



# Residential hierarchy in Los Angeles: An examination of ethnic and documentation status differences



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## ABSTRACT

Longitudinal event history data from two waves of the Los Angeles Family and Neighborhood Survey are used to explore racial, ethnic, and documentation status differences in access to desirable neighborhoods. We first find that contrary to recent findings, undocumented Latinos do not replace blacks at the bottom of the locational attainment hierarchy. Whites continue to end up in neighborhoods that are less poor and whiter than minority groups, while all minorities, including undocumented Latinos, end up in neighborhoods that are of similar quality. Second, the effects of socioeconomic status for undocumented Latinos are either similar to or weaker than disadvantaged blacks. These findings suggest that living in less desirable neighborhoods is a fate disproportionately borne by non-white Los Angeles residents and that in some limited ways, the penalty attached to being undocumented Latino might actually be greater than the penalty attached to being black.

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## 1. Introduction

Recently, there has been an intense focus on the determinants of residential segregation (Farley and Frey, 1994; Frey and Farley, 1996; Iceland, 2004; Logan et al., 2004; Quillian, 2002). Scholars note that between 1990 and 2000, black segregation has somewhat declined, while Latino segregation has steadily risen (Iceland et al., 2002; Massey and Denton, 1992, 1993; Massey and Fischer, 1999; Wilkes and Iceland, 2004). The trends persist into the 2000s, with recent studies indicating that black segregation continues to decline but Latinos have become even more isolated (Logan, 2013; Sharp and Iceland, 2013).

These patterns accompany a dramatic surge in immigration from Latin American nations, producing a burgeoning literature on group differences in the quality of neighborhoods in which people reside and to which they move. Because a large proportion of new Latin American immigrants are undocumented (Passel, 2006; Passel and Cohn, 2008), they may find it difficult to achieve socioeconomic incorporation (Donato and Massey, 1993; Flippen, 2012; Hall et al., 2010; Kaushal, 2006; Kossoudji and Cobb-Clark, 2002; Suarez-Orozco et al., 2011) and residential integration with whites, and native-born blacks who are documented (Chavez, 1998; Cort, 2011; Hall and Greenman, 2013; Massey and Bartley, 2005; McConnell and Marcelli, 2007). Until recently, a lack of data permitting the direct identification of documentation status has prevented scholars from systematically investigating these possibilities. Subsequent analyses continue to fill this gap.

We update work on the patterns and determinants of racial and ethnic locational attainment in three ways. First, scholars have consistently focused on racial, ethnic and nativity status differences in neighborhood quality outcomes and have largely concluded that blacks remain at the bottom of the locational attainment ethnic hierarchy (Adelman, 2005; Alba and Logan, 1993; Friedman and Rosenbaum, 2007; Massey and Denton, 1993; Rosenbaum and Friedman, 2001; South et al., 2005,

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2008). Yet, we know of only two studies (Cort, 2011 and Hall and Greenman, 2013) that separate Latinos by nativity and documentation status and then reevaluate this ethnic hierarchy. The findings from this limited body of work are illuminating but mixed. On the one hand, Cort (2011) uses cross-sectional regional data and objective measures of neighborhood quality to show that undocumented Latinos in Los Angeles replace blacks at the bottom of the locational attainment hierarchy and that the effects of education on neighborhood quality are strongest for blacks, allowing the highly educated an opportunity to reside in communities that are of better quality than educated Latinos and Asians. On the other hand, Hall and Greenman (2013) use Survey of Income Participation (SIPP) panel data and subjective measures of neighborhood quality to demonstrate that undocumented Mexican and Central Americans are better off than their native born black counterparts. While the methodological differences between the two research designs prevent absolute reconciliation, our aim is to update Cort's work. We believe three shortcomings invite a re-evaluation of that scholarship.

First, the independent and dependent variables are measured concurrently, undermining readers' ability to identify the causal relationships in the models, thereby complicating the ability to distinguish the effects of documentation and racial status from that of unobserved individual differences. It is possible that documentation status plays only a limited role in determining access to quality neighborhoods when unobserved individual differences are held constant. We address this issue by using panel data and controlling for the quality of neighborhood where the respondents previously lived. The lagged dependent variable absorbs unobserved individual differences that are associated with residential outcomes and thus provide a lower bound or more conservative estimate for the effect of group membership.

Second, although Cort confirms past scholarship by reporting that the effects of educational attainment are strongest for blacks, little attention is paid to how the effects of socioeconomic status for undocumented Latinos compare to other groups, especially native-born blacks. We improve upon this work by examining group differences in the effects of socioeconomic resources on residential outcomes, allowing us to provide a more comprehensive picture of the spatial stratification process.

Third, we follow South and his colleagues (South et al., 2005, 2008) in taking a multi-dimensional approach to measuring neighborhood quality in Los Angeles County. The majority of past work measures neighborhood quality using the percent non-Hispanic white. The logic is that white neighborhoods generally have social amenities that make them more desirable to residents. However, Los Angeles has diverse neighborhoods with the same desirable qualities as white neighborhoods (Waldinger and Bozorgmehr, 1997). Poor neighborhoods (such as those with high poverty rates) lack many desirable qualities as well as social characteristics that help to stabilize communities (Wilson, 1987, 1996), making the neighborhood poverty rate an acceptable measure of neighborhood quality (see South et al., 2005). Therefore, in addition to the percent non-Hispanic white in neighborhoods, we measure neighborhood quality using the neighborhood poverty rate. This allows us to both broaden our conceptualization of neighborhood quality and connect our findings to the literature on the dynamics of concentrated urban poverty (Massey et al., 1994; South and Crowder, 1997; South et al., 2005; Wilson, 1987, 1996).

In all, we believe that a re-examination of Cort's (2011) work in Los Angeles is needed now that recent scholarship using national data has produced mixed findings concerning the effects of undocumented status on locational attainment outcomes. We focus on Los Angeles specifically and utilize a case-study approach. Although Los Angeles is not representative of the US population, its large undocumented Latino population and the great diversity in socioeconomic resources within each immigrant group make it a meaningful case that sheds light into the future residential outcomes of the US population.

## 2. Theory and hypotheses

### 2.1. Spatial assimilation and place stratification

Analyses focusing on group differences in residential mobility outcomes are generally organized around two theories of locational attainment: spatial assimilation and place stratification.<sup>1</sup> The spatial assimilation model (Massey, 1985) is conceptually similar to the status attainment model (Blau and Duncan, 1967) in that both are concerned with the social processes through which individuals convert their ascribed and achieved statuses into placement in a social hierarchy. However, while the status attainment model is concerned with individuals' placement in high status occupations, the spatial assimilation model focuses on individuals' placement in high quality neighborhoods. Indeed, an important part of moving up the socioeconomic hierarchy involves attaining residence in a desirable community. Thus, when individuals leave undesirable neighborhoods for more desirable ones, this is a social process similar to earning more education, income, or job status.

