The Segregated Distribution of Middle Class African American Households in the Pittsburgh Metropolitan Statistical Area

Jay L. Newberry

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THE SEGREGATED DISTRIBUTION OF MIDDLE CLASS AFRICAN AMERICAN HOUSEHOLDS IN THE PITTSBURGH METROPOLITAN STATISTICAL AREA

Thesis submitted to
The Graduate College of
Marshall University

In partial fulfillment of the
Requirements for the degree of
Master of Arts
Geography

by

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April 15, 2005
ABSTRACT

THE SEGREGATED DISTRIBUTION OF MIDDLE CLASS AFRICAN AMERICAN HOUSEHOLDS IN THE PITTSBURGH METROPOLITAN STATISTICAL AREA

By Jay L. Newberry

This research analyzes the residential distribution of middle-class African American households in the Pittsburgh Metropolitan Area to determine if the “middle class” status affords them greater integration with the dominant white group. Using 1990 and 2000 census income data for white and black households in the Pittsburgh MSA, lower, middle, and upper class categories were created in both groups for comparison against the black middle class category via five segregation indices. This research found that, although the African American households experience varying degrees of segregation by class, all are highly segregated from the white group with middle class African American households experiencing the least amount of segregation. This research also found that middle class African American households have the most integration and the most interaction with lower class households. Trend analysis between 1990 and 2000 indicates that this integration and interaction will continue to grow.
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CHAPTER I

Introduction

In 1908, a European immigrant named Israel Zangwill penned a play entitled “The Melting Pot”. He was just a struggling writer with big dreams, and little would he realize that his play’s title would eventually become a phrase synonymous with the word “America”. As one would assume with a melting pot, all the uniquely measured ingredients would blend together and diffuse so that each ingredient would be present in their relative proportions throughout the pot. This notion, adapted to fit America, was perpetuated to enhance the American dream – races and ethnicities from all over the globe mixed into one great country. Ideally, diffusion and assimilation would ultimately deposit the people from the various races / ethnicities around the country in relatively equal proportions as they are represented in the country as a whole. This notion holds true for most, but it does not for African Americans.

Segregation can be traced back to early Greek civilizations, however, division among groups were often initially based on geographic origin – not race. Villagers relocating to large centers of commerce in Greek city states would settle in neighborhoods that were predominantly inhabited by people from their originating communities. That type voluntary segregation was very different from the form of segregation faced by African Americans in the mid 1900’s. There are numerous definitions for racial segregation but, for this research, we will define it as being a formalized or institutionalized form of discrimination enacted on the basis of race, and it is generally characterized by a separation of the races. This action reflects a desire – usually by a dominant group – to keep a social distance from a minority group; according to Kaplan and Holloway (1998: 6), social distance is created and maintained by applying some form of segregation. If the desire for social distance is great, then the dominant group will do everything in its power to maintain the gulf between itself and the disparaged group.
This “gulf” is maintained through residential segregation. The separation between the
dominant group and the disparaged group is the end result of the process; however,
residential segregation itself is, “the institutional apparatus that supports other racially
discriminatory processes and binds them together into a coherent and uniquely effective
system of racial subordination” (Massey and Denton, 1993: 8). The institutions
perpetuating the residential segregation have predominantly been banks and realty
companies - through discriminatory practices, banks and realtors were able to manipulate
or restrict where black families could live.

The act of segregation is normally accepted as sociological theme but it is also a
geographical theme because residential segregation can be described in spatial terms, the
“spatial expression of a social phenomenon – the division of people into groups – and so
shares common features with other spatial expressions, ranging from apartheid to national
independence to forced migrations” (Kaplan and Holloway, 1998: 1). Furthermore, the
separation between racial groups can be seen and charted geographically in cities all
across America. Hispanics and Asians show high levels of segregation; however, these
numbers can be the result of the influx of new immigrant concentration overshadowing
the dispersion of longer-term residents. Despite the levels exhibited by the Asians and
Hispanics, “No group in the history of the United States have ever experienced the
sustained high level of residential segregation that has been imposed on blacks in large
American cities for the past fifty years” (Massey and Denton, 1993: 2). From figure 1, a
compilation of black – white segregation index averages for twelve northern cities from
the 1940’s to the year 1990, we can see the segregation between blacks and whites has
decreased since the 1950’s. The averages for the following years, however, have remained
consistently high.
Although residential segregation of African Americans has been the focus of a considerable amount of research, most have concentrated on the conditions of the lower-class – according to Pattillo-McCoy (2000: 228), the three main reasons for this is:

- High concentrations of poor blacks migrating to central cities, especially at times of civil unrest, warranted national attention.
- Federal funding aimed at grassroots, university and community organizations, focusing on poverty, became “big business”.
- Economic progress kept middle class blacks out of the “poverty watch” spotlight.

Thus far, researchers have asserted the causes, effects and patterns leading to the residential segregation of impoverished blacks which culminates into the creation and perpetuation of ghettos; however, little is offered with respect to the residential patterns of middle-class African Americans. One assumption is that – with higher incomes, middle class African Americans have greater resources which would afford them greater access to middle class white neighborhoods and thus would have higher integration levels than the lower class African Americans. Earlier in this paper it was mentioned that African Americans are the most segregated group in America, so the question becomes – does this segregation extend to a class within the African American community with resources which opens more options when choosing residential location? The purpose of this research is to analyze the residential distribution of middle-class African Americans living in the Pittsburgh Metropolitan Area to determine if the “middle class” status affords them greater integration with the dominant group. The Pittsburgh MSA was
chosen solely for its’ relative proximity to this researcher. The paper begins with an exploration of the literature pertaining to segregation, then the research methodology, ending with a conclusion of the findings.

**Definition of Terms**

**Census block** - A subdivision of a census tract (or, prior to 2000, a block numbering area), a block is the smallest geographic unit for which the Census Bureau tabulates 100-percent data. Many blocks correspond to individual city blocks bounded by streets, but blocks – especially in rural areas – may include many square miles and may have some boundaries that are not streets.

