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### Understanding Trends in Concentrated Poverty: 1980 to 2014\*

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#### Abstract

Trends in concentrated neighborhood poverty in the United States have been volatile over the past several decades. Using data from the 1980 to 2000 decennial census and the 2010-2014 American Community Survey, we examine the association between concentrated poverty across metropolitan areas in the United States and key proximate factors, including overall changes in poverty, racial residential segregation, and income segregation. One of our unique contributions is assessing the relative contribution of each of these to long-term trends in such poverty using a decomposition analysis. We find that changes in the segregation of the poor explained the largest share of the change in concentrated poverty over most of the time period, with the exception of the 1990s, where the plunge in both black and white poverty rates had the largest role in explaining the considerable decline in concentrated poverty in that decade for both groups. The association between racial segregation and black concentrated poverty would have been higher. Overall, growing income segregation, along with weak economic performance in recent years, have put more poor people at risk for living in high-poverty communities.

#### Keywords

concentrated poverty; racial residential segregation; income segregation; neighborhood poverty

#### Introduction

Increasing income inequality and the persistence of poverty in many communities are among the most vexing economic problems in the United States today. *Concentrated* poverty, which refers to the high incidence of poverty in specific neighborhoods or groups of neighborhoods, has been particularly volatile in recent decades. The 1980s, for example, saw a substantial increase in the number of poor people living in high-poverty neighborhoods. This was followed by a rather remarkable decline in such poverty in the 1990s, and then a rebound in the 2000s. While early research on concentrated poverty often focused mainly on black inner-city poverty, in recent years the population living in high poverty areas has

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become more suburban and ethnically diverse, as it includes a substantial number of Hispanics and a nontrivial representation of whites (Jargowksy 1997, 2003; Kneebone, Nadeau, and Berube 2011).

Concentrated poverty is an issue of broad concern because many problems such as crime, welfare dependency, nonmarital childbearing, and unfavorable health, educational, and work outcomes are most prevalent in high-poverty areas. Many resources are tied to people's neighborhoods. Public education, for example, is frequently funded in part from local property taxes, and its quality varies dramatically across communities in the United States. Because people's social networks are also in part geographically rooted, those living in high poverty neighborhoods have less social capital to link them to good jobs and other kinds of public and private goods. Poor people living in disadvantaged neighborhoods often must cope not only with their own poverty but also with the problems that accompany poverty of so many of their neighbors (Jargowsky 1997; Wilson 1987, 1996).

A number of social and economic processes have likely influenced patterns and trends in concentrated poverty across metropolitan areas and its prevalence among different groups, such as economic restructuring and accompanying regional changes in poverty, racial and ethnic residential segregation, and income segregation (Iceland 2013; Jargowksy 1997, 2003; Kneebone, Nadeau, and Berube 2011; Massey and Denton 1993; Quillian 2012). While all of these factors are important, we know little about the relative contribution of each and how their effects might have changed over time. For example, were declines in concentrated poverty in the 1990s mainly a function of declining overall poverty in that decade, or also shaped by changing patterns of racial and income residential segregation?

The goal of this study is to therefore determine the key proximate factors driving changes in concentrated poverty across and within metropolitan areas over time, as well as whether this differed among blacks and whites. To investigate this issue we use decennial census data from 1980 to 2000 and American Community Survey data from 2010-2014 to calculate the extent of concentrated poverty in all metropolitan areas in the United States. We employ ordinary least squares (OLS) and fixed-effects models to examine factors that contributed to concentrated poverty and then, beyond past studies on this issue, conduct a decomposition analysis to estimate the relative contribution of overall changes in poverty, segregation of the poverty population, and racial segregation to changes in concentrated poverty over time, and among both whites and blacks, over the 1980 to 2014 period.

#### Background

Concentrated poverty has been a feature of many large American cities for some time. One has only to read Jacob Riis' ethnographic description of immigrant slums in New York City in the late 19<sup>th</sup> century to get a sense that poor, densely-packed tenement housing dominated certain neighborhoods (Riis 1890 [1997]). However, these pockets of poverty were less common outside of large cities and less prevalent in the days before the proliferation of automobiles and growth in mass transit in the early part of the 20<sup>th</sup> century. Rather, the poor frequently lived on particular blocks and alleyways that were not that geographically distant from the affluent (Drake and Cayton 1945; Sugrue 1993). Racial and economic segregation

gradually increased in the 20<sup>th</sup> century, particularly in Northeastern and Midwestern cities that experienced an influx of poor African Americans from the South during the course of the Great Migration. Suburbanization exploded after World War II, facilitated by federally-funded improvements in the nation's highway infrastructure and the continued growth in the number of white, middle-class families who sought to avoid what were often considered dense and dangerous cities with growing minority populations. The Federal Housing Authority (FHA) also facilitated the growth of segregated white suburbs by insuring the financing of many homes purchased by whites in these areas while providing virtually no mortgage assistance to minorities (Massey and Denton 1993).

Focusing on the more recent past, the 1970s and 1980s saw considerable increases in concentrated poverty. This was accompanied by widespread concern about the growth in an urban "underclass" that seemingly rejected mainstream norms about work and family. High poverty areas were characterized by low rates of high school completion and labor force attachment, and high rates of single parenthood, welfare receipt, drug and alcohol abuse, and incarceration (Auletta 1982; Jencks and Peterson 1991; Wilson 1987, 1996). A considerable body of research has since shown that the problems in high poverty neighborhoods are much more than just an expression of cultural values rejecting the mainstream, but rather a function of structural barriers impeding upward mobility, such as racial discrimination and a lack of access to resources—such as good public schools—that facilitate such mobility (Ainsworth-Darnell and Downey 1998; Edin and Reed 2005; Harding 2003).

High-poverty neighborhoods have been defined in a variety of ways, though most commonly as neighborhoods where at least 40 percent of the population is poor (20 percent and 30 percent thresholds have also bee used). Paul Jargowsky (1997: 11) has noted that neighborhoods where 40 percent or more of the residents are poor are ones that tend to have a "threatening appearance, marked by dilapidated housing, vacant units with broken or boarded-up windows, abandoned or burned-out cars, and men 'hanging out' on street corners." According to this measure (the 40 percent threshold), the number of people in high-poverty neighborhoods nearly doubled from over 4 million to 8 million people from 1970 to 1990, even as overall metropolitan area poverty rates remained relatively stable. Whites, African Americans, and Hispanics all experienced increases in concentrated poverty (Jargowsky 1997, 2009). In marked contrast, the number and percentage of people living in high poverty neighborhoods declined rather dramatically—by 24 percent—between 1990 and 2000. The largest decline occurred among African Americans. During this period an increasing share of high poverty tracts were located in the suburbs (Jargowsky 2003; Kingsley and Pettit 2003).

This volatility continued in the 2000s, as the trend in concentrated poverty again pivoted and increased. By 2007-2011, 12.8 percent of poor people in the U.S. lived in high-poverty neighborhoods, up from 10.3 percent in 2000, though considerably below the 15.1 percent rate in 1990. There was a decline in the share of the population in high poverty neighborhoods that was black (from 42 percent to 37 percent) and Latino (from 31 to 30 percent) in the 2000s, while the share that was white increased (from 20 to 26 percent) (Jargowsky 2013). Concentrated poverty nearly doubled in Midwestern metropolitan areas in the 2000s, where manufacturing declined significantly, and the population in extreme-

poverty neighborhoods rose more quickly in the suburbs than in central cities (Kneebone, Nadeau, and Berube 2011). Concentrated poverty in metropolitan areas is thus no longer confined to black inner city neighborhoods. While recent trends in concentrated poverty have been well documented, less is known about the factors driving these trends.

#### **Causes of Concentrated Poverty**

A number of developments likely explain changes in concentrated poverty over the last several decades, including economic restructuring leading to metropolitan differentials in poverty, income segregation, and racial segregation. William Julius Wilson, in the groundbreaking *The Truly Disadvantaged* (1987), focused mainly (though not solely) on how the first two factors—deindustrialization and the suburbanization of the black middle class—resulted in increases in ghetto poverty. As blue-collar jobs disappeared and sapped the vitality of central city neighborhoods, many middle-class blacks left for more desirable areas in the suburbs. This resulted in economically depressed and socially isolated inner-city neighborhoods.

Economic circumstances in the 1990s might have also been responsible for the turnaround in concentrated poverty in that decade. While manufacturing jobs never returned to central cities in the rust belt, by the 1990s much of the damage had already been done. People responded by moving out of declining metropolitan areas, often to the Sun Belt (Adelman, Morett, and Tolnay 2000; Crowder, Tolnay, and Adelman 2001). Strong economic growth and moderating economic inequality in the 1990s reduced poverty overall. The black poverty rate in particular fell significantly, from 32 percent in 1990 to 23 percent in 2000 (U.S. Census Bureau 2012).

Similarly, the worsening of the economy in the 2000s could help explain the increase in concentrated poverty in that decade. Kneebone, Nadeau, and Berube (2011) find that concentrated poverty nearly doubled in Midwestern metro areas, accompanying the deepening of the economic problems in cities such as Detroit, Toledo, and Dayton. They note that, "After substantial progress against concentrated poverty during the booming economy of the late 1990s, the economically turbulent 2000s saw much of those gains erased." (Kneebone, Nadeau, and Berube 2011, 1). In short, overall increases and declines in poverty can change the number of high-poverty neighborhoods and the population at risk of living in them.

As described above, Wilson (1987) asserted that growing income segregation—in the form of the flight of middle class blacks from inner city neighborhoods—likely increased concentrated poverty. This assertion is consistent with other research indicating that income segregation more generally has increased in recent decades. For example, Reardon and Bischoff (2011) report that the segregation of low-income families from all other families increased in the 1980s, declined slightly in the 1990s, and resumed its upward march in the 2000s—a trend that matches the volatility in concentrated poverty.

Note that while income segregation is conceptually related to concentrated poverty, they are distinct phenomena (and each worthy of study in their own right). The latter, as discussed in the vast literature focusing on inner-city poverty, refers to areas with *high absolute levels of* 

*poverty*. Income segregation, in contrast, typically refers to the differential distribution of people of various income levels across places. An area, for example, might have considerable income segregation but not much concentrated poverty if overall levels of poverty are low or if income segregation is occurring across different income groups (such as the rich from everyone else). Conversely, a metro area may have only moderate income segregation but high levels of concentrated poverty if overall levels of poverty are high. Our own dataset indicates that while there is certainly a significant correlation between concentrated poverty and income segregation (0.48 in 2010-2014), they are far from perfectly correlated. We discuss these correlations in more detail in the Data and Methods section.

Lastly, racial residential segregation has likely helped shape patterns of concentrated poverty. Massey and Denton, in *American Apartheid*, describe how racial segregation—built on a foundation of white racism and discrimination—has been a critical force in increasing the concentration of poverty. Specifically, they argued that (1993, 2), "Deleterious neighborhood conditions are built into the structure of the black community. They occur because [racial] segregation concentrates poverty to build a set of mutually reinforcing and self-feeding spirals of decline into black neighborhoods. When economic dislocations deprive a segregated group of employment and increase its rate of poverty, socioeconomic deprivation inevitably becomes more concentrated in neighborhoods where that group lives."