Proponents of the model argue that minorities seek to turn their financial and human capital endowments into geographic proximity to whites and into residence low poverty neighborhoods (Massey, 1985; South et al., 2005). They do so because white and non-poor neighborhoods generally have the best schools, the highest property values, the best groceries and the lowest crime rates, making them highly desirable. In a meritocratic society when minorities acquire more human and financial capital, their chances of living in these neighborhoods should increase. Therefore, any gross differences between whites and minorities in locational attainment outcomes should be explained by individual-level resources such as income, educational attainment, and wealth (Alba and Nee, 1997, 2003).

<sup>1</sup> Freeman (2000) advances a third theoretical framework that is often ignored in the spatial assimilation framework: residential preferences. The idea is that in individual agency is an important determinant of residential outcomes. We note it here but do not incorporate it into the theoretical framework or test it because we have no rigorous measures of residential preferences in the data we will use for this paper. We do however agree that residential preferences are an important part of the story that we omit.

This model has also been used to examine nativity and intra-ethnic differences (Friedman and Rosenbaum, 2007; Logan et al., 2002; Rosenbaum and Friedman, 2001; South et al., 2008). Scholars recognize that upon arrival, immigrants initially reside in ethnic residential enclaves where co-ethnic minorities aid in socioeconomic assimilation by assisting with housing and employment. However, the native-born need no such assistance and can therefore be considered an advantaged group relative to the foreign-born. They are expected to live closer to whites than the foreign-born. But once more, controls for financial and human capital should reduce these nativity status differences.

While the foreign-born can be considered a disadvantaged group relative to the native-born, little work focused on the disadvantages that the undocumented foreign-born face in leaving segregated neighborhoods (see Hall and Greenman, 2013). Just like their foreign-born documented counterparts, they are likely to initially reside in ethnic residential enclaves and rely on co-ethnics to provide aid. However, lack of documentation is likely to hinder their quest for locational and status attainment, much more so than their foreign-born documented counterparts. Indeed, scholars suggest that the rights and privileges of undocumented immigrants are greatly constrained relative to other immigrant groups and the native-born (Donato and Massey, 1993; Massey and Bartley, 2005; McConnell and Marcelli, 2007). They lack political rights, have few legal rights, and have very little access to social services. But most importantly, a lack of documentation prevents them from legally holding employment, severely constraining their ability to achieve upward social and residential mobility. Nevertheless, many undocumented immigrants find ways to participate in society and to provide for their families. This suggests that even though their documentation status may initially hinder their incorporation prospects, many benefit from the same meritocratic society that allows native-born minorities to acquire more human and financial capital, thereby improving their chances of moving to more desirable communities.<sup>2</sup> Thus, group differences between undocumented Latinos and the documented should be explained by individual-level differentials in financial and human capital. Using this logic, we pose the following hypothesis to test the spatial assimilation model within Los Angeles County:

**H1.** Initial group differences between whites and minority groups, between native-born and undocumented Latinos, and between blacks and undocumented Latinos exist. However, these differences are likely to be attenuated once controls for financial and human capital are applied.

While the spatial assimilation model is concerned with the individual-level factors that account for group differences in locational attainment outcomes, the place stratification model (Logan and Molotch, 1987; Logan and Alba, 1993; Charles, 2003) focuses on the structural factors responsible for residual group differences. Proponents argue that places are hierarchically ordered and are therefore associated with more or less favorable life chances for those who reside in them. Because desirable neighborhoods are scarce resources, advantaged groups like whites do what they can to protect access to those places. They actively prevent minority groups from attaining residence in desirable neighborhoods through acts of violence (Farley et al., 1994), restrictive zoning (Shlay and Rossi, 1981), and lending and housing discrimination (Squires and Kim, 1995; Yinger, 1995). The literature also suggests that whites stereotype minorities and actively resist living near them (Emerson et al., 2001; Farley et al., 1994; Krysan and Farley, 2002). Together, these structural factors increase minorities' psychological, social, and economic costs of living in predominantly white communities. Therefore, the individual-level factors implicated in the spatial assimilation model will not eliminate gross differences in locational attainment between whites and other minorities. This logic implies the following hypothesis:

**H2.** Initial group differences between whites and minority groups (including undocumented Latinos) exist. These differences are likely to remain, even after controls for financial and human capital are applied.

Indeed, recent scholarship suggests that whites have the best opportunities to live in communities where they are the majority and where the poverty level is low (Alba et al., 1994; Logan et al., 1996; Rosenbaum and Friedman, 2001; South et al., 2005; Sharp and Iceland, 2013). However, scholars have also found that an ethnic hierarchy of locational attainment exists such that whites have access to the best neighborhoods followed by Asians, native-born Latinos, foreign-born Latinos, and blacks. Cort (2011) examines the placement of undocumented Latinos in Los Angeles within this hierarchy and finds that they replace blacks at the bottom, occupying neighborhoods with the lowest percentages of whites and the lowest median incomes. Using subjective measures of neighborhood quality and national panel data, Hall and Greenman (2013) find the opposite: undocumented Latinos reside in communities that are of poorer quality than blacks. However, this study does not have a direct measure of the documentation status. Furthermore, as admitted in the article, undocumented Latinos and blacks are likely to have very different benchmarks when it comes to neighborhood quality. Using panel data and a direct measure of documentation status, this study provides a new opportunity to examine the inconsistency in the literature. While theory suggests that the rights and privileges of undocumented immigrants are greatly constrained relative to native-born whites (Massey and Bartley, 2005; McConnell and Marcelli, 2007), we argue that their placement relative to native-born blacks and documented Latinos is still an unresolved and sociologically meaningful issue, especially in Los Angeles, where a non-trivial proportion of the undocumented reside.

<sup>2</sup> While it is clear that whites are the conceptual advantaged group relative to undocumented Latinos, we argue that because they are documented, native-born blacks can also be considered advantaged relative to this group as well. As such, we contrast, in subsequent models, undocumented Latinos' locational attainment outcomes relative to non-Hispanic blacks and whites. If we find that theoretically relevant controls explain native-born blacks' expected locational attainment advantages, we would then interpret this finding as supportive of the claims undergirding spatial assimilation theory, as it specifically relates to comparisons between undocumented Latinos and native-born blacks.

Again, theory suggests that undocumented Latinos will likely face unique disadvantages in the quest for access to desirable neighborhoods. As such, they should move to neighborhoods that are of poorer quality than native-born blacks and documented Latinos, a finding that could logically be explained by their lack of legal papers. A lack of documentation could constrain their ability to find housing in communities that have the best amenities just as racial background hinders blacks' quest for the same types of neighborhoods. However, the penalty attached to being undocumented Latino could be greater than the penalty attached to being black, an interpretation of Cort's (2011) finding that undocumented Latinos occupy neighborhoods that are of poorer quality than native-born blacks. This argument yields the following testable hypothesis:

**H3.** Initial group differences between blacks and undocumented Latinos and between undocumented and documented Latinos exist, such that undocumented Latinos live in poorer quality neighborhoods than documented blacks and documented Latinos. These differences are likely to remain, even after controls for financial and human capital are applied.