**Census tract** - A small, relatively permanent statistical subdivision of a county delineated by a local committee of census data users for the purpose of presenting data. Census tract boundaries normally follow visible features, but may follow governmental unit boundaries and other non-visible features in some instances; they always nest within counties. Designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time of establishment, census tracts average about 4,000 inhabitants.

**Metropolitan area (MA)** - A collective term, established by the federal Office of Management and Budget, to refer to metropolitan statistical areas, consolidated metropolitan statistical areas, and primary metropolitan statistical areas.

**Metropolitan statistical area (MSA)** - A geographic entity defined by the federal Office of Management and Budget for use by federal statistical agencies, based on the concept of a core area with a large population nucleus, plus adjacent communities having a high degree of economic and social integration with that core. Qualification of an MSA requires the presence of a city with 50,000 or more inhabitants, or the presence of an Urbanized Area (UA) and a total population of at least 100,000 (75,000 in New England). The county or counties containing the largest city and surrounding densely settled territory are central counties of the MSA. Additional outlying counties qualify to be included in the MSA by meeting certain other criteria of metropolitan character, such as a specified minimum population density or percentage of the population that is urban.

- Source: US Census Bureau
CHAPTER II

Review of Literature

Segregation in America

For several decades, social scientists have taken on the particularly sensitive task of analyzing racial segregation in some of the largest cities in America. Although these studies typically target the four largest racial/ethnic groups – White, Black, Hispanic, and Asian – the majority of the focus is on segregation between blacks and whites. According to Kaplan and Holloway (1998: 41), “most North American cities were relatively un-segregated until the turn of the twentieth century. Even African Americans, who are the most segregated group in today’s cities, were not always highly segregated.” Blacks made up a small fraction of the population in northern cities, and even though some neighborhoods were considered “black”, these neighborhoods were never exclusively black. City neighborhoods began changing around 1915 with the “Great Migration” of blacks from the south to cities in the north. African Americans flocked to the north - in response to job opportunities opened for war time production efforts – and fled the south – due to job losses caused by a boll-weevil infestation that decimated the southern agricultural fields. This mass migration had an enormous effect on the cultural make up of the receiving regions, “there were large and noticeable increases in the number and percentage of blacks in many northern cities” (Kaplan and Holloway, 1998: 48).

Fearing the notion of blacks filtering into white neighborhoods, several oppositional forces took form. Within the neighborhood sphere, “improvement associations” composed of white homeowners and neighborhood leaders coalesced with a common goal of keeping the black families out. This goal was often achieved with the use of personal violence and hostility. Forces outside the neighborhood sphere came in the form of help from well established agencies (banks and realty companies) - “Several institutional practices were put into play during this period which had the effect of creating a ‘dual housing market’ with distinct rules for whites and blacks” (Kaplan and
Holloway, 1998: 51). Real estate companies employed “steering” practices where blacks were excluded from seeing, and otherwise prevented from buying properties available in white neighborhoods. Black buyers were steered towards predominantly black neighborhoods and whites were excluded from seeing and buying properties available in black neighborhoods. Banks contributed to this segregation by employing “red-lining” practices. In accordance with this practice, banks would deny mortgage and refuse loans to all non-white applicants. These institutional practices – in conjunction with the threat of personal violence – served to cluster black families into pre-determined geographical areas. The clustering was irresponsive of class, according to Massey and Denton (1993: 30), “well-educated, middle class blacks of the old elite found themselves increasingly lumped together with poorly educated, impoverished migrants from the rural south; and well-to-do African Americans were progressively less able to find housing commensurate with their social status.” By mid-century, advances in civil rights and passage of federal legislation sought to end such practices in efforts to promote integration. Despite the stringent measures of Title VI of the Civil Rights Act of 1964, Title VIII of the Civil Rights Act of 1968, and the Fair Housing Amendment Act of 1988, black – white residential segregation still remains extremely high. This fact is amply demonstrated in table 1’s listing of dissimilarity indices from 1960 through 1990 for 21 cities with large black populations. The index was calculated for black households using non-Hispanic white households as the comparison group. Segregation is commonly measured by using the dissimilarity index – its resultant figure ranges between 0 and 100 with 0 meaning total integration and 100 meaning total segregation. With a 0 to 100 range, it is generally accepted that: 0-29 means low segregation, 30-59 means medium segregation, and 60-100 means high segregation. With respect to table 1, there was a drop in residential segregation but, the overall numbers still remain relatively high. The drop in percentage points ranged anywhere from 3 to 32 with the largest drops occurring in the southern and western cities. Conversely, cities in the north exhibited the least amount of change averaging about 6 percentage points. More noticeable is the fact that the cities of Newark and Detroit actually increased (from 72 to 79 and from 84 to 86 respectively) in segregation percentage points. According to Massey and Fischer (1999: 319), “black segregation tends to be highest in the east and Midwest, where segregation levels are
uniformly at .70 or above, and lower in the south and west where segregation varies more widely by class” - this can also be seen in table 1.

Table 1. Residential segregation trend from 1960 to 1990.

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*For 1960 and 1970 the index is for cities and for whites versus blacks. For 1980 and 1990 the index is for counties and for nonblacks versus blacks.
Measuring Segregation:

Segregation is typically quantified by the index of dissimilarity which measures the degree to which two groups are equally distributed across census tracts. Dissimilarity is a measure of evenness – one of the five dimensions of segregation proposed by Massey and Denton (1988), the other four are exposure, concentration, centralization, and clustering. Evenness refers the degree of differentiality between two groups across an area’s subunits while exposure refers to the potential for contact within these subunits – in or out of group. Concentration refers to the amount of space occupied by a group within the subunits while clustering refers to the proximity of these subunits – their proximity to one another with respect to the unit as a whole. The dimension of centralization – according to Massey and Denton (1988: 291) – refers to “the degree to which a group is spatially located near the center of an urban area.”