Racial and ethnic residential segregation—especially black and white segregation from others—has declined in recent decades (Iceland and Sharp 2013), so it probably cannot fully explain trends in concentrated poverty. However, it could still help explain some of the variation in concentrated poverty across metropolitan areas more generally, and might contribute to the extent of change in particular metropolitan areas.

A number of more recent studies have examined the association between concentrated poverty and/or the segregation of the poor population and racial segregation and other factors. Among these, Lincoln Quillian (2012, 376), in an analysis of the exposure of poor people by race to nonpoor people, finds that racial segregation is a "key lynchpin" of high levels of isolation among poor blacks and Hispanics, such that if blacks and Hispanics were less racially segregated from others, concentrated poverty among them would be considerably lower. However, he also concludes that income segregation plays a nontrivial role, including the fact that low-income minority groups members are often highly segregated from high- and middle-income members of their own group and other racial groups. His research is based on an analysis of 2000 data, and does not examine factors contributing to change over time.

Lichter, Parisi, and Taquino (2012) document increasing concentrated poverty at various levels of geography, such as small towns and nonmetropolitan counties. Like other studies, they find increases in concentrated poverty (measured in a couple of different ways) from 2000 to 2005-2009 in many kinds of places. Modeling poor-nonpoor segregation across counties, they find that several factors are correlated with such segregation, including racial composition (counties with a higher proportion of blacks have more poor-nonpoor segregation), and racial segregation (more racial segregation is associated with more income

segregation). Similarly, Dwyer (2010) finds a strong positive association between metropolitan income segregation (her outcome of interest) and racial segregation, the proportion of the area that is black, and suburbanization. In a follow up study (2012), she also finds that declines in concentrated poverty in the 1990s were associated with declines in the income segregation of the poor.

#### Contributions of this study and hypotheses

Our study builds on these analyses in a few important ways. First, this analysis employs a multivariate framework to examine the effects of several factors on changes in concentrated poverty—as defined by the concentration of poor people in high poverty neighborhoods over the long and volatile time period from 1980 to 2014 (previous studies looked at changes either descriptively or over a shorter time period and/or used older data). Our interest in these concentrated poverty areas derives from Wilson's (1987, 1996) and Jargowsky's (1997, 2013) discussion of the challenges people face if they live in neighborhoods with high absolute levels of poverty and disadvantage. We directly analyze the effects of three broad proximate factors-including overall poverty levels, racial segregation, and income segregation-on the variation in concentrated poverty across metro areas and within metro areas over time. The most unique aspect of our study is our decomposition analysis. Here we examine the extent to which each of these factors explain the volatility in concentrated poverty over time and their relative contribution to such poverty. Such a decomposition on this issue is novel, and will bring significantly greater clarity to the question of what factors have played the largest role in influencing trends in concentrated poverty. The existing literature provides only suggestive evidence on this issue, as summarized above. Is it economic conditions that matter most? Or changing patterns of income segregation? What is the role of long-term trends in racial segregation, if any? Finally, we examine the role of these factors in explaining concentrated poverty among both blacks and whites. It should be noted that we do not analyze concentrated poverty separately for Hispanics in this paper because processes such as immigration and settlement in new destinations would need greater attention than possible here.

We hypothesize that all three forces (changes in poverty, racial segregation, and income segregation) are associated with concentrated poverty. We expect that racial segregation has a particularly strong association with black concentrated poverty, given the strong conceptual link in the literature (Massey and Denton 1993). In terms of explaining change over time, we expect that changes in overall poverty and income segregation play important roles, though it is an open question as to which is more important. It is unlikely that racial residential segregation plays a key role, since segregation declined throughout the period even during decades when concentrated poverty was increasing. However, it could play a countervailing role (e.g., the increase in concentrated poverty might have been higher except for declines in segregation). In short, through these analyses we seek to not only track concentrated poverty among whites and blacks over a 34 year period, but also understand some of the proximate social and demographic forces that help shaped these patterns over time.

#### **Data and Methods**

The data for this study come primarily from the 1980 to 2000 U.S. decennial census (summary file 3) and the 2010-2014 American Community Survey summary files, compiled in the Longitudinal Tract Database (LTDB). The LTDB is a research tool created by the US2010 project to normalize census tract boundaries from earlier years to 2010 tract boundaries (Logan, Xu, and Stults 2014). The benefit of this approach is that comparisons over time are unaffected by changes in tract boundaries from one census to the next.

We first define high-poverty neighborhoods. We use census tracts to represent neighborhoods. Census tracts generally have between 2,500 and 8,000 individuals and are defined by the Census Bureau with local input with the intention of representing neighborhoods. Census tracts are by far the unit most used in research on concentrated poverty (e.g., Jargowsky 1997, 2009, 2013; Kneebone, Nadeau, and Berube 2011). We define high poverty neighborhoods as census tracts where at least 40 percent of the population is poor—again, the most common approach—though we also experiment with a 20 percent poverty cutoff.

We then calculate the extent of concentrated poverty across metropolitan areas. According to 2009 Census Bureau metropolitan definitions, there are 366 metropolitan areas (each with a population of at least 50,000 people) that contain 84 percent of the U.S. population. To ensure comparability over time, the analysis uses constant 2009 county-based metropolitan area definitions for the 1980 to 2014 period covered by this analysis. Because the United States was not fully tracted until 1990, we have data on only 330 metro areas in 1980. Since Again following convention, we calculate the extent of concentrated poverty in a metropolitan area as the percentage of a metro area's poor population that lives in these high poverty neighborhoods. We also conduct supplemental analyses using the percentage of a metro area's total population that lives in high-poverty neighborhoods and discuss these in the results section. Finally, we compute all of these concentrated poverty measures separately for non-Hispanic whites and blacks. The count of blacks includes those who may also have identified as Hispanic. We use this definition because public use census files do not include neighborhood-level poverty rates for non-Hispanic blacks. The inclusion of blacks who are Hispanic likely has a very small effect on our results, as only 3.2 percent of blacks were also of Hispanic origin in the 2010 census (Rastogi et al. 2011).

To produce reliable estimates of concentrated poverty and related measures (e.g., segregation) over time, we only include metro areas that have at least 10,000 group members and non-missing data in all years (Iceland, Weinberg and Steinmetz 2002). Our final sample consists of 326 metro areas for total concentrated poverty, 325 metro areas for white concentrated poverty, and 162 for African American concentrated poverty. These metropolitan areas are listed in Appendix Table A1.

We do not have a uniform distribution of concentrated poverty across metro areas. Some metros have no concentrated poverty at all (these metros have no high-poverty neighborhoods), and there is a long right-tail to the distribution. Thus, we apply the inverse

hyperbolic sine transformation to our dependent variable when we conduct our multivariate analyses. This transformation is defined as:

$$\log\left(y_i + \left(y_i^2 + 1\right)^{1/2}\right)$$

This transformation has been used frequently with wealth data, where, like our concentrated poverty measure, there is not only a long tail but also many zeros (Burbidge, Magee and Robb 1988; Pence 2006). Unlike a typical logarithmic variable applied to income data, the inverse hyperbolic sine is defined at zero. Regression results can be interpreted in a similar way as with a standard a logged dependent variable, where a coefficient describes the approximate percent change in the value of the dependent variable for a one unit change in the independent variable.

Our analysis begins with a descriptive look at the patterns and trends in concentrated poverty over the 1980 to 2014 period, using different definitions of concentrated poverty. We then estimate OLS models by race to examine the association of several variables with concentrated poverty in each of the four time periods (1980, 1990, 2000, and 2010-2014). These models explain the cross-sectional variation in levels of concentrated poverty across metropolitan areas, focusing on the effects of overall metro poverty rates, racial segregation, and income segregation.

Metro poverty rates are measured using the standard official poverty measure. We use black and white metro poverty rates in race-specific models. Racial residential segregation is measured using the multigroup information theory index (Theil's H) when examining concentrated poverty as a whole, and then pairwise dissimilarity indexes (D) when examining black- and white-specific models. These latter indexes represent the segregation of each group versus all non-group members (e.g., when examining white concentrated poverty, we use white-nonwhite dissimilarity). Both H and D are measures of evenness, and are typically highly correlated (Iceland, Weinberg, and Steinmetz 2002). Income segregation is likewise operationalized with a measure of evenness—in this case, the information theory index—calculated by Sean Reardon and Kendra Bischoff and available on the US2010 website managed by John Logan: www.s4.brown.edu/us2010/Data/Data.htm). Specifically, these indexes measure the segregation of families below the 10<sup>th</sup> percentile of the income distribution from all other families.

As mentioned in Background section, our dependent variable (concentrated poverty) and our three main independent variables (overall poverty, income segregation, and racial segregation) are expected to be correlated but are conceptually and computationally distinct. In the 2010-2014 ACS data, for example, the correlations between concentrated poverty and overall poverty, income segregation, and racial segregation are 0.48, 0.48, and 0.38, respectively. The correlations between racial segregation and overall poverty and income segregation are 0.06 and 0.65, respectively. Finally, the correlations between income segregation and overall poverty is -0.11. Some of these correlations are not trivial, so we examined whether multicollinearity might affect our coefficient and standard error estimates by calculating Variance Inflation Factors (VIFs). In none of our models in any of the four

time periods do the VIFs for these variables exceed 10, which is a common rule of thumb for suggesting a potential multicollinearity problem. For example, the VIFs for overall poverty, racial segregation, and income segregation were 6.44, 3.86, and 2.68, respectively in 2010-2014.

The OLS models are followed by fixed-effects models that examine within-metropolitan area changes in concentrated poverty over the time period. These have the advantage of more effectively controlling for unobserved factors whose effects do not change over time. All of our regressions are unweighted. The conceptual preference for not weighting the regressions is that we seek to understand the factors explaining the variation in concentrated poverty across metropolitan areas (each as a unit of analysis) with the OLS models and then within them across years in the fixed-effects ones. In any case, weighting the regressions by metro population size yields virtually the same conclusions as the unweighted ones (these results are available upon request).

All of the models include a number of ecological control variables that have been used past studies of segregation as well as the smaller literature on concentrated poverty (e.g., Iceland and Sharp 2013; Lichter 2012). These include census region (in the OLS models), metropolitan area population size, racial/ethnic composition, percentage of the population residing in the suburbs (defined as metro counties that do not contain the principal city), percentage foreign-born, percentage age 65 and older, percentage with less than high school education, percentage with high school degree only, percentage with some college, percentage with a college degree or more, percentage of the civilian labor force that is in manufacturing and government, percentage of the labor force that is in the military, percentage of housing units that were built in the past 10 years, median income, percentage who moved to their current residence from a different state or country (within the past 5 years in the 1980-2000 censuses, within the past 1 year in the 2010-2014 ACS), and percentage of occupied housing units that are owned. We also control for whether the metro area is a higher education metro (a "college town") by calculating the percent of the total population enrolled in college or university in 2010; those metros that were one or more standard deviations higher than the mean were counted as college towns. The resulting 50 metro areas include, for example, Ames, IA (Iowa State), College Station-Bryan, TX (Texas A&M), and State College, PA (Penn State).

Finally, we conduct a decomposition analysis to estimate the relative contribution of these factors to changes in concentrated poverty over time using the well-known Blinder-Oaxaca decomposition for linear regression (Blinder 1973; Oaxaca 1973). This method allows us to estimate the role of changes in population characteristics (i.e., overall poverty levels and racial and ethnic segregation) between two given years versus changes in their effects (i.e., the coefficients) on concentrated poverty over these years, as well as their interaction. We conduct this decomposition for the period as a whole, as well as decade-to-decade changes (given the volatility in concentrated poverty) and for blacks and whites separately. We use STATA's oaxaca command to implement the decomposition analysis (Jann 2008).

