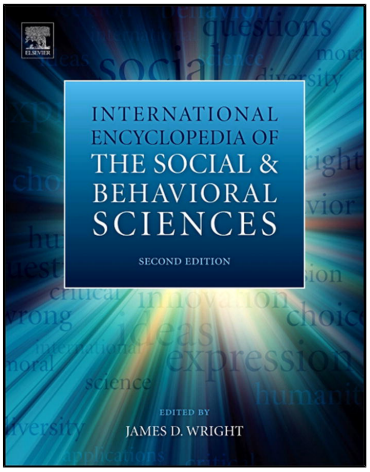

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Residential Segregation: Recent Trends

William AV Clark, University of California, Los Angeles, CA, USA

Abstract

Residential segregation continues to be an important topic of research within studies of the spatial structure of metropolitan areas. Although segregation has declined from the high levels of the 1960s and 1970s, considerable racial and ethnic segregation in US and European cities remains, especially, in large metropolitan areas. New methods of measuring spatial segregation are being developed, and a more nuanced approach to understanding the reasons behind continuing residential segregation is emerging. Once, discrimination was invoked as the primary explanation for continuing separation in the residential mosaic, but now most studies emphasize that the explanation is more likely to be a result of the combined effect of incomes, resources, and preferences. Varying combinations of access to resources, preferences for varying proportions of other races and ethnicities, and the urban structure underpin the continuing patterns of spatial separation. Models using agent-based formulations have expanded understanding of how segregation occurs and why it continues in an era of increasing tolerance.

Introduction

Immigration from the Middle East, North Africa, Mexico, and Central America has transformed the urban structure of cities in Europe and North America, and immigration from Asia has had similar impacts in Australia and New Zealand. An outcome of these flows is the emergence of strong ethnic groupings, an outcome that is nearly universal across large metropolitan areas in all these countries. In this context there has been renewed interest in residential segregation, in both its measurement and interpretation. Whereas two or three decades ago concern focused on how to adequately measure residential segregation and whether income and resources mattered in explaining patterns of segregation, now there are real advances in both the measurement and interpretation of segregation. That is not to say that there is universal agreement about how segregation is created or of the relative roles of income, resources, and preferences in shaping observed patterns of segregation; measurement problems also remain. Still, scholars have moved beyond the simplistic argument that discrimination alone accounts for the ethnic and racial patterns so evident in the global city. Now the focus is on building interpretive models of segregation formation and measuring the relative roles of inequality and poverty as fundamental forces underpinning patterns of segregation.

This extension of the first International Encyclopedia of Social and Behavioral Sciences (IESBS) edition entry on residential segregation (reprinted in this edition) focuses on recent trends and takes up five topics central to recent studies of segregation – (1) what are the current trends in patterns of segregation, (2) what are the implications of mixed-race and multiethnic households for the patterns of segregation, (3) how has agent-based modeling improved our understanding of segregation patterns, (4) what do new methods of measuring segregation tell us, and (5) how are changing patterns of segregation by class changing the way we think about segregation.

Measuring Segregation Patterns

How do we know if, when, and where segregation exists? That simple question has created an extensive literature on various indices of segregation and launched a debate about which index to use and which ethnic and or racial groups to include. The residential segregation entry in the first edition of this encyclopedia referred to the 'index wars' as competing groups claimed status for their approaches. Nevertheless, two indices continue to dominate the evaluation of separation in the residential fabric – the dissimilarity index and the exposure index. (Dissimilarity is the proportion of one of any two groups that would need to move in order to create a uniform distribution of the population. Exposure is the probability that a member of one group would meet or interact with a member of another group. See the Residential Segregation entry in the IESBS first edition for formal definitions.) These measures are single indices and use some form of administrative areal unit – for example, blocks, tracts, cities, or counties. Of course the size of spatial unit influences the statistical outcome: the index will be higher with smaller geographic units. In addition, different spatial units in different contexts make comparability problematic.

The dissimilarity and exposure indices both have serious weaknesses; each creates a single summary measure for the metropolitan area, city, or county being examined; and each lacks an adequate theoretical basis. For example, what is the theoretical justification for expecting a totally mixed population of any kind (the definition of the absence of segregation)? Or for an index that requires half the population of one group to move to create an even (unsegregated) distribution of the population across whatever spatial unit is selected? Even the generalized multiple group versions of the dissimilarity and exposure indices still present single measures for metropolitan and regional units. Most critically, neither dissimilarity nor exposure index captures the spatial nature of segregation. This article will later describe recently developed, more sophisticated measures of spatial segregation.