Segregation Perspectives

Research results have led most social scientists to conclude that, “Ethnic segregation may be either voluntarily adopted as a strategy for group survival or else it may be negatively imposed upon a weaker group” (Peach, 2001: 3). Previous investigations of segregation have been centered on identifying which groups are segregated or isolated and why. The specific issues addressed include: preference in neighborhood, acceptance by perspective neighborhoods, and accessibility to these neighborhoods. In reference to the specific issues and the resultant residential patterns, past research has revealed a multitude of perspectives. Poulsen, Johnston, and Forrest (2002) wrote an article which informed us of the integration process that occurs in large cities with respect to minority groups. According to the authors, the nature and extent of the fragmentation of cities along ethnic lines results from twin sorting processes – assimilation and ghettoization. Here the authors relay and analyze information – based on traditional immigrant movement - about how ethnic groups initially become segregated. This, however, does not follow for African Americans because, according to Massey and Denton (1993: 10), “the manner in which blacks were residentially incorporated into American cities differed fundamentally from the path of spatial assimilation followed by other ethnic groups.” To evaluate the African American path,
some research points to two other processes that contribute to segregation: economic resources and preferences. The argument for the economic resource factor is that, “African Americans, as a group, earn less income than whites, hold less wealth than whites, and have a larger proportion in poverty” (Kaplan and Holloway, 1998: 67). This is important for the prospective home buyer because their success in buying a home is based on their wealth, income and savings. The argument for the preference factor has two dimensions. The first is the assertion that blacks segregate themselves because they prefer to live amongst their own kind. This assertion follows the perspective of the authors of Continued Residential Racial Segregation in Detroit; they believe that, “… a major reason why blacks and whites lived apart was a racial difference in neighborhood preference” (Farley et al. 1993: 2). They conclude that blacks preferred living in neighborhoods where they are the majority, and whites prefer living in a neighborhood where they are the overwhelming majority. Similarly, Krysan and Farley (2002) found – in a survey of more than 2000 African Americans – that blacks prefer neighborhoods that are equally integrated. They also found that, “blacks are willing to move into largely white areas if there is a visible black presence” (Krysan and Farley, 2002: 937). The second assertion of the preference factor is that segregation “relies on the preference of both whites and blacks to portray tipping – a ‘natural’ process of racial neighborhood change that results in high levels of segregation” (Kaplan and Holloway, 1998: 67). This also follows with Mark Seitles (1996: 7), he suggests that “whites will tolerate black entry up to a certain level, known as the “tipping point,” at which time whites begin to move out of the neighborhood, leaving an all-black community behind.” When the number of black households within a neighborhood increases, white desire for homes within that neighborhood decreases. Black desire to live in that neighborhood, however, continues to increase thus fueling the racial transition.

Some researchers have looked at non-human factors that contribute to segregation. Rick Grannis (1998) offered his perspective which denotes natural or artificial boundaries as inhibitors of integration. In his article The Importance of Trivial Streets, he argues that, “racial similarity among neighborhoods emerges primarily from their relational connections via tertiary streets” (Grannis, 1998: 1530). In essence, he
believes segregation in the larger cities begins at the neighborhood level with tertiary streets setting the tone for where integration will or will not take place. This, in effect, is where local landmarks denote cultural boundaries. Another perspective blames segregated communities on the media – amongst other factors - “… the media perpetuates stereotypes, whites learn to avoid black neighborhoods and middle-class blacks learn that they are safer from white suspicion and hostility if they stay in black neighborhoods” (Seitles, 1998: 10).

Segregation and Socio-economic Status

The role socioeconomic status plays in segregation has gained a lot of attention. Most notable is the invasion-succession model. In accordance with this model, “when a lower-status group ‘invades’ the neighborhood of a higher status group, the latter will view this as a threat to their social status and move out, allowing the lower-status group to ‘succeed’ it” (Gotham, 2002: 84). This suggests that segregation is related to class status. Authors Avery Guest and James Weed (1976: 1088) examined the concept of socioeconomic status being the motivation for segregation, and they concluded that, “… differences in residential segregation among ethnic groups, both cross-sectionally and over time were highly related to differences in social status.” The authors closely follow the standard concentric zone model of land use, suggesting that when people join a higher SES, they tend to relocate to a higher class neighborhood to reflect that achievement. In agreement with that notion is Jacob L. Vigdor (2002: 10) who insists that in some areas, “higher incomes are associated with weaker tastes for black neighbors.” Vigdor believes that blacks will disassociate themselves from one another when attaining a higher income status. Although this move would appear somewhat logical, it conflicts with what we have learned about African Americans and neighborhood preference. In an attempt to ascertain if segregation is a matter of class or race, Massey and Fischer (1999) measured segregation for blacks, whites, Asians, and Hispanics inside of four categories of income. They found that blacks demonstrated the greatest degree of segregation at all income levels and conclude that, “Blacks continue to lag well behind other groups in achieving integration, irrespective of social class or city-suburban residence” (Massey and Fischer,
Negative Effects of Residential Segregation

There are many negative effects of residential segregation, one such effect is the creation of new poor urban neighborhoods. Craig St. John’s Interclass Segregation, poverty, and Poverty Concentrations supported work that suggests non-poor blacks leaving poor segregated neighborhoods helped to increase the black concentration of poverty. In effect, the author supports the idea that higher status blacks distancing themselves from the lower class blacks compounds the deterioration of the neighborhoods in which lower class blacks remain. Neighborhood deterioration would result from – among other things - a lower tax base and decreased property value. For the remaining households with lower income, the inability to invest in home repairs results in visual deterioration of the neighborhood and the decreased tax base often manifests itself in the deterioration of public services such as fire, police, healthcare, and education. Migration of the non-poor away from the poor was also examined in Lincoln Quillian’s article Migration Patterns and the Growth of High Poverty Neighborhoods. The latest research has implicated non-poor migration as a contributor to the increase in neighborhoods in poverty, but the extent of it’s’ contribution is not exactly known. Although Quillian (1999: 31) found that the “migration of the non-poor away from the poor was a key factor in the formation of new poor urban neighborhoods,” he believes that the growth in the number of neighborhoods in poverty can not be solely explained by the number of non-poor blacks migrating out of these neighborhoods.