#### Results

#### **Descriptive Analysis**

Figure 1 shows the trend in concentrated poverty, by race, from 1980 to 2014. Consistent with findings from other studies (Jargowsky 2013), concentrated poverty rose in the 1980s, declined in the 1990s, and rose again thereafter. Concentrated poverty is defined as the percentage of poor people who live in neighborhoods where at least 40 percent of the population is poor. The same trend is apparent for both blacks and whites, though poor blacks are considerably more likely to live in high-poverty neighborhoods (23.1 percent of poor blacks lived in such neighborhoods in 2010-2014) than poor whites (8.2 percent).

Table 1 shows trends in concentrated poverty using different definitions of such poverty. It displays not only the percentage of the poor who live in neighborhoods where 40 percent of the of the population is poor (as in Figure 1), but also the percentage of all people in such neighborhoods, and the percentage of poor people and all people in neighborhoods with poverty rates of 20 percent or more. The trends in concentrated poverty are similar when using these different measures—increases in the 1980s, declines in the 1990s, and increases once again in the 2000s. The one exception is that when using the 20% neighborhood poverty cutoff, and especially when considering the percentage of all people in these high poverty neighborhoods, there is a general decline over the period for blacks. This suggests that while blacks are much more likely to live in high-poverty neighborhoods than whites, there has been some upgrading in the neighborhoods in which blacks live over the period, especially among nonpoor blacks, consistent with findings from other studies (Sharkey 2014). The table also shows that between a quarter and third of poor whites lived in neighborhoods with 20 percent or more in poverty, compared to between two-thirds and three-quarters of all blacks—a very large disparity. In fact, about 58 percent of all blacks lived in these high poverty neighborhoods in 1980, though this had declined to 45 percent by 2010-2014. Only 12 percent of all whites lived in these neighborhoods in 2010 (up from 9 percent in 1980).

Table 2 shows the metropolitan areas with the highest levels of concentrated poverty, by race, from 1980 to 2014. For the total population, the areas with the highest levels of concentrated poverty are disproportionately in the South. Among them are metros near the U.S.-Mexico border (e.g., McAllen, TX, Brownsville, TX, and Laredo, TX), other metro areas with high poverty rates (Albany, GA and Reading, PA), and some metro areas with major universities as well (Gainesville, FL, College Station, TX, and State College, PA). The concentrated poverty in college towns may consist of low-income students living near campus, but in off-campus housing (individuals living in institutional settings, such as dorms, are not counted in official poverty statistics). We discuss the issue of concentrated poverty in college town in more detail shortly.

Among blacks, the metro areas with the most concentrated poverty in 2010-2014 tend to be rust-belt cities in the Northeast and Midwest, such as Saginaw, MI. Four of the top ten (including the top three) are in Michigan. Notably, Michigan was the only state to experience a decline in population in the 2000-2010 period, indicative of the difficult economic times there (Mackun and Wilson 2011). These are the kinds of cities that William

Julius Wilson (1987, 1996) and Paul Jargowsky (1997) wrote about when they noted the increase rapid increase in concentrated poverty in the 1970s and 1980s.

Among whites, the metro areas with the highest level of concentrated poverty differ markedly. Highly represented on the list for whites are metro areas with major universities, including (in 2010-2014): College Station, TX (Texas A&M), Athens, GA (University of Georgia), Gainesville, FL (University of Florida), and Ames, IA (Iowa State), among others. This could again indicate that many of the poor whites living in these high poverty neighborhoods are students. This is *not* the population commentators are typically concerned with when discussing the hardships and lack of opportunities that go with living in high-poverty neighborhoods. Because of this, our regression models include a dummy for college towns; we also ran regressions excluding these metro areas altogether, and results are similar either way.

In separate analyses, we find that the 10 metro areas with the highest levels of white concentrated poverty among those which are not counted as college towns are: Waco, TX; Provo, UT; Poughkeepsie, NY; McAllen, TX; Longview, WA; Springfield, OH; Valdosta, GA; Terre Haute, IN; Kalamazoo, MI; and Austin, TX. While these areas might still include some poor white students, it is a more varied list. They tend to be metro areas that have high levels of income segregation (Waco, Provo, Poughkeepsie, Austin, and Springfield are among the top third of metro areas with the highest levels of income segregation) or high poverty rates overall (e.g., McAllen, Terre Haute, Valdosta, Kalamazoo).

#### **Multivariate Analysis**

We now examine factors associated with metropolitan area concentrated poverty. As described in the data/methods section, we focus on the role of racial segregation, income segregation (the segregation of the poor in particular), and overall poverty rates. We first run OLS models by year and race, and then fixed-effects versions that examine within-metro variation in concentrated poverty. The latter models have the advantage of controlling for unobserved factors whose effects do not change over time. Table 3 shows unweighted descriptive statistics of the covariates in our models.

Table 4 shows these regression results for the total population. Of the main independent variables, we see that, as hypothesized, a metro area's poverty rate is strongly and positively, associated with concentrated poverty. That is, places with more overall poverty also have a higher percentage of poor people living in neighborhoods with poverty rates of 40% or more. The coefficient for area poverty in 2010-2014 (0.23) indicates that a one unit (or percentage point) increase in overall poverty is associated with approximately a 26 percent change in concentrated poverty (exp(.23)=1.26), or 3.1 percentage point increase in concentrated poverty shown in Table 2 all had very high levels of overall poverty. For

<sup>&</sup>lt;sup>1</sup>As with regressions with a standard logarithmic dependent variable, exponentiating the coefficient [exp(b)] would provide an approximate marginal effect. To be more precise, however, the estimated marginal effect of x on concentrated poverty varies by the value of the dependent variable, and a common approach with an inverse hyperbolic sine transformation dependent variable is to estimate marginal effects at the average value of y as follows, which is the approach we use as well (Cobb-Clark and Hildebrand 2006; Pence 2006). Specifically, the slope of the line relating x to concentrated poverty is: b\*(sqrt(y^2+1)), where b is the coefficient for x

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example, McAllen, TX had an overall poverty rate of 35 percent and concentrated poverty rate of 51 percent; Brownsville had an overall poverty rate of 35 percent and a concentrated poverty rate of 44 percent.

Table 4 indicates that segregation of the poor also has a strong, positive association with concentrated poverty. The coefficient segregation of the poor population in 2010-2014 indicates that a one point increase in the segregation of the poor is associated with a 16 percent increase  $(\exp(.15)=1.16)$ , or 2.0 percentage point percent increase in concentrated poverty. Similarly, racial segregation is positively associated with concentrated poverty in 1980 and 2010-2014. A one point increase in racial segregation in 2010-2014 is predicted to increase concentrated poverty about 3 percent (exp(.03)=1.03), or 0.4 percentage points—a smaller, but not inconsequential effect.<sup>2</sup> Relatively few other variables have a consistent association with concentrated poverty, though we see a positive association between concentrated poverty and the college town dummy variable, % housing built in the last 10 years, and % with a BA in two of the years. The first of these reflects the finding in Table 3 that there were a number of college towns with relatively high levels of concentrated poverty.

Turning to the fixed-effects model in the final set of columns, we find similar results, with a positive association between concentrated poverty and racial segregation, income segregation, and overall poverty. The size of the coefficients for racial segregation and area poverty rate variables are about the same in magnitude as in many of the cross-sectional models, though the coefficient for poverty segregation is somewhat reduced. Of the other variables that are significant, areas that experienced increases in the percentage of owneroccupied housing and suburban population tended to experience declines in concentrated poverty.

While our tables highlight results when using our key measure of concentrated poverty (percent of the poor population in neighborhoods with 40% + poverty), we also ran models where the dependent variable is percent of the total population living in high poverty (40% +)neighborhoods and percent of the poor and percent of the total population living in mediumand high-poverty (20%+) neighborhoods. In all of the models, the effect of the three main independent variables of interest was about the same as shown in Table 4. In every crosssectional model, income segregation and overall poverty are positive and statistically significant. Racial segregation is positive and significant in about half the models, and nonsignificant in the rest. In all of the fixed-effect models, there was a positive and significant association between concentrated poverty and racial segregation, income segregation, and overall poverty. We also ran models that test interactions between our key independent variables. These were nonsignificant in most of the models, or the significance varied considerably by type of model and year.

and y is the average value of y. The unweighted average level of concentrated poverty in our sample of all metropolitan areas with nonmissing information appearing in the 2010-2014 regression is 13.28. Thus, with a coefficient of .23, the calculation for the marginal effect for overall poverty in 2010-2014 is:  $0.23*(sqrt(13.28^2+1))=3.1$  percentage points. <sup>2</sup>The calculation of the percentage point marginal effect for poverty segregation is:  $.15*(sqrt(13.28^2+1))=2.0$ . The calculation for the

percentage point marginal effect of racial segregation is: .03\*(sqrt(13.28^2+1))=0.4.

Table 5 shows results for African American concentrated poverty. Here we see fairly similar results as we saw for the population as a whole. The most consistent predictors of black concentrated poverty are income segregation and overall poverty (positive and significant in all models). The association between black residential segregation is positive in two of the cross-sectional models (1980 and 1990), but not significant in the others or the fixed-effects model. Not many other variables have a significant and consistent association with concentrated poverty. This extends to models not shown with the different specifications of the dependent variable, with the exception that when percentage of the poor population and total population in medium- and high-poverty (20%+) are the dependent variables, racial segregation frequently become statistically significant (and positive), while income segregation in some models becomes nonsignificant. Income segregation may become a weaker predictor in these models perhaps because the national black poverty rate (26 percent in 2014) surpasses the poverty rate of these medium- and high-poverty neighborhoods. Thus, even in metro areas with relatively little income segregation, blacks living in mainly black neighborhoods would live in these high-poverty neighborhoods. However, blacks living in areas with less racial segregation might be more likely to avoid these high-poverty neighborhoods.

Table 6 shows results for non-Hispanic whites. Here again we see a fairly similar set of results, with income segregation and overall poverty being the strongest predictors of white concentrated poverty. White residential segregation (from nonwhites) is marginally significant in one of the cross-sectional models (more white segregation, less concentrated poverty), though it is positively associated with concentrated poverty in the fixed-effects models. It is not altogether clear why we see this mixed pattern, though again these effects are small. Among other significant variables, we see metro areas that are college towns have more concentrated poverty, consistent with results in Table 2 (as expected, this variable was not significant in the black concentrated poverty regressions). The fixed-effects results show that the metro areas with increases in owner-occupied housing, a growing percentage of people living in the suburbs, and increasing median incomes had declines in concentrated poverty, and those with a growing proportion of immigrants had more white concentrated poverty. Generally speaking, then, white concentrated poverty fell in places that became more affluent and saw declines in income segregation.

