If Residential Segregation Persists, What Explains Widespread Increases in Residential Diversity?*

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Abstract

Recent work has identified increasing residential diversity as a near-universal trend across the United States. At the same time, a wide range of scholarship notes the persistence of white flight and other mechanisms that reproduce residential segregation. In this paper, we attempt to reconcile these findings by arguing that current trends toward increased residential diversity may, in some cases, mask population changes that are more consistent with residential segregation. Specifically, we show that increases in diversity can result from population changes indicative of white flight (future segregation) or spatial assimilation (future integration). These results suggest that in many neighborhoods, increases in diversity may be transitory phenomena driven primarily by a neighborhood's location in the racial turnover process. In the future, stalled or decreasing levels of diversity may become more common in these areas as the process of racial turnover continues.

Introduction

Never before have American communities exhibited greater levels of residential diversity. Over the last few decades, all-white communities have declined steadily in number (Glaeser and Vigdor 2012; Fowler et al. 2016; Sharp and Lee 2017), as "global" or "quadrivial" neighborhoods containing the presence of all major racial/ethnic groups have become more common (Bader and Warkentien 2016; Logan and Zhang 2010; Zhang and Logan 2016). Collectively, these and other demographic shifts have established increasing residential diversity as a near-universal trend in the United States, affecting the racial/ethnic composition of neighborhoods across a broad range of urban, rural, and suburban areas (Lee et al. 2014; Lee and Hughes 2015; Hall et al. 2016). On its face, this seems like an encouraging trend. If increases in residential diversity lead in a predictable way to the formation of stably integrated multiethnic communities, then we should expect to see a decline in residential segregation in the years to come. Some scholars have referred to this possibility as the *demographic integration perspective*.

In this paper, we build on prior theory and research to provide an alternative prediction. Namely, we argue that for a large number of neighborhoods, current trends toward increased residential diversity may actually mask population changes that are more consistent with the reproduction of segregated white and non-white areas. The logic underlying our argument is straightforward. In addition to the growth of minority groups, increases in residential diversity also result from net losses in the total number of white residents. Whites may become a more "equal" share of a neighborhood's population—increasing residential diversity, at least temporarily—but this may occur because they are in the process of re-segregating into less integrated,

majority non-white communities (Crowder 2000; Crowder and South 2008; Frey 1996; Hall 2013; Hartmann 1993; Lee 2007). In the extreme, this process of invasion and succession could lead to a slowing or possible reversal of current trends toward increasing racial/ethnic residential diversity. We call this alternative prediction the *residential turnover hypothesis*.

Data and Methods

Data

To consider the relative merits of these arguments, we compiled census data from 1980 (the first census to directly measure Latinos) to 2010. Consistent with past research, we use census tracts as proxies for neighborhoods, standardized across each wave to their 2010 boundaries using the *Longitudinal Tract Database* (Logan et al. 2014). The initial sampling frame includes all tracts from the 150 largest U.S. metropolitan areas. This restriction allows us to include both the largest metros generally considered gateways of traditional immigration, and also new immigrant destinations that have just recently begun to experience significant gains in residential diversity. Overall, our initial sample includes 47,310 census tracts covering all regions of the country, including all metropolitan areas with populations exceeding 500,000 residents.

Measuring residential diversity

Like other researchers, we use tract-level entropy scores to measure residential diversity at the neighborhood level.[1] We measure diversity with respect to the

[1]We use entropy because it identifies the diversity of groups within a single higher-level unit (in this case, neighborhoods). This is different from the information theory index (or Theil's H)—a commonly used measure of segregation describing the distribution of groups across smaller units in a broader area.

four major U.S. racial/ethnic groups—whites, blacks, Hispanics, and Asians. High entropy scores indicate higher levels of diversity and low scores indicate lower levels of diversity (with four groups, maximum diversity is achieved with an entropy score of log 4, or 1.386). To facilitate interpretation, we standardize the entropy score by dividing by the maximum and multiplying by 100. As a result, entropy scores of 100 indicate the highest possible level of diversity, where each of the four racial/ethnic groups represent a 25% share of the population. In contrast, minimum diversity is achieved with an entropy score of 0; this would occur in neighborhoods where all residents belong to a single racial/ethnic group.