Another negative effect of segregation is discrimination. James Carr (1998: 627) believes, “discrimination is one of the most powerful enforcers of segregation. But while discrimination promotes segregation, segregation promotes discrimination.” Race relations are severely hampered in highly segregated communities and negative stereotypes continue to flourish fueling discriminatory practices such as steering and redlining. Discriminatory practices – which have the goal of maintaining social distance between the majority and minority group – are more subtle today, but still just as
effective. The end result of discrimination is segregation – a self perpetuating cycle. According to Seitles (1996:10), “residential segregation, in turn, becomes both the point of origin of discrimination and the perpetuating cause of racial distrust and ignorance.”

Another effect (one of the most damaging) of segregation found in inner-city ghettos was noted by Massey and Denton (1993: 13). They found that, “the isolation and intense poverty of the ghetto provides a supportive structural niche for the emergence of an ‘oppositional culture’ that inverts the value of middle-class society.” Children in the segregated communities often become aware of the inferior status in which they have been relegated and understand that they are treated with less respect. With this in mind, “some children, usually of the lower socio-economic classes, may react by overt aggressions and hostility directed towards their own group or members of the dominant groups” (Journal of Curriculum and Supervision 2004: 223). The neighborhoods, in which they reside, as a result are typically marred by criminal activity, lower educational attainment, higher welfare dependency, and high teen pregnancy.
CHAPTER III

Methods

Research Approach

The philosophy identified for this research is Positivism, a philosophy which seeks to explain the characteristics of observed phenomena. It wields an attitude that treats metaphysical evidence as un-reliable and that statements are meaningful only if they can be proven true or false by means of logical reasoning or careful measurement. This research will also apply a quantitative approach. As Leedy and Ormrod (2001: 101) state, “Quantitative research is used to answer questions about relationships among measured variables with the purpose of explaining, predicting, and controlling phenomena.” In this research, the quantitative approach is more concerned with the validation of segregation rather than its’ prediction or control. This validation will occur via the segregation indexes which, depending on the resultant number, will elaborate as to the degree of the segregation that exists. The quantitative approach is appropriate for this research because it is designed around methods that promote detachment from the research subjects in the ultimate goal of obtaining an unbiased conclusion.

The Research

The first stage involves data gathering, processing and analysis via segregation indices to determine the extent of the segregation of middle-class African American residents from blacks and whites in low, middle, and upper class income divisions for the census year 2000. The second stage involves importing census data into a geographical information system for visual representation of the phenomena. A graphic display of the distribution can be an important tool - it can help to visually identify graphical patterns in African American residential locations as well as alert us to discrepancies when comparing the visual display with what we learn from the quantitative analysis of the data. The third stage involves comparing the segregation indices from the 2000 Census data with segregation indices calculated from the 1990 Census data – from this one can
infer an increasing or decreasing trend in middle-class African American residential segregation. In addition, this research will also seek to describe some characteristics of the census tracts most common to middle class African Americans. For this, the tracts containing the highest percentage of middle class African American households will be isolated and several descriptors such as poverty level and average housing cost will be identified. Then, a comparison of the percentages from these tracts will be made to tracts containing the highest percentage of middle class white households - to determine if middle class African Americans have a lower standard of living than their counterpart.

Finally, segregation indices will be calculated for lower and upper class African American households, and the results compared with the middle class African American households to determine which class is segregated the most within the African American community. The results of this research will:

- Show the distribution of middle class African Americans visually through the use of GIS.
- Show the segregation level of middle class African American households and show the change over time.
- Show if middle class African American households are distributed in tracts that are economically comparable to white middle class households.
- Show if middle class African American households are more or less segregated than lower and upper class African American households.

Collection of Data

For this research, we use U.S. Census 2000 summary file 3 (SF3) data at the census tract level. The specific tables we are interested in for the Pittsburgh MSA census tracts are the P151A, and P151B tables – household income (White - alone), and household income (Black – alone) - respectively. The tables are divided into pre-determined income categories; however, for this research the categories will be combined to reflect the following income categories: $ 0 - $34,999, $35,000 - $74,999, and $75,000 or more. This re-division signifies: lower class, middle class, and upper class income.

There is no set parameters for what constitutes the “middle class” income range, so most economists rely on median income data from the U.S. Census Bureau to derive formulas.
for its’ calculation. For this research we used the range suggested by Emily Yoffe (2000) which calculates the range between the 30\textsuperscript{th} and 80\textsuperscript{th} percentile of income. From the tables we tabulate the number of black and white households in each of the new income categories for the tracts in the MSA. Census 1990 SF3 tables (P.082) are divided in this same manner for comparison with the $25,000 - $50,000 range reflecting the bounds for middle class.

Application of Segregation Indices:
This research applies five indices – see figure 2 - covering four of the five dimensions of segregation identified by Massey and Denton (1988). For the dimension of evenness, we use the index of dissimilarity. This numeric value will assert the percentage of X population that would have to relocate in order to achieve an even distribution as compared to the Y population. Interaction and isolation indices are chosen to represent the dimension of exposure. The interaction index alludes to the probability that a member of X will come into contact with a member of Y, and conversely, the isolation index will measure the probability that member X will come into contact with another member of group X. For the dimension of concentration, this research uses Delta, it, “computes the proportion of X members residing in areal units with above average density of X members” (Massey and Denton, 1988: 290). The numeric result alludes to the percentage of X members that would have to relocate to achieve uniformity in all of the tracts. For this research, Delta is calculated for middle class African Americans at the MSA, central city, and suburban levels. Finally, we employ a commonly used statistical equation (PCC) to represent the dimension of centralization. This index measures the percentage of group X living in the central city - ideally, it represents group X’s “spatial” centralization within the MSA. Group X is represented by middle class African American households and group Y (the comparison group) is represented individually by: lower, middle and upper class white households; lower and upper class black households.
**Figure 2.** List of segregation indices used for this research.

<table>
<thead>
<tr>
<th>Index</th>
<th>Formula</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dissimilarity (D)</td>
<td>$\frac{1}{2} \sum_{i=1}^{n}</td>
<td>(x_i/X)-(y_i/Y)</td>
</tr>
<tr>
<td>2. Interaction ($xP^*y$)</td>
<td>$\sum_{i=1}^{n} \frac{x}{X}(y_i/t_i)$</td>
<td>Exposure</td>
</tr>
<tr>
<td>3. Isolation ($xP^*x$)</td>
<td>$\sum_{i=1}^{n} \frac{x}{X}(x_i/t_i)$</td>
<td>Exposure</td>
</tr>
<tr>
<td>4. Delta (DEL)</td>
<td>$\frac{1}{2} \sum_{i=1}^{n}</td>
<td>(x_i/X)-(a_i/A)</td>
</tr>
<tr>
<td>5. PCC</td>
<td>$X_{cc}/X$</td>
<td>Centralization</td>
</tr>
</tbody>
</table>

**Input Data into GIS**

Census 2000 shapefiles for the Pittsburgh MSA are used for this portion of the research; however, since their attribute data does not contain specific income data, new attribute fields for the individual census tracts were added. This was done by adding new fields for the races and the income data (as it is broken down according to our established classes).

**The Research Area**

The Pittsburgh Metropolitan Statistical Area is composed of six counties (Allegheny, Beaver, Butler, Fayette, Washington, Westmoreland) housing nearly 2.4 million inhabitants. The racial/ethnic composition for the MSA is as follows: 90.3% white, 1.3% Asian, 0.7% Hispanic, and 8.6% African American. According to Wayne Washington (1996), 1.4 million African American households, nationwide, were middle class – by 1993, the number had doubled to 3 million. When considering African American households as a whole, those earning at or above middle class wages increased...
from 22% in 1970 to 26.5% in 1993. In the Pittsburgh MSA, 24.86% of the African American households are considered to be middle class.

Pittsburgh’s segregation history has been relatively unremarkable in that it mirrored the pattern displayed by most northern cities. Table 2 shows the Pittsburgh MSA’s segregation index between blacks and whites for the years 1970 through 1990, as calculated by Massey and Denton (1993). Although segregation between the two groups declined, the change in the indices is nominal and the index for 1990 still remains relatively high. Houser’s article alluded to possible evidence of “white flight” – this could account for the slow gain in integration.

**Table 2. Pittsburgh’s black / white segregation from 1970 - 1990**

<table>
<thead>
<tr>
<th>Year</th>
<th>Dissimilarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>75.0</td>
</tr>
<tr>
<td>1980</td>
<td>72.7</td>
</tr>
<tr>
<td>1990</td>
<td>71.0</td>
</tr>
</tbody>
</table>


Figures 3, 4, and 5 are maps depicting the distribution of the black and white population by their percentage of the tract’s population. As evident in the maps, there is an inverse quality to the distribution of blacks and whites - the tracts with the highest number of blacks have the least amount of whites and vice versa. This in itself is a visual indication that the region has a high segregation rate between the black and white populations. According to Mark Houser (2003), the suburban black population saw its’ largest increase for the year 2000. Municipalities outside the Pittsburgh city limits reported an increase in the black population – 14,000 more than in 1990. One of the major observations made in Houser’s article was that black suburbanization appeared to be in one direction - eastward. While areas north and south of the city remain predominantly white, four of the eastern municipalities are slowly becoming
predominantly black in their accounting for over $\frac{1}{2}$ of the increase in black suburbanites. This distribution can be seen more closely in figure 4 with the tracts having a high percentage of blacks and a low percentage of whites extending eastward beyond the city limits.

**Figure 3.** *Black distribution throughout the Pittsburgh MSA by tract percentage.*
Figure 4. White distribution throughout the Pittsburgh MSA by tract percentage.
Figure 5. Black and white distribution around the central city of Pittsburgh by percentage of tract population.
For this research, we are concerned with the residential distribution of middle class African Americans; therefore, our data is based on household information. Table 3 is a compilation of the housing data obtained from the U.S. Census Bureau which is broken down into the class categories established by this research. The largest proportion of households belongs to whites irregardless of class – 90.8% as a whole – while African Americans, as a whole, comprise only 7.6% of the households. Asians and Hispanics represent a small proportion of the metropolitan population and, according to Massey and Denton (1988: 300), “when the minority proportion gets small, random factors play a large role in determining the settlement pattern of group members leading to greater variability in the indices.” In effect, indices calculated for small populations tend to be difficult to interpret. To reduce this variability we used a minimum household limit of 5000, and since this research deals with groups on a class basis, the household minimum of 5000 was applied to the individual classes eliminating Asians and Hispanics as comparison groups.

Table 3. Housing in the Pittsburgh MSA by race / ethnicity and class.