#### **Decomposition Analysis**

Tables 7-9 show the results of our decomposition analyses, using the Blinder-Oaxaca decomposition approach for linear regression, for the population as a whole, blacks, and whites, respectively. We are interested in examining the extent to which differences in population characteristics (overall poverty and racial and income segregation), or "endowments", between two time periods explain differences in concentrated poverty, versus differences in the effects of these variables ("coefficients") or their interaction. We examine decade-to-decade change, as well change over the entire 1980-2014 period. The first row in Table 7 indicates that predicted concentrated poverty, using our inverse hyperbolic sine transformed dependent variable, was 1.58 in 1980 and 2.45 in 1990, with a difference of -0.86 (when rounded). Analogous differences for other years are 0.44 for 1990 and 2000, -0.73 for 2000 and 2014, and -1.16 for 1980 and 2014, as shown in Table 7.

The next rows show the net effect of changes in concentrated poverty due to endowments, coefficients, and the interaction between the two. Results indicate that changes in endowments account for most of the change between 1980 and 1990, 2000 and 2014, and 1980 and 2014. For example, virtually all of the difference in concentrated poverty in 1980 and 1990 (-0.86) is accounted for by changes in population characteristics between those two years (-0.85). Specifically, the -0.85 indicates the mean difference in concentrated poverty in 1980 to 2014 period, changes in endowments explain the entire change, though it is not statistically significant. The effect of changes in the coefficients works in the opposite direction, but it is statistically nonsignificant as well in most models.

In subsequent Oaxaca decomposition models, we investigate the role of specific variables (the next set of rows in Table 7). Results indicate that it is mainly changes in the segregation of the poor and area poverty rates that explain changes in concentrated poverty, and these are consistently highly significant. Specifically, without increases in both of these in the 1980-1990, 2000-2014, and 1980-2014 periods, concentrated poverty would be significantly lower. Likewise, they help explain the increase in concentrated poverty in the 1990s: without declines in segregation of the poor and declines in poverty in the 1990s, concentrated poverty follow the trends in these two variables (the means of these variables are shown in Table 3). Trends in racial segregation served to moderately reduce concentrated poverty over the period, even as concentrated poverty grew. In other words, without the reduction in racial segregation over the entire period, concentrated poverty would have been even a little higher by 2014. Only a few coefficients and interaction terms are statistically significant in the table, and none help explain the overall change in concentrated poverty from 1980 to 2014.

Table 8 shows the decomposition results for African Americans. It indicates that changes in endowments as a whole have only a significant effect on changes in African American concentrated poverty between 1990 and 2000. However, when the effects of changes in particular endowments are investigated (further down in the table), we see that there are some offsetting effects. Specifically, the change in income segregation has a very strong and consistent effect on concentrated poverty—the trends in both track each other well over time. For example, if levels of income segregation in 2010-2014 had been the same as in 1980, then concentrated poverty would have been -0.53 lower than it was (last set of columns). This nearly explains the net -0.61 difference shown in the third row. The effect of the change in the overall black poverty rate was considerable in 1990-2000 (without the decline in overall poverty, concentrated poverty would have been 0.42 higher), but in other years its effect was somewhat weaker.<sup>3</sup> The effect of changes in black-nonblack segregation are in the expected direction (without declines in segregation, concentrated poverty would be higher), and it is statistically significant in the 1990s, 2000s and over the entire 1980 to 2014 period. Overall, the change in income segregation was the single most important factor

<sup>&</sup>lt;sup>3</sup>Note that the over the entire 1980 to 2014 period (the last set of columns), without changes in black poverty, black concentrated poverty would be higher. Table 3 indicated that there was very little difference in black poverty averaged across metro areas in 1980 vs. 2014. Among metros that meet our criteria for inclusion in both years (metro areas with 10,000 or more blacks and nonmissing data in both years), average poverty levels for blacks declined slightly, which is consistent with the decomposition results.

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shaping trends in black concentrated poverty over most of the period, with the exception of the 1990s, when the very large decline in black poverty played the most critical role in reducing black concentrated poverty in that decade.

The table also shows that changes in the *effect* of black poverty rates (i.e., the coefficient for overall black poverty) also played an important role in explaining the trend in black concentrated poverty. Specifically, the 3.05 coefficient for overall black poverty over the 1980 to 2014 period indicates that if the coefficient for overall poverty were the same in 2010-2014 as in 1980, black concentrated poverty would be 3.05 points higher. This reflects the results in Table 5 indicating that the coefficient for black poverty rate was considerably higher in 1980 (0.16) than in 2010-2014 (0.05). Interactions between endowments and coefficients tended to be nonsignificant, or not consistently significant in the models.

Finally, Table 9 shows the decomposition for whites. Here we see that, like in Table 7 for the population as a whole, changes in endowments explain most of the change in concentrated poverty. Looking at specific variables, we see that trends in the segregation of the poor and overall white poverty rates closely track white concentrated poverty rates. For example, without the increase in income segregation over the 1980 to 2014 period, white concentrated poverty would have been -0.69 points lower. As with blacks, changes in the segregation of the poor explained the largest share of the change in concentrated poverty over most of the time period, with the exception of the 1990s, where the plunge in both black and white poverty rates had the largest role in explaining the considerable decline in concentrated poverty in that decade for both groups. Changes in the coefficients (or interactions between endowments and coefficients) did little to explain trends in white concentrated poverty.

#### Conclusion

The goal of this study has been to document trends in concentrated poverty over a 34-year period, and analyze the proximate factors associated with these trends, focusing on overall poverty rates, racial segregation, and income segregation. Specifically, using data from the 1980, 1990, and 2000 decennial census, along with 2010-2014 ACS data, we estimated OLS and fixed effects models to analyze between- and within- metropolitan area variation in concentrated poverty, as well as conducted a decomposition analyses to examine factors that help explain trends over time. For most analyses, we define concentrated poverty as the percentage of the poor population living in neighborhoods with poverty rates of 40 percent or more. We also conduct separate analyses for black and whites.

Like other studies, we find that concentrated poverty rose in the 1980s, declined in the 1990s, but rose once again in the 2000s. The same is true among both blacks and whites, though black levels of concentrated poverty are considerably higher than white levels in all years. Among metro areas with the highest levels of concentrated poverty are those with high poverty rates—many of them in the South—but also a few college towns. When we examine the metro areas with the highest levels of concentrated poverty by race over time, we find that those for blacks tend to be metro areas with high poverty rates in the Rust Belt, as well as some high-poverty metros in the South. In contrast, most of the metro areas with

the highest levels of concentrated poverty among whites are metros with prominent universities, suggesting that these contain many poor white students.

This further suggests that the nature of white concentrated poverty differs significantly—at least in these metro areas with high levels of transitory student poverty—from black concentrated poverty. The latter consists of neighborhoods embedded in cities with high poverty and unemployment rates (e.g., Sagninaw, MI and Albany, GA), which is consistent with traditional notions of concentrated poverty (Jargowsky 1997; Wilson 1986). When we omit metro areas that have a high concentration of college students, those with the highest levels of white concentrated poverty tend to be, as expected, those with high poverty rates or considerable income segregation. Nevertheless, we see a need for additional study of white concentrated poverty universe (see, for example, Isaacs et al. 2011), to fully understand patterns of concentrated poverty among whites.

In our OLS analyses of metropolitan levels of concentrated poverty, we find that concentrated poverty is positively, and strongly, associated with overall levels of metro poverty and the segregation of the poor, and more weakly with racial segregation. For example, in 2010-2014, a one unit increase in overall levels of poverty, income segregation, and racial segregation was associated with a 3.1, 2.0, and 0.4 percentage point increase in concentrated poverty, respectively. Fixed-effect models also indicate the salience of all three of these factors in explaining within-metropolitan change in concentrated poverty over time. The models for blacks and whites tend to tell similar stories, with a few differences. Among both blacks and whites, overall poverty rates and segregation of the poor were very important in explaining cross-sectional metropolitan area differences in concentrated poverty. Among blacks, black-nonblack segregation was important in some but not all years.

The decomposition analysis indicated that changes in the characteristics of the population, rather than the change in the coefficients associated with these characteristics, explain most of the change in concentrated poverty from decade to decade, and over the entire 1980 to 2014 period. In addition, we find that changes in the segregation of the poor explained the *largest* share of the change in concentrated poverty over most of the time period, with the exception of the 1990s, where the plunge in both black and white poverty rates had the largest role in explaining the considerable decline in concentrated poverty in that decade for both groups. Among blacks, changes in racial segregation had a small but significant effect, working to reduce concentrated poverty even as concentrated poverty was increasing overall. Among whites, changes white-nonwhite segregation had no effect.

In conclusion, our analysis is the first to estimate the relative contribution of three critical factors—overall poverty rates, racial segregation, and income segregation—to black and white concentrated poverty. We find that trends in concentrated poverty have been driven by, first, the geographic distribution of people by income—and the segregation of the poor in particular. This is not just about suburbanization yielding high levels of black inner-city poverty, as occurred in the 1960s and 1970s (suburbanization is not a key predictor in most of our models). Rather, there is greater income segregation across the metropolitan landscape. For example, Kneebone, Nadeau, and Berube (2011) have documented how

concentrated poverty has been rising more rapidly in the suburbs than in the central cities, and Jargowsky (2013) has documented the increasing diversity of the population living in high poverty neighborhoods. Our findings collectively suggest that income segregation more generally is sorting people of all races into different kinds of environments.

Second, we find that concentrated poverty has also been shaped substantially by broad changes in the economy that have hurt some metropolitan areas more than others, as those with higher overall levels of poverty, such as many metros in the South and Midwest, have considerably higher levels of concentrated poverty. These metro areas undoubtedly have more high-poverty neighborhoods, and thus more poor people at risk for living in struggling communities with higher levels of unemployment, crime, and social disorganization (Jargowsky 1997; Wilson 1987). Conversely, the strong economy of the 1990s played the most critical role in diminishing levels of concentrated poverty in that decade—more so than any other factor, including income segregation.

Third, the role of racial segregation is weaker than the other two factors, but the evidence suggest that declines in racial segregation may have provided a small protective factor: if it were not for these declines, concentrated poverty among blacks would be higher than it is.

In short, macroeconomic performance remains a critical factor in shaping neighborhood conditions. The deep recession in 2006-2008, and its lingering effects, has undoubtedly increased individual poverty, neighborhood poverty, and the percentage of all people and poor people living in high-poverty environments. To the extent that the economy recovers from this, both nationally and regionally, will help determine future patterns of concentrated poverty. And perhaps even more importantly, growing income inequality, and the accompanying sorting of people of different income levels into different kinds of neighborhood, has greatly exacerbated concentrated poverty. Since so many resources are neighborhood-based—such as schools, amenities, and social networks that tie people to jobs —growing income segregation has very troubling implications for providing avenues for upward mobility among low-income individuals and their families. Whether this kind of income segregation continues to increase is thus of considerable importance as we track the functioning and well being of American neighborhoods and communities.

#### Appendix

All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Abilene, TX	10180	х	х	
Akron, OH	10420	х	х	х
Albany, GA	10500	х	х	х
Albany-Schenectady-Troy, NY	10580	х	х	х
Albuquerque, NM	10740	х	х	
Alexandria, LA	10780	х	х	х

#### Appendix Table Al Metropolitan Areas Included in the Analyses

All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Allentown-Bethlehem-Easton, PA-NJ	10900	x	x	
Altoona, PA	11020	х	x	
Amarillo, TX	11100	х	х	
Ames, IA	11180	x	x	
Anchorage, AK	11260	x	x	
Anderson, IN	11300	х	х	
Andersen, SC	11340	x	x	x
Ann Arbor, MI	11460	х	х	х
Anniston-Oxford-Jacksonville, AL	11500	х	х	х
Appleton, WI	11540	х	х	
Asheville, NC	11700	х	х	х
Athens-Clarke County, GA	12020	х	х	х
Atlanta-Sandy Springs-Roswell, GA	12060	х	х	х
Atlantic City-Hammonton, NJ	12100	х	х	х
Auburn-Opelika, AL	12220	х	х	
Augusta-Richmond County, GA-SC	12260	х	х	х
Austin-Round Rock, TX	12420	х	х	х
Bakersfield, CA	12540	х	х	х
Baltimore-Columbia-Towson, MD	12580	х	х	х
Augusta-Richmond County, GA-SC	12620	х	х	
Barnstable Town, MA	12700			
Baton Rouge, LA	12940	х	х	х
Battle Creek, MI	12980	х	х	
Bay City, MI	13020	х	x	
Beaumont-Port Arthur, TX	13140	х	х	х
Bellingham, WA	13380	х	x	
Bend-Redmond, OR	13460			
Billings, MT	13740	х	х	
Binghamton, NY	13780	х	x	
Birmingham-Hoover, AL	13820	x	x	x
Bismarck, ND	13900	х	х	
Blacksburg-Christiansburg-Radford, VA	13980			
Bloomington, IN	14020	х	х	
Bloomington-Normal, IL	14060	x	x	
Boise City, ID	14260	х	х	
Boston-Cambridge-Newton, MA-NH	14460	x	x	x
Boulder, CO	14500	x	x	
Bowling Green, KY	14540			
Bremerton-Silverdale, WA	14740	x	x	
Bridgeport-Stamford-Norwalk, CT	14860	x	x	x
Brownsville-Harlingen, TX	15180	x	x	
Brunswick, GA	15260			

All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Buffalo-Cheektowaga-Niagara Falls, NY	15380	x	х	х
Burlington, NC	15500	x	х	х
Burlington-South Burlington, VT	15540	х	х	
Canton-Massillon, OH	15940	x	x	х
Cape Coral-Fort Myers, FL	15980	x	х	
Cape Girardeau, MO-IL	16020			
Carson City, NV	16180			
Casper, WY	16220	x	x	
Cedar Rapids, IA	16300	х	х	
Champaign-Urbana, IL	16580	x	x	х
Charleston, WV	16620	х	х	
Charleston-North Charleston, SC	16700	x	x	x
Charlotte-Concord-Gastonia, NC-SC	16740	х	х	х
Charlottesville, VA	16820	х	х	х
Chattanooga, TN-GA	16860	х	x	х
Cheyenne, WY	16940	x	х	
Chicago-Naperville-Elgin, IL-IN-WI	16980	x	х	х
Chico, CA	17020	x	х	
Cincinnati, OH-KY-IN	17140	x	х	х
Clarksville, TN-KY	17300	x	х	х
Cleveland, TN	17420			
Cleveland-Elyria, OH	17460	x	х	х
Coeur d'Alene, ID	17660			
College Station-Bryan, TX	17780	х	х	
Colorado Springs, CO	17820	х	х	х
Columbia, MO	17860	х	x	
Columbia, SC	17900	х	х	х
Columbus, GA-AL	17980	х	х	х
Columbus, IN	18020			
Columbus, OH	18140	x	x	x
Corpus Christi, TX	18580	x	x	х
Corvallis, OR	18700	x	x	
Crestview-Fort Walton Beach-Destin, FL	18880	x	x	
Cumberland, MD-WV	19060	x	x	
Dallas-Fort Worth-Arlington, TX	19100	x	x	х
Dalton, GA	19140			
Danville, IL	19180	x	х	
Danville, VA	19260	х	х	х
Davenport-Moline-Rock Island, IA-IL	19340	x	x	х
Dayton, OH	19380	x	x	х
Decatur, AL	19460	x	x	
Decatur, IL	19500	x	x	x

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All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Deltona-Daytona Beach-Ormond Beach, FL	19660	х	х	х
Denver-Aurora-Lakewood, CO	19740	х	х	х
Des Moines-West Des Moines, IA	19780	х	х	х
Detroit-Warren-Dearborn, MI	19820	х	х	х
Dothan, AL	20020	х	х	х
Dover, DE	20100	х	х	
Dubuque, IA	20220	х	х	
Duluth, MN-WI	20260	х	х	
Durham-Chapel Hill, NC	20500	х	х	х
Eau Claire, WI	20740	х	х	
El Centro, CA	20940	х	х	
Elizabethtown-Fort Knox, KY	21060			
Elkhart-Goshen, IN	21140	х	х	
Elmira, NY	21300	х	х	
El Paso, TX	21340	х	х	х
Erie, PA	21500	x	x	
Eugene, OR	21660	x	x	
Evansville, IN-KY	21780	x	x	
Fairbanks, AK	21820	х	х	
Fargo, ND-MN	22020	х	х	
Farmington, NM	22140	x	x	
Fayetteville, NC	22180	x	x	х
Fayetteville-Springdale-Rogers, AR-MO	22220	x	x	
Flagstaff, AZ	22380			
Flint, MI	22420	x	x	х
Florence, SC	22500	х	х	х
Florence-Muscle Shoals, AL	22520			
Fond du Lac, WI	22540	x	x	
Fort Collins, CO	22660	х	х	
Fort Smith, AR-OK	22900	х	х	
Fort Wayne, IN	23060	x	x	х
Fresno, CA	23420	х	х	х
Gadsden, AL	23460	х	х	х
Gainesville, FL	23540	х	х	х
Gainesville, GA	23580			
Glens Falls, NY	24020	х	х	
Goldsboro, NC	24140	x	x	х
Grand Forks, ND-MN	24220	x	x	
Grand Junction, CO	24300	x	x	
Grand Rapids-Wyoming, MI	24340	х	x	х
Great Falls, MT	24500	x	x	
Greeley, CO	24540	x	x	

All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Green Bay, WI	24580	х	х	
Greensboro-High Point, NC	24660	х	х	х
Greenville, NC	24780			
Greenville-Anderson-Mauldin, SC	24860	х	х	х
Gulfport-Biloxi-Pascagoula, MS	25060	х	х	х
Hagerstown-Martinsburg, MD-WV	25180	х	х	
Hanford-Corcoran, CA	25260	х	х	
Harrisburg-Carlisle, PA	25420	х	х	х
Harrisonburg, VA	25500	х	х	
Hartford-West Hartford-East Hartford, CT	25540	х	х	х
Hattiesburg, MS	25620	х	х	
Hickory-Lenoir-Morganton, NC	25860	х	х	
Hinesville, GA	25980			
Holland-Grand Haven, MI	26100	х	х	
Honolulu, HI	26180	х	х	
Hot Springs, AR	26300			
Houma-Thibodaux, LA	26380	х	х	х
Houston-The Woodlands-Sugar Land, TX	26420	х	х	х
Huntington-Ashland, WV-KY-OH	26580	x	х	
Huntsville, AL	26620	x	х	x
Idaho Falls, ID	26820			
Indianapolis-Carmel-Anderson, IN	26900	x	х	x
Iowa City, IA	26980	x	х	
Ithaca, NY	27060			
Jackson, MI	27100	x	х	
Jackson, MS	27140	х	х	х
Jackson, TN	27180	х	х	х
Jacksonville, FL	27260	x	х	x
Jacksonville, NC	27340	х	х	х
Janesville-Beloit, WI	27500	х	х	
Jefferson City, MO	27620			
Johnson City, TN	27740	х	х	
Johnstown, PA	27780	х	х	
Jonesboro, AR	27860			
Joplin, MO	27900	x	х	
Kalamazoo-Portage, MI	28020	x	x	x
Kankakee, IL	28100	x	х	
Kansas City, MO-KS	28140	x	х	х
Kennewick-Richland, WA	28420	x	x	
Killeen-Temple, TX	28660	x	x	x
Kingsport-Bristol-Bristol, TN-VA	28700	x	x	
Kingston, NY	28740			

All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Knoxville, TN	28940	х	х	х
Kokomo, IN	29020	х	х	
La Crosse-Onalaska, WI-MN	29100	х	х	
Lafayette, IN	29140	x	х	
Lafayette, LA	29180	x	х	x
Lake Charles, LA	29340	x	х	x
Lake Havasu City-Kingman, AZ	29420			
Lakeland, FL	29460	x	х	x
Lancaster, PA	29540	x	х	
Lansing-East Lansing, MI	29620	х	x	x
Laredo, TX	29700	x		
Las Cruces, NM	29740	x	х	
Las Vegas-Paradise, NV	29820	х	x	x
Lawrence, KS	29940	х	х	
Lawton, OK	30020	x	х	x
Lebanon, PA	30140	х	х	
Lewiston, ID-W	30300			
Lewiston-Auburn, ME	30340	х	х	
Lexington-Fayette, KY	30460	х	х	х
Lima, OH	30620	х	x	
Lincoln, NE	30700	х	х	
Little Rock-North Little Rock, AR	30780	х	х	х
Logan, UT-ID	30860			
Longview, TX	30980	x	х	
Longview, WA	31020	х	х	
Los Angeles-Long Beach-Santa Ana, CA	31100	x	х	x
Louisville, KY-IN	31140	x	х	x
Lubbock, TX	31180	х	х	х
Lynchburg, VA	31340	х	x	x
Macon, GA	31420	х	х	х
Madera, CA	31460	х	x	
Madison, WI	31540	х	x	
Manchester-Nashua, NH	31700	х	х	
Manhattan, KS	31740			
Mankato-North Mankato, MN	31860			
Mansfield, OH	31900	х	х	
McAllen-Edinburg-Mission, TX	32580	х	x	
Medford, OR	32780	x	х	
Memphis, TN-MS-AR	32820	x	x	х
Merced, CA	32900	x	x	
Miami-Fort Lauderdale-West Palm Beach, FL	33100			

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All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Michigan City-La Porte, IN	33140	x	x	
Midland, TX	33260	x	x	
Milwaukee-Waukesha-West Allis, WI	33340	x	x	x
Minneapolis-St. Paul-Bloomington, MN-WI	33460	x	x	x
Missoula, MT	33540	x	x	
Mobile, AL	33660	х	x	х
Modesto, CA	33700	x	x	
Monroe, LA	33740	х	x	х
Monroe, MI	33780	х	х	
Montgomery, AL	33860	x	x	x
Morgantown, WV	34060	х	х	
Morristown, TN	34100			
Mount Vernon-Anacortes, WA	34580			
Muncie, IN	34620	x	x	
Muskegon, MI	34740	х	х	х
Myrtle Beach-Conway-North Myrtle Beach, SC-NC	34820			
Napa, CA	34900	x	x	
Naples-Immokalee-Marco Island, FL	34940	x	х	
Nashville-DavidsonMurfreesboroFranklin,	<b>T34</b> 980	x	х	х
New Haven-Milford, CT	35300	x	x	x
New Orleans-Metairie, LA	35380	x	х	х
New York-Newark-Jersey City, NY-NJ-PA	35620	x	x	x
Niles-Benton Harbor, MI	35660	x	x	x
North Port-Sarasota-Bradenton, FL	35840	x	x	x
Norwich-New London, CT	35980	х	x	
Ocala, FL	36100	х	x	х
Ocean City, NJ	36140	х	x	
Odessa, TX	36220	х	х	
Ogden-Clearfield, UT	36260	х	х	
Oklahoma City, OK	36420	х	x	х
Olympia-Tumwater, WA	36500	х	х	
Omaha-Council Bluffs, NE-IA	36540	х	х	х
Orlando-Kissimmee-Sanford, FL	36740	х	x	х
Oshkosh-Neenah, WI	36780	х	x	
Owensboro, KY	36980	х	х	
Oxnard-Thousand Oaks-Ventura, CA	37100	x	x	
Palm Bay-Melbourne-Titusville, FL	37340	х	x	х
Palm Coast, FL	37380			
Panama City, FL	37460	x	x	x
Parkersburg-Vienna, WV	37620	x	х	
Pascagoula, MS	37700	х	x	х