Patterns and Change in Segregation

Residential segregation refers to the spatial distribution of different population groups across neighborhoods and

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communities within cities. The 2010 US Census provided support for the continuing decline in segregation levels overall (Scommegna, 2011) as well as in Black–White segregation though some authors have interpreted the new data to show little change. As expected, the changes in segregation vary by ethnic group and by metropolitan area. Overall, America's neighborhoods continue to be segregated, with Hispanic and Asian populations as segregated today as they were 30 years ago although they are much less segregated than are African-Americans (Logan and Stults, 2011).

The 2010 census data analyzed by Logan and Stults shows that the average non-Hispanic White person continues to live in a neighborhood that is quite different racially from the neighborhoods where the average Black, Hispanic, or Asian person lives. Thus, despite a substantial shift of minorities from city to suburbs and despite continued mixing in city neighborhoods, minority populations are still not relatively well integrated in metropolitan American communities. Using binary measures, the dissimilarity index and the exposure index, research by Logan and others shows that Whites still live in neighborhoods with low minority representation whereas Blacks and Hispanics live in neighborhoods with high minority representation and relatively few White neighbors. Still, Black–White segregation trends as measured by the dissimilarity index have declined from a peak in the 1960s of close to 0.82 to around 0.62 in 2010. At the same time exposure has declined much less. To some extent the interpretation is in the context of a glass half full or half empty (I use measures in the range 0 (least segregated) to 1.00 (most segregated) although they can also be reported as percentage values between 0 and 100). Do we focus on the gains or on the continuing relatively high levels of separation? Clearly, change has occurred, but that change has been slower than that expected from the initial desegregation in the 1980s and 1990s (Logan and Stults, 2011).

Is Segregation Over?

Changes in segregation have generated a spirited debate about whether or not 'the segregated century has ended' (Glaeser and Vigdor, 2012). These authors use the dissimilarity index to suggest that the national level of segregation has declined, from about 0.80 in 1980 to approximately 0.55 in 2010. They conclude that American cities are now more integrated than they have been since 1910 and that all-White neighborhoods are effectively extinct. Not only do they argue that in general segregation has declined, especially in the first decade of the twenty-first century; they also document that the separation of Blacks from individuals of other races has declined in all 85 of the largest US metropolitan areas. In the housing markets tracked by the US Census Bureau, segregation is now lower than the average level segregation in 1970.

The explanation for this significant change, they suggest, is changes in federal housing policy that have shifted from actions promoting or perpetuating segregation to actions that diminish segregation. Fair housing legislation as part of the Civil Rights legislation of the 1960s and 1970s affected the ability of minority households to buy and rent housing; additionally, the demolition of large-scale housing projects in major cities increased the long process of population shifts away from inner city 'ghetto' neighborhoods. Also documented has been a change in White attitudes and increased tolerance in society as a whole (Goldman, 2012). The combination of policy changes and attitudinal changes has gone a long way to altering the playing field in which minority households seek housing. Increases in mortgage availability, in Black incomes, and in the number of African-American professionals have influenced the housing opportunity matrix. Still as noted later, the post-2008 housing crisis may have hurt as much as helped Black households.

While the Glaeser and Vigdor (2012) report provides a persuasive case for the end of the segregated century, questions remain about how far segregation has declined and whether the report adequately measures the change in segregation. Using the New York metropolitan region as an example, Alba and Romalewski (2013) suggest that a more nuanced story can be told about segregation and its changes in the past decade. Whereas neighborhoods with mixed ethnic and racial combinations are certainly more numerous, Alba and Romalewski point out that substantially Black, Hispanic, White, and Asian neighborhoods remain in the New York metropolitan region and have changed little between 2000 and 2010. But is New York a special case, and are the measures that Glaeser and Vigdor use comparable to other analyses of segregation?

First, it does appear that large cities that attract large numbers of immigrants are likely to have somewhat higher levels of segregation. This outcome, however, is likely the result of the surge in new – especially Hispanic – immigration to Los Angeles, New York, Chicago, Boston, and other large cities during the 1990s. These new immigration concentrations have been well documented and are often strongly homogeneous clusters of people with similar ethnic backgrounds. That said, increasing evidence shows that these groups are becoming less segregated as their income and resources increase (Clark and Blue, 2004).