<table>
<thead>
<tr>
<th>Race / Ethnicity</th>
<th>HOUSEHOLDS</th>
<th>Lower Class</th>
<th>Middle Class</th>
<th>Upper Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>White:</td>
<td>875,048</td>
<td>335,779</td>
<td>374,284</td>
<td>164,985</td>
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<td>Black:</td>
<td>73,497</td>
<td>45,375</td>
<td>22,571</td>
<td>5,551</td>
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<tr>
<td>Asian:</td>
<td>9,208</td>
<td>3,366</td>
<td>2,974</td>
<td>2,868</td>
</tr>
<tr>
<td>Hispanic:</td>
<td>5,472</td>
<td>2,425</td>
<td>2,216</td>
<td>831</td>
</tr>
<tr>
<td>Totals:</td>
<td>963,225</td>
<td>386,945</td>
<td>402,045</td>
<td>174,235</td>
</tr>
</tbody>
</table>
CHAPTER IV

Results

Evenness

Middle class blacks in the Pittsburgh MSA experience a high level of segregation with respect to whites in all classes. Table 4 shows the results of the segregation indices for the Pittsburgh MSA for the census year 2000. Of the white group, middle class black households have the greatest amount of integration with lower class white households (62.67), and the greatest amount of dissimilarity from upper class white households (72.82). Segregation within the black group is much lower, but the measures are still considered medium (between 30 and 59) with respect to segregation. The dissimilarity between middle class and upper class black households is considerably higher (38.91) than the index result for lower class black households (29.92). Middle class blacks appear to be the most integrated with lower class black households at all spatial levels measured – MSA, central city, and suburban. This integration is greatest in the central city of Pittsburgh - where the index fall to a low of 25.35 – but the measure rises as these households enter the suburbs, peaking at 32.97. Those results are just the opposite of what is seen when comparing middle class black households to the white households in all classes. With respect to dissimilarity from the white group, segregation in the suburban realm appears to be, on average, 4.8 percentage points lower than it is in the city realm.
Table 4. Segregation indices for the year 2000.

Middle Class African American Household Segregation in the Pittsburgh MSA for 2000

<table>
<thead>
<tr>
<th>Ethnicity / Class</th>
<th>Dissimilarity</th>
<th>Interaction</th>
<th>Isolation</th>
<th>DELTA</th>
<th>PCC</th>
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<td><strong>Pittsburgh MSA</strong></td>
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<tr>
<td>middle class black versus:</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>lower class white</td>
<td>62.67</td>
<td>26.02</td>
<td></td>
<td>13.89</td>
<td>87.08</td>
</tr>
<tr>
<td>middle class white</td>
<td>66.55</td>
<td>22.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>upper class white</td>
<td>72.82</td>
<td>07.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lower class black</td>
<td>29.92</td>
<td>26.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>upper class black</td>
<td>38.91</td>
<td>03.14</td>
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<tr>
<td><strong>Central City</strong></td>
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<tr>
<td>middle class black versus:</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>65.37</td>
<td>17.91</td>
<td></td>
<td>18.67</td>
<td>54.85</td>
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<td>39.89</td>
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<tr>
<td>upper class black</td>
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<td>04.11</td>
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<td>middle class black versus:</td>
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<tr>
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<td>58.21</td>
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<td>10.41</td>
<td>83.72</td>
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<td>44.80</td>
<td>02.44</td>
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</tbody>
</table>

* Tract totals for calculation of Interaction, Isolation, and Delta, based on black and white household totals in all classes.
Figure 6 is a chart composed from the average of the dissimilarities calculated from the three areal units measured (MSA, Central City, Suburban) in table 4. The chart depicts the hierarchy of segregation experienced by black middle class households in the Pittsburgh MSA.

Figure 6. Segregation hierarchy in the order of increasing segregation – or decreasing integration.

Exposure

According to Massey and Denton (1988: 287), “for any city, the degree of minority exposure to majority may be conceptualized as the likelihood of sharing the same neighborhood.” For this research using household data, the conceptualization is the same – the probability of the households of the two classes being compared, sharing the same neighborhood – while numerically taking into account the remaining classes being in the neighborhood. With respect to exposure to one another, results from the isolation index reveals that – for black middle class households at the MSA level – there is a 13.89% chance that there will be another middle class black household within their neighborhood. This chance is higher in the central city where the measure reaches 18.67%, but lowers in the suburb where the probability of a black middle class household having a neighbor that is also middle class and black falls to 10.41%. With respect to exposure to other classes in the comparison group, the interaction index reveals that – on
average – middle class black households have the most interaction with lower class black households, and the least amount of interaction with upper class black households (figure 7).

**Figure 7. Hierarchy of Interaction in order of increasing interaction.**

![Middle Class African American Interaction](image)

Closer analysis of the interaction results in table 4 revealed that interaction for the black middle class is highly dynamic depending on where the subject’s residence is located. For instance, while middle class blacks have the greatest interaction with the lower class black households in the central city, the probability that the two will interact at the same level falls in the suburban realm from 39.89 to 16.30%. The effect is just the opposite with respect to white lower class households. While middle class blacks have the greatest interaction with that group in the suburban realm, the level drops within the city sphere moving from 31.91 to 17.91%. In a similar pattern, middle class black interaction with middle and upper class white households nearly double as you move from the city realm to the suburban realm moving from 14.55 and 4.87 to 29.07 and 9.87% respectively.
Concentration and Centralization

The distribution of middle class African American households is such that they are highly concentrated in a small number of tracts. With respect to the central city of Pittsburgh, the Delta index is 54.85 percent - this means 54.85% of the black middle class households would have to relocate from their current neighborhood to achieve an even distribution throughout the city. This index is even higher outside the city limits; middle class black households are concentrated in such small areas that 83.72% would have to move to other tracts in order to achieve an even distribution throughout the suburban realm. Below (figure 8) is a map of the central portion of the Pittsburgh MSA emphasizing the distribution of black middle class households.

Figure 8. Central region of the Pittsburgh MSA.

As evident in this map, middle class blacks are relatively concentrated both within the central city limits, and outside of the city limits. Within the city, they reside in most of the tracts, but are heavily concentrated in the north and eastern portions of the city. Their
distribution within the smaller land area of the city affords them the lower Delta index, however, outside of the city limits is different. Middle class African American households have their greatest density east of the central city (figure 7). The north, west, and southern parts of the MSA have a few spot settlements, but the number of middle class black households within them are minute – 24 or less. This accounts for the extremely high Delta index for the suburban realm.

With respect to centralization, the PCC index for the Pittsburgh MSA reveals that 47.54% of the middle class African American households are located within the central city. This result would be significant if remaining 52% were more diffused throughout the entire MSA; however, the decentralization of middle class black households is merely an easterly shift to tracts just outside of the central city limits thus blurring the line between city and suburban residence.