All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Pensacola-Ferry Pass-Brent, FL	37860	х	х	х
Peoria, IL	37900	х	х	х
Philadelphia-Camden-Wilmington, PA-NJ-DF	E- <b>BA9</b> 80	х	х	х
Phoenix-Mesa-Scottsdale, AZ	38060	х	х	х
Pine Bluff, AR	38220	х	х	х
Pittsburgh, PA	38300	х	х	х
Pittsfield, MA	38340	х	х	
Pocatello, ID	38540	х	х	
Portland-Vancouver-Hillsboro, OR-WA	38900	х	х	х
Port St. Lucie, FL	38940	х	х	х
Poughkeepsie-Newburgh-Middletown, NY	39100	х	х	х
Prescott, AZ	39140			
Providence-Warwick, RI-MA	39300	х	х	х
Provo-Orem, UT	39340	х	х	
Pueblo, CO	39380	x	x	
Punta Gorda, FL	39460			
Racine, WI	39540	х	х	х
Raleigh, NC	39580	х	х	х
Rapid City, SD	39660	х	х	
Reading, PA	39740	х	х	
Redding, CA	39820	x	x	
Reno, NV	39900	х	х	
Richmond, VA	40060	x	x	х
Riverside-San Bernardino-Ontario, CA	40140	х	х	х
Roanoke, VA	40220	х	х	х
Rochester, MN	40340	x	x	
Rochester, NY	40380	х	х	х
Rockford, IL	40420	х	х	х
Rocky Mount, NC	40580	х	х	х
Rome, GA	40660	x	x	
SacramentoRosevilleArden-Arcade, CA	40900	х	х	х
Saginaw, MI	40980	х	х	х
St. Cloud, MN	41060	x	x	
St. George, UT	41100			
St. Joseph, MO-KS	41140	х	х	
St. Louis, MO-IL	41180	х	х	х
Salem, OR	41420	х	x	
Salinas, CA	41500	х	х	
Salisbury, MD-DE	41540	x	x	
Salt Lake City, UT	41620	x	x	
San Angelo, TX	41660	x	x	
San Antonio-New Braunfels, TX	41700	x	x	х

All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
San Diego-Carlsbad, CA	41740	х	х	х
Sandusky, OH	41780	х	х	
San Francisco-Oakland-Hayward, CA	41860	х	х	х
San Jose-Sunnyvale-Santa Clara, CA	41940	х	х	х
San Luis Obispo-Paso Robles-Arroyo Grande, CA	42020	x	х	
Santa Barbara-Santa Maria-Goleta, CA	42060	х	х	
Santa Cruz-Watsonville, CA	42100	х	х	
Santa Fe, NM	42140	х	х	
Santa Rosa-Petaluma, CA	42220	х	х	
Savannah, GA	42340	х	х	х
ScrantonWilkes-Barre, PA	42540	х	х	
Seattle-Tacoma-Bellevue, WA	42660	х	х	х
Sebastian-Vero Beach, FL	42680	х	х	
Sheboygan, WI	43100	х	х	
Sherman-Denison, TX	43300	х	x	
Shreveport-Bossier City, LA	43340	х	x	x
Sioux City, IA-NE-SD	43580	х	x	
Sioux Falls, SD	43620	х	x	
South Bend-Mishawaka, IN-MI	43780	х	x	х
Spartanburg, SC	43900	х	х	х
Spokane-Spokane Valley, WA	44060	х	x	
Springfield, IL	44100	х	x	
Springfield, MA	44140	х	х	х
Springfield, MO	44180	х	x	
Springfield, OH	44220	х	x	
State College, PA	44300	х	x	
Steubenville-Weirton, OH-WV	44600	х	х	
Stockton-Lodi, CA	44700	х	х	х
Sumter, SC	44940	х	х	х
Syracuse, NY	45060	х	x	x
Tallahassee, FL	45220	х	х	х
Tampa-St. Petersburg-Clearwater, FL	45300	х	х	х
Terre Haute, IN	45460	х	x	
Texarkana, TX-AR	45500	х	х	х
Toledo, OH	45780	х	х	х
Topeka, KS	45820	х	x	x
Trenton, NJ	45940	х	х	х
Tucson, AZ	46060	х	x	x
Tulsa, OK	46140	х	x	x
Tuscaloosa, AL	46220	х	x	x
Tyler, TX	46340	х	х	х

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All Metropolitan Areas (2009 definitions)	CBSA Code	Total population	White population	Black population
Utica-Rome, NY	46540	х	х	
Valdosta, GA	46660			
Vallejo-Fairfield, CA	46700	х	х	х
Victoria, TX	47020	х	х	
Vineland-Bridgeton, NJ	47220	х	х	х
Virginia Beach-Norfolk-Newport News, VA-NC	47260	X	X	x
Visalia-Porterville, CA	47300	х	х	
Waco, TX	47380	х	х	х
Warner Robins, GA	47580	х	х	х
Washington-Arlington-Alexandria, DC-VA-M	D4 <b>7/910</b> 0	х	х	х
Waterloo-Cedar Falls, IA	47940	х	х	
Wausau, WI	48140	х	х	
Wenatchee, WA	48300			
Wheeling, WV-OH	48540	х	х	
Wichita, KS	48620	х	х	х
Wichita Falls, TX	48660	х	х	
Williamsport, PA	48700	х	х	
Wilmington, NC	48900	х	х	х
Winchester, VA-WV	49020			
Winston-Salem, NC	49180	х	х	х
Worcester, MA-CT	49340	х	х	
Yakima, WA	49420	х	х	
York-Hanover, PA	49620	х	х	
Youngstown-Warren-Boardman, OH-PA	49660	х	х	х
Yuba City, CA	49700	х	х	
Yuma, AZ	49740	х	х	
	365	326	325	162

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Figure 1. Percentage of the Metropolitan Area Poor Population Living in High Poverty Neighborhoods, by Race, 1980-2014

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	1980	1990	2000	2010- 2014	1980	1990	2000	2010- 2014	1980	1990	2000	2010- 2014
Percent of poor people in high poverty neighborhoods (40%+ poor)	12.7%	16.4%	11.4%	14.1%	28.7%	32.3%	20.5%	23.1%	6.1%	8.8%	5.8%	8.2%
Percent of all people in high poverty neighborhoods (40%+ poor)	3.0%	4.0%	2.8%	4.1%	15.9%	17.2%	9.8%	10.9%	1.2%	1.7%	0.9%	1.5%
Percent of poor people in mid-to-high poverty neighborhoods (20%+ poor)	43.4%	48.7%	45.8%	51.1%	76.3%	74.1%	67.6%	69.0%	28.3%	33.6%	24.8%	33.1%
Percent of all people in mid-to-high poverty neighborhoods (20%+ poor)	15.7%	18.2%	17.6%	22.1%	57.8%	52.4%	45.5%	45.3%	9.3%	11.2%	7.6%	11.9%

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# Table 2

Metropolitan Areas with the Highest Levels of Concentrated Poverty, by Race, 1980-2014

	1980		1990		2000		2010-2014
Rank	Metropolitan Area	%	Metropolitan Area	%	Metropolitan Area	%	Metropolitan Area
Total P	opulation						
1	McAllen-Edinburg-Mission, TX	58.0	McAllen-Edinburg-Mission, TX	74.4	McAllen-Edinburg-Mission, TX	60.6	McAllen-Edinburg-Mission, TX
2	Farmington, NM	55.2	Brownsville-Harlingen, TX	67.2	State College, PA	49.5	College Station-Bryan, TX
ю	Monroe, LA	48.3	Laredo, TX	64.7	Madera-Chowchilla, CA	47.5	Athens-Clarke County, GA
4	Naples-Marco Island, FL	43.8	Farmington, NM	56.8	Auburn-Opelika, AL	44.5	Gainesville, FL
S	Laredo, TX	43.0	State College, PA	51.9	College Station-Bryan, TX	44.4	Albany, GA
9	Brownsville-Harlingen, TX	41.2	Aubum-Opelika, AL	50.4	Gainesville, FL	41.4	Laredo, TX
7	Albany, GA	40.6	Flagstaff, AZ	50.0	Bloomington, IN	39.2	Brownsville-Harlingen, TX
8	Provo-Orem, UT	40.3	Monroe, LA	48.0	Athens-Clarke County, GA	38.4	Reading, PA
6	State College, PA	34.1	Milwaukee-Waukesha-West Allis, WI	43.8	Champaign-Urbana, IL	38.2	Tallahassee, FL
10	Champaign-Urbana, IL	33.8	Ames, IA	42.1	Brownsville-Harlingen, TX	37.7	State College, PA
Blacks							Saginaw-Saginaw Township North,
1	Monroe, LA	71.0	Niles-Benton Harbor, MI	75.0	Monroe, LA	55.1	MI
7	Port St. Lucie, FL	67.1	Monroe, LA Saginaw-Saginaw Township North,	68.2	Niles-Benton Harbor, MI	50.4	Muskegon-Norton Shores, MI
б	Niles-Benton Harbor, MI	61.1	MI	65.2	Port St. Lucie, FL	47.5	Niles-Benton Harbor, MI
4	Anniston-Oxford, AL	58.1	Milwaukee-Waukesha-West Allis, WI	65.0	Peoria, IL Saginaw-Saginaw Township North,	46.8	Lima, OH
5	Ocala, FL	56.5	Mobile, AL	60.4	MI	46.0	Syracuse, NY
9	Alexandria, LA	51.8	Syracuse, NY	58.4	Syracuse, NY	43.4	Roanoke, VA
7	Albany, GA Deltona-Daytona Beach- Ormond Beach,	51.7	Port St. Lucie, FL	57.8	Fresno, CA	42.8	Kalamazoo-Portage, MI
8	FL	51.5	Waco, TX	57.0	Naples-Marco Island, F	41.8	Albany, GA
6	Peoria, IL	48.3	Buffalo-Niagara Falls, NY	56.4	Valdosta, GA	41.3	Rockford, IL
10	Cincinnati-Middletown, OH-KY-IN	48.3	Flint, MI	54.9	Hattiesburg, MS	40.2	Erie, PA
Non-Hi	spanic Whites						
1	McAllen-Edinburg-Mission, TX	59.9	McAllen-Edinburg-Mission, TX	74.1	College Station-Bryan, TX	58.3	College Station-Bryan, TX
7	Brownsville-Harlingen, TX	49.4	Brownsville-Harlingen, TX	68.0	State College, PA	49.0	Athens-Clarke County, GA