Second, unlike most previous studies of segregation, which used the dissimilarity index between non-Hispanic Whites and non-Hispanic Blacks, Glaeser, and Vigdor use non-Hispanic Black against *all* other races which is a measure of separation that differs from that used by Logan and Stults (2011), Farley and Frey (1994) and other analysts. To illustrate the potential difficulty with defining populations differently in the dissimilarity index, I simply note, following Alba and Romalewski (2013), that aggregating Hispanics, non-Hispanic Whites, Asians, and 'other' races, and measuring the relationship with non-Hispanic Black populations confuses the situation in regions and cities where there are large Black and Hispanic populations who are living in more integrated settings. For example in Los Angeles the dissimilarity index is 0.54 in the Glaeser–Vigdor measure while the Logan–Stults calculation is 0.65. In fact for nine of the ten largest cities the Glaeser measure is significantly lower than it is in those studies that use the standard dissimilarity measure based on non-Hispanic Whites and non-Hispanic Blacks.

The continuing debate about levels of segregation between two groups misses the most significant and continuing change in American metropolitan areas: the emergence of substantial mixed-race neighborhoods and increasing diversity more generally.

Mixed-Race, Multiethnic Households, and Diversity

The shift from a majority White population to a population that will be proportionately majority-minority will occur in the US sometime about midcentury. This shift, sometimes called the third demographic transition, of continuing new immigration, high minority fertility, and an overall decrease in the White population has far-ranging implications for measuring segregation. Overall, the US will change from a low-fertility, native-born majority population to a relatively high-fertility, racial, and ethnic immigrant, or children of immigrants, population. This change, as Lichter (2013) has documented, is occurring first and foremost in the children and youth of the US population – diversity from the bottom up. While Whites are still a majority of the older age cohorts in the United States, they are already a minority population among children and younger age cohorts.

It is immigration that is changing diversity and its patterns. Flows of immigrants have integrated and changed formerly minority and White neighborhoods to mixed neighborhoods of White, Hispanic, Asian, and Black. More Americans today, compared to their parents' generation, live in places where Whites, Hispanics, or Blacks represent a modest majority and two or three other groups each enjoy significant presence (Lee et al., 2012).

Another window on changing patterns of diversity comes from the growing number of mixed-race persons (persons reporting that they are multiethnic) and the increase in number of interrace and interethnic marriages (Ellis et al., 2007). An aggregate study of more than 300 metropolitan US areas reported that mixed-race individuals were more likely to live in integrated neighborhoods. The average neighborhood for a mixed-White/Black person is 61% White and 19% Black while the average neighborhood for a person who identifies as Black-alone is only 29% White and 54% Black. The average neighborhood for a person who identifies as White-alone is majority White and only modestly Black. These findings are consistent with a general trend to greater ethnic mixing, and Fasenfest et al. (2004) show that both Whites and Blacks are increasingly living among people of other ethnicities and not just with each other.

A central element of understanding the new patterns is to recognize that minorities, including new immigrants, translate their economic gains into residential movements away from concentrated racial or ethnic neighborhoods as immigrant groups did in previous decades. South and Crowder (1998), for example, show that both Blacks and Whites attempt to convert socioeconomic resources, such as income and education, into residence in whiter and ostensibly, higher status neighborhoods. If, as recent research has suggested, in fact multirace households are likely to be younger, have higher educational levels, and higher earnings levels, then one could hypothesize that these households are more likely to live in integrated settings and will ultimately change patterns of separation in the urban fabric.

Explaining Continuing Segregation

During the 1980s and 1990s, the primary explanation offered for continuing segregation was discriminatory behavior on the part of Whites. Indeed, some sociologists argued that the actions of Whites alone created the segregation of Blacks from Whites: "high levels of racial segregation in the contemporary United States … cannot be explained away by Black and White income differences or… by a resort to notions of personal choice … residential segregation is the direct and continuing *result* of racism" (Denton, 1996: pp. 811, 905). Similarly, a review of residential segregation patterns in a National Academy of Sciences report concluded that extreme geographic segregation is largely unrelated to economic status (and) is not explained by residential preferences (National Research Council, 2001). For much of the past three decades discrimination has been the accepted explanation for residential segregation among Black and White households with similar observable household characteristics (Dawkins, 2004).