Trends in Segregation

Table 5 shows the comparison results for 1990 and 2000 segregation indices. As evident by the table, the dissimilarity experienced by black middle class households decreased against all the comparison classes. The greatest decrease in segregation – or increase in integration – occurred with the black lower class households - this decrease was largest in the central city realm at 7.24 percentage points. The second largest decrease was seen with white middle class households – down 7.12 percentage points. The least amount of integration experienced by black middle class households occurred against white upper class households – between 1990 and 2000, the dissimilarity only fell 2.82 percentage points for the entire MSA.

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<tbody>
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<td>MC Black versus:</td>
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</tr>
<tr>
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<td>22.96</td>
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<td>0.87</td>
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<td><strong>Surrounding Suburbs</strong></td>
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<td>MC Black versus:</td>
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</tbody>
</table>

* Tract totals for calculation of Interaction, Isolation, and Delta, based on black and white household totals in all classes.
The areal unit in which the greatest amount of integration occurred was within the limits of the central city – the dissimilarity between middle class blacks and the comparison groups fell an average of 5.53 percentage points compared to 3.15 percentage points for the suburbs.

Middle class black households also experienced a decrease in centralization and an increase in isolation. In 1990, 54.01% of theses households were located in the central city, but by 2000, only 47.54% were. With respect to isolation, the index increased an average 1.83 percentage points between 1990 and 2000 – this increased isolation indicates the probability of finding middle class black households in the same neighborhood has slightly increased. As mentioned earlier, the decrease in centralization alone may not be significant in light of the distance from the central city middle class African American “suburbanization” has taken place; however, taken into context with the increased isolation index and the high delta, one can assume the possibility that the decentralized middle class blacks are migrating to the same neighborhoods outside the city limits.

The trend in interaction between 1990 and 2000 – as seen in table 5 – shows mixed results –increased interaction is seen with some classes and decreased interaction is seen with others. The change in interaction between 1990 and 2000 is depicted in figure 9. Black middle class households saw the greatest gains in interaction with middle class white households at all areal units measured. Compared with 1990, the gain was 5.87 and 5.33 percentage points at the MSA and suburban levels respectively. The gain, however, at the central city level was slightly lower at 4.69 percentage points. Middle class blacks had the opposite experience with respect to upper and lower class white households – there was a loss in interaction at all areal units measured with the greatest loss occurring in the suburbs. Interaction trends measured within the black group reveal mixed results dependent upon location.
While there was a loss in interaction with lower and middle class blacks at the MSA and central city levels, there was an increase in interaction with both at the suburban level. The greatest in-group decrease was experienced with lower class blacks at the MSA and central city levels (-3.18 and -4.18 respectively) while the greatest in-group gain was with the upper class black households at the suburban level (.95).

**Neighborhood Characteristics**

Table 6 shows the results of the comparison of economic indicators between tracts where the highest proportion of middle class black households are located and tracts where the highest proportion of middle class white households are located. The purpose behind this portion of the research was to determine if the neighborhood middle class blacks live in share the same level of economic prosperity as the middle class white neighborhoods. Since they are both middle class, one can hypothesize that they have equal resources and would reside in neighborhoods equal in economic status.
As evident by this table, the tracts inhabited by middle class black households, on average, have; twice as many households in poverty, three times as many people on public assistance, more vacant houses, lower valued houses, and older houses. These results suggest middle class blacks are more likely to live in neighborhoods of lower economic status than their white middle class counterparts.

### Black Household Segregation by Class

Table 7 summarizes the segregation indices as experienced by lower class, middle class, and upper class black households. The purpose was to determine the position occupied by the middle class on the in the hierarchy of segregation experienced by black households. As seen in the table, black middle class households are less segregated than the black lower class households, and more surprisingly, they are less segregated than the upper class blacks. When compared to whites in all class, the average dissimilarity for middle class black households is 67.4 while the average dissimilarity experienced by upper class black households is 71.5.
Table 7. Summary of segregation experienced by black households.

<table>
<thead>
<tr>
<th>Index</th>
<th>Class/Ethnicity</th>
<th>LC Black</th>
<th>MC Black</th>
<th>UC Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissimilarity</td>
<td>LC White</td>
<td>68.84</td>
<td>62.67</td>
<td>70.36</td>
</tr>
<tr>
<td></td>
<td>MC White</td>
<td>74.27</td>
<td>66.55</td>
<td>70.80</td>
</tr>
<tr>
<td></td>
<td>UC White</td>
<td>80.51</td>
<td>72.82</td>
<td>73.28</td>
</tr>
<tr>
<td>Interaction</td>
<td>LC White</td>
<td>24.83</td>
<td>26.02</td>
<td>24.14</td>
</tr>
<tr>
<td></td>
<td>MC White</td>
<td>17.85</td>
<td>22.96</td>
<td>25.11</td>
</tr>
<tr>
<td></td>
<td>UC White</td>
<td>5.13</td>
<td>7.76</td>
<td>11.44</td>
</tr>
<tr>
<td>Isolation</td>
<td></td>
<td>36.41</td>
<td>13.89</td>
<td>4.21</td>
</tr>
<tr>
<td>DELTA</td>
<td></td>
<td>90.73</td>
<td>87.08</td>
<td>87.76</td>
</tr>
</tbody>
</table>

Not only is the black upper class more isolated than the middle class – 4.21 compared to 13.89 respectively – they are slightly more concentrated than the middle class also. The black upper class’s average interaction with the white group, however, was 20.23 - this was slightly higher than the black middle class household interaction with the white group – 18.91. Despite the varying degrees of segregation experienced by black households in all classes, the levels of segregation are all above 60 which denote a high level of segregation. With respect to a hierarchy within the Pittsburgh MSA, the lower class blacks are still the most segregated (average dissimilarity of 74.54) and the most concentrated (a delta of 90.73). They are followed by the upper and then the middle class black households.
CHAPTER V

