273
Percent Suburban in 1970	-0.004+	0.002	0.014	0.018	-0.040**	0.013
Total Percent Foreign Born	-0.006	0.011	-0.122	0.085	0.211***	0.064
Percent Aged 65+	-0.047*	0.019	0.475**	0.149	0.248*	0.113
Log of Military Population	0.004	0.015	-0.084	0.112	0.053	0.084
Violent Crime Rate	0.000	0.000	0.000	0.002	0.001	0.001
Median Year Housing Built	-0.009	0.006	-0.289***	0.043	0.072*	0.034
Percent Homeowner	0.013+	0.007	-0.035	0.055	0.201***	0.041
Patent Rate	0.001	0.001	-0.003	0.005	-0.001	0.004
Intercept	-1.708	13.971	583.917***	131.692	-171.913**	67.841
N	287		287		287	
Adjusted R ²	0.393		0.850		0.979	

* p < 0.05;

1000>=1

;101> d
**

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript