Segregation in Motion: Dynamic and Static Views of Segregation among Recent Movers

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ABSTRACT

This study utilizes a novel approach to study how immigration changes over time. Rather than computing segregation measures based on the existing population, we compute segregation measures among different categories of recent movers (those moving within the last 5 years from when the data was taken). We therefore are able to assess segregation among recent movers across the U.S. using the index of dissimilarity. Measuring segregation among different ethnic recent movers groups produces results that capture segregation in motion, or in other words, changes in segregation as they occur. Findings reveal that domestic movers are almost always less segregated than the static population, that moving from farther distances almost always results in higher rates of segregation, and foreign movers are more segregated than other mover groups without exception.

Segregation in Motion: Dynamic and Static Views of Segregation among Recent Movers

Residential ethnic segregation has negative social implications for ethnic minority groups in America (Charles 2003). "Segregation patterns and trends are traditionally considered to be changing through residential mobility" (Maloutas 2004: 195). One measure of segregation, the index of dissimilarity (D), assesses the evenness of the population of two groups in one area, usually a county (Massey 1988). The dissimilarity index can be used to measure segregation rates in cross sectional studies across two ethnic groups at one time or to calculate these rates at two times, comparing them to derive changes in rates of segregation.

This study utilizes a novel approach to study how immigration changes over time. Rather than computing segregation measures based on the existing population, we compute segregation measures among different categories of recent movers (those moving within the last 5 years). We therefore are able to assess segregation among recent movers across the U.S. using the index of dissimilarity. Measuring segregation among different ethnic recent movers groups produces results that capture segregation in motion, or in other words, changes in segregation as they occur. Capturing changes in segregation as they occur will yield valuable information on where and how segregation or integration is taking place and among which ethnic and mover groups segregation or integration is occurring.

LITERATURE REVIEW

Residential Ethnic Segregation

Residential ethnic segregation (segregation) is the degree to which various ethnic groups live in different neighborhoods (Iceland and Douzet 2006). Rates of segregation for blacks, Latinos, and Asians from the white population remain high. Of these groups, blacks experience

the most segregation (Wilkes and Iceland 2004). When segregation persists in an area, it can have serious negative social consequences on minority populations through the creation of an urban underclass, thus linking segregation to racial inequality (Massey 1993). In affected areas, residents have fewer economic and educational opportunities, thus limiting social mobility and residential choice. As residents remain in segregated areas, the place they call home is concentrated in poverty, physically deteriorated structures, higher rates of crime and mortality, and broken families (Massey 1993). It is important to study factors that influence levels of segregation in order to attempt to develop plans to overcome racial inequality.

Research measuring change in segregation in metropolitan areas shows that even though rates of black segregation remain high, they are decreasing, revealing a slow move toward integration (Frey and Farley 1996). Integration of Latinos and Asians with the white population occurs more often than blacks. This trend is more likely to occur in multi-ethnic metropolitan areas where the population of other ethnic minority groups increases faster than blacks. Though, research shows trends towards convergence in levels of segregation when comparing different ethnic minority groups to the white population; black-white levels of segregation are decreasing while Latino-white and Asian-white levels are increasing (Frey and Farley 1996; Logan, Stults and Farley 2004).

When measuring segregation among recent movers, we expect to find the same trends of integration because segregation trends occur through mobility. It is necessary to view theoretical perspectives to hypothesize about specific trends we would see when measuring residential ethnic segregation among different mover groups.

Theoretical Perspectives

Theoretical perspectives have been applied to explain reasons for segregation. This section contains a brief discussion of the macro-sociological theory of social structure and the spatial assimilation theory, from which the delayed spatial assimilation theory, the immigrant enclave model, and the ethnic community models were derived.

Blau (1977) developed the macro-sociological theory of social structure. This theory views social structure quantitatively as the distribution of a population existing in different social positions, with two main differentiations of heterogeneity and inequality. A component of this theory asserts that "increasing heterogeneity promotes intergroup relations" (Blau 1977: 52). This theorem, theorem nine, provides a basis for explaining the trends towards ethnic residential integration in a society with a nationally growing multi-ethnic population.

The spatial assimilation theory was derived from the concept of spatial assimilation—spatial distance implies social distance (Brown 2007). The theory posits that immigrant groups first settle in clusters near other co-ethnics because of reliance on them for social networks and support (Brown 2007). In the United States, assimilation and integration into the majority population occurs after learning the English language, which allows for economic advancement. Later generations of the initial immigrant groups are more assimilated with the majority population than incoming immigrant groups, and therefore experience less segregation from the majority population. The delayed spatial assimilation theory explains that in some cases, such as Mexican Americans, assimilation will occur in later generations because of hindrances to economic advancement like family ties (Brown 2007). When delayed assimilation occurs, segregation for some ethnic groups will remain high, showing slower rates of decline over time.

The formation of clustered immigrant groups upon arrival into the United States, when viewed through spatial assimilation theory, is explained by the immigrant enclave model (Logan, Zhang and Alba 2002). As stated earlier, these clusters or enclaves receive many new immigrant residents because of available social networks that can assist in assimilation. These newly arriving immigrants will be more segregated from the majority population when compared to immigrants that have begun the process of assimilation, the latter now moving towards more socially desirable neighborhoods among the native population. When the immigrants move out, segregation will decrease. In some cases, assimilated immigrants that have moved out of their original enclave begin to form their own ethnic community in suburbs or other more socially and economically desirable areas. This phenomenon describes the ethnic community model under the spatial assimilation theory (Logan, Zhang and Alba 2002). In this case, the assimilated immigrants chose to live with co-ethnics for reasons other than economic advancement such as personal preference or cultural identity. As the choice to move into ethnic communities is made, residents experience more segregation from members of other ethnic groups, including the majority population. Together with historical trends in segregation, these theoretical models were used to hypothesize segregation patterns among recent movers.

Although much existing research measures the level of segregation at one point in time, these studies cannot speak to how segregation is changing. And whereas studies measuring segregation at several time points can provide information on the level of segregation at each time point, and how it therefore is changing, such studies are not able to say *why* these changes occur. We therefore adopt a novel approach that measures segregation among various recent mover groups to capture segregation patterns *as they change*.

RESEARCH QUESTION AND HYPOTHESES

What does residential ethnic segregation among recent movers look like? This broad research question can be explored by dividing recent ethnic movers into different mover groups and comparing segregation rates amongst the groups and the static population. Segregation trends and theoretical findings can narrow this research question down through the testing of three hypotheses: hypothesis 1 (H1), the static population will be more segregated than domestic movers; hypothesis 2 (H2), long-distance movers will be more segregated than local movers from the static population; hypothesis 3 (H3), foreign movers will be more segregated than domestic movers.

H1 states that segregation rates among the static population will be higher than segregation rates of different mover groups. More specifically, segregation rates of domestic movers of one ethnic group when compared to domestic movers of a different ethnic group will be less segregated than the static population of the first ethnic group when compared to the static population of the second ethnic group.

Trends in segregation derived from measuring change of segregation rates over time show declines in segregation rates and integration of ethnic groups. We should observe this same effect when comparing segregation rates of different domestic mover groups to the static population. Furthermore, the theorem of macro-sociological structure explains increasing heterogeneity which leads to more intergroup relations. When comparing segregation rates among different ethnic recent movers to segregation rates of the static population, movers will have lower rates of segregation than the static population.

H2, long-distance movers will be more segregated than local movers from the static population and H3, foreign movers will be more segregated than domestic movers can both be

explained by the spatial assimilation theory and the enclave model. When people move from further distances, they will likely first move into locations where co-ethnics are located. When this occurs as stated in H2, recent domestic movers from farther distances will be more segregated than recent domestic movers moving from shorter distances. Since foreign movers are coming from the farthest distances, this same reasoning can be applied to H3.

METHODS

A secondary data analysis was conducted using 2000 US Census Bureau SF 3 data on residence by race of the population five plus years old in 1995 at the state and county level for all 3,143 United States counties. This data source provided information for segregation comparisons between the static population and three groups of recent movers (in the last 5 years): same county movers (SCM), different county movers (DCM), and foreign movers (FM). For analysis of the hypotheses, domestic movers refer to same and different county movers together whereas all movers refer to same county, different county and foreign movers together.

The index of dissimilarity was used to calculate segregation among recent movers. This index measures the proportion of one group under the condition of maximum segregation that would have to move in order to achieve evenness of the two groups in a geographic location (Massey 1988). It is calculated by taking the absolute value of the difference of the proportion of one group from the proportion of another group. It is then multiplied by one-half in order to truncate values between zero and one. Then, it is multiplied by 100 to express the rate of segregation as being between zero and 100. The following formula shows this calculation:

$$D_{AB} = 100 * 0.5 * \sum_i \left| \frac{a_i}{A} - \frac{b_i}{B} \right|$$

where "A" represents the total population of group A for the county, "B" represents the total population of group B for the county, "a_i" is the total population of group A for the i^{th} tract, and "b_i" is the total population of group B for the i^{th} tract.

Segregation rates will range from zero to 100, zero representing complete integration of the two groups being measured and 100 representing complete segregation of the two groups being measured (Frey and Farley 1996). The dissimilarity index was calculated for 16 different mover group comparisons among three ethnic groups from 3,143 counties, yielding a total of 48 different dissimilarity indices (Appendix 1). Forty-eight mean dissimilarity indices were then calculated from the 3,143 counties to obtain a D value for each of the comparisons. In order to account for differences in population size across counties, the dissimilarity means were then weighted by population size using the following formula:

$$\sum_{n=1}^{N} D_n * P_n / P_{Total}$$

In this formula, D_n is the dissimilarity index for the n^{th} county, P_n is the population of the n^{th} county, and P_{Total} is the total population of all 3,143 counties. Weighted means of dissimilarity are interpreted as the rate of segregation experienced by the average group member that is being compared (Wilkes and Iceland 2004).

RESULTS

After calculating weighted mean dissimilarity values for the 48 dissimilarity indices of the 50 states, comparisons were made to determine segregation rates of recent ethnic movers.

Hypothesis One

H1 states that segregation rates among the static population will be higher than segregation rates of different mover groups. To test this hypothesis, the dissimilarity index for the static population of two ethnic groups was compared to the dissimilarity indices for domestic

movers of the same two ethnic groups. For example, D was calculated first for the white and black static populations and then was compared to D for both white and black same county movers (SCM) and white and black different county movers (DCM). This was done again for white-Latino and black-Latino comparisons of dissimilarity indices (Table 1).

Table 1. Indices of Dissimilarity for Comparison of Ethnic Static Populations to Domestic Mover Groups (H1)

	Stayers	SCM	DCM
White-Black	59.5	57.5	52.0
White-Latino	45.3	48.8	43.1
Black-Latino	53.9	51.9	46.9

In table 1, results indicate that domestic movers are less segregated than the static population across all ethnic comparisons with the exception of Latino SCM to white SCM; this domestic mover group is more segregated than the white-Latino static population. This can be interpreted as Latino SCM being more segregated than white SCM when compared to how segregated the Latino static population is from the white static population. This means that Latinos and whites are moving into different neighborhoods and where they are moving is causing them to be more segregated than the ethnic counterpart comparison of the static population. Other than the Latino-white SCM exception, domestic movers experience less segregation than the static population, confirming historical downward trends of segregation and theorem nine of Blau's macro-sociological theory of social structure. One explanation for this exception may be that Latinos moving within the same county are choosing to move into other Latino neighborhoods, possibly because of the existence of ethnic enclaves.

Hypothesis Two

H2 states that long-distance movers will be more segregated than local movers from the static population. To test this, dissimilarity indices were calculated for one ethnic static

population to each of the mover groups of a different ethnic group. For example, dissimilarity was calculated for the white static population and black SCM, the white static population and black DCM, and the white static population and black foreign movers (FM). Then, dissimilarity indices were calculated between the same ethnic groups but in reverse order. For example, dissimilarity was calculated for the black static population and white SCM, the black static population and white DCM, and the black static population and white FM. The same framework of dissimilarity indices was calculated again for white-Latino and black-Latino comparisons (Table 2).

Table 2. Indices of Dissimilarity for Comparison of Ethnic Static Populations to All Mover Groups (H2)

White Stayers vs.		White Stayers vs.		Black Stayers vs.	
Black SCM	60.1	Latino SCM	51.2	Latino SCM	56.5
Black DCM	57.3	Latino DCM	46.9	Latino DCM	55.4
Black FM	70.9	Latino FM	64.8	Latino FM	64.0
Black Stayers vs.		**Latino Stayers vs.**		**Latino Stayers vs.**	
White SCM	58.9	White SCM	45.5	Black SCM	53.8
White DCM	60.2	White DCM	48.9	Black DCM	54.1
White FM	65.0	White FM	56.5	Black FM	64.8