## 2.2. Non-additive processes of place stratification

On the one hand, the spatial assimilation model explains how controls for socioeconomic resources and other important individual-level characteristics equalize groups on residential outcomes. On the other hand, the place stratification model proposes mechanisms that might be responsible for any net or leftover racial and ethnic differences. Thus, both of these theories are useful for understanding additive processes of residential segregation. However, Logan and Alba (1993) also discuss ways in which groups could differentially utilize their socioeconomic resources to gain access to desirable communities, net of other factors. They develop two non-additive versions of the place stratification model that address the differential effects of socioeconomic status for minorities and whites. In the "strong" version of the place stratification model (Logan and Alba, 1993), minorities receive lower locational returns than whites for their socioeconomic status endowments because housing discrimination prevents them from converting socioeconomic resources into desirable neighborhoods. In the "weak" version of the model, minorities receive higher locational returns for their socioeconomic resources because the discriminatory structure of the housing market ensures that only the most advantaged minorities will gain access to desirable neighborhoods. However, because of their advantaged social position, whites will be able to access these same neighborhoods regardless of their socioeconomic status.

Scholars (Cort, 2011; South et al., 2008) have confirmed the predictions of the weak version of the place stratification model and report that the effects of socioeconomic resources are indeed stronger for blacks than whites. However, we know surprisingly little about how undocumented Latinos' returns to socioeconomic status compare to native-born whites and blacks. While Cort (2011) begins this task, his analyses are cross-sectional, focusing on the quality of current neighborhoods. We improve on his work by comparing the effects of socioeconomic status for undocumented Latinos to blacks and whites, while using the quality of future neighborhoods as the dependent variable. Importantly, when we make these comparisons, we assume that undocumented Latinos are conceptually disadvantaged relative to *both* of these groups.

If subsequent analyses reveal that the effects of socioeconomic status are weaker for undocumented Latinos than for native-born whites or blacks, this would provide support for the strong version of the place stratification model, implying that housing discrimination may be at work, preventing them from using their socioeconomic resources into desirable neighborhoods. Importantly, if this hypothesis receives support, it would suggest that the discriminatory forces that are theoretically expected to penalize blacks affect undocumented Latinos much more. Using this logic, we propose the following hypothesis to test the strong version the place stratification model:

**H4a.** The effects of socioeconomic status on locational attainment outcomes for undocumented Latinos are expected to be weaker than native-born whites and blacks.

If our analyses reveal that the effects of socioeconomic status are stronger for undocumented Latinos than for native-born whites or blacks, this would provide support for the weak version of the place stratification model. As just noted, this result could surface because the discriminatory structure of the housing market ensures that only the most advantaged undocumented Latinos will gain access to desirable neighborhoods. This logic implies the following hypothesis:

**H4b.** The effects of socioeconomic status on locational attainment outcomes for undocumented Latinos are expected to be stronger than native-born whites and blacks.

Logan and Alba (1993) suggest a third unnamed possibility. They argue that the effects of socioeconomic status for disadvantaged groups could be *equal to* the slope for advantaged groups. While it may be tempting to interpret such a result as advantageous for undocumented Latinos, taking both the slope and intercept into account would reveal that undocumented Latinos are disadvantaged (i.e. enter less desirable neighborhoods) relative to whites and blacks at every level of socioeconomic status. Thus, high-status undocumented Latinos would enter neighborhoods scarcely better than low-status native-born black or white residents, a result that would also support the expectations of the additive version of the place stratification model discussed above. We use this reasoning to develop the following hypothesis:

**H4c.** The effects of socioeconomic status on locational attainment outcomes for undocumented Latinos are expected to be equal to native-born whites and blacks.

### 3. Data, variables, and methods

#### 3.1. Data

The data come from Waves 1 and 2 of the LA-FANS' Event History Calendar (EHC), tract-level data from 2000 & 2010 U.S. Census, and tract-level data from the 2006–2010 ACS, 5-year estimates. The LA-FANS is a representative study of families (i.e. households, adults, and children) from 65 randomly selected census tracts within Los Angeles County.<sup>3</sup> Beginning in 2000 and ending in 2001, interviewers went into the homes of randomly selected Los Angeles residents, asking them about the moves they made in the two years prior to the interview date. Once more, beginning in 2006 and ending in 2008, interviewers asked questions of the same respondents, sometimes having to track immigrant respondents in their countries of origin to obtain responses. Respondents were again interviewed in their homes, but this time, respondents collected information from them in the geographic locations in which they were found. Importantly, interviewers used the EHC to collect residential information from respondents for all geographical residences made in the interim period, even if those moves were made outside of Los Angeles.<sup>4</sup> In this second wave of data, retrospective information included events in respondents' lives that occurred in the interim period *between* the two surveys. All told then, respondents had between 5 and 8 years of potential mobility histories for analysis because the mobility window (i.e. the time between the earliest mobility event and the second interview date) for each respondent spans different years.

Following past scholarship, we use census tracts as our definition of neighborhoods. Using the restricted versions of LA-FANS, we identify the interview tracts for both waves and then use tract-level data from the Census and the ACS to merge neighborhood quality information onto the LA-FANS data. After identifying respondents' origin and destination tracts, we estimate, using linear interpolation methods, the intercensal census characteristics (discussed below) for those neighborhoods.<sup>5</sup>

Our analytical sample consists of 1465 respondents who were found in both waves of data. To construct this sample, we begin with 3386 randomly selected adult and primary caregivers who were interviewed in the first wave of LA-FANS data. Of these 3386 respondents, we discard 1861 respondents (55% of the sample) who were not found and re-interviewed for the second wave and 60 respondents with unusable data, leaving 1465 panel respondents who had complete and usable information.<sup>6</sup> Importantly, these 1465 panel respondents consisted of two groups of people: 696 respondents who reported never having switched addresses in either wave (non-movers) and 769 adults who reported switching addresses one or more times (movers).<sup>7</sup> In addition, while respondents could have retrospectively reported multiple moves in either wave, any moves made outside of Los Angeles County in Wave 1 were not recorded. We were disappointed that the data contained such a modest amount of "panel movers", a non-trivial amount of panel attrition, and substantial missing information for "intermediate" moves in Wave 1. These data limitations weighed heavily in the statistical approach we take to modeling. We ultimately decided to focus on the neighborhood quality of the *final* interview neighborhood as opposed to the quality of each destination neighborhood for the 769 "panel movers" in the data. To moderate the impact of panel attrition, we run a separate logistic model for all initial respondents ( $N = 3386$ ) predicting whether the respondent was re-interviewed in Wave 2. We then divide the sampling weight of each respondent by the predicted probability derived from this model to generate a new weight for the analysis. To address the selection process between movers and non-movers, we use a Heckman model that simultaneously estimates two equations: the likelihood of making more than one move (among the 1465 movers and non-movers) *and* the neighborhood quality of the final interview neighborhood, conditional on having made more than one move.

#### 3.2. Dependent and independent variables

The dependent variables are the poverty rate and the percentages of the population that are white in the census tracts in which respondents were interviewed for the second wave.<sup>8</sup> Our independent variable of interest is a classification measuring race, ethnicity, and documentation status. We group respondents into one of six categories: non-Hispanic whites and blacks, native-born Latinos, foreign-born documented Latinos, undocumented Latinos, and Asians.<sup>9</sup> We use native-born whites as the reference category in all analyses but also show group contrasts between native-born blacks and all categories of Latinos.