Identifying instances of racial turnover and integration

Our goal in this project is to demonstrate how increases in entropy can arise from population changes indicative of demographic integration *or* racial re-segregation. In order to make this argument, we restrict our focus to neighborhoods experiencing significant levels of non-white population growth—because these neighborhoods represent central sites for increasing residential diversity. We then compare entropy scores across two neighborhood types: neighborhoods where whites are depopulating in substantial numbers and neighborhoods where the white population has grown in size or remained stable over time. Through a series of graphical demonstrations, we show that both of these scenarios—which we term *white flight* and *spatial assimilation*, respectively—can lead to increases in entropy scores.

To operationalize white flight and spatial assimilation, we break each process down into its component parts. For white flight, this means identifying tracts where the non-white population is growing and the white population

is decreasing. For spatial assimilation, it means identifying tracts where the non-white population is growing, but the white population either remained stable or increased in size over time. In our analyses, we used the following criteria to determine whether significant levels of non-white population growth and/or white population loss had occurred in a given tract:

1. For a tract to be experiencing non-white population growth there had to be absolute increases in the size of the non-white population that were in the highest two-thirds of the distribution of increases, after restricting the sample to those tracts where the non-white population grew in size between 1980 and 2010.[2]

2. For a tract to be experiencing white population decline there had to be absolute decreases in the white population size that were in the lowest two-thirds of the distribution, using only those tracts where the size of the white population decreased over time.

3. Finally, if a tract was not in the bottom two-thirds of the distribution of white population losses, we considered the white population stable.

Figure 1 summarizes the distribution of white and non-white population change from 1980-2010, and illustrates the specific thresholds we used to identify white flight and spatial assimilation neighborhoods. In the right panel, the shaded region indicates the cut point for non-white gains (an increase of 496 non-white residents); in the left panel, the shaded region indicates the cut point for white losses (a decrease of 1,170 white residents). After restricting our sample to places where the non-white population grew, we were left with 28,808 tracts

[2]In carrying out this exercise, we use absolute measures of population change, as opposed to relative measures, in order to capture group-specific changes in population size that are insensitive to changes in the sizes of other groups.

or (28,808/47,310) 61% of our original sample. Of these tracts, 10,561 (37%) were classified as experiencing white flight and 18,247 (63%) were classified as spatial assimilation neighborhoods.

Results

In the first part of our analyses, we demonstrate the crux of our argument: despite being theoretically synonymous with residential integration, increases in residential diversity may also result from neighborhoods experiencing systematic patterns of white loss that are more consistent with the idea of racial turnover. To this end, Figure 2 summarizes changes in entropy across tracts that we classified as either experiencing white flight or spatial assimilation from 1980-2010. The graphs show that in both types of neighborhood there were similar levels of non-white population growth, but very different patterns of white population change. In white flight tracts, the size of the white population decreased by about 2,000 residents, on average, whereas in spatial assimilation tracts the number of whites increased by around 1,200.

Importantly, this distinction (between growing and shrinking white populations) is not reflected in entropy scores. Because entropy measures provide a "snapshot" of neighborhood diversity at any given point in time—and do not take into consideration the direction or nature of ongoing population change—they are unable to distinguish between compositional changes stemming from racial turnover on the one hand, and stable integration on the other. As a result, both white flight and spatial assimilation tracts register large increases in diversity over time. In fact, increases in diversity tended to be *more* pronounced in white flight tracts as both white and non-white groups—through divergent processes of neighborhood exit and entry—converged more rapidly

towards an equal share of the population.

Will Increasing Diversity Remain the Dominant Trend Moving Forward?