In table 2, results indicate a trend that movers from greater distances experience more segregation from the static population than movers from shorter distances. Out of the 18 calculations of D for the comparisons that answer this hypothesis, there are three exceptions. Both black and Latino SCM are more segregated from the white static population than black and Latino DCM are from the white static population. Also, Latino SCM are more segregated from the black static population than Latino DCM. Other than these exceptions, H2 is maintained and confirms the spatial assimilation theory and ethnic enclave model. However, the exception in segregation rates from the white static population may confirm the delayed spatial assimilation theory for Latinos. It also confirms the persistence of high segregation rates for the black

population. Different county movers are a special mover group in that they are moving from the same country, just from farther distances. Social capital and economic status for different county movers may be higher than people moving around in the same county, allowing for lower rates of experienced segregation from the static population when moving in, as is seen in the results.

Hypothesis Three

H3 states that foreign movers will be more segregated than domestic movers. This hypothesis was tested using two main comparisons. The first test compares the D values for a domestic mover of one ethnicity compared to both a domestic mover of a second ethnicity and a foreign mover of that second ethnicity. When making this comparison, one of the domestic mover groups is held constant in each of the D calculations that were compared. For example, D for white SCM and black SCM (57.5) was compared to D for white SCM and black FM (69.4) (Table 3a).

Table 3a. Indices of Dissimilarity for Comparison of Ethnic Domestic Mover Groups to Foreign Mover Groups (H3)

White SCM vs.		White SCM vs.		Black SCM vs.	
Black SCM	57.5	Latino SCM	48.8	Latino SCM	57.5
Black FM	69.4	Latino FM	63.0	Latino FM	60.3
White DCM vs.		**White DCM vs.**		**Black DCM vs.**	
Black DCM	52.0	Latino DCM	43.1	Latino DCM	51.2
Black FM	67.5	Latino FM	63.7	Latino FM	60.6
Black SCM vs.		**Latino SCM vs.**		**Latino SCM vs.**	
White DCM	60.3	White DCM	53.0	Black DCM	60.0
White FM	63.3	White FM	57.8	Black FM	63.5
Black DCM vs.		**Latino DCM vs.**		**Latino DCM vs.**	
White SCM	54.6	White SCM	44.6	Black SCM	54.6
White FM	57.4	White FM	51.4	Black FM	61.3

A similar comparison was made using the opposite ethnic groups, as in hypothesis two, except now, D of black SCM and white DCM (60.3) was compared to D of black SCM and white FM (63.3) (Table 3a).

Another comparison was made to test H3. Looking at Table 3b by column, a comparison was made between three different D values. One mover category for two different ethnicities was compared to the other two mover categories for the same two ethnicities.

Table 3b. Indices of Dissimilarity for Comparison of Ethnic Domestic Mover Groups to Foreign Mover Groups (H3)

White SCM vs.		White SCM vs.		Black SCM vs.	
Black SCM	57.5	Latino SCM	48.8	Latino SCM	57.5
White DCM vs.		**White DCM vs.**		**Black DCM vs.**	
Black DCM	52.0	Latino DCM	43.1	Latino DCM	51.2
White FM vs.		**White FM vs.**		**Black FM vs.**	
Black FM	65.4	Latino FM	63.6	Latino FM	62.9

For example, D for white-black SCM (57.5) was compared to D for white-black foreign movers (65.4). This was also done for white-black DCM (52.0) to white-black FM (65.4). This comparison was made for all ethnic group combinations. As we see from the example and examining tables 3a and b, hypothesis three was maintained for all comparisons. There is more segregation among groups of foreign movers than there is among groups of domestic movers. The spatial assimilation theory as applied to segregation among recent mover groups was confirmed.

CONCLUSION

In conclusion, segregation can be measured in motion when measuring ethnic residential segregation for different mover groups. We demonstrated the use of a novel technique in which

comparisons can be made to find out which ethnic mover groups are experiencing more or less segregation. Segregation among recent movers captures segregation as it is occurring through mobility and confirms changes in segregation that have been measured over time and theoretical explanations of segregation. This research design is an important contribution to the literature on segregation because it allows us to measure segregation as it is occurring.

Findings reveal that domestic movers are almost always less segregated than the static population, that moving from farther distances almost always results in higher rates of segregation, and foreign movers are more segregated than other mover groups without exception. These findings are important for considerations of political action to help reduce inequality experienced today by the Latino population before they experience a similar situation as blacks did as described in the American Apartheid (Massey 1990).