Summary and Conclusion

We conclude by highlighting some key findings of this research. First, our research re-affirms that African American households are highly segregated from the white households irregardless of income – a finding supported by considerable research in the past 15 years, (Massey and Denton (1993), Massey and Fischer (1999), Darden and Kamel (2000), Massey (1994)). The segregation of middle class black households from white households in any class in the Pittsburgh MSA ranged from 62 to 72. Although the dissimilarity is down from 1990 figures, the decrease is nominal in that they still represent high levels of segregation. Of the classes in the black group, the middle class households are the least segregated from all classes of whites. This came with the surprise finding that upper class black households are more segregated than middle class black households. The general consensus amongst researchers is – if segregation is delineated from class structuring, then non-poor blacks would show greater integration with white households with similar income – however; this is not the case in the Pittsburgh MSA with respect to blacks. Although our results revealed the black households experienced varying levels of segregation by class, the overall indices still indicate a high level of segregation for each class of blacks.

Next, our research found that middle class black households in the Pittsburgh MSA – on average - had the greatest integration with lower class black households. The trend analysis showed that segregation between the two declined the most which suggests that integration between the middle and lower class black households will continue to climb – this commonality between the lower and middle class black households becomes evident in their similar distribution around the central city (figure 10).
Figure 10. Distribution of middle and lower class black households.
This research also found that – for the MSA overall, middle class blacks had the most interaction with lower class white and lower class black households. These two classes, however, did have their own sphere of influence. Interaction was greatest with lower class whites in the suburbs and greatest with lower class blacks in the city. Irregardless of the group, the fact remains - middle class African American neighborhoods revolve mainly around the lower class. This would help to explain the findings for the neighborhood characteristics of middle class blacks when compared to their white counterpart – higher poverty, more households on public assistance, older and lower valued housing. Although middle class blacks have the billing “middle class,” their neighborhoods typically do not reflect it.

Earlier in this paper it was mentioned that blacks became more suburbanized between 1990 and 2000 in the Pittsburgh MSA, and that this eastward progression was marked with signs of white flight. This colonization eastward – by lower and middle class blacks - outside of the central city limits can also be seen in figure 10. The results of this research tend to support the presence of white flight. Interaction between lower and middle class black households decreased in the central city between 1990 and 2000, but increased in the suburbs. During this same period of time, middle class black households became less centralized (more suburbanized), and the net interaction with white households in suburbs decreased. This eastward progression into the inner suburban ring marks neighborhoods in transition. According to Douglas Massey (1994: 475), there is a high demand for homes in white suburbia, but when a few black families move into the neighborhood, that demand decreases - white families avoid moving in, and those that already inhabit the area begin to move out. Within the area, the out-migration of whites corresponds with black expansion demands which mean there is a high probability that the vacant households are being replaced with black families. The high correlation between tracts inhibited by lower class blacks and middle class blacks suggest that these households are being replaced by black families regardless of class; however, it is the middle class households – given the extra resources – which are initiating these transitions. Figures 11 and 12 depict the transition of these households within the eastern expansion area. This was made using 1990 and 2000 census data.
(black and white households) imported into GIS. While figure 11 indicates the percentage of African American households within this area for the year 2000, figure 12 indicates the change in the number of white and black houses per tract in this area between the years 1990 and 2000. Within those ten years, white households declined 19.44% going from 51,102 to 41,166, and black households increased 33.1% going from 12,727 to 16,940. As evident from the maps, there are a few areas where both groups declined, but these areas are vastly out-numbered by neighborhoods where “white flight” took place. In some areas, the number of white households exiting the neighborhood was nearly ten times that of black households entering the neighborhood.
Figure 11. *African American expansion into the eastern suburbs.*
Figure 12. Residential transition in the northern and southern tracts of the eastward expansion. (Callouts indicate the change in white households followed by the change in black households.)
Although there is a low negative correlation between the change in black and white housing (-0.39), there does appear to be an inverse quality to this transition. Figure 13 is a graph of the white and black household change between 1990 and 2000 for each of the tracts within the expansion area. As evident from the chart, the amount of whites leaving the area tends to be related to the number of blacks entering the area.

**Figure 13.** *Black / White household transition within the eastern expansion area.*

In closing, there are many forces influencing where minority families reside, and segregation – institutional or passive – is just one of them. These forces are supposedly less exerting when minorities achieve a higher income status; however, this assumption holds little evidence when applied to African American households. Results from this research have shown that middle class African American families are highly segregated - regardless of their status. This research has found that, in addition to being highly segregated, middle class African American household distribution and interaction is highly associated with the lower class households. Because of this shared distribution
with the lower class, middle class African American neighborhoods are effectively lower class and thus marred with the lower class stigmatisms.

Our findings ultimately suggest that segregation of middle class African American households in the Pittsburgh MSA is not dependent on income status, but rather something far more pervasive. If the segregation was based on income, then the resultant dissimilarity index for the middle class would be much lower indicating a higher level of integration. From the high segregation results, we can conclude that the classes within the dominant (white) group have a strong desire to maintain social distance from the classes in the African American group. Even though results show that middle class black interaction with middle class white households has increased – in the suburb more so than the city – this positive is marred by the negativity of “white flight” occurring in the suburbs east of the central city. This evidence of “white flight” indicates that race, as suggested by Douglas Massey (1994), continues to play a major role in maintaining the high residential segregation between African Americans and whites. Other research – in addition to ours – has shown that segregation has decreased between 1990 and 2000, but due to the nature of neighborhoods in racial transition, a finding of a decrease is not absolute. Transitional neighborhoods are dynamic whereas the census is static – taken at one moment in time. It is quite possible that the decline that we see in the indices are just the result of the census being taken in the early to middle stages of the transition, and it is quite possible that a census taken at the end of these transitions would yield segregation measurements that are even higher. Either way, the motivation behind “white flight” is strong with the ultimate goal of maintaining social distance regardless of income status, so it is highly likely that segregation between blacks and whites (of all classes) will remain high.
Bibliography