The analyses presented above suggest that current trends toward increasing residential diversity may mask divergent *trajectories* of residential integration. An implication of these findings is that a significant number of neighborhoods may be experiencing transitory increases in diversity. Specifically, we hypothesize that decreases in diversity may soon become more common as nascent white flight tracts mature into the later stages of the racial turnover process. By the time of the PAA meetings next spring, we plan to carry out two sets of additional analyses specifically designed to address this hypothesis. Brief synopses of these analyses—which we are currently underway—are given below:

1. Group tracts according to their entropy scores in 1980 (i.e., 0-10, 11-20, 21-30, 31-40, 41-50, 51-60, 61-70, 71-80, 81-90, 91-100). Then wind the clock forward to show what happened with respect to diversity over the ensuing three decades. Were decreases in entropy more likely in tracts that were initially less diverse (i.e., further along in the process of neighborhood turnover)? Is there an identifiable inflection point, after which entropy scores began to decline? How do the trajectories of change differ in tracts that we classified as stable?

2. Perform a simple simulation exercise where current rates of population change for white and non-white groups (taken for the period between 2000 and 2010) are carried forward into the future in white flight and non-white flight tracts. Repeat this exercise under different assumptions about the pace of future population change (i.e., use rates of change that are equal to 50%, 75%, 125% and 150% of the baseline rates). When do

entropy scores begin to decline in white flight tracts?

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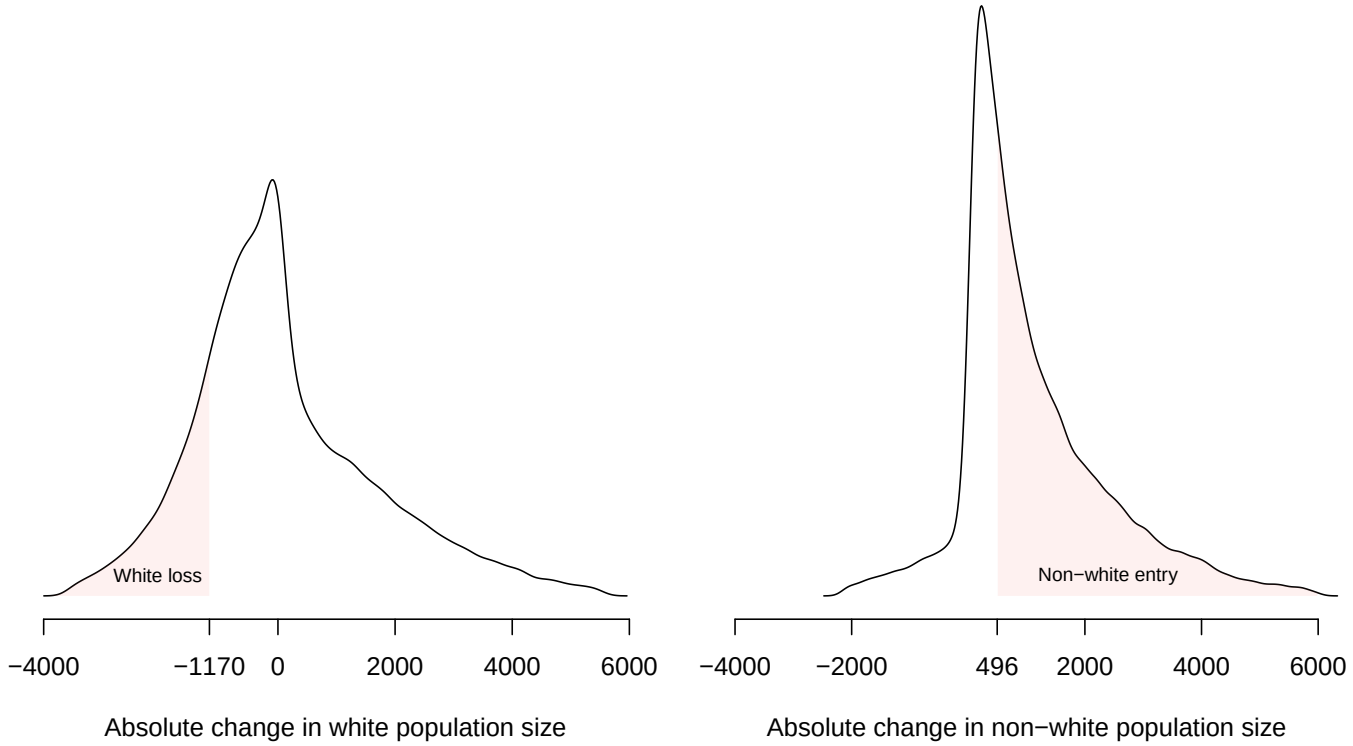

Figure 1: Distribution of white and non-white population change (1980-2010). For a tract to be experiencing white loss, its losses had to be in the lowest two thirds of the distribution (as indicated by shaded region in the plot on the left). For a tract to be experiencing significant levels of non-white entry, its gains in the size of the non-white population had to be in the highest two thirds of the distribution (as indicated by the shaded region in the plot on the right). The resulting thresholds for white loss and non-white entry were -1,170 and 496, respectively. See text for more details.

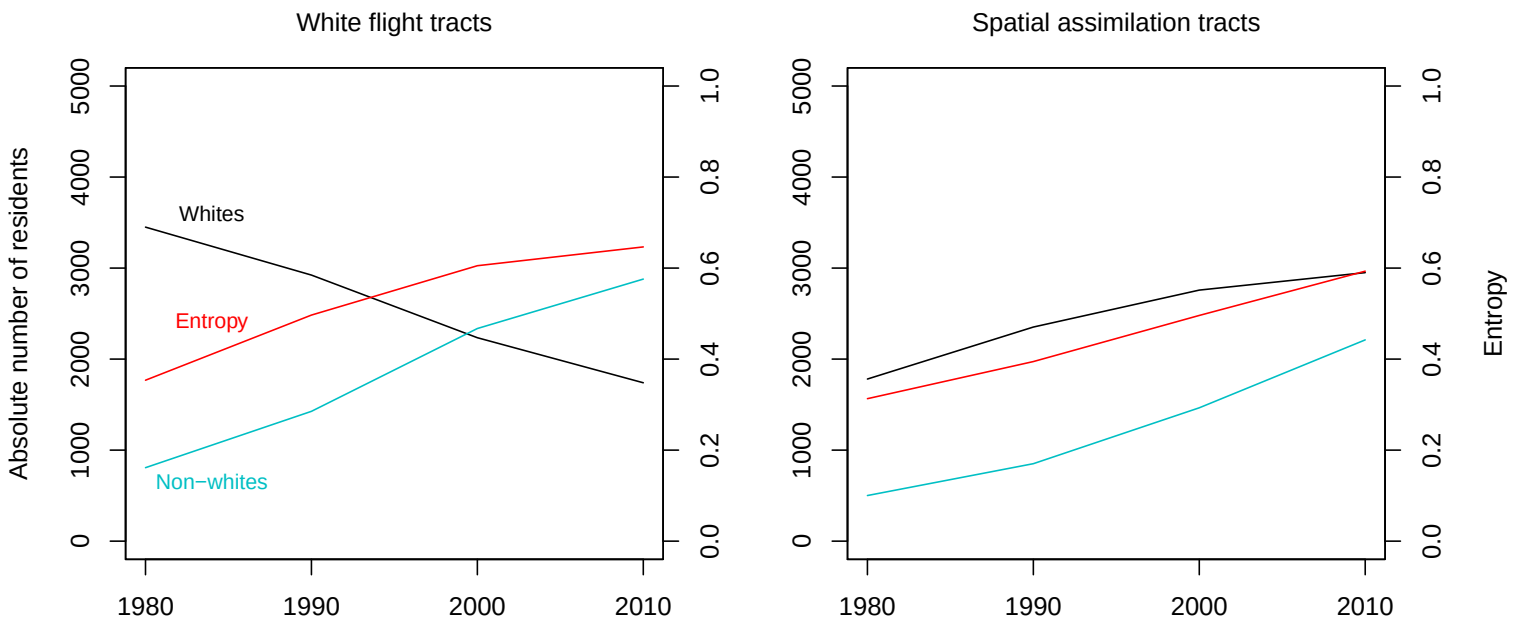

Figure 2: Absolute population change for white and non-white residents and entropy scores, 1980-2010. The plot on the left shows changes over time in population composition and entropy in tracts that we classified as experiencing white flight. The plot on the right shows the same trend lines for tracts that we classified as experiencing spatial assimilation. The number of white and non-white residents is given on the the left y-axis and entropy is given on the right y-axis. See text for more details.