<sup>3</sup> Although sample respondents reside in only 65 census tracts, the sampling design ensures that residents in all neighborhoods had equal chances of entering the sample.

<sup>4</sup> The vast majority of moves were made inside of Los Angeles County. When moves were made outside of the county, the majority were confined to the 5-county Los Angeles metropolitan statistical area.

<sup>5</sup> We hold tract boundaries constant at 2010 boundaries. Tract data come from Brown University's Population Center and from the ACS. We use the ACS because the 2010 SF1 does not contain poverty information.

<sup>6</sup> In all analyses, we include a weight to account for differential attrition.

<sup>7</sup> Non-panel respondents could also have switched addresses during the first wave of data collection even though they were not located for follow-up interviews.

<sup>8</sup> We considered the percent foreign-born, percent black, and percent Latino as candidates for dependent variables but ultimately decided to leave those for

<sup>9</sup> While we are measuring documentation status at Time 1, it is possible that this characteristic could have changed in the interim period between waves. Indeed, 48 of identified undocumented Latinos had become documented in the interim period. Treating documentation status as a time-varying covariate would have been something important to do if our data structure had permitted us to do so. We explored the possibility that the documentation status effects we discuss below were partly driven by the possibility that some of the Time 1 documented changed in the interim period. However, this turned out not to be the case, as controls for that characteristic were not influential.

We also include five sets of control variables which are measured at the time of the first interview: demographic factors, family structure, socioeconomic status, acculturation, and the composition of the sending neighborhood. Controls for demographic factors include sex, marital status, age, and age squared. To measure family structure, we include dummy variables for whether there were children in the home between the ages of 0 to 5 and 6 to 17. Our four controls for socioeconomic status are logged family income, the number of years of completed education, a dummy variable for home ownership, and measure of residential crowding (see [Solarì and Mare, 2012](#) for information regarding the construction of this variable). In subsequent non-additive models, we treat education and income as the measures of socioeconomic resources. Our measure of acculturation is a dummy variable measuring whether the initial interview was given in English.

Finally, depending on the dependent variable being modeled, we control for the poverty rate or the percent white in census tracts of the initial interview. Although we account for important determinants of locational attainment outcomes, the estimates are still vulnerable to omitted variable bias. By controlling for the characteristics of the sending tract, we account for constant individual differences that are associated with locational attainment process, ensuring that our estimates of group differences are not due to intergroup compositional differences.

### 3.3. Methods

As previously noted, our sample suffers from high attrition rate and limited mobility information. We wish to circumvent these limitations in our analyses and produce reliable estimates of neighborhood quality by sub-group. In addition, we want to make sure our models hue as closely as possible to previous work, which conceptualizes mobility as a two-step process where individuals make a decision to move and then, conditional on moving, relocate to a neighborhood of a specific quality. To achieve these two goals, we first disregard all non-panel respondents. We then follow the literature and use a maximum likelihood Heckman procedure ([Stolzenberg and Relles, 1997](#)) to simultaneously estimate the likelihood of moving in either wave as a function of the covariates described above and the quality of the neighborhood at the time of the Wave 2 interview. Specifically, the first part of the selection equation is a probit model that estimates the likelihood of switching residences in either wave. In this model, we include a full battery of controls for demographic factors, family structure, socioeconomic status, acculturation, and the composition of the sending neighborhood.<sup>10</sup> In the second part of the selection model, we simultaneously estimate a series of linear equations that model the poverty rate or the percentage of the neighborhood that is non-Hispanic white of respondents' Wave 2 interview neighborhood. This model includes only a selected set of controls for family structure, socioeconomic status, and sending tract characteristics which have been used in prior work. The estimates from these equations have been corrected for sample selection bias related to the mobility process, since the dependent variable is not observed for respondents who do not move. Importantly, the estimates in the model are also corrected for attrition bias with new sampling weights discussed above. Simply put, respondents that were less likely to be re-interviewed carry more weights in our estimates.

While similar modeling strategies have proved sufficient in past work, recent scholarship ([Adelman, 2005](#); [Cort, 2011](#); [Rosenbaum and Friedman, 2001](#)) suggests utilizing feasible generalized least square (FGLS) regression techniques to correct for spatial autocorrelation or correlated error terms. This occurs when the dependent variable is an aggregate indicator of neighborhood quality, respondents within the same "context" or neighborhood have the same value on the dependent variable, potentially producing correlated error terms. This can underestimate or overestimate the size of regression coefficients and standard errors in analytical models of locational attainment, even those corrected for differential attrition. Preliminary analyses suggested that subsequent analyses that do not contain FGLS corrections are very similar to those that do. As such, we present the simpler models in all our analyses.

## 4. Results

### 4.1. Bivariate findings

In [Table 1](#), we present means for all variables by group status. Most of these descriptive results have been highlighted in previous work and are therefore not surprising. However, since this study is among the first to examine issues of locational attainment for undocumented Latinos, those results are worth noting. Since being interviewed for the first time, undocumented Latinos ended up living in communities that had the highest poverty rates and the second-to-lowest concentration of whites. Relative to advantaged non-Hispanic whites, they ended up in communities that were 16 percentage points poorer and 39 percentage points less white. Even when undocumented Latinos are compared to historically disadvantaged blacks, they fare poorly. Relative to blacks, undocumented Latinos ended up in communities that were on average 4 percentage points poorer and 4 percentage points less white. Preliminarily, these bivariate findings contrast with theoretically expected results in an important way. Although the literature suggests that undocumented immigrants should be disadvantaged even relative to native-born blacks, bivariate analyses suggest that the neighborhoods they occupy are similar to those occupied

<sup>10</sup> Given that equations from the first part of this model are not theoretically interesting for this paper, we refrain from discussing them in the pages that follow.

by blacks. In subsequent analyses, we confirm whether these patterns remain even after theoretically relevant controls are applied.

#### 4.2. Multivariate findings: Additive results

In additive multivariate analyses, we determine whether the bivariate patterns just described persist in the face of controls for theoretically relevant factors. We begin by presenting in Table 2, a series of additive selection models of locational attainment in Wave 2 interview neighborhoods, divided by dependent variable. For each dependent variable, Model 1 contains only group variables which measure gross group differences. These equations are similar to bivariate findings reported above, but these and all other coefficients representing group differences have been adjusted to account for sample selection bias related to the mobility process. In subsequent models, we sequentially control for theoretically important observed characteristics (Model 2) and origin neighborhood characteristics (Model 3). Importantly, since the story we wish to tell involves comparing undocumented Latinos to blacks, native-born documented Latinos, and foreign-born documented Latinos, we report coefficients that treat each one of these groups as the omitted categories.

Across both dependent variables, results from Model 1 suggest by and large, that minorities end up living in neighborhoods that are substantially poorer and less white than their non-Hispanic white counterparts. While this result has been reported elsewhere, we note that undocumented Latinos initially reside in communities that are among the poorest and have the fewest whites, relative to privileged whites. For example, undocumented immigrants reside in communities that are 10.51 percentage points poorer and 42 percentage points less white than the tracts in which whites live. Interestingly, coefficients at the bottom of Table 3 indicate that in addition to lagging behind whites, undocumented Latinos live in communities that are similar to blacks, but consistently lag behind native-born Latinos in access to desirable communities. All told, on a purely descriptive basis, our preliminary bivariate evidence first suggests that undocumented Latinos join blacks in conforming the least well of all groups to the spatial assimilation model's prediction regarding the ability of minority groups to attain spatial proximity to whites and access to non-poor neighborhoods. Second, while past scholarship shows that blacks are at the bottom of the ethnic hierarchy of locational attainment, we find that they are joined by undocumented Latinos in that regard, living in some of the poorest and least white communities in Los Angeles County.

It is likely that the gross group differences in the propensity to end up in poor or white neighborhoods is explained by observed group differences in observed factors, an argument that is central to the tenets of spatial assimilation and Hypothesis 1. To test this argument, we control for these observed factors in Model 2, which yields three results. First, across both dependent variables, minority-white differences remain largely intact, a finding which suggests more preliminary support for the place stratification model and Hypothesis #2 than for spatial assimilation. Even though Los Angeles County contains many diverse neighborhoods and a remarkably diverse population, structural factors are still responsible for enduring patterns of segregation between whites and minorities. Second and more importantly, support for place stratification does not extend to most intra-minority differences in locational attainment, especially between blacks and foreign-born Latinos. Across both dependent variables, controls for observed characteristics do not alter the basic finding that blacks and foreign-born Latinos, including those that are undocumented, occupy similar types of neighborhoods. This evidence differs from evidence presented in past work (Cort, 2011; Hall and Greenman, 2013) and suggests that undocumented Latinos are not

**Table 1**

Weighted means, Los Angeles County panel respondents. Los Angeles Family and Neighborhood Survey.

Variables	Everyone	NH whites	NH blacks	Asians	NB Latinos	FB Doc. Latinos	Undoc. Latinos	All others
Dependent variables								
Poverty rate	24.29	13.70	26.14 <sup>**</sup>	15.82 <sup>**</sup>	22.75 <sup>**,**</sup>	29.02 <sup>**</sup>	30.14 <sup>**</sup>	19.75 <sup>**</sup>
Percent white	19.76	48.92	13.90 <sup>*</sup>	30.92 <sup>**,**</sup>	15.43 <sup>**</sup>	8.22 <sup>**</sup>	9.63 <sup>**</sup>	27.04 <sup>**,**</sup>
Family structure								
Children 0–5 years	.41	.32	.32 <sup>**</sup>	.27 <sup>**</sup>	.45	.39 <sup>**</sup>	.58 <sup>**</sup>	.44
Children 6–17 years	.55	.47	.53	.47	.44 <sup>**</sup>	.64 <sup>**</sup>	.60 <sup>*</sup>	.65
Socioeconomic status								
Education (years)	12.19	15.75	13.87 <sup>**,**</sup>	15.79 <sup>**</sup>	13.24 <sup>**,**</sup>	9.43 <sup>**,**</sup>	8.48 <sup>**</sup>	14.32 <sup>**</sup>
Logged family income	10.15	11.06	9.90 <sup>**,**</sup>	10.89 <sup>**</sup>	10.18 <sup>**,**</sup>	9.80 <sup>**,**</sup>	9.21 <sup>**</sup>	10.50 <sup>**</sup>
Home is owned	.35	.58	.33 <sup>**,**</sup>	.52 <sup>**</sup>	.34 <sup>**,**</sup>	.28 <sup>**,**</sup>	.05 <sup>**</sup>	.52 <sup>**</sup>
Residential crowding	1.35	.80	1.02 <sup>**</sup>	.89 <sup>**</sup>	1.29 <sup>**,**</sup>	1.61 <sup>**,**</sup>	2.07 <sup>**</sup>	1.14 <sup>**</sup>
Sending tract characteristics								
Poverty rate	21.90	11.47	27.64 <sup>**</sup>	14.21 <sup>**</sup>	20.86 <sup>**,**</sup>	27.93 <sup>**</sup>	28.86 <sup>**</sup>	17.45 <sup>**,**</sup>
Percent white	27.94	57.98	16.83 <sup>**</sup>	34.86 <sup>**,**</sup>	21.96 <sup>**,**</sup>	12.21 <sup>**</sup>	14.69 <sup>**</sup>	36.94 <sup>**,**</sup>
Sample sizes	769	152	64	36	91	208	187	31

Notes: All means for variables at time 1 interview.

<sup>\*</sup>  $P < .05$  (two tailed tests for differences from undocumented Latinos' means).

<sup>\*\*</sup>  $P < .01$  (two tailed tests for differences from undocumented Latinos' means).

<sup>\*</sup>  $P < .05$  (two tailed tests for differences from native-born whites' means).

<sup>\*\*</sup>  $P < .01$  (two tailed tests for differences from native-born whites' means).

**Table 2**

Effect parameters for additive Heckman selection regression models of locational attainment in Wave 2 interview neighborhood. Los Angeles Family and Neighborhood Survey.

Independent variables <sup>a</sup>	Poverty rate						Percent white					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	Coeff.	R.S.E.	Coeff.	R.S.E.	Coeff.	R.S.E.	Coeff.	R.S.E.	Coeff.	R.S.E.	Coeff.	R.S.E.
<b>Group status<sup>b</sup></b>												
Asians	2.08	1.73	2.17	1.72	-.95	1.29	-19.78**	3.23	-18.64**	3.23	-8.19**	2.83
NH blacks	9.25**	1.70	8.72**	1.70	2.28	1.30	-39.53**	2.71	-37.13**	2.54	-12.88**	3.05
NB Latinos	6.22**	1.22	5.76**	1.32	1.76	1.06	-34.13**	2.48	-30.89**	2.37	-14.85**	2.73
FB Doc. Latinos	11.47**	.94	9.50**	1.20	4.05**	1.06	-42.08**	2.10	-36.48**	2.14	-16.74**	2.71
Undoc. Latinos	10.51**	1.02	8.32**	1.40	4.01**	1.09	-42.47**	2.45	-34.80**	2.22	-14.83**	2.72
All others	5.20**	2.04	4.70*	2.09	2.53	1.51	-24.42**	3.48	-24.91**	3.30	-9.15**	3.67
<b>Family structure<sup>c</sup></b>												
Children 0–5 years			-2.28**	.77	-.18	1.17			-1.75	1.04	5.12**	1.12
Children 6–17 years			-.04	.74	-.30	.61			2.90**	.99	.97	.96
<b>Socioeconomic status</b>												
Education (years)			-.38**	.11	-.12	.08			.58**	.13	.39**	.13
Logged family income			-.17	.24	-.18	.21			.75**	.25	-.39	.25
Home owned (1 = Yes)			1.80	1.00	-.33	1.82			8.82**	1.65	-2.81	1.90
Residential crowding			-.01	.39	.44	.42			-1.18**	.45	.66	.45
<b>Sending tract factors</b>												
Poverty rate					.57**	.04						
Percent white											.47**	.03
Intercept	20.01**	.97	28.60**	2.97	10.06**	3.06	53.54**	3.21	37.57**	3.66	6.20	4.17
<b>Blacks as Ref.</b>												
NB Latinos	-3.02	1.88	-2.96	1.87	-.51	1.42	5.40*	2.31	6.24**	2.36	-1.97	2.08
FB Doc. Latinos	2.27	1.71	.78	1.76	1.78	1.38	-2.55	1.74	.65	1.99	-3.86*	1.74
Undoc. Latinos	1.26	1.75	-.40	1.86	1.73	1.36	-2.94	1.78	2.33	1.98	-1.95	1.87
<b>NB Latinos as Ref.</b>												
FB Doc. Latinos	5.25**	1.23	3.74**	1.34	2.29**	.94	-7.94**	1.68	-5.59**	1.82	-1.89	1.71
Undoc. Latinos	4.28**	1.25	2.56	1.42	2.24*	1.06	-8.33**	1.89	-3.91*	1.84	.02	1.82
<b>FB Doc. Latinos as Ref.</b>												
Undoc. Latinos	-.96	1.00	-1.18	1.06	-.04	.82	-.39	1.03	1.68	.98	1.91	1.11
Sample Size	769		769		769		769		769		769	

**Notes:**<sup>a</sup> All covariates measured at the time of Wave 1 interview.<sup>b</sup> Non-Hispanic whites omitted.<sup>c</sup> Those with no children omitted.\*  $P < .05$ .\*\*  $P < .01$ .

alone in poor segregated Los Angeles neighborhoods. They are joined there by native-born blacks. Because we have argued that minority groups, especially blacks, are conceptually advantaged relative to undocumented Latinos, we can now interpret this finding as providing preliminary support for the spatial assimilation theory, or Hypothesis #1, as it specifically relates to comparisons between relatively advantaged minorities and theoretically disadvantaged undocumented Latinos. Again, although we are well aware that traditional interpretations of spatial assimilation theory traditionally pit minority groups' placement in the social structure against whites, we argue that this need not be the case universally. Because a lack of documentation places many Latinos at a disadvantage relative to the documented, we have ample latitude to consider blacks as conceptually advantaged relative to undocumented Latinos, even though native-born blacks have traditionally been seen as the "ultimate" disadvantaged group. As such, we report consistent evidence that when minority-white differences are considered, place stratification arguments receive support.

Third, while fairly consistent findings emerge across dependent variables when we consider minority-white and black-Latino differences, we do observe an ethnic gradient in locational attainment that differs by dependent variable. On the one hand, when we measure neighborhood quality using the poverty rate, a two-tiered system emerges, with whites and Asians at the top and all other minority groups occupying poorer neighborhoods. On the other hand, when we consider percent white as the measure of neighborhood quality, a more nuanced ethnic gradient surfaces, where whites remain at the top, followed by Asians, native-born Latinos, and all other ethnic groups. However, what is common across dependent variables is that undocumented Latinos do not appear to be alone in occupying the poorest and least white neighborhoods.

We wish to stress the importance of the finding that locational attainment differences between undocumented (and documented foreign-born) Latinos and their non-Hispanic black counterparts are non-existent. Scholars have long suspected that undocumented Latinos would face significant hurdles in incorporating into the working and middle classes. These

**Table 3**

Effect parameters for non-additive heckman selection regression models of locational attainment in Wave 2 interview neighborhood.<sup>a</sup> Los Angeles Family and Neighborhood Survey.

Independent variables <sup>b</sup>	Poverty rate				Percent white			
	Model 1		Model 2		Model 1		Model 2	
	Coeff.	R.S.E.	Coeff.	R.S.E.	Coeff.	R.S.E.	Coeff.	R.S.E.
Group status <sup>c</sup>								
Asians	–1.52	10.02	–9.01	11.71	–8.80	19.50	37.64	20.56
NH blacks	31.94**	8.18	8.30	10.12	–19.94	13.18	8.52	16.96
NB Latinos	5.38	5.78	6.17	6.72	1.04	11.21	7.46	15.42
FB Doc. Latinos	7.84*	3.42	.84	5.68	–.38	5.59	10.98	13.42
Undoc. Latinos	5.02	3.52	6.72	4.83	1.03	9.54	9.71	13.41
All others	14.64**	5.78	–1.56	8.05	–19.98	13.40	42.20*	19.84
Socioeconomic status								
Education (years)	–.47*	.20	–.39**	.11	2.65**	.60	.54**	.13
Logged family income	–.13	.24	–.41	.38	.64*	.24	4.63**	1.18
Intercept	29.49**	3.71	31.32**	4.23	5.65	9.70	–4.27	13.35
Group × Education								
Asians	.24	.64			–.63	1.25		
NH blacks	–1.67**	.55			–.96	.94		
NB Latinos	.01	.41			–2.07**	.74		
FB Doc. Latinos	.12	.23			–2.50**	.61		
Undoc. Latinos	.32	.26			–2.53**	.61		
All others	–.69	.38			–.15	.91		
Group × Income								
Asians			1.04	1.09			–5.22**	1.92
NH blacks			.01	.99			–4.22**	1.59
NB Latinos			–.06	.65			–3.49**	1.42
FB Doc. Latinos			.85	.54			–4.43**	1.21
Undoc. Latinos			.12	.46			–4.16**	1.21
All others			.58	.79			–6.19**	1.78
Sample size	769		769		769		769	

**Notes:**

<sup>a</sup> Models contain controls for full battery of individual-level factors.

<sup>b</sup> All covariates measured at the time of Wave 1 interview.

<sup>c</sup> Non-Hispanic whites omitted.

\*  $P < .05$ .

\*\*  $P < .01$ .

suspicions are not without merit. However, when we use access to quality neighborhoods as a measure of incorporation, we find no evidence of significant locational attainment differences between these groups, a finding that runs contrary to recent work (Cort, 2011; Hall and Greenman, 2013). With a few exceptions, most minority groups end up residing in neighborhoods of similar quality. Thus, while Cort (2011) reports that undocumented Latinos are at the bottom of the ethnic hierarchy of locational attainment, living in neighborhoods that are less desirable than native-born blacks and native-born Latinos, we find, using better data and more rigorous empirical specifications, that a two-tiered system of locational attainment exists in Los Angeles: whites are at the top and most other minorities are clustered together at the bottom. Put differently, even though theory and recent national evidence (Hall and Greenman, 2013) suggests that undocumented Latinos will face non-trivial penalties for not having documentation, we find that a lack of papers produces no special locational attainment penalty for Los Angeles' Latinos. They end up residing in neighborhoods that are of similar quality to native-born blacks, a group that has faced historical and enduring locational attainment disadvantages relative to whites.

While these results are illuminating, estimated group differences between whites and minorities and between blacks and documented Latinos are likely to be greater than real or true unobserved group effects because we do not account for unobserved individual differences in the estimation. A likely consequence is that Model 2 *overestimates* group membership effects. We address this issue in Model 3 by controlling for the neighborhood quality of the communities in which respondents took their initial interview. These controls allow us to examine the effects of group membership that were realized between two waves of interview, net of all constant individual differences. In other words, while Model 2 presents the upper-bound estimates of group membership effects, we use Model 3 as a robust test to detect the lower-bound estimates of the group differences. We are confident that the true effects of group membership lie somewhere in between the two estimates.