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	1980		1990		2000		2010-2014
Rank	Metropolitan Area	%	Metropolitan Area	%	Metropolitan Area	%	Metropolitan Area
3	Champaign-Urbana, IL	45.6	Laredo, TX	64.3	Auburn-Opelika, AL	47.9	Gainesville, FL
4	State College, PA	45.0	Auburn-Opelika, AL	56.9	Gainesville, FL	43.4	Tallahassee, FL
5	Provo-Orem, UT	44.8	State College, PA	51.8	Champaign-Urbana, IL	43.0	Iowa City, IA
9	Laredo, TX	44.6	College Station-Bryan, TX	43.6	Tallahassee, FL	41.7	State College, PA
Ζ	Gainesville, FL	44.2	Ann Arbor, MI	41.5	Iowa City, IA	40.7	Tuscaloosa, AL
8	Waco, TX	34.5	Gainesville, FL	40.8	Athens-Clarke County, GA	39.8	Champaign-Urbana, IL
6	Bloomington, IN	28.9	Ames, IA	37.2	Waco, TX	37.8	Ames, IA
10	Ann Arbor, MI	28.7	El Paso, TX	36.8	Bloomington, IN	37.5	Waco, TX

Note: Concentrated poverty refers to the percentage of poor people living in neighborhoods with poverty rates of 40%+. Includes metroplitan areas with at least 10,000 group members

**Descriptive Statistics of Control Variables, 1980-2014** 

Table 3

	198	80	19	0	20(	00	2010-	2014
Metro Area Characteristics	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Racial/ethnic groups (percentages)								
Non-Hispanic White	86.1	10.7	84.2	11.2	79.9	12.4	69.8	17.8
Black	9.8	10.2	10.1	10.2	10.5	10.7	10.9	10.9
Hispanic	5.8	11.9	6.9	13.2	9.6	14.8	13.2	16.3
Asian	1.1	3.5	1.8	4.0	2.2	3.9	3.1	4.2
American Indian	0.7	2.0	0.8	2.3	0.9	2.3	0.7	2.2
Population Size	540839.6	1282331	602102.7	1384256	684646.8	1536867	773386.4	1672440
% in suburbs	51.3	18.1	54.7	17.2	56.7	17.2	58.0	17.3
% foreign born	3.9	3.9	4.5	5.1	6.5	6.4	8.9	6.9
% 65+ years old	10.6	2.9	12.3	3.2	12.6	3.2	14.0	3.1
% housing built in last 10 yrs	29.8	9.6	21.3	9.0	18.3	7.0	16.6	6.7
% owner-occupied	66.8	5.9	65.7	5.9	67.6	5.6	65.6	5.5
% less than high school	33.1	8.5	24.3	7.0	18.8	6.4	13.1	5.4
% with high school only	35.2	5.4	31.1	5.6	30.2	6.1	29.5	6.1
% with some college	15.9	3.9	25.5	4.9	28.4	4.4	30.8	4.2
% BA+	15.8	5.3	19.0	6.3	22.6	7.3	26.7	8.1
% in manufacturing	21.6	9.8	17.7	7.8	13.6	6.7	11.2	5.3
% in government	5.5	3.5	5.0	3.1	5.1	2.7	5.3	2.7
% in the military	1.6	4.0	2.1	5.2	1.4	3.8	1.0	2.9
Median income (2010 \$)	\$58,110	\$7,285	\$57,777	\$9,802	\$64,991	\$10,887	\$62,560	\$11,170
College town	12.9%	33.6%	12.9%	33.6%	12.9%	33.6%	12.9%	33.6%
% moved from outside of state	13.03	7.56	12.08	6.46	11.36	5.46	3.16	1.72
Racial segregation (multigroup H)	22.90	13.49	20.80	11.69	17.82	9.64	15.59	8.04
White-nonwhite segregation (D)	45.84	15.57	43.79	13.60	41.18	12.12	38.56	10.91
Black-nonblack segregation (D)	56.38	14.31	51.29	14.41	46.48	14.28	42.09	13.27
Segregation of the poor (H)	10.14	3.14	12.62	4.10	11.88	3.50	14.05	3.51
Area poverty rate	12.36	4.23	13.68	5.08	12.61	4.37	14.62	4.02

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Metro Area Characteristics	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Area poverty rate (whites)	9.98	3.72	10.60	4.43	8.78	2.93	10.38	3.07
Area poverty rate (blacks)	28.64	12.16	31.04	9.49	26.74	7.20	29.22	9.31
Region								
Northeast	13%	33%	13%	33%	13%	33%	13%	33%
Midwest	27%	44%	27%	44%	27%	44%	27%	44%
South	40%	49%	40%	49%	40%	49%	40%	49%
West	21%	41%	21%	41%	21%	41%	21%	41%
N of metros	326		326		326	10	326	

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Table 4

Regressions Predicting Concentrated Poverty, Ordinary Least Squares and Fixed-Effects Models

	1980		1990		2000		2010-2(	014	Fixed-Ef	lects
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Racial/ethnic groups (percentages)										
Non-Hispanic White (omitted)										
Black	0.00	0.01	0.00	0.01	-0.01	0.01	-0.01	0.01	-0.03	0.03
Hispanic	-0.01	0.01	-0.01	0.01	00.00	0.01	0.01	0.01	-0.02	0.02
Asian	0.01	0.02	0.02	0.02	-0.01	0.02	0.00	0.02	-0.07	0.03
American Indian	0.03	0.03	0.03	0.03	0.01	0.03	-0.05 *	0.02	-0.14	0.11
Population Size	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% in suburbs	0.01	0.00	0.01	0.00	0.01 ***	0.00	0.01	0.00	-0.02 *	0.01
% foreign born	0.01	0.04	0.04	0.03	0.03	0.03	0.01	0.03	0.02	0.03
% 65+ years old	-0.01	0.03	0.00	0.03	0.02	0.03	0.00	0.02	-0.02	0.03
% housing built in last 10 yrs	0.02	0.01	0.03 **	0.01	0.03	0.01	0.02	0.01	0.00	0.01
% owner-occupied	0.03	0.02	0.02	0.02	-0.01	0.02	0.00	0.02	-0.05 *	0.02
% less than high school (omitted)										
% with high school only	0.04	0.02	0.01	0.03	0.05	0.03	0.03	0.04	0.03	0.01
% with some college	0.05	0.03	0.02	0.02	0.04	0.03	0.07 *	0.03	0.02	0.02
% BA+	0.05	0.03	0.03	0.02	0.08 ***	0.02	$0.05$ $^{*}$	0.03	0.04	0.03
% in manufacturing	0.01	0.01	-0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01
% in government	0.00	0.02	-0.05 *	0.02	-0.04	0.03	0.00	0.03	-0.02	0.03
% in the military	0.02	0.03	0.00	0.02	0.03	-0.03	0.03	0.03	0.00	0.03
Median income (10,000s)	-0.03	0.18	-0.28	0.15	-0.09	0.14	-0.05	0.13	0.01	0.11
College town	0.13	0.26	$0.82 \ ^{***}$	0.24	0.57 *	0.25	0.30	0.22		
% moved from outside of state	-0.01	0.02	-0.02	0.02	-0.04	0.02	0.02	0.06	0.00	0.01
Racial segregation (multigroup H)	0.02 *	0.01	0.01	0.01	0.00	0.01	0.03 *	0.01	0.03 ***	0.01
Segregation of the poor (H)	0.24 ***	0.03	0.23 ***	0.03	0.25 ***	0.03	0.15 ***	0.02	0.11 ***	0.02
Area poverty rate	0.23 ***	0.03	0.15 ***	0.03	0.23 ***	0.03	0.23 ***	0.03	0.23 ***	0.02

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	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Region										
Northeast	0.10	0.31	0.54	0.29	0.16	0.27	0.39	0.24		
Midwest	0.20	0.26	0.26	0.24	0.18	0.22	0.04	0.19		
South (omitted)										
West	-0.36	0.29	0.10	0.27	-0.25	0.23	-0.10	0.21		
Year										
1980									-0.31	0.27
1990 (omitted)										
2000									0.03	0.16
2010									-0.05	0.34
Constant	-5.62 **	2.11	-4.51 *	2.14	-8.12 **	2.71	-7.98 **	2.95	-0.11	2.32
N of metros	326		326	10	326		326		130	+
Adjusted R-Squared	0.60	93	0.62	05	0.62	09	0.58(	L(	0.445	1
Note: Concentrated poverty refers	to the percenta	ge of poo	r people li	ving in ne	eighborhood	ls with pc	verty rates	of 40%+.		
*** p<.001										
** p<.01										
* p<.05										

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	1980		1990		200	0	2010-20	014	Fixed-l	ffects
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Racial/ethnic groups (percentages)										
Non-Hispanic White	0.01	0.02	0.02	0.01	0.01	0.01	0.00	0.01	0.01	0.01
Black (omitted)										
Hispanic	0.03	0.02	-0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.04
Asian	0.09	0.15	-0.01	0.07	0.06	0.07	-0.06	0.04	-0.05	0.07
American Indian	0.04	0.16	0.09	0.09	0.12	0.11	-0.13	0.09	0.34	0.28
Population Size	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% in suburbs	0.00	0.01	00.00	0.01	0.01	0.01	0.00	0.01	-0.02	0.01
% foreign born	-0.03	0.08	0.03	0.05	0.03	0.06	0.04	0.04	0.08	0.06
% 65+ years old	-0.10	0.05	-0.06	0.04	0.00	0.04	0.03	0.04	-0.04	0.05
% housing built in last 10 yrs	-0.02	0.02	0.03	0.02	0.03	0.02	-0.02	0.02	0.00	0.01
% owner-occupied	0.04	0.03	0.00	0.03	-0.02	0.03	0.00	0.03	-0.01	0.03
% less than high school (omitted)										
% with high school only	-0.06	0.05	-0.14 ***	0.04	-0.01	0.06	-0.01	0.05	0.00	0.02
% with some college	-0.13 *	0.06	-0.06	0.03	-0.04	0.04	-0.03	0.04	0.05	0.04
% BA+	0.17 **	0.05	-0.04	0.03	0.04	0.04	0.03	0.04	-0.03	0.04
% in manufacturing	0.01	0.02	-0.02	0.02	-0.02	0.02	0.00	0.02	0.00	0.02
% in government	-0.01	0.03	-0.02	0.03	-0.04	0.04	0.03	0.03	-0.01	0.05
% in the military	-0.07	0.05	0.00	0.03	0.00	0.04	-0.01	0.04	0.02	0.03
Median income	-0.91	0.30	-0.32	0.18	-0.33	0.20	-0.40	0.15	0.00	0.17
College town	-0.77	0.56	-0.10	0.42	-0.31	0.47	-0.18	0.36		
% moved from outside of state	0.06	0.04	0.01	0.03	0.00	0.04	0.07	0.09	-0.02	0.02
Black-nonblack segregation (D)	0.04	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.01
Segregation of the poor (H)	$0.24$ $^{*}$	0.05	$0.13$ $^{*}$	0.03	0.24 *	0.04	$0.17$ $^{*}$	0.03	0.06	0.03
Area black poverty rate	0.16	0.02	0.06 *	0.02	0.09 *	0.02	0.05 **	0.02	0.09	0.02
Region										