But high and growing levels of segregation between Whites and Hispanics, between Asians and Blacks, and between Hispanics and Blacks raised the question of how discrimination was relevant for groups who were newly arrived in the United States and who were living in concentrated ethnic and racial clusters. Was such racial/ethnic clustering created by discrimination or by ethnic preferences and in-group selection? These questions are still being debated, but it is increasingly clear that ethnic preferences and socioeconomic status do play roles in creating residential separation. Several studies have shown that socioeconomic status is relevant in the shifting patterns of separation (Clark and Blue, 2004; South et al., 2005; Quillian, 2002). Research on five gateway immigrant cities suggests that segregation does decline by education as well as by income, though more for the former than for the latter (Clark and Blue, 2004). Indeed, in the inner cities of Miami and New York, segregation does not decline by income, which demonstrates that the picture is at the very least complicated and varies by region and city context.

Still, Iceland et al. (2005) come down on the side of race while conceding that class deserves increasing attention (p. 264). Along with many recent commentators, they are more nuanced in their interpretations and agree that higher status African-Americans generally live in more integrated neighborhoods. Discriminatory lending practices by banks were widely cited as a powerful force in the creation of segregated residential patterns, but such practices are not especially useful in explaining concentrations of gated Black communities in Atlanta or concentrations of wealthy Koreans and Chinese in the suburbs of Los Angeles. Altogether, research now recognizes that money does matter as we will show in the discussion of inequality later in this article.

With respect to preferences and choice – the other area of research on explanations for residential segregation – a specific study of expressed preference showed how preferences can play a powerful role in the choices that households make and in the resulting patterning in the residential fabric (Clark, 1992). These and more recent studies draw on the work of Thomas Schelling (1971), whose influential paper, *Dynamic Models of Segregation*, sought to explain why groups clustered together, whether in the lecture hall or in residential neighborhoods. Schelling argued that small differences in the 'preference' of an individual to be with others of a similar type (ethnicity, for

example) could lead to quite distinct patterns of separation in the population. The paper drew on the individual preferences tradition in economics to show how microlevel voluntary choices and economic competition can create or maintain macrolevel patterns of residential segregation along ethnic and socioeconomic dimensions.

A body of research has since shown that in general significant differences exist among the preferences of Whites, Blacks, Hispanics, and Asians (Clark, 2002, 2009; Clark and Fossett, 2008; Farley and Krysan, 2002; Fossett, 2006). The preferences of Black and White households do differ: in general, African-American households express a stronger desire than do White households to be in a mixed neighborhood. Groups other than Whites also expressed strong own race-ethnicity preferences (Clark, 2009); Hispanics and Asians routinely state preferences for neighborhoods in which they are a majority presence. How should we interpret this outcome of stated preferences? On the one hand, Charles (2000) interprets this finding as revealing not neutral ethnocentrism but negative stereotyping of 'other' races and ethnicities by Whites. On the other hand, Clark (2009) and Fossett (2006) emphasize the role of social distance and neutral ethnocentrism.

The work on agent-based modeling of segregation provides strong support for the Schelling finding that a small difference in preferences for one location or another, or one group or another, can lead to quite strong patterns of segregation and separation (Zhang, 2004; Fossett, 2006; Clark and Fossett, 2008). An important finding by Zhang (2004) shows how separation (segregation) can develop without discriminatory processes. In fact the theoretical work suggests that segregation will emerge from the behavior implied in the Schelling model, even if all parties desired integration. The conclusion that separation can exist across neighborhoods even if people prefer integrated neighborhoods is a fundamental finding because it explains continuing separation in a world of increasing tolerance and a world where opportunities are greater than in previous periods when discriminatory behavior was enshrined in policy.

The research using agent-based modeling has drawn discussions of the distributional forms of the preference function, the nature of the neighborhood, and the role of selection (Bruch and Mare, 2006; Van Rijt et al., 2009). Clearly, it is theoretically possible for the form of the preference function in agent models to influence the outcome with respect to the level of segregation. While some of the debate has been about linear versus threshold functions, it appears that evidence supports Schelling's views. Van Rijt et al. (2009) in fact argue that if anything Schelling understated the tendency to segregation.

Current discussions accept that residential segregation is not the outcome solely of income, affordability, social status, or preferences; it is the outcome of a mixture of these factors tempered by the myriad daily decisions in the rental and owner markets of American cities (Clark, 2002). As has been stated elsewhere, to assert that income does not explain residential segregation is only to assert the obvious: No one factor explains the complex residential patterns so evident in our metropolitan areas, and while discrimination may still play a role in some cases, blaming discriminatory behavior alone is simply not supportable by the research evidence.