Results from Model 3 suggest that for both dependent variables, controlling for these additional factors sharply reduces the minority-white group differences we observe in simpler models. For example, when these variables are considered, the coefficient for differences between blacks and whites in the percent white of the Wave 2 neighborhood drops by 24 percentage points – from –37.13 in Model 2 to –12.88 in Model 3. Supplementary analyses not shown reveal that these added

**Table 4**  
Explaining locational attainment returns to education and family income.<sup>a</sup> Los Angeles Family and Neighborhood Survey.

Ethnic groups	Education effects	Education categories			Income effects	Income percentile ranks		
		9 years	12 years	16 years		25th Ptile	50th Ptile	75th Ptile
Poverty rate								
NH whites	-.47	23.18	21.77	19.89	-.41	21.99	21.74	21.51
Asians	-.23	23.82	23.13	22.21	.63	23.00	23.39	23.99
NH blacks	-2.14 <sup>**++</sup>	40.10	33.68	25.12	-.40	30.39	30.15	29.61
NB Latinos	-.46	28.65	27.27	25.43	-.47	27.59	27.31	27.03
FB Documented Latinos	-.35	32.10	31.05	29.65	.44	30.94	31.21	31.47
Undocumented Latinos	-.15	31.08	30.93	30.03	-.29	29.86	29.68	29.51
Percent white								
NH whites	2.65 <sup>+</sup>	36.96	44.94	55.58	4.63 <sup>**</sup>	46.66	49.49	52.18
Asians	2.02 <sup>+</sup>	22.48	28.57	36.69	-.92 <sup>**</sup>	34.59	34.25	33.92
NH blacks	1.69 <sup>+</sup>	8.38	13.48	20.28	.41 <sup>**</sup>	14.92	15.18	15.42
NB Latinos	.58 <sup>**</sup>	19.37	21.14	23.50	1.14 <sup>**</sup>	20.95	21.63	22.30
FB Documented Latinos	.15 <sup>**</sup>	14.08	14.56	15.20	.20 <sup>**</sup>	15.38	15.50	15.63
Undocumented Latinos	.12 <sup>**</sup>	15.22	15.61	16.13	.47 <sup>**</sup>	16.68	16.97	17.25

Notes:

<sup>a</sup>  $P < .05$  (statistically different from white effect).

<sup>a</sup> Non-additive equations used to calculate SES effects.

<sup>+</sup>  $P < .05$  (statistically different from undocumented Latino effect).

<sup>\*\*</sup>  $P < .01$  (statistically different from undocumented Latino effect).

<sup>\*\*</sup>  $P < .01$  (statistically different from white effect).

variables account for most of the minority-white differences in our dependent variables. Importantly, while minority-white differences are reduced, the pattern of the results detected in Model 2 is preserved. Across both dependent variables, minorities still lag behind whites in access to non-poor and white neighborhoods. Moreover, undocumented Latinos and other minorities still reside in the same types of neighborhoods, findings that are again supportive of Hypotheses 1 as it relates to comparisons between undocumented Latinos and minorities and Hypothesis 2, as it relates to comparisons between whites and minorities.

#### 4.3. SES effects: Whites vs. minorities

Logan and Alba (1993) suggest that the locational returns to socioeconomic status are likely to vary by race and ethnicity. Past work indeed demonstrates that although whites move to neighborhoods that are of better quality than blacks and Latinos, the effects of socioeconomic status for blacks are actually greater than whites, allowing them to close the locational attainment gap with whites (South et al., 2008; Cort, 2011). However, while Cort (2011) updates these results by comparing the effects of socioeconomic status for undocumented Latinos to their white counterparts, his analyses omit comparisons between undocumented Latinos and blacks. This is necessary because determining undocumented Latinos' overall placement in the locational attainment hierarchy relative to blacks includes knowing how their ability to utilize scarce resources to obtain access to quality neighborhoods compares to a minority group that has been historically disadvantaged as well as whites, who are historically advantaged.

We update past scholarship by estimating a series of interaction effects between group status and socioeconomic status and comparing the effect of socioeconomic status for whites and blacks to that of undocumented Latinos. To do so, we directly examine the interaction effects or cross-product terms (shown in Table 3), but also calculate the actual effect of socioeconomic status for each group by adding together the "main effect" and the cross-product term for each group (shown in Table 4). In addition, we calculate, for each group, the predicted poverty rate and percent white for theoretically meaningful categories of income and education. We use these predicted results to highlight the extent to which increases in socioeconomic resources affect the ethnic structure of locational attainment relative to additive models. Importantly, when we estimate interaction terms and inspect the statistical significance of cross-product terms, we do not use these results as a means of comparing the effects of socioeconomic status between all groups. This is so because the associated test statistics for cross-product terms test the null hypothesis that the coefficients are different from whites (*our omitted category*), not zero, a point made quite strongly by several methods scholars, but underappreciated in the literature (Allison, 1977; Braumoeller, 2004; Friedrich, 1982). As such, we use the coefficients and test statistics generated by standard non-additive models to compare the effects of group members' socioeconomic status to advantaged whites. But, to compare groups' (especially blacks') effects to undocumented Latinos, we re-estimate non-additive models, omit undocumented Latinos, and interpret the resulting cross-product terms and associated test statistics relative to undocumented Latinos.<sup>11</sup> We present results from standard non-additive models in Table 3. When we make traditional comparisons between whites and minorities, three findings emerge from these results.

<sup>11</sup> To preserve space, we refrain from showing these models, but can present them upon request.

First, the evidence in Table 3 suggests that with only one exception, whites' locational attainment returns to income and education are consistently positive and significantly different from zero. Education and income are important resources whites use to access non-poor and white neighborhoods, although the effects of socioeconomic status have a larger influence on the percent white than on the neighborhood poverty rate. For example, one-year increases in the education and income whites received in the past are respectively associated with 2.65 and 4.63 percentage point increases in the percent white of the neighborhoods in which they live in the future. While statistically significant, these effects are smaller when examined in the context of the poverty rate.

Second, we find that with only one exception, the effects of socioeconomic status on the neighborhood poverty rate for minority groups are roughly *equal to* whites, a finding that supports the expectations of Hypotheses 4c noted above. The notable exception is for blacks. The effects of education on the neighborhood poverty rate are significantly stronger than that of whites, results which imply support for the weak version of the place stratification theory (or Hypothesis 4b) as it pertains to comparisons between blacks and whites. For example, while whites reduce their residence in poor neighborhoods by about a half a percentage point for every year of education they earn, blacks reduce their residence in poor neighborhoods by 2.14 percentage points ( $-.47$  to  $1.67$ ) for each year of education they earn. Another way to think about the strong effects of blacks' educational attainment on the poverty rate is to examine, in Table 4, the predicted poverty rate for otherwise average group members at different levels of education. Predicted values in the top left panel of Table 4 suggest that even though poorly educated blacks end up in neighborhoods where a two-fifths of the population are poor, obtaining a college degree would enable blacks to enter neighborhoods that are significantly less poor than foreign-born Latinos (including the undocumented) but roughly equal to native-born Latinos and Asians.

