Published in final edited form as:
Am Sociol Rev. 2011 February 1; 76(1): 25–47. doi:10.1177/0003122410396197.

NEIGHBORHOOD IMMIGRATION AND NATIVE OUT-MIGRATION

Kyle Crowder,
Department of Sociology and Carolina Population Center, University of North Carolina – Chapel Hill

Matthew Hall, and
Department of Sociology and Institute of Government and Public Affairs, University of Illinois - Chicago

Stewart E. Tolnay
Department of Sociology and Center for Studies in Demography and Ecology, University of Washington

Abstract

This study combines data from the Panel Study of Income Dynamics with data from four censuses to examine the effects of foreign-born populations in the immediate neighborhood of residence and surrounding neighborhoods on the residential mobility decisions of native-born black and white householders. We find that the likelihood of out-mobility for native householders is significantly and positively associated with the relative size of, and increases in, the immigrant population in the neighborhood. Consistent with theoretical arguments related to the distance dependence of mobility, large concentrations of immigrants in surrounding areas reduce native out-mobility, presumably by reducing the attractiveness of the most likely mobility destinations. A sizable share of local immigration effects can be explained by the mobility-related characteristics of native-born individuals living in immigrant-populated areas, but the racial composition of the neighborhood (for native whites) and local housing market conditions (for native blacks) also are important mediating factors. The implications of these patterns for processes of neighborhood change and broader patterns of residential segregation are discussed.

Keywords

migration; immigration; neighborhoods; segregation; race/ethnicity

The increasing diversity of metropolitan populations and declining levels of segregation between many racial and ethnic groups have spurred considerable hope for increased residential equity in the U.S. (e.g., Glaeser and Vigdor 2003; Iceland 2009). Heightened immigration over the last several decades has helped to dramatically increase levels of diversity in most metropolitan areas and many of their neighborhoods (Fasenfest et al. 2006; Fong and Shibuya 2005), corresponding with increases in intergroup exposure and declines in multigroup segregation (Timberlake and Iceland 2007). Even average levels of segregation between blacks and whites – historically the most stubborn form of residential separation – have declined substantially in recent decades (Iceland 2009; Logan, Stults, and Farley 2004).

Yet amid these signs of progress toward racial integration are indications of persistent segregation of some groups and the emergence of new forms of residential inequality. Especially troubling is that residential segregation of both Latinos and Asians from the non-

Hispanic white majority has remained stable or, according to some measures, increased since 1980 (Logan 2001; Iceland 2009). And, while residential contact with all other groups has increased for African Americans, both Latinos and Asians remain at least as segregated from African Americans as from whites.[1] Such trends have led Timberlake and Iceland (2007) to predict that Latinos will soon overtake blacks as the most segregated group relative to whites.

To a considerable extent, the increasing racial isolation of Asians and Latinos represents a piling up of recent arrivals in established co-ethnic neighborhoods. As a result, the continual inflow of new immigrants tends to bolster overall segregation levels for Latinos and Asians (Iceland 2009; Iceland and Nelson 2008; Iceland and Scopilliti 2008), even as their settlement patterns shift away from traditional metropolitan entry points toward a wider range of communities (Lichter and Johnson 2009; McConnell 2008; Singer 2009).

While the settlement patterns of immigrants themselves are important, the decisions of native-born residents to remain in diversifying neighborhoods or flee in the face of growing immigrant concentrations are just as crucial in determining the trajectory of residential integration. The effects of immigrant concentrations on inter-regional migration of native-born populations have been the subject of extensive debate (e.g., Borjas 2006; Card 2005; Ellis and Wright 1998; Frey 1995; Kritz and Gurak 2001; White and Liang 1998; Wright, Ellis, and Reibel 1997), but the effects on more local mobility decisions have received scant attention. This is an important omission given that shorter-distance moves are far more common than long-distance ones and are crucial to understanding segregation across neighborhoods.

In this paper we assess how the concentrations of foreign-born populations in the immediate neighborhood of residence and surrounding neighborhoods affect the residential decisions of native-born householders. We use data from the Panel Study of Income Dynamics (PSID) linked with data from the 1970 through 2000 U.S. censuses to describe basic patterns of out-mobility as a function of both the size of, and change in, local immigrant populations. We employ spatial techniques to assess the effects of foreign-born concentrations in areas surrounding the neighborhood of residence. The longitudinal nature of the PSID allows us to examine these dynamics in a prospective way and the wide range of micro-level and neighborhood characteristics provides the opportunity to assess theoretically-implicated mechanisms linking immigrant concentrations to native mobility.

BACKGROUND AND THEORY

Research on the effects of immigration on U.S. spatial structures has focused primarily on tests of popular theoretical arguments related to the ability of immigrant groups to assimilate spatially into neighborhoods occupied by native-born populations (for reviews see Charles 2006; Iceland 2009; Rosenbaum and Friedman 2007). Far less attention has been paid to the study of how immigrant settlement patterns affect the inter-neighborhood mobility processes of the native-born, behaviors that are likely to have equally important effects on overall patterns of neighborhood change and segregation. Information on these processes must currently be gleaned from aggregate-level studies documenting the effects of Asian or Latino populations in general – not immigrants specifically – on neighborhood turnover

[1]In metropolitan areas containing at least 2,500 Hispanics in both 1980 and 2000, the average residential dissimilarity score for Hispanics from blacks was 51.6 in 1980 and 41.1 in 2000. In comparison, the average dissimilarity of Hispanics from whites was 39.5 in 1980 and 42.4 in 2000. Similarly, in those metropolitan areas with at least 2,500 Asians in both years, the average Asian-black dissimilarity score dropped from 62.2 to 50.5 between 1980 and 2000, while the average Asian-white dissimilarity score increased slightly from 37.0 to 37.9 [author calculations based on segregation scores published by the Mumford Center (http://mumford.albany.edu/census/WholePop/WPdownload.html)].

(e.g., Denton and Massey 1991), studies of inter-group dynamics within specific neighborhoods of single cities (e.g., Wilson and Taub 2006), or studies of native reactions to immigrants in countries outside the U.S. (e.g., Brama 2006; Ray, Halseth, and Johnson 1997).

In contrast, considerable attention has been paid to the effects of immigrant concentrations and change on longer-distance migration decisions of natives. In some early work, Frey (1995; Frey and Liaw 1998; but see Frey 2006) argued that the U.S. is being transformed by a process of regional population redistribution in which native-born populations are increasingly flowing away from metropolitan areas with large and growing concentrations of immigrants, creating a kind of regional "balkanization," replete with divergent political interests, social conditions, and economic trajectories. Frey's conclusions and choice of terminology have proven controversial (c.f., Ellis and Wright 1998), and subsequent research has shown mixed evidence of immigration effects on inter-regional migration (e.g. Card 2001; Card and DiNardo 2001; Kritz and Gurak 2001; White and Liang 1998; Wright et al. 1997). However, this research, along with literature on residential mobility and segregation, provides theoretical reasons to believe that the type of demographic "balkanization" posited by Frey may be underway at a lower level of aggregation, with concentrations of immigrants in the neighborhood of residence affecting out-mobility of native-born residents.

One possibility, according to a general *sociodemographic composition* argument, is that any association between local immigrant concentrations and native out-mobility reflects the composition of native-born populations in neighborhoods in which immigrants tend to settle. Specifically, if immigrant populations concentrate in areas in which native-born residents have lifecycle characteristics (e.g., young, unmarried, childless) or housing conditions (e.g., short-term residents, non-owners) conducive to mobility, then areas with large or growing concentrations of foreign-born residents will exhibit relatively high levels of native out-migration, and this association will be reduced by controlling for the sociodemographic characteristics of native households. While such a finding would not diminish the importance of native out-migration flows in processes of neighborhood change and segregation, it would indicate that the connection of this out-migration to local concentrations of immigrants is simply coincidental with microlevel processes.

Three other competing theoretical arguments suggest an actual impact of immigrant concentrations on native out-mobility but point to different mediating factors. First, the *ethnic flight* thesis suggests that large or growing concentrations of foreign-born residents in the neighborhood might spur native out-mobility by affecting the racial and ethnic composition of the neighborhood (Saiz and Wachter 2006). Consistent with this argument, Clark and Blue (2004) argue that high levels of segregation within immigrant gateway cities reflect the preferences of members of most groups to cluster with co-ethnics. While racial attitudes expressed by white survey respondents reflect increasing tolerance, the latest survey results confirm that whites remain reluctant to remain in even moderately integrated neighborhoods (Charles 2006; Krysan 2002a) and tend to rate integrated neighborhoods as substantially less desirable than predominantly white neighborhoods (Krysan 2002b; Krysan and Bader 2007). Much of this research on neighborhood residential preferences has focused on whites' aversion to black neighbors but there is also evidence that whites have limited tolerance for living near Asians and Latinos (Charles 2006; Clark 2009). Limited research on the topic confirms that large concentrations of minorities significantly increase the likelihood of moving to a different neighborhood for white households (Crowder 2000; Crowder and South 2008).