Future research suggestions for segregation among recent movers include using more recent data sets. Also, multivariate analysis is recommended to determine influences on rates of segregation for recent movers.

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APPENDIX

Appendix. 48 calculations of the Index of Dissimilarity among recent ethnic mover groups

White & Black Comparisons	White & Latino Comparisons	Black & Latino Comparisons
Static Population		
White Stayers - Black Stayers	White Stayers - Latino Stayers	Black Stayers - Latino Stayers
Static Population to All Mover Groups		
White Stayers - Black SCM	White Stayers - Latino SCM	Black Stayers - Latino SCM
White Stayers - Black DCM	White Stayers - Latino DCM	Black Stayers - Latino DCM
White Stayers - Black FM	White Stayers - Latino FM	Black Stayers - Latino FM
Black Stayers - White SCM	Latino Stayers - White SCM	Latino Stayers - Black SCM
Black Stayers - White DCM	Latino Stayers - White DCM	Latino Stayers - Black DCM
Black Stayers - White FM	Latino Stayers - White FM	Latino Stayers - Black FM
Domestic Movers		
White SCM - Black SCM	White SCM - Latino SCM	Black SCM - Latino SCM
White SCM - Black DCM	White SCM - Latino DCM	Black SCM - Latino DCM
White DCM - Black SCM	White DCM - Latino SCM	Black DCM - Latino SCM
White DCM - Black DCM	White DCM - Latino DCM	Black DCM - Latino DCM
Foreign Movers to Domestic Movers		
White FM - Black SCM	White FM - Latino SCM	Black FM - Latino SCM
White FM - Black DCM	White FM - Latino DCM	Black FM - Latino DCM
Black FM - White SCM	Latino FM - White SCM	Latino FM - Black SCM
Black FM - White DCM	Latino FM - White DCM	Latino FM - Black DCM

TABLES

Table 1. Indices of Dissimilarity for Comparison of Ethnic Static Populations to Domesitc Mover Groups (H1)

	Stayers	SCM	DCM
White-Black	63.9	61.0	55.2
White-Latino	47.8	48.2	43.5
Black-Latino	53.8	50.7	45.6

Table 2. Indices of Dissimilarity for Compairson of Ethnic Static Populations to All Mover Groups (H2)

White Stayers vs.		White Stayers vs.		Black Stayers vs.	
Black SCM	63.5	Latino SCM	50.2	Latino SCM	55.1
Black DCM	60.5	Latino DCM	46.5	Latino DCM	56.0
Black FM	75.6	Latino FM	63.5	Latino FM	63.1
Black Stayers vs.		**Latino Stayers vs.**		**Latino Stayers vs.**	
White SCM	63.3	White SCM	48.6	Black SCM	54.1
White DCM	65.1	White DCM	53.2	Black DCM	55.0
White FM	69.6	White FM	60.0	Black FM	69.2

Table 3a. Indices of Dissimilarity for Comparison of Ethnic Domestic Mover Groups to Foreign Mover Groups (H3)

White SCM vs.		White SCM vs.		Black SCM vs.	
Black SCM	57.5	Latino SCM	48.8	Latino SCM	57.5
Black FM	69.4	Latino FM	63.0	Latino FM	60.3
White DCM vs.		**White DCM vs.**		**Black DCM vs.**	
Black DCM	52.0	Latino DCM	43.1	Latino DCM	51.2
Black FM	67.5	Latino FM	63.7	Latino FM	60.6
Black SCM vs.		**Latino SCM vs.**		**Latino SCM vs.**	
White DCM	60.3	White DCM	53.0	Black DCM	60.0
White FM	63.3	White FM	57.8	Black FM	63.5
Black DCM vs.		**Latino DCM vs.**		**Latino DCM vs.**	
White SCM	54.6	White SCM	44.6	Black SCM	54.6
White FM	57.4	White FM	51.4	Black FM	61.3

TABLES (continued)

Table 3b. Indices of Dissimilarity for Comparison of Ethnic Domestic Mover Groups to Foreign Mover Groups (H3)

White SCM vs.		White SCM vs.		Black SCM vs.	
Black SCM	57.5	Latino SCM	48.8	Latino SCM	57.5
White DCM vs.		White DCM vs.		Black DCM vs.	
Black DCM	52.0	Latino DCM	43.1	Latino DCM	51.2
White FM vs.		White FM vs.		Black FM vs.	
Black FM	65.4	Latino FM	63.6	Latino FM	62.9