Third, when we compare whites and minorities on percent white returns to socioeconomic status (see the bottom panel of Table 4), we find consistent evidence that the effects of socioeconomic status for minorities are significantly *weaker* than whites, a finding which provides strong support for the strong version of place stratification model or Hypothesis 4a. For example, while one-year increases in the education whites receive is associated a 4.63 percentage point increase in the percent white of the neighborhoods in which they live in the future, the effects of education are significantly and substantially smaller. Across most minority groups, one year increases in education do not allow minorities to increase their access to white neighborhoods in the future by much more than one percentage point.

One interpretation of this finding is that just as minorities are similarly disadvantaged relative to whites in their access to white neighborhoods, their ability to utilize education as a resource to gain access to white neighborhoods is also similarly constrained. As such, not only are controls for measured and unmeasured factors insufficient to equalize whites and minorities in access to white neighborhoods, but non-trivial amounts of education and income are also insufficient to close this gap, a finding that challenges those reported by Cort (2011). Yet another interpretation could be that by moving to predominantly white enclaves at lower rates than highly educated whites, well-off minorities may not be averse to living near less fortunate co-ethnic peers, a sentiment that has been identified and documented among Mexican immigrants in Jody Vallejo's recent work (Vallejo, 2009, 2012). Vallejo challenges the assumption that Mexican immigrants lack the resources necessary to enter the socioeconomic mainstream or attain middle-class occupations and instead shows that they use their resources to contribute social and financial support to their communities. Evidence for assimilation among Los Angeles Counties' minorities may not be found in the attainment of residence in white or non-poor neighborhoods, but in other understudied markers of social mobility. That being said, we classify the evidence supporting this interpretation as preliminary and weak because re-estimated test statistics pertaining to minority-specific effects of income and education on percent white are not significantly different from zero.

#### 4.4. SES effects: Undocumented Latinos vs. documented minorities

Our final goal is to compare the effects of socioeconomic status of undocumented Latinos to their documented counterparts, especially theoretically disadvantaged blacks. To view the nature of these comparisons, we pay special attention to the results presented in Table 4, focusing specifically on how undocumented Latinos compare to native-born blacks. By and large, we find that when undocumented Latinos are compared to other documented minorities, the effects of socioeconomic status for the two groups are largely similar, supporting the predictions of Hypothesis 4c. However, there is one notable exception. As we reported above, the effects of education on the poverty rate for blacks (the conceptual disadvantaged group) are significantly stronger than whites (the advantaged group), a finding which supports the weak version of the place stratification model (Hypothesis 4b). When blacks are compared to undocumented Latinos (now the conceptually advantaged group relative to blacks), we find different results. Specifically, the effects of education on the neighborhood poverty rate and percent white for conceptually undocumented Latinos are significantly *smaller* than the education effects for blacks. Indeed, undocumented Latino education effects on the poverty rate and percent white are about 14 times smaller (i.e.  $-2.14/-15$ ) than the effect for blacks, suggesting support for the strong version of the place stratification model (Hypothesis 4a).

This result implies that in this limited circumstance, the *penalty* attached to being undocumented Latino (i.e. the ability to utilize education as a resource) is actually *greater than* the penalty associated with being black. In other words, having access to educational resources does not allow undocumented Latinos to escape high poverty neighborhoods or enter white neighborhood to the same degree as it does blacks. Admittedly, in comparing the effects of education for these two groups, we are discussing small effects (i.e.  $-2.14$  vs.  $-.15$ ). Indeed, Table 4 also shows that the predicted poverty rates of the neighborhoods in which educated undocumented Latinos and blacks end up are not very different. Moreover, there are probably very

few undocumented Latinos that are truly able to achieve high levels of education, high enough to override the disadvantage of being undocumented. However, the fact that the effects of education for blacks on a different locational attainment outcome have previously been shown by Cort (2011) to be stronger than all other groups in Los Angeles suggests that while the magnitude of the effects are small in this case, they are consistent across measures of locational attainment and are robust to rigorous methods.

All told, our non-additive findings provide mixed support for non-additive versions of the place stratification model as they specifically related to comparisons between whites and minorities and between undocumented Latinos and blacks. Indeed, results largely depend on the group comparison under investigation and the dependent variable being analyzed. When whites are considered the advantaged group and compared to all other minorities, support emerges for Hypothesis 4a or the strong version of the place stratification model (when the dependent variable is percent white), Hypothesis 4c or the unnamed version of the model (when the dependent variable is the poverty rate), and for the weak version of the model when blacks and whites are compared on the poverty rate. When blacks are considered the advantaged group and compared to undocumented Latinos, the results largely support Hypothesis 4c, suggesting that the effects of socioeconomic status for the two groups are largely similar. Nonetheless, a notable exception to this pattern is that when the poverty rate is the dependent variable, the effects of education for undocumented Latinos are substantially weaker than they are for blacks, which implies some limited support for the strong version of the model (Hypothesis 4a).

## 5. Discussion and conclusion

The goals of this paper were threefold. First, past work has not systematically brought documentation status into the fold of background factors that explain locational attainment. The only work that attempts to do so is recent analysis by Hall and Greenman (2013) and Cort (2011). The former utilizes SIPP data, but focuses on subjective measures of neighborhood quality, while the later focuses on the quality of Los Angeles County residents' current neighborhoods. The results from this limited body of work are mixed, with one analysis suggesting that undocumented Latinos replace blacks at the bottom of the locational attainment hierarchy and the other showing that undocumented Mexicans live in neighborhoods that are of poorer quality than blacks. Indeed, reconciling these two results was not the goal of this paper. Instead, our aim was to treat Cort's results as speculative and extend the work. Using two consecutive waves of data from the same study, we examine the neighborhood quality of residents' future neighborhoods as a function factors measured in the past and then reevaluate the ethnic structure of locational attainment in Los Angeles County. We believe this exercise permits a more rigorous test of the theoretical propositions undergirding the locational attainment literature. Second, we take a multi-dimensional approach to measuring neighborhood quality by using the poverty rate and the percent white as dependent variables. We believe that the poverty rate of neighborhoods is an appropriate measure of quality because poor neighborhoods not only lack many of the qualities contained in white neighborhoods, but also lack many other important stabilizing characteristics that make a neighborhood desirable to families (Wilson, 1987, 1996).

Our additive results suggest that although undocumented Latinos initially appeared to replace blacks at the bottom of the ethnic hierarchy of locational attainment, controls for measured and unmeasured factors were sufficient to re-arrange this ethnic structure in more predictable ways. Net of controls, we find that whites, and in some cases Asians, continue to occupy neighborhoods that were significantly less poor and whiter than all other minority groups. However, intra-minority differences in locational attainment depends on the dependent variable under examination. If the poverty rate is the measure of neighborhood quality, whites and Asians move to the least poor neighborhoods, while all other minority