	198	0	199(	(	20	00	2010-2	014	Fixed-I	Effects
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Northeast	0.37	0.63	0.86	0.44	-0.65	0.45	-0.71 *	0.36		
Midwest	0.55	0.49	0.61	0.37	-0.53	0.39	-0.49	0.29		
South (omitted)										
West	1.38 *	0.56	0.16	0.43	-0.47	0.44	-0.36	0.33		
Year										
1980									-0.15	0.47
1990 (omitted)										
2000									-0.21	0.28
2010									0.04	0.55
Constant	-3.72	2.94	5.11 *	2.57	-1.51	3.91	1.12	3.36	-0.26	3.71
N of metros	162	•	162		16	2	162		64	8
Adjusted R Squared	0.65	28	0.48(	1	0.48	899	0.481	6	0.33	62
Note: Concentrated poverty refers	to the percent	age of po	or people li	ving in n	eighborho	ods with	ı poverty ra	tes of 40	%+. Incl	udes me
*** p<.001										
** p<.01										
* p<.05										

Table 6

Regressions Predicting White Concentrated Poverty: Ordinary Least Squares and Fixed-Effects Models

	1980		1990		2000		2010-20	14	Fixed-Eff	ects
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Racial/ethnic groups (percentages)										
Non-Hispanic White (omitted)										
Black	0.03 **	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-0.05	0.02
Hispanic	-0.01	0.01	0.00	0.01	0.02 *	0.01	$0.02$ $^{*}$	0.01	-0.03	0.02
Asian	-0.01	0.02	0.00	0.02	-0.01	0.02	0.01	0.02	-0.05	0.03
American Indian	0.00	0.03	-0.01	0.03	-0.01	0.02	-0.04	0.02	-0.06	0.11
Population Size	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% in suburbs	0.00	0.00	0.00	0.00	0.01 **	0.00	0.01	0.00	-0.03 ***	0.01
% foreign born	0.02	0.03	0.03	0.03	0.04	0.03	-0.02	0.02	0.06 *	0.03
% 65+ years old	0.01	0.03	0.00	0.03	0.00	0.02	-0.03	0.02	-0.05	0.03
% housing built in last 10 yrs	$0.03$ $^{*}$	0.01	0.03 *	0.01	0.02	0.01	0.02	0.01	0.01	0.01
% owner-occupied	-0.02	0.02	0.00	0.02	-0.02	0.02	0.00	0.02	-0.04 *	0.02
% less than high school (omitted)										
% with high school only	0.02	0.02	0.01	0.03	0.01	0.03	-0.02	0.03	0.00	0.01
% with some college	0.01	0.03	0.01	0.02	0.00	0.03	0.02	0.03	0.00	0.02
% BA+	0.04	0.02	0.05 *	0.02	0.08 ***	0.02	0.03	0.03	0.03	0.02
% in manufacturing	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	-0.01	0.01
% in government	0.00	0.02	-0.04	0.02	-0.03	0.02	0.00	0.02	0.01	0.03
% in the military	0.01	0.03	0.03	0.02	0.04	0.03	-0.02	0.03	-0.02	0.02
Median income (10,000s)	0.11	0.15	-0.25	0.13	-0.38 **	0.12	-0.17	0.12	-0.43 ***	0.08
College town	0.26	0.23	1.03 ***	0.23	0.98 ***	0.24	0.49 *	0.22		
% moved from outside of state	-0.03 *	0.02	-0.05 **	0.02	-0.06 **	0.02	-0.02	0.06	-0.01	0.01
White-nonwhite segregation (D)	0.00	0.01	-0.01	0.01	-0.02 *	0.01	0.00	0.01	0.02 **	0.01
Segregation of the poor (H)	0.21 ***	0.03	0.20 ***	0.02	0.21 ***	0.02	0.17 ***	0.02	$0.11 \ ^{***}$	0.02
Area white poverty rate	0.23 ***	0.03	$0.16^{***}$	0.03	$0.16^{***}$	0.04	0.23 ***	0.03	$0.10 \ ^{***}$	0.01

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	198(	(	199	0	200	0	2010-2	2014	Fixed-Ef	fects
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Region										
Northeast	0.48	0.28	0.51	0.28	0.21	0.26	0.59 *	0.24		
Midwest	0.39	0.23	0.33	0.23	0.36	0.21	0.33	0.19		
South (omitted)										
West	0.10	0.26	0.32	0.27	-0.02	0.22	-0.01	0.20		
Year										
1980									-0.64 *	0.25
1990 (omitted)										
2000									0.31	0.16
2010									0.45	0.32
Constant	-5.56 **	1.79	-2.71	1.96	-1.47	2.45	-2.93	2.73	5.86 **	1.97
N of metros	325		32	10	325	2	325	ю	1300	-
Adjusted R Squared	0.525	54	0.57	33	0.59	47	0.56	70	0.417	5
Note: Concentrated poverty refers	to the percent	age of pc	or people	iving in r	leighborho	ods with	poverty rat	es of 40%	6+ . Includes	s metro a
*** p<.001										
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Table 7

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	1980 and 1	966	1990 and	2000	2000 and 2	014	1980 and 20	014
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Prediction in Year 1	1.59	0.09	2.45 ***	0.09	2.01 ***	0.08	1.59 ***	0.09
Prediction in Year 2	2.45 ***	0.09	2.01 ***	0.08	2.75 ***	0.07	2.75 ***	0.07
Difference	-0.86	0.08	0.44 ***	0.06	-0.73 ***	0.06	-1.16 ***	0.09
Change due to endowments	-0.85 ***	0.23	0.16	0.16	-0.92	0.57	-1.85	0.95
Change due to coefficients	0.35	0.34	0.12	0.15	1.03 ***	0.27	1.02	0.52
Interaction	-0.36	0.37	0.15	0.16	-0.83	0.56	-0.32	1.04
Change due to specific variables								
Endowments								
Racial segregation (multigroup H)	0.00	0.02	0.01	0.03	0.06	0.03	$0.19 \ ^{*}$	0.08
Segregation of the poor (H)	-0.61 ***	0.07	0.19 ***	0.03	-0.35 ***	0.05	-0.63 ***	0.09
Area poverty rate	-0.19 ***	0.04	0.23 ***	0.04	-0.46 ***	0.07	-0.51 ***	0.08
Coefficients								
Racial segregation (multigroup H)	0.37	0.24	0.01	0.20	-0.38	0.20	-0.09	0.21
Segregation of the poor (H)	-0.08	0.55	-0.07	0.31	1.25 **	0.41	1.07	0.62
Area poverty rate	1.25 *	0.49	-0.92 *	0.42	-0.16	0.52	0.10	0.59
Interaction								
Racial segregation (multigroup H)	0.04	0.02	0.00	0.03	-0.05	0.03	-0.04	0.10
Segregation of the poor (H)	0.02	0.11	0.00	0.02	-0.19 **	0.06	-0.30	0.17
Area poverty rate	-0.12 *	0.05	-0.08 *	0.04	0.02	0.07	-0.02	0.09
Note: Concentrated poverty refers to the po	ercentage of p	oor peo	ple living in	neighb	orhoods with	poverty	rates of 40%-	+. Inclue
*** p<.001								
** p<.01								
* p<.05								

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	1980 and 1	066	1990 and	2000	2000 and 2	014	1980 and 2	014
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Prediction in Year 1	2.90 ***	0.13	3.60 ***	0.09	2.91 ***	0.11	2.90 ***	0.13
Prediction in Year 2	3.60 ***	0.09	2.91 ***	0.11	3.51 ***	0.08	3.51 ***	0.08
Difference	-0.70 ***	0.12	0.69 ***	0.08	-0.60 ***	0.09	-0.61 ***	0.13
Change due to endowments	0.09	0.40	0.94 **	0.33	0.04	0.85	0.36	1.41
Change due to coefficients	-0.60	0.66	-0.40	0.30	0.17	0.52	-1.30	0.97
Interaction	-0.20	0.69	0.15	0.34	-0.80	0.92	0.32	1.50
Change due to specific variables								
Endowments								
Black-nonblack segregation (D)	0.08	0.05	0.12	0.06	0.11	0.05	0.30	0.13
Segregation of the poor (H)	-0.45 ***	0.10	0.23 ***	0.05	-0.25 ***	0.06	-0.53 ***	0.13
Area black poverty rate	-0.07 *	0.03	0.42 ***	0.11	-0.07 *	0.03	0.09	0.04
Coefficients								
Black-nonblack segregation (D)	1.11	0.86	-0.59	0.79	0.33	0.67	0.72	0.75
Segregation of the poor (H)	1.41	0.92	-0.99	0.54	1.19	0.71	1.56	1.03
Area black poverty rate	2.90 ***	0.70	-0.72	0.53	1.21	0.70	3.05 ***	0.79
Interaction								
Black-nonblack segregation (D)	0.09	0.07	-0.05	0.06	0.03	0.07	0.20	0.21
Segregation of the poor (H)	-0.29	0.19	-0.08	0.04	-0.13	0.08	-0.37	0.24
Area black poverty rate	-0.11 *	0.05	-0.13	0.10	-0.07	0.04	0.23 **	0.08
Note: Concentrated poverty refers to the *** m< 001	percentage o	f poor p	eople living	in neig	hborhoods wi	th pover	ty rates of 40	)%+. Ir
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	1980 and	1990	1990 and	2000	2000 and	2014	1980 and	2014
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Prediction in Year 1	1.06 ***	0.07	1.82 ***	0.08	1.47 ***	0.08	1.06 ***	0.07
Prediction in Year 2	1.82 ***	0.08	1.47 ***	0.08	2.21 ***	0.07	2.21 ***	0.07
Difference	-0.77 ***	0.07	0.36 ***	0.06	-0.74 ***	0.06	-1.15 ***	0.08
Change due to endowments	-0.71 ***	0.21	0.41	0.14	-1.13 *	0.55	-1.41	0.87
Change due to coefficients	-0.09	0.30	-0.04	0.14	0.99 ***	0.24	0.34	0.46
Interaction	0.03	0.32	-0.01	0.15	-0.60	0.53	-0.08	0.94
Change due to specific variables								
Endowments								
White-nonwhite segregation (D)	-0.02	0.02	-0.04 *	0.02	-0.01	0.02	-0.02	0.06
Segregation of the poor (H)	-0.52 ***	0.07	0.16 ***	0.03	-0.38 ***	0.05	-0.69 ***	0.09
Area white poverty rate	-0.09 ***	0.03	0.24 ***	0.06	-0.33 ***	0.06	-0.10 **	0.04
Coefficients								
White-nonwhite segregation (D)	0.46	0.35	0.25	0.32	-0.45	0.34	0.19	0.37
Segregation of the poor (H)	0.04	0.44	-0.09	0.28	0.57	0.37	0.51	0.52
Area white poverty rate	0.78 *	0.36	0.09	0.31	-0.73	0.38	0.15	0.44
Interaction								
White-nonwhite segregation (D)	0.02	0.02	0.02	0.02	-0.03	0.02	0.04	0.07
Segregation of the poor (H)	-0.01	0.09	-0.01	0.02	-0.09	0.06	-0.14	0.14
Area white poverty rate	-0.05 *	0.02	0.02	0.06	0.11	0.06	-0.01	0.02

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Note: Concentrated poverty refers to the percentage of poor people living in neighborhoods with poverty rates of 40%+. Includes metro areas with 10,000+ group members

\*\*\* p<.001

\*\* p<.01 p<.05