In comparison to whites, black survey respondents express stronger tolerance for integration (Charles 2006; Krysan and Bader 2007; Krysan and Farley 2002). However, negative attitudes toward Asians and Latinos are also fairly common among black survey respondents (Charles 2006) and ethnographic research often points to animosity on the part of African Americans toward immigrant groups who settle in their neighborhoods (e.g., Johnson, Farrell, and Guinn 1999; Marrow 2008; Wilson and Taub 2006). Thus, the *ethnic flight* argument highlights the racial and ethnic diversity of the foreign-born population and suggests that high concentrations of immigrants in the neighborhood may reduce residential satisfaction and increase the likelihood of out-mobility for both black and white native-born residents by increasing the share of "undesirable" racial and ethnic groups and reducing the relative share of own-race neighbors. According to this thesis, controlling for the concentration of racial and ethnic out-groups in the neighborhood will attenuate any association between local immigrant concentrations and native out-mobility.

An alternative theoretical argument, the *socioeconomic context thesis*, suggests that reactions to non-racial socioeconomic conditions, not the aversion to particular racial or ethnic groups, are the primary drivers of population loss and neighborhood change (Harris 1999; Keating 1994; Taub et al. 1984). According to this argument, large concentrations of immigrants in the neighborhood may spur native out-mobility by undermining the socioeconomic quality of the neighborhood. Because immigrants tend to have lower levels of education and are more likely than the native-born to live in poverty (DeJong and Madamba 2001; White and Glick 2009), high concentrations of immigrants are likely to be associated with lower average income levels in the neighborhood. To the extent that these income levels are linked to the physical condition of the neighborhood, local levels of crime, and the quality of services and other valuable amenities (Logan and Alba 1993), residential satisfaction may be undermined, and the likelihood of residential out-mobility enhanced, for native-born householders with large numbers of foreign-born neighbors. According to this argument, controls for neighborhood income levels should diminish the link between local concentrations of immigrants and native out-mobility.

Finally, the *housing competition model* suggests that large and growing concentrations of immigrants might affect out-mobility of native-born residents by engendering fundamental changes in local housing market conditions (Ley 2007; Ley and Tutchener 2001). Specifically, increases in the concentration of immigrants may drive up the cost of housing in the area which, in turn, might "push" native residents out of the neighborhood. In a related way, the concentration of immigrants in the neighborhood may be associated with other local housing market conditions, including rates of homeownership and new construction, which may correspond with residential satisfaction among native-born residents. These arguments, which parallel theoretical models focusing on job competition as a primary driver of the link between immigrant concentrations and native inter-regional mobility (e.g., Frey 1995; Walker, Ellis, and Barff 1992; White and Liang 1998), suggest that local housing market conditions represent an important mediating factor in native-born residents' mobility reactions to local immigrant concentrations. Indeed, Wilson and Taub (2006) highlight variations in the competition for housing as a central factor to explain differential intergroup dynamics and trajectories of neighborhood change in the face of increasing immigrant concentrations.

Although they point to different explanatory mechanisms, each of these theoretical arguments suggests that large and growing concentrations of immigrants in the immediate neighborhood will increase the likelihood of out-mobility for individual native-born residents. However, it is also likely that immigrant concentrations in nearby neighborhoods will affect native mobility decisions. Following a simple native flight argument, large immigrant concentration in extralocal areas may signal to native-born residents the

impending influx of immigrants into their own neighborhood, prompting them to leave the neighborhood.

However, existing theory and research on residential mobility processes offers an alternative hypothesis, that extralocal immigrant concentrations reduce the likelihood of native out-mobility. According to this literature, because residential moves are highly distance-dependent, mobility is more likely when nearby neighborhoods have attractive characteristics and less likely when they are deemed less attractive than the current place of residence (Clark and Smith 1982; Crowder and South 2008; Gordon and Vickerman 1982; Krysan 2008; Lee 1966). To the extent that proximity to immigrants represents an important residential consideration for native-born householders, the concentration of immigrants in surrounding neighborhoods is likely to reduce the likelihood of residential mobility, net of the effects of conditions in the immediate neighborhood. Thus, consideration of extralocal immigrant concentrations is important for a full assessment of the effects of immigrant populations on the mobility decisions of native-born householders.

DATA AND METHODS

We explore these theoretical arguments using data from the 1968 through 2005 waves of the Panel Study of Income Dynamics (PSID), linked to contextual data drawn from the U.S. Census. The PSID is a well-known longitudinal survey of U.S. residents and their families begun in 1968 with approximately 5,000 families. Members of panel families were interviewed annually between 1968 and 1995 and every two years thereafter. New families have been added to the panel as children and other members of original panel families form their own households. The longitudinal nature of the PSID data makes it possible to assess prospectively the migration behavior of individual householders and the data contain rich information on a variety of individual- and household-level characteristics that are known to influence residential mobility decisions, thereby improving the ability to isolate the effects of foreign-born concentrations on these behaviors.

The availability of restricted-access Geocode Match Files, which link the records of individual respondents to census codes describing their place of residence at each interview, also make the PSID well suited for our purposes. These supplemental data allow us to trace the migration of PSID respondents across neighborhoods between successive interviews and to attach detailed census data about the neighborhoods occupied by these respondents at each annual interview. The PSID Geocode data also allow us to identify the conditions of the extralocal neighborhoods – those neighborhoods that are in close proximity to the tract in which each PSID respondent resided at each annual interview. We use standard GIS tools to determine the physical proximity of the census tract of residence to all other census tracts in the country. By attaching information on the characteristics of surrounding tracts, we are able to construct reliable measures of both local and extralocal neighborhood conditions for PSID respondents at each interview.

In this study, we follow much of the prior work in this area (e.g., Crowder and South 2008; Massey, Gross, and Shibuya 1994) by using census tracts to represent neighborhoods in defining local and extralocal neighborhood conditions. Although census tracts are imperfect operationalizations of neighborhoods (Tienda 1991), they undoubtedly come the closest of any commonly available spatial entity in approximating the usual conception of a neighborhood (Jargowsky 1997; White 1987). Furthermore, as of the 2000 census, census tracts were designated for the entire United States, providing the basis for characterizing neighborhoods consistently for all PSID respondents. Potential problems associated with changes in tract boundaries across decennial censuses are mitigated by our use of the Neighborhood Change Database (NCDB) constructed through a collaboration of GeoLytics

Corporation and the Urban Institute (GeoLytics 2006). We utilize the NCDB's data on tracts from the 1970, 1980, 1990, and 2000 censuses and use linear interpolation/extrapolation, with adjacent census years as endpoints, to estimate values for all tract characteristics in non-census years.

Our effective sample for this analysis consists of 16,516 native-born non-Latino white and non-Latino black heads of PSID households who were interviewed between 1968 (the first year of the PSID data collection) and 2005 (the latest year for which complete PSID data are available). Given the original structure of the PSID panel, based on a sample of families drawn in 1968, the numbers of native-born members of non-white, non-black groups are too small to sustain a separate analysis. Because most residential moves are undertaken by families, a decision to move made by the household head (or made jointly by the family) perforce means a move by other family members. The focus only on household heads allows us to avoid counting as unique and distinct those moves made by members of the same family (e.g., children and spouses). At the same time, moves by family members who were not the household head at one interview but become the head of a household by the subsequent interview (e.g., a child leaving the parental home or an ex-spouse establishing a new residence) are included in our effective sample.

We take advantage of the longitudinal nature of the PSID data and the fact that tract-coded residential addresses are available for PSID respondents at each interview by segmenting each respondent's data record into a series of person-period observations, with each observation referring to a two-year period between PSID interviews. Although it is possible to define annual mobility intervals for most years of the PSID, the use of a two-year interval is necessitated by the adoption of a biennial interview schedule in the PSID after 1995.[2] On average, the individual household heads in the sample contribute just fewer than 9.4 person-period observations for a total sample size of 154,848 person-period observations. We use logistic regression to examine the additive and interactive effects of local and extralocal neighborhood conditions and individual-level characteristics on the odds of moving to a different census tract between interviews. Because the same PSID respondent can contribute more than one person-period to the analysis, and because inter-neighborhood migration is a repeatable event, the usual regression assumption of the stochastic independence of error terms underlying tests of statistical significance is violated (Bye and Riley 1989). In all regression analyses we correct for this non-independence of observations using the cluster procedure available in Stata to compute robust standard errors (StataCorp 2008).[3]

Outcome variable

To test the effects of immigrant concentrations on native mobility decisions we examine a dichotomous variable indicating whether the native-born respondent moved out of the census tract of origin during the two-year migration interval. This variable takes a value of 1 for those who moved and a value of 0 for those who remained in the same tract.

Explanatory variables

The primary explanatory variables refer to the level of, and change in, the immigrant concentration in and around the tract of residence at the beginning of the migration interval. The *local immigrant concentration* is measured by the percentage of the population in the tract of residence made up of individuals born outside of the U.S. *Change in the immigrant concentration* is measured as the absolute difference between the percent foreign-born in the

[2]Analyses using single-year mobility intervals for data years prior to 1995 produce results that are similar to those reported below.
[3]The multi-level structure of our data would ordinarily call for the use of multilevel modeling strategies (Teachman and Crowder 2002). However, the low level of clustering of individual PSID respondents within census tracts undermines the utility of such models.

year of observation and the percent foreign-born in the tract as of five years prior to the observation year, both estimated through linear interpolation for non-census years.

We characterize the *immigrant concentration in extralocal neighborhoods* as the distance-weighted average percent foreign-born in surrounding tracts. To create these measures we utilize a spatial weights matrix that specifies, for each tract, the presumed existence and magnitude of effects of conditions in other tracts on outcomes among those individuals originating in a particular tract of origin. Following Downey's (2006: 570) argument that spatial dependence tends to decline with distance, we employ a spatial-weighting strategy in which the influence of conditions in an extralocal area on individual mobility decisions is assumed to be inversely related to the distance of the extralocal tract from the individual's tract of residence. Specifically, under this distance-decay strategy the elements of the spatial weights matrix are defined as $w_{ij} = 1/d_{ij}^2$ where d_{ij} is the geographic distance between the centroid of the tract of residence, i, and the centroid of the extralocal tract, j.[4] Given the implausibility that the demographic characteristics of every tract in the nation directly affect the decisions of residents of all other tracts, we constrain to zero the influence of tracts that are more than 100 miles away from the focal tract, but even without this constraint, spatial weights determined by inverse distance are quite small beyond distances of about 10 miles.[5] The weights matrix is row standardized so that the elements of each row sum to one and the resulting extralocal measure of immigrant concentration can be easily interpreted as the distance-weighted average percent foreign-born in surrounding tracts (Anselin 2001).

We consider a variety of other characteristics of the native-born sample members, their families, and their neighborhoods in order to isolate the effects of immigrant concentrations on native out-mobility and to test competing theoretical explanations for this association. Microlevel predictors of mobility used to test the sociodemographic composition thesis include age and, to capture the non-monotonic dependence of migration on age (Long 1988), age-squared. The sex of the householder is captured as a dummy variable scored 1 for females and marital status takes a value of 1 for respondents who were married or permanently cohabiting. The effect of children is tapped with a dummy variable taking a value of 1 for those individuals living in a family with any members under age 18. We also control for the education of the householder, measured by years of school completed, and the total family taxable income, measured in thousands of constant 2000 dollars. Home ownership is coded as 1 for those in an owner-occupied housing unit; household crowding is measured by the number of persons per room; and length of residence takes a value of 1 for those respondents who had lived in their home for at least three years. All of these variables except gender are considered time-varying and refer to conditions at the beginning of the mobility interval. The year of observation is included to account for trends in inter-neighborhood migration.

We present models with controls for a variety of characteristics of the tract of origin to test the relative influence of mediating mechanisms implicated in other competing theoretical models. To test the ethnic flight thesis that mobility away from immigrant populations reflects a reaction to local racial conditions we consider the percentage of the tract's population made up of residents with a different race than the respondent (i.e., percent other than non-Hispanic white for white respondents and percent other than non-Hispanic black for black respondents). The socioeconomic context thesis suggests that native-born residents

[4]We compared this inverse quadratic distance-weighting strategy to results using spatial weights based on: 1) adjacency; 2) inverse-distance; 3) inverse logged distance; and 4) metropolitan location (spatial weights set to 1 for all tracts in the same MSA. These alternative strategies produced results that are similar to, but generally weaker than, those using the inverse quadratic distance strategy.

[5]Spatially proximate neighborhoods are presumed to influence mobility decisions even if located on the other side of an administrative boundary. Thus, the spatial weights are not constrained by county, metropolitan, or state borders.

are more responsive to conditions related to the economic characteristics of the neighborhood, an argument we test by controlling for the average income (adjusted to 1000s of year 2000 dollars) of all families in the tract of origin. To test the housing competition model we control for several measures of the local housing market that may affect mobility decisions and may be associated with the size and change in the local concentration of immigrants. Housing costs and demand are measured primarily with the average rent for renter-occupied housing in the tract[6] and the percent of housing units that were vacant at the beginning of the observation period. We also control for the level of homeownership (the percentage of households in the tract of residence that are owner occupied) and the age of the housing stock (the percentage of housing in the tract built in the preceding ten years) to better isolate the effects of local immigrant concentrations.

FINDINGS

Levels of exposure to immigrant populations

We begin with a basic description of the residential exposure of native-born households to immigrants during the study period. At the beginning of the average observation period, the PSID householders in our sample resided in tracts in which just under 5.5% of the residents were foreign born (see Appendix Table A1 for pooled and race-specific statistics). However, this residential exposure has changed considerably over the years of the PSID survey. As shown in Figure 1, there has been a fairly steady increase in the concentration of immigrants in the tracts occupied by PSID householders; the percentage foreign-born as of the beginning of the biennial interview periods increased from about 3.9 for observations in 1968 to 7.6 for those in 2005. This, of course, is consistent with the general increase in the foreign-born population in the country as a whole and points to increasing levels of residential exposure between native- and foreign-born households.

It is important to note, however, that the increasing concentration of immigrants in natives' neighborhoods has been much less pronounced than increases in foreign-born representation elsewhere. For example, Figure 1 also shows that a steady increase in the concentration of immigrants in the metropolitan areas represented by PSID respondents and this increase has been substantially stronger than the increase in immigrant concentrations in the tracts occupied by native-born PSID respondents.[7] These numbers indicate that native-born households have been somewhat shielded from the more general potential residential repercussions of increasing immigrant concentrations, finding themselves in neighborhoods in which foreign-born populations are underrepresented relative to metropolitan concentrations. They also suggest that despite a potential for increased residential exposure between native-born households and immigrants over the past few decades, the extent to which these groups concentrate in different neighborhoods has not necessarily declined.

These statistics do not reveal, however, the extent to which the voluntary mobility behaviors of the native-born have helped to maintain this relative residential distance from foreign-born populations. The remaining analyses address this general question, focusing on the extent to which native-born householders tend to move out of neighborhoods with higher concentrations of foreign-born populations and testing competing theoretical explanations for this association.

[6]The average rent for all tracts within 10 miles is used for the small number of tracts with no renter-occupied units. We also tested models with the average value of owner-occupied housing but because of the high correlation with local rents this control introduced considerable instability into the models.

[7]The trend in the percent foreign-born in PSID metros parallels that in the country as a whole; in 1970, about 4.7% of U.S. population was categorized as foreign-born and this increased to 11.7% by 2003 (Larsen 2004).

Immigrant populations and native out-mobility

Table 1 presents coefficients from a logistic regression analysis predicting the log-odds of moving to a different tract during the two-year mobility interval for native-born white and black PSID householders. The first model includes the relative size of the foreign-born population in the tract occupied by the householder at the beginning of the mobility interval. The logit coefficient (b=.014) for this variable is positive and statistically significant (p<.001) indicating that the likelihood of leaving the neighborhood increases for native-born residents as the share of immigrants in the neighborhood increases. Specifically, a one standard-deviation increase in the tract percent foreign-born increases the odds of out-mobility by 11.2% [$e^{(.014*7.657)}$=1.112].

The second model of Table 1 adds measures of two other dimensions of immigrant population dynamics facing native householders: changes in immigrant concentrations in the tract of residence occurring during the five-year period leading up to each interval, and the spatially-weighted average concentration of immigrants in surrounding neighborhoods. The coefficient for recent changes in foreign-born representation is positive and statistically significant indicating that, net of the absolute size of the immigrant population in the neighborhood, growth tends to spur native out-mobility. For example, a 2 percentage-point (about one standard deviation) increase in the foreign-born concentration during the five years preceding the observation year increases the odds of out-mobility by about 6% [$e^{(.030*2)}$=1.062]. This finding can be interpreted in the context of theoretical arguments that emphasize the importance of residential satisfaction and utility (e.g., Speare 1974; Wolpert 1966); recent changes in neighborhood conditions may influence the decision to leave the neighborhood by creating a disparity between residential preferences (which likely influenced the decision to settle in the neighborhood) and actual neighborhood contextual conditions. The recent influx of immigrants may also signal to native residents an undesirable trajectory of the neighborhood and prompt at least some to leave in advance of further changes.