Spatial Measures of Segregation

The sociological and geographical communities interested in the spatial structure of segregation have proposed a variety of solutions to the aspatial nature of segregation measures. Wong (2005), Getis and Ord (1992), and Matthews and Yang (2012) have tested alternative ways of bringing a formal spatial function into the measurement of segregation. Each entails innovative thinking about how to measure spatial patterning in the urban fabric. Much of the work builds on research involving a spatially weighted matrix to reflect the extent of contact between spatial units (Getis and Ord, 1992). The most sophisticated of these attempts, uses a spatially weighted matrix to create a modified dissimilarity or exposure index (Wong, 2005); but despite their improved representation of spatial structure, these spatial measures – perhaps because of their complexity – have not supplanted the general use of the simpler, aspatial dissimilarity, or exposure measures.

More recent work aims to generate measures that are truly spatial in that they represent the underlying spatial patterns of the groups being studied and can provide both indices and spatial representations of the underlying patterns. In many ways these new measures build on the ideas of earlier studies that tried to bring distance into the index function. A recent model uses distance and density to generate a mapping of the amount of separation between racial groups. The technique involves computing a measure of segregation at various scales when the scales are defined by local distance radii. Considering increasing radii of 500–4000 m and within each specified radius computing a spatial information theory index comes closer to providing a spatial measure of segregation (Reardon et al., 2008). The index is based on a distance decay function that weights nearby locations more heavily than more distant locations in computing the racial composition in each local environment. Using this tool, one can map levels of segregation, a marked advance over previous attempts at spatial measures of segregation.

A perhaps simpler and more intuitive spatial measure has been proposed that counts 'nearest neighbors' who are similar to or different from the selected respondent. In this scenario a set of differing nearest neighbors – 100, 1000, 10 000 – are examined to see how many are of the same ethnicity, same income group, or some other measurable characteristic. This formulation and the associated methodology overcome the scale problem (the dependence of the segregation index on size of administrative units) and provide measures of separation that focus on the probability of contact with like persons across a set of nearest neighbor distances. Specifically, the technique asks, what is the probability of an individual of one group meeting individuals from a different group (Östh et al., 2013)? The ability to provide a visual picture of segregation, which the Reardon et al. (2008) index also does, is a real advance in incorporating spatial pattern in segregation measures.

Race, Class, and the Changing Urban Mosaic

While ethnic and racial segregation has declined modestly over the past three decades, segregation based on family

income has increased during the same period. In 2010 approximately 28% of low-income households were located in mostly lower income census tracts, an increase from 23% in 1980 (Taylor and Fry, 2012). Over the same time period upper income households became far more likely to live in an upper income census tract (Reardon and Bischoff, 2011). This increase in income segregation is related to the long-term rise in national income inequality, including a decline in the number of middle-class or mixed-income neighborhoods.

Studies from the 2010 Census conclude that mixed-income neighborhoods have become less prevalent whereas affluent and poor neighborhoods have become more common, with the result that the residential isolation of both poor and affluent families has increased over the last four decades (Reardon and Bischoff, 2011). The proportion of families living in poor or affluent neighborhoods doubled from 15 to 31% while the proportion of families living in middle-income neighborhoods declined. The interest in income segregation arises from the argument that neighborhood context can directly affect a person's social, economic, or physical outcomes.

Observations and Conclusions

Understanding of the patterns and causes of segregation has grown significantly in the past two decades. We have a more balanced view of what drives segregation – a combination of income differences, varying resources and preferences, although we also know that private discriminatory practices still occur. Better tools have also emerged to measure the extent and patterns of segregation although the dissimilarity and exposure indices still hold considerable sway.

While the study of ethnic segregation is still important, interest has increased in understanding economic and income segregation. Much of the new concern with understanding economic segregation has revolved around the arguments that segregation, especially of the poor, leads to negative outcomes in quality of life and poorer access to high quality resources, such as good schools. This growing interest in social and economic inequality is also providing an impetus for studies of segregation. These issues continue to drive the interest in, and research on patterns and causes of residential segregation.

See also: Cities: Internal Structure; Electoral Geography; Neighborhood Effects; Race and Racism, Geography of; Residential Segregation: Geographical Perspectives; Spatial Pattern, Analysis of; Urban Geography.

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