In contrast, the (distance-weighted) average level of immigrant concentration in surrounding tracts is negatively and significantly associated with neighborhood out-mobility among native householders.[8] This negative effect is consistent with past research and theoretical arguments highlighting the distance-dependence of migration; because most geographic moves take place over a relatively short distance, unfavorable conditions in nearby areas will tend to reduce the likelihood of out-migration by convincing householders that the most likely available neighborhood alternatives are relatively unattractive.[9] In this way, consideration of the relative concentration of immigrants appears to extend beyond the immediate neighborhood to surrounding areas as well. Native householders tend to seek a move if their neighborhood contains large shares of immigrants, but this tendency is offset if surrounding neighborhoods also have high concentrations of foreign-born neighbors.

Controlling for the size of the immigrant population in extralocal areas also has the effect of increasing the coefficient for the local neighborhood immigrant concentration (b=.023) relative to the coefficient in Model 1 (b=.014). This suppression stems from the fairly strong

[8]Here we utilize a cross-regressive modeling strategy because our measure of extralocal immigrant concentrations reflects a spatially-lagged version of a key predictor (Anselin 2003). This stands in contrast to more typical autoregressive forms of spatial data analysis where a spatially-lagged version of the dependent variable is used as a predictor.

[9]Consistent with the distance-dependence argument, about 85% of the mobile householders in our sample moved to a tract that was, centroid-to-centroid, less than 10 miles from the tract of origin. In supplemental analyses we find that distance moved is positively associated with the relative size of the immigrant population in extralocal areas, net of the effects of micro-level factors that affect mobility. Thus, when they do choose to move, those native householders who leave tracts surrounded by relatively large foreign-born concentrations tend to bypass these geographically nearby neighborhoods – areas that are usually the most common destinations for residential movers – in favor of neighborhoods farther away.

positive association between local and extralocal immigrant concentrations, with neighborhoods of similar foreign-born percentages clustering together, but countervailing influences of these forces on native householders' out-migration. Net of the effect of extralocal conditions, a one-standard-deviation difference in the percent foreign-born in the neighborhood of residence is associated with a 19% [$e^{(.023*7.657)}$=1.193] increase in the odds of moving to a different tract for native householders.[10]

In Model 3 of Table 2 we test whether this mobility response to immigrants has changed over the long span of the PSID, a period in which both the composition and size of the immigrant population has changed dramatically (Kritz and Gurak 2005; Larsen 2004). Specifically, the model includes coefficients for the year of observation (measured as the number of years since 1968, the first year of PSID data) and product terms representing the interactions between this year variable and each of the three dimensions of immigrant population dynamics: the percent foreign-born in the tract of origin, changes in this percentage in the preceding five years, and immigrant concentrations in extralocal neighborhoods. The negative, statistically significant coefficient for year of observation reflects the general decline in residential mobility (Fischer 2002). However, and more important for our purposes, there is no evidence that the effects of immigrant populations on the likelihood of out-mobility among the native-born members of our sample has changed over time; the coefficients for all three interaction terms are close to zero and far from statistically significant. Thus, while native-born residents have experienced an increased residential exposure to immigrant populations, the out-mobility response to these populations has remained relatively unchanged since the late 1960s, as have mobility effects of recent changes in local immigrant concentrations and foreign-born representation in extralocal areas[11]

The coefficients in Model 4 also indicate that the tendency to move away from larger immigrant populations holds for both black and white native-born householders. Consistent with published research (e.g., Crowder and South 2005; South and Deane 1993), the likelihood of mobility is higher for black than for white householders as indicated by the positive and statistically significant coefficient for black race (b=.234). However, the coefficient for the interaction between black race and the percent foreign-born in the tract (b=−.0001) is very small and falls short of statistical significance. Thus, native-born residents of both races appear to be about equally responsive to the size of the immigrant population in the neighborhood. There is also no evidence that the effect of immigrant concentrations in extralocal areas varies significantly by race.

However, as indicated by the statistically significant negative interaction between black race and the level of recent change in the local neighborhood immigrant concentration (b = −.040), the effect of changing immigrant concentrations on out-mobility is significantly stronger among white than among black households. In fact, combining the main coefficient for the change in immigrant concentrations and the interaction with race shows that changing neighborhood conditions have essentially no effect on mobility decisions for black householders [.044 + (−.040) =.004]. From the perspective of conventional theoretical models, the stronger effect among whites than among blacks would appear to suggest that increasing immigrant concentrations simply generate more residential dissatisfaction among white householders. However, in the context of racially stratified housing markets (Crowder

[10]Supplemental analyses show that these effects are not attributable to variations in mobility propensities across Census divisions. However, these analyses do point to modest variations in the effects of immigrant concentrations across traditional immigrant metros, emerging immigrant destinations, and other types of metropolitan areas, with the definition of these metropolitan types based on an adapted version of the strategy employed by Lichter et al (2010). A full examination of these differences, their variations across racial groups, and the differential mechanisms across metropolitan types is beyond the scope of this paper.

[11]Analyses using various period splines in place of the continuous measure for year of observation lead to identical conclusions.

2001), black householders may simply have fewer opportunities to act on any residential dissatisfaction generated by growing immigrant populations.

Overall, the analysis in Table 1 suggests that the out-mobility of native-born residents tends to be higher in neighborhoods containing large shares of immigrants. By itself, this association has important implications for processes of neighborhood change and the influence of native mobility decisions on the maintenance of immigrant-native segregation.[12] However, this tendency of the native-born to exit areas with larger foreign-born concentrations does not necessarily reflect a direct aversion to residence near immigrants but may reflect the influence of other contextual conditions or the composition of native populations in areas with large numbers of immigrants. In the remaining analyses we test competing theoretical arguments offered to explain these gross effects of local immigrant concentrations.

Tables 2 and 3 present analyses of mobility for native-born black and white householders, respectively. These racially disaggregated models are motivated not only by evidence of at least modest racial differences in the response to local immigrant dynamics but by the possibility of racial differences in the dynamics underlying these mobility processes. Existing literature points to important racial differences in residential search processes (Krysan 2008; Krysan and Bader 2009) and mobility outcomes (Crowder and South 2005), and suggests that black householders are significantly less likely than whites to convert dissatisfaction with local neighborhood conditions into actual mobility (South and Deane 1993; Crowder 2001). In combination with observed racial differences in residential preferences (Charles 2006), this evidence suggests that the mechanisms through which local immigrant concentrations affect mobility decisions might differ by race.

As a baseline for our test of competing theoretical explanations, the first model of Table 2 includes only terms for local and extralocal immigrant conditions facing native-born black householders. As in the pooled model, the results in Model 1 show that, among African American householders, the likelihood of out-mobility increases with the representation of immigrants in the immediate neighborhood of residence at the beginning of the observation period; a one-standard-deviation increase in the relative size of the immigrant population is associated with a 22% increase in the odds of leaving the neighborhood [$e^{(.025*8.067)}=1.223$]. Also consistent with the results in Table 1, the coefficient for recent changes in the size of the immigrant representation is positive but not statistically significant. In contrast, however, the (distance-weighted) average level of immigrant concentration in surrounding tracts is negatively and significantly associated with neighborhood out-mobility among black householders.

Model 2 of Table 2 includes controls for a wide range of individual- and household-level determinants of mobility and is designed to test the sociodemographic composition argument that the heightened likelihood of out-mobility from immigrant-populated neighborhoods is simply reflective of the fact that black householders residing in these areas have characteristics that increase their propensity for mobility more generally. The effects of these controls are consistent with results of past research: the likelihood of out-mobility decreases (but at a declining pace) with age, and is lower for married householders and those with children. Net of other factors, higher-levels of income are associated with a greater likelihood of residential mobility. Homeownership and longer-term residence decrease the

[12]Additional analyses show that, on average, mobile white and black householders tend to enter neighborhoods with lower concentrations of immigrants than the neighborhoods they leave, thereby bolstering the effects of mobility away from immigrant concentrations on segregation between native- and foreign-born populations. This gap between immigrant concentrations in the origin and destination increases proportionally to the size of the immigrant concentration in the tract of origin and is especially large when the geographic clustering of tracts with large immigrant populations is taken into account.

likelihood of residential mobility but living in more crowded housing increases this likelihood.

Most importantly, controlling for these microlevel mobility predictors accounts for a sizeable share of the association between local immigrant concentrations and inter-tract mobility among black householders with the coefficient for this variable reduced by almost half (from .025 to .013) between Models 1 and 2. Thus, consistent with the compositional explanation for the effects of immigrant concentrations, part of the elevated mobility of black households away from high immigrant concentrations is due, not to a direct reaction to living near immigrants, but to the fact that black residents of areas with large immigrant populations have other characteristics conducive to mobility. Housing characteristics are especially important here; separate models (not shown) in which microlevel variables are added sequentially indicate that controls for homeownership and length of residence are primarily responsible for the attenuation of the local immigrant effect between Models 1 and 2. Among black householders those who do not own their home and those who had moved within the preceding three years tend to live in areas with the highest immigrant concentrations, and these short-term residents and renters are more likely than longer-term residents and homeowners to move, accounting for part of the positive association between local immigrant concentrations and residential mobility. In contrast, these microlevel influences suppress the association between growing foreign-born populations and out-mobility for native blacks; controlling for these variables in Model 2 reveals a positive and statistically significant coefficient indicative of a higher likelihood of out-mobility from areas experiencing greater increases in immigrant concentration.

The remaining models in Table 2 test competing theoretical arguments regarding the mechanisms through which local immigrant concentrations affect native black out-mobility. Consistent with an ethnic flight argument, the coefficients in Model 3 of Table 2 indicate that part of the residual influence of local immigrant concentrations reflects a reaction to local neighborhood racial conditions. For black householders, the likelihood of out-mobility increases significantly with the relative size of the non-black population (b=.002), a variable positively associated with the share of immigrants in the area (Pearson r = .330). Thus, controlling for the effect of the local racial composition reduces the coefficient for local immigrant concentrations by about 31% (from .013 to .009) between Models 2 and 3. Model 4 shows that net of the effects of other variables in the model, the likelihood of out-mobility for black householders also increases with the average income of families in the neighborhood (b=.005), but controlling for this relationship has little effect on the association between local immigrant concentrations and black out-mobility. Thus, the socioeconomic-context explanation for the effect of local immigrant concentrations receives no support.

Finally, Model 5 includes tract characteristics implicated in the housing competition thesis as associated with both the concentration of immigrants in the neighborhood and the likelihood of out-mobility among native blacks. As expected, native black out-mobility increases with the average rent in the neighborhood and, controlling for the cost of housing, also with the housing vacancy rate in the tract. In contrast, the likelihood of out-mobility is lower from those tracts with a relatively large stock of new housing and high concentrations of homeowners.

The most important findings from this model, however, is that controlling for local housing market conditions further attenuates the coefficient for local immigrant concentrations (from .010 to .007), reducing it to statistical non-significance (p=.065). Thus, the residual effect of immigrant concentrations on black out-mobility appears to be due to the association with housing market conditions that increase the likelihood of black out-mobility. Two

characteristics of the local housing market are especially important in this regard: the concentration of homeowners is negatively associated with both the concentration of immigrants and the likelihood of out-mobility for native black householders; and average rent costs tend to be higher in areas with large immigrant populations and are also positively associated with out-mobility for black householders. Separate models (not shown) indicate that controlling for these two variables alone accounts for the attenuation of the local foreign-born effect across the final model of Table 2. The mediating effect of local rents in particular provides some support for the competition argument that large concentrations of immigrants transform the local housing market in ways that price some black householders out of the market. In contrast, the positive effect of changes in immigrant concentration on residential mobility for blacks remains statistically significant despite the introduction of neighborhood-level control variables and actually increases in strength in Model 5. Similarly, higher concentrations of immigrants in nearby neighborhoods continue to discourage residential mobility of blacks despite the inclusion of control variables.

Results of regression analyses of out-mobility for native-born white householders show dynamics that are similar to those observed for blacks, but that also differ in potentially important ways. These results are presented in Table 3. As is true for black householders, the likelihood of neighborhood out-mobility is positively associated with the concentration of foreign-born residents in the neighborhood. Model 1 also shows the negative effect of extralocal conditions that partially suppress the effects of local immigrant concentrations[13] and a net positive effect of changing local concentrations of immigrants that is even stronger among whites than among blacks.

The remaining models in Table 3 investigate possible explanations for the elevated white out-mobility away from large immigrant concentrations. In Model 2 we introduce the full slate of individual- and household-level mobility controls. Consistent with the results for black householders, these variables have important influences on the mobility decisions of native-born whites and, importantly, greatly attenuate the effects of the local immigrant concentration. Specifically, the coefficient for the local immigrant concentration in the neighborhood is reduced to about 40% of its original size (from .027 to .011) with the introduction of these controls. This lends considerable support to the compositional explanation of white mobility behavior However, the effect of percent immigrant remains positive and significant even after controlling for these factors. Moreover, controlling for these additional variables does nothing to account for the significant association between residential out-mobility and recent changes in immigrant concentrations; the coefficient for this variable actually increases (from .043 to .050) between Models 1 and 2. Thus, even after controlling for the influence of key microlevel mobility determinants, the likelihood of white out-mobility increases significantly with both the size of the local immigrant population and recent increases in this foreign-born representation.

The results presented in Model 3 indicate that at least part of these effects of local immigrant concentrations and change can be attributed to the effects of the neighborhood racial composition. As with black householders and consistent with past research (Crowder and South 2008), larger concentrations of neighbors of a different race increase the likelihood of out-mobility for white householders, and this effect holds after controlling for the socioeconomic condition of the tract (see Model 4). However, this effect is considerably larger for white than for black householders (compare coefficients in Model 3 of Table 3 to Model 3 in Table 2)[14] and plays a more substantial role in attenuating the effect of local

[13]For whites the bivariate logit for the local immigrant concentration is .015 ($p<.001$).

[14]Racially pooled models with interaction terms indicate that the black-white difference in the coefficients for the percent other-group in the tract is statistically significant ($p<.01$).

immigrant concentrations. Specifically, controlling for the racial composition of the tract reduces the coefficient for the relative size of the immigrant population by almost half (from .011 to .006) and reduces the coefficient to statistical non-significance (p = .096). Thus, a sizable part of the link between white out-mobility and the size of the foreign-born population appears to be a function of the associated concentration of non-whites in the neighborhood.[15] In contrast, the effect of changes in immigrant concentration on the residential mobility of whites changes only modestly with the control for the relative presence of non-whites in the neighborhood, declining by about 14% (from .050 to .043) between Models 2 and 3 of Table 3.

Finally, the coefficients in Model 5 of Table 3 indicate that among native-born whites, the likelihood of out-mobility increases with rents in the neighborhood and declines with the level of homeownership in the area. Both of these tract characteristics are also correlated with recent changes in the immigrant population; rents are higher (Pearson r=.155), and homeownership lower (Pearson r=−.195), in those areas experiencing more rapid growth in immigrant representation. As a result, controlling for these local housing market conditions also helps to explain part of the association between immigrant growth and white out-mobility, with the coefficient for this change variable declining by about 12% (from .043 to .038) between Models 4 and 5. Again, this provides some support for the argument that growing immigrant populations help to alter local housing conditions in a way that spur out-mobility among whites. However, the mobility-inducing effect of recent increases in immigrant concentrations and the likelihood of out-mobility remains substantial and statistically significant even with the controls for these housing-market conditions.

CONCLUSIONS

In this paper we have attempted to further illuminate the individual-level dynamics shaping aggregate segregation patterns by complementing the large literature on patterns of neighborhood attainment among immigrants with an analysis of the effect of immigrant populations on the mobility decisions of native-born householders. Using data from the Panel Study of Income Dynamics linked to data derived from four censuses to describe the characteristics of neighborhoods of residence and surrounding areas, we find that the relative size of the immigrant population is positively associated with the likelihood of moving to a different neighborhood, and this association has not changed appreciably since the late 1960s even as the size and diversity of the immigrant population has changed dramatically. Net of the effect of the size of the immigrant population in the neighborhood, recent increases in the foreign-born representation in the local area also appear to spur native out-mobility, and native householders are less likely to leave their neighborhood if surrounding areas – those representing the most likely destinations – have large shares of immigrants.

Our investigation indicates that much, but not all, of the association between immigrant populations and native out-mobility can be attributed to the fact that immigrants tend to settle in neighborhoods in which native populations have characteristics that are conducive to mobility in general. However, while the data do not lend themselves to explicit statements of causality, our results also suggest the importance of theoretically-implicated mediating factors that differentially explain the residual link between local immigrant concentrations and native out-mobility. Among whites, mobility away from non-white neighbors, as

[15]Supplemental models show significant and positive coefficients for separate measures of concentrations of blacks, Latinos, and other minority groups indicating that the effects in Table 3 do not simply reflect whites' reluctance to share residential space with black neighbors. Moreover, white householders are especially likely to leave neighborhoods with significant shares of multiple non-white groups.

emphasized in the ethnic flight thesis, appears to be an especially important component of the association between immigrant populations and the likelihood of out-mobility.

The concentration of other-race neighbors is also important in explaining the reaction of native-born blacks to large shares of immigrants, but housing market competition also appears to be salient. Large shares of immigrants are associated with neighborhood housing characteristics, including low levels of homeownership and high housing costs, that elevate the likelihood of out-mobility for black householders. Thus, while the mobility of both native blacks and whites away from immigrant populations help to maintain their segregation from Asian and Latino populations, these racially-similar mobility patterns may be driven by different underlying neighborhood dynamics. For both blacks and whites, however, residential mobility continues to be enhanced by *growth* in the immigrant population and reduced by the presence of larger foreign-born populations in surrounding neighborhoods.

As a first analysis of the link between immigrant populations and native mobility patterns at the individual level, this paper leaves open a number of important questions for future research. First, additional attention should be paid to variations in the association between neighborhood immigrant concentrations and residential mobility. Parallel research on patterns of inter-regional migration indicates that variations by socioeconomic status may be particularly important. Such variations would hold additional implications for the processes of neighborhood change along both racial and economic lines and may also shed additional light on the mechanisms through which immigrant concentrations affect native out-mobility. Similarly, native reactions to neighborhood immigrant concentrations, and the factors driving these reactions, may be significantly conditioned by the national origins or race of the foreign born in the area and may vary significantly across metropolitan areas with different histories of immigrant growth. Investigation of these variations across traditional immigrant entry points and emerging immigrant destinations, for example, will shed additional light on shifting patterns of segregation between immigrant and native populations.

More generally, further research on the factors affecting native residents' reactions to foreign-born neighbors will be important. Our strategy of examining the attenuation of neighborhood compositional effects with controls for individual- and tract-level characteristics provides some hints at possible mechanisms, but additional research on native attitudes toward immigrant neighbors, patterns of social interaction and political exchange within changing neighborhoods, and the connections to related residential decision-making processes will surely prove valuable. Similarly, assessing the mobility responses of foreign-born householders and their offspring to concentrations of immigrants – a topic that cannot be addressed with the data used here – would provide clues about the extent to which observed effects of immigrant concentration reflect the influence of other factors that increase residential mobility in general.

Finally, important endeavors for future work will be a fuller analysis of mobility destination choices of native and foreign-born populations and assessment of how these mobility processes are shaped by, and interact with, broader structural and economic conditions to affect aggregate population distributions. For now we stop short of claiming the U.S. is undergoing a process of balkanization at the neighborhood level, paralleling the regional pattern identified by Frey (1995). However, our analysis does point to longstanding mobility dynamics that would appear to diminish the prospects of residential integration between immigrants and native-born populations. Thus, while scholarly attention continues to focus on the residential attainment processes of immigrants, we call for additional attention to the mobility reaction of native-born populations to these immigrant settlement patterns as these

reactions are likely to be crucial in determining the pace and processes of neighborhood change, immigrant incorporation, and broader patterns of stratification.

Acknowledgments

This research was supported by a grant to the first author from the National Institute of Child Health and Human Development (R21 HD049610). We are grateful for careful feedback and helpful suggestions offered by Ren Farley and the ASR editors and reviewers. Direct all correspondence to Kyle Crowder, 155 Hamilton Hall, CB#3210, University of North Carolina, Chapel Hill, NC, 27599-3210.

References

Anselin, Luc. Spatial Econometrics. In: Baltagi, Badi H., editor. A Companion to Theoretical Econometrics. Malden, MA: Blackwell Publishing; 2001. p. 310-330.

Anselin, Luc. Spatial Externalities, Spatial Multipliers, and Spatial Econometrics. International Regional Science Review. 2003; 26:153–166.

Borjas, George J. Native Internal Migration and the Labor Market Impact of Immigration. Journal of Human Resources. 2006; 41(2):221–58.

Brama, Asa. 'White Flight'? The Production and Reproduction of Immigrant Concentration Areas in Swedish Cities, 1990–2000. Urban Studies. 2006; 43(7):1127–1146.

Card, David. Immigrant Inflows, Native Outflows, and the Local Labor Market Impacts of Higher Immigration. Journal of Labor Economics. 2001; 19:22–64.

Card, David; DiNardo, John. Do Immigrant Inflows lead to Native Outflows? American Economic Review. 2000; 90:360–367.

Charles, Camille Zubrinsky. Race, Class, and Residence in Los Angeles. New York: Russell Sage Foundation; 2006. Won't You Be My Neighbor?.

Clark, William AV. Changing Residential Preferences across Income, Education, and Age: Findings from the Multi-City Study of Urban Inequality. Urban Affairs Review. 2009; 44(3):334–355.

Clark, William AV.; Blue, Sarah A. Race, Class, and Segregation Patterns in U.S. Immigrant Gateway Cities. Urban Affairs Review. 2004; 39(6):667–688.

Clark, William AV.; Smith, Terence R. Housing Market Search Behavior and Expected Utility Theory. Environment and Planning A. 1982; 14:717–737.

Crowder, Kyle. The Racial Context of White Mobility: An Individual-Level Assessment of the White Flight Hypothesis. Social Science Research. 2000; 29:223–57.

Crowder, Kyle D. Racial Stratification in the Actuation of Mobility Expectations: Microlevel Impacts of Racially Restrictive Housing Markets. Social Forces. 2001; 79(4):1377–1396.

Crowder, Kyle; South, Scott J. Race, Class, and Changing Patterns of Migration Between Poor and Nonpoor Neighborhoods. American Journal of Sociology. 2005; 110:1715–63.

Crowder, Kyle; South, Scott J. Spatial Dynamics of White Flight: The Effects of Local and Extralocal Racial Conditions on Neighborhood Out-Migration. American Sociological Review. 2008; 73(5): 792–812. [PubMed: 20221414]

Denton, Nancy A.; Massey, Douglas S. Patterns of Neighborhood Transition in a Multiethnic World: U.S. Metropolitan Areas, 1970–1980. Demography. 1991; 28:41–63. [PubMed: 2015944]

Downey, Liam. Using Geographic Information Systems to Reconceptualize Spatial Relationship and Ecological Context. American Journal of Sociology. 2006; 112(2):567–612.

Ellis, Mark; Wright, Richard. The Balkanization Metaphor and the Analysis of US Immigration. Annals of the Association of American Geographers. 1998; 88:686–698.

Fasenfest, David; Booza, Jason; Metzger, Kurt. Living Together: A New Look at Racial and Ethnic Integration in Metropolitan Neighborhoods, 1900–2000. In: Berube, Alan; Katz, Bruce; Lang, Robert E., editors. Redefining Urban and Suburban America: Evidence from Census 2000. Vol. III. Washington DC: Brookings; 2006. p. 93-188.

Fischer, Claude S. Ever-more Rooted Americans. City and Community. 2002; 1(2):177–198.

Fong, Eric; Shibuya, Kumiko. Multiethnic Cities in North America. Annual Review of Sociology. 2005; 31:285–304.

Frey, William. Immigration and Internal Migration Flight from US Metropolitan Areas: Toward a New Demographic Balkanization. Urban Studies. 1995; 32:733–757.

Frey, William; Liaw, Kao-Lee. Immigrant Concentration and Domestic Migration Dispersal: Is Movement to Non-Metropolitan Areas 'White Flight'? Professional Geographer. 1998; 50:215–31.

GeoLytics. Census CD Neighborhood Change Database 1970–2000 Tract Data. 2006. Retrieved July 1, 2006 (http://www.geolytics.com/USCensus,Neighborhood-Change-Database-1970-2000,Products.asp)

Glaeser, EL.; Vigdor, JL. Racial Segregation: Promising News. In: Katz, B.; Lang, R., editors. Redefining Urban & Suburban America: Evidence from Census 2000. Vol. I. Brookings Institution Press; 2003. p. 211-234.

Gordon, Ian; Vickerman, Roger. Opportunity, Preferences, and Constraint: An Approach to the Analysis of metropolitan migration. Urban Studies. 1982; 19:247–261.

Grieco, Elizabeth M. U.S. Census Bureau, American Community Survey Report, ACS-11. Washington D.C: U.S. Government Printing Office; 2010. Race and Hispanic Origin of the Foreign-Born Population in the United States: 2007.

Harris, David R. 'Property Values Drop When Blacks Move In, Because…': Racial and Socioeconomic Determinants of Neighborhood Desirability. American Sociological Review. 1999; 64:461–79.

Iceland, John. Where We Live Now: Immigration and Race in the United States. Berkeley, CA: University of California Press; 2009.

Iceland, John; Nelson, Kyle A. Hispanic Segregation in Metropolitan America: Exploring the Multiple Forms of Spatial Assimilation. American Sociological Review. 2008; 73(5):741–765.

Iceland, John; Scopilliti, Melissa. Immigrant Residential Segregation in U.S. Metropolitan Areas, 1990–2000. Demography. 2008; 45(1):79–94. [PubMed: 18390292]

Jargowsky, Paul A. Poverty and Place: Ghettos, Barrios, and the American City. New York: Russell Sage Foundation; 1997.

Johnson, James H.; Farrell, Walter C., Jr; Guinn, Chandra. Immigration Reform and the Browning of America: Tensions, Conflicts, and Community Instability in Metropolitan Los Angeles. In: Hirschman, Charles; Kasinitz, Philip; DeWind, Josh, editors. The Handbook of International Migration. New York: Russell Sage; 1999. p. 390-411.

Keating, W Dennis. The Suburban Racial Dilemma: Housing and Neighborhoods. Philadelphia, PA: Temple University Press; 1994.

Kritz, Mary M.; Gurak, Douglas T. The Impact of Immigration on the Internal Migration of Natives and Immigrants. Demography. 2001; 38:133–145. [PubMed: 11227841]

Kritz, Mary M.; Gurak, Douglas T. Immigration and a Changing America. In: Farley, Reynolds; Haaga, John, editors. The American People: Census 2000. Vol. chapter 9. New York: Russell Sage Foundation; 2005. p. 259-301.

Krysan, Maria. Whites Who Say They'd Flee: Who Are They, and Why Would They Leave? Demography. 2002a; 39:675–96. [PubMed: 12471849]

Krysan, Maria. Community Undesirability in Black and White: Examining Racial Residential Preferences through Community Perceptions. Social Problems. 2002b; 49:521–543.

Krysan, Maria. Does Race Matter in the Search for Housing? An Exploratory Study of Search Strategies, Experiences, and Location. Social Science Research. 2008; 37:581–603. [PubMed: 19069060]

Krysan, Maria; Bader, Michael. Perceiving the Metropolis: Seeing the City Through a Prism of Race. Social Forces. 2007; 86(2):699–727.

Krysan, Maria; Bader, Michael D. Racial Blind Spots: Black-White-Latino Differences in Community Knowledge. Social Problems. 2009; 56:677–701.

Krysan, Maria; Farley, Reynolds. The Residential Preferences of Blacks: Do They Explain Persistent Segregation? Social Forces. 2002; 80(3):937–980.

Larsen, Luke. Current Population Reports. Washington, DC: US Census Bureau; 2004. The Foreign-born Population in the United States: 2003; p. P20-551.

Lee, Everett S. A Theory of Migration. Demography. 1966; 3:47–57.

Ley, David. Countervailing Immigration and Domestic Migration in Gateway Cities: Australian and Canadian Variations on an American Theme. Economic Geography. 2007; 83:231–254.

Ley D, Tutchener J. Immigration, Globalisation and House Price Movements in Canada's Gateway Cities. Housing Studies. 2001; 16:199–223.

Lichter, Daniel T.; Johnson, Kenneth M. Immigrant Gateways and Hispanic Migration to New Destinations. International Migration Review. 2009; 43:496–518.

Lichter, Daniel T.; Parisi, Domenico; Taquino, Michael C.; Grice, Steven Michael. Residential Segregation in New Hispanic Destinations: Cities, Suburbs, and Rural Communities Compared. Social Science Research. 2010; 39:215–230.

Logan, John R. America's Newcomers. Albany, NY: Lewis Mumford Center; 2003. Retrieved July 1, 2009 (http://mumford.albany.edu/census/NewComersReport/Americas%20Newcomers.pdf)

Logan, John R. Ethnic Diversity Grows, Neighborhood Integration Lags Behind. Albany, NY: Lewis Mumford Center; 2001. Retrieved July 1, 2009 (http://mumford.albany.edu/census/WholePop/WPreport/MumfordReport.pdf)

Logan, John R.; Alba, Richard D. Locational Returns to Human Capital: Minority Access to Suburban Community Resources. Demography. 1993; 30:243–68. [PubMed: 8500639]

Logan, John R.; Stults, Brian J.; Farley, Reynolds. Segregation of Minorities in the Metropolis: Two Decades of Change. Demography. 2004; 41:1–22. [PubMed: 15074122]

Long, Larry H. Migration and Residential Mobility in the United States. New York: Russell Sage Foundation; 1988.

Marrow, Helen. Hispanic Immigration, Black Population Size, and Intergroup Relations in the Rural and Small-Town South. In: Massey, Douglas, editor. New Faces in New Places: The Changing Geography of American Immigration. New York: Russell Sage Foundation; 2008. p. 211-248.

Massey, Douglas S.; Gross, Andrew B.; Shibuya, Kumiko. Migration, Segregation, and the Geographic Concentration of Poverty. American Sociological Review. 1994; 59:425–45.

McConnell, Eileen Diaz. The U.S. Destinations of Contemporary Mexican Immigrants. International Migration Review. 2008; 42:767–802.

Ray, Brian K.; Halseth, Greg; Johnson, Benjamin. The Changing 'Face' of the Suburbs: Issues of Ethnicity and Residential Change in Suburban Vancouver. International Journal of Urban and Regional Research. 1997; 21(1):75–99.

Rosenbaum, Emily; Friedman, Samantha. The Housing Divide: How Generations of Immigrants Fare in New York's Housing Market. New York: New York University Press; 2007.

Saiz, Albert; Wachter, Susan M. Immigration and the Neighborhood," FRB of Philadelphia. Working Paper No. 06–22; IZA Discussion Paper No. 2503. 2006. Retrieved February 1, 2010 (http://ssrn.com/abstract=931733)

Singer, Audrey. The New Geography of United States Immigration. Brookings Institution Press; Washington, DC: 2009.

South, Scott J.; Deane, Glenn D. Race and Residential Mobility: Individual Determinants and Structural Constraints. Social Forces. 1993; 72:147–67.

Speare, Alden, Jr. Residential Satisfaction as an Intervening Variable in Residential Mobility. Demography. 1974; 11:173–88. [PubMed: 21274806]

StataCorp. Stata Statistical Software: Release 10.0. College Station, TX: Stata Corporation; 2008.

Taub, Richard; Garth Taylor, D.; Dunham, Jan. Paths of Neighborhood Change. Chicago: University of Chicago Press; 1984.

Teachman, Jay; Crowder, Kyle. Hierarchical Linear Models in Family Research: Some Conceptual and Methodological Issues. Journal of Marriage and the Family. 2002; 64(2):280–94.

Tienda, Marta. Poor People and Poor Places: Deciphering Neighborhood Effects on Poverty Outcomes. In: Huber, J., editor. Macro-Micro Linkages in Sociology. Newbury Park, CA: Sage; 1991. p. 244-262.

Timberlake, Jeffrey; Iceland, John. Change in Racial and Ethnic Residential Inequality in American Cities, 1970–2000. City and Community. 2007; 6(4):335–365.

U.S. Census Bureau. Table 4. Cumulative Estimates of the Components of Population Change for the United States, Regions and States, April 1, 2000 to July 1, 2006. (NST-EST2006–04). Washington DC: Department of Commerce; 2006.

Walker R, Ellis M, Barff R. Linked Migration Systems: Immigration And Internal Labor Flows in the United States. Economic Geography. 1992; 68:234–248. [PubMed: 12343935]

White, Michael J. American Neighborhoods and Residential Differentiation. New York: Russell Sage Foundation; 1987.

White, Michael J.; Glick, Jennifer E. Achieving Anew: How New Immigrants Do in American Schools, Jobs, and Neighborhoods. New York: Russell Sage Foundation; 2009.

White, Michael J.; Liang, Zai. The Effect of Immigration on the Internal Migration of the Native Born Population, 1981–1990. Population Research and Policy Review. 1998; 17:141–166.

Wilson, William Julius; Taub, Richard P. There Goes the Neighborhood: Racial, Ethnic, and Class Tensions in Four Chicago Neighborhoods and Their Meaning for America. New York: Knopf; 2006.

Wolpert, Julian. Migration as an Adjustment to Environmental Stress. Journal of Social Issues. 1966; 22:92–102.

Wright, Richard; Ellis, Mark; Reibel, Michael. The Linkage between Immigration and Internal Migration in Large Metropolitan Areas in the United States. Economic Geography. 1997; 73:234–254. [PubMed: 12292531]

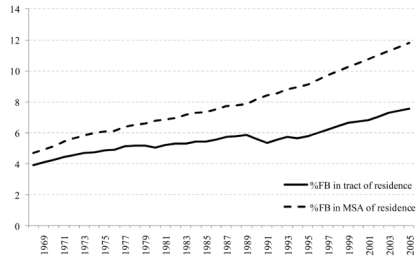

Figure 1.
Trends in Tract and MSA Percent Foreign-born for Native-Born PSID Households, 1968 to 2005

Table 1

Logistic Coefficients for Regression Analyses of Residential Mobility Out of Census Tract of Origin: Native-Born Black and White PSID Householders, 1968–2005.

	Model 1		Model 2		Model 3		Model 4	
Independent Variables	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**
Immigrant concentration in neighborhood	.014 ***	.001	.023 ***	.003	.014 *	.006	.026 ***	.004
Change in neighborhood immigrant concentration			.030 ***	.006	.030 **	.010	.044 ***	.008
Immigrant concentration in extralocal areas			−.017 ***	.003	−.007	.007	−.021 ***	.004
Year					−.004 **	.001	−.004 ***	.001
Interactions by year of observation:								
Immigrant concentration in NH X Year					.000	.000		
Change in NH Immigrant concentration X Year					−.000	.000		
Immigrant conc. in extralocal areas X Year					−.000	.000		
Black (1=yes)							.234 ***	.031
Interactions by race:								
Immigrant concentration in NH X Black							−.000	.006
Change in NH Immigrant concentration X Black							−.040 ***	.011
Immigrant conc. in extralocal areas X Black							.007	.006
Constant	−.982 ***	.014	−.940 ***	.015	−.881 ***	.031	−.977 ***	.028
Wald chi-square	109.34		192.72		235.18		334.73	
df	1		3		7		8	
Pseudo R-square	.002		.003		.004		.006	

* p<.05;

** p<.01;

*** p<.001

N of observations = 154,848; N of persons = 16,516

Table 2

Logistic Coefficients for Regression Analyses of Residential Mobility Out of Census Tract of Origin: **Native-Born Black PSID Householders**, 1968–2005.

	Model 1		Model 2		Model 3		Model 4		Model 5	
Independent Variables	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**
Contextual characteristics										
Immigrant concentration in neighborhood	.025 ***	.004	.013 ***	.003	.009 **	.004	.010 **	.004	.007	.004
Change in neighborhood immigrant concentration	.006	.008	.014 *	.007	.014 *	.007	.015 *	.007	.018 **	.007
Immigrant concentration in extralocal areas	−.013 **	.004	−.011 **	.004	−.008 *	.004	−.009 *	.003	−.011 **	.004
Percent other racial groups in neighborhood					.002 ***	.000	.001 *	.001	.002 ***	.001
Average family income in neighborhood							.005 ***	.001	.007 ***	.002
Average rent in neighborhood									.032 *	.013
Vacancy rate in neighborhood									.011 ***	.002
Home ownership rate in neighborhood									−.002 ***	.001
New housing concentration in neighborhood									−.004 ***	.001
Micro-level Characteristics										
Age			−.123 ***	.005	−.123 ***	.005	−.123 ***	.005	−.124 ***	.005
Age-squared			.001 ***	.000	.001 ***	.000	.001 ***	.000	.001 ***	.000
Female			.069	.039	.069	.039	.068	.039	.065	.039
Married			−.224 ***	.038	−.235 ***	.038	−.232 ***	.038	−.215 ***	.038
Children			−.098 **	.033	−.093 **	.033	−.091 **	.033	−.092 **	.033
Education			.002	.006	.001	.006	−.001	.006	−.001	.006
Family Income (in $1000's)			.005 ***	.001	.005 ***	.001	.005 ***	.001	.004 ***	.001
Homeowner			−1.058 ***	.034	−1.066 ***	.034	−1.073 ***	.034	−1.005 ***	.036
Household crowding			.168 ***	.029	.170 ***	.029	.171 ***	.029	.170 ***	.029
Long-term resident			−.428 ***	.028	−.420 ***	.028	−.415 ***	.028	−.421 ***	.028
Year			.016 ***	.002	.014 ***	.002	.008 ***	.002	−.001	.003
Constant	−.806 ***	.023	−.428 ***	.028	2.383 ***	.128	2.409 ***	.128	2.507 ***	.137

	Model 1		Model 2		Model 3		Model 4		Model 5	
Independent Variables	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**
Wald chi-square	73.74		4459.21		4488.49		4498.64		4492.34	
df	3		14		15		16		20	
Pseudo R-square	.003		.148		.148		.149		.151	

* p<.05;

** p<.01;

*** p<.001

N of observations = 62,342; N of persons = 6,978

Table 3

Logistic Coefficients for Regression Analyses of Residential Mobility Out of Census Tract of Origin: **Native-Born White PSID Householders**, 1968–2005.

	Model 1		Model 2		Model 3		Model 4		Model 5	
Independent Variables	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**
Contextual characteristics										
Immigrant concentration in neighborhood	.027 ***	.004	.011 **	.004	.006	.004	.007	.004	.002	.004
Change in neighborhood immigrant concentration	.043 ***	.008	.050 ***	.007	.043 ***	.007	.043 ***	.007	.038 ***	.008
Immigrant concentration in extralocal areas	−.022 ***	.004	−.013 ***	.004	−.012 ***	.004	−.015 ***	.004	−.013 **	.004
Percent other racial groups in neighborhood					.005 ***	.001	.006 ***	.001	.004 ***	.001
Average family income in neighborhood							.001	.001	.001	.001
Average rent in neighborhood									.021 *	.009
Vacancy rate in neighborhood									−.002	.002
Home ownership rate in neighborhood									−.006 ***	.001
New housing concentration in neighborhood									.005	.001
Micro-level Characteristics										
Age			−.136 ***	.004	−.136 ***	.004	−.136 ***	.004	−.137 ***	.004
Age-squared			.001 ***	.000	.001 ***	.000	.001 ***	.000	.001 ***	.000
Female			.083 *	.039	.080 *	.039	.079 *	.039	.073	.039
Married			−.313 ***	.032	−.312 ***	.032	−.311 ***	.032	−.310 ***	.032
Children			−.193 ***	.027	−.192 ***	.027	−.191 ***	.027	−.183 ***	.027
Education			.010 *	.005	.012 *	.005	.010 *	.005	.006	.005
Family Income (in $1000's)			.002 ***	.000	.002 ***	.000	.002 ***	.000	.002 ***	.000
Homeowner			−.913 ***	.027	−.907 ***	.027	−.907 ***	.027	−.871 ***	.028
Household crowding			.150 ***	.026	.146 ***	.026	.147 ***	.026	.154 ***	.026
Long-term resident			−.414 ***	.026	−.412 ***	.026	−.411 ***	.026	−.389 ***	.026
Year			.003 *	.001	.001	.001	−.001	.002	−.000	.002
Constant	−1.044 ***	.021	3.215 ***	.103	3.193 ***	.103	3.213 ***	.104	3.497 ***	.116

	Model 1		Model 2		Model 3		Model 4		Model 5	
Independent Variables	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**	**b**	**se**
Wald chi-square	146.38		7940.66		7941.82		7942.87		8074.82	
df	3		14		15		16		20	
Pseudo R-square	.002		.180		.181		.181		1.83	

* p<.05;

** p<.01;

*** p<.001

N of observations = 92,506; N of persons = 9,538

Appendix Table A1

Characterisitcs of Native-Born Non-Hispanic Black and White PSID Householders, 1968–2005.

		Pooled		Black		White	
Variable	**Definition**	**Mean**	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**
Contextual characteristics							
Immigrant concentration in neighborhood	Percent foreign-born in R's tract of residence at time t	5.486	7.657	4.683	8.067	6.027	7.318
Change in neighborhood immigrant concentration	Difference between times t and t-5 in percent foreign-born in R's tract of residence at time t.	.823	2.111	.819	2.359	.826	1.926
Immigrant concentration in extralocal areas	Distance-weighted average percent foreign-born in tracts within 100 miles of R's tract of residence at time t.	6.730	7.214	6.210	7.465	7.080	7.017
Percent other racial groups in neighborhood	Percent of R's tract of residence at time t with race different from race of the respondent	19.041	25.532	29.065	32.947	12.286	15.694
Average family income in neighborhood	Mean income of families in R's tract of residence at time t, in thousands of dollars	34.368	23.476	26.021	16.364	39.994	25.758
Average rent in neighborhood	Mean rent for renter-occupied housing units in R's tract of residence at time t, in hundreds of dollars	3.838	2.372	3.348	1.879	4.168	2.602
Vacancy rate in neighborhood	Percent of housing units in R's tract of residence at time t not occupied	7.771	6.443	9.416	6.115	6.661	6.421
Home ownership rate in neighborhood	Percent of housing units in R's tract of residence at time t occupied by the homeowner	61.783	23.161	51.335	24.104	68.825	19.577
New housing concentration in neighborhood	Percent of housing units in R's tract of residence at time t built in preceding ten years	19.395	18.561	14.546	15.880	22.663	19.498
Micro-level characteristics							
Age	Age of R in years at time t	42.068	16.273	39.812	15.128	43.589	16.831
Female	Whether R is female (1=yes)	.336	.472	.476	.499	.242	.428
Married	Whether R has spouse or long-term cohabitor present at time t (1=yes)	.553	.498	.396	.489	.659	.474
Children	Whether R lives in family with any children at time t (1=yes)	.503	.500	.601	.490	.437	.496
Education	Total years of school complete by R by time t	12.423	3.303	11.255	3.020	13.211	3.252
Family Income (in $1000's)	Total taxable income of household head and spouse at time t, in thousands of constant 2000 dollars	48.304	51.239	31.535	26.433	59.605	60.057
Homeowner	Whether R lives in owner-occupied housing unit at time t (1=yes)	.543	.498	.323	.481	.664	.472
Household crowding	Number of persons per room in housing unit at time t	.616	.472	.736	.560	.536	.382
Long-term resident	Whether R had lived in house for 3 or more years as of time t (1=yes)	.550	.498	.511	.500	.576	.494
Moved out of the census tract	Whether R changed census tracts from time t to t+2 (1=yes)	.288	.453	.317	.465	.269	.444
Year	Year of interview, time t	1986.201	9.185	1985.673	9.076	1986.557	9.241
N of person-period observations		154,848		62,342		92,506	
N of persons		16,516		6,978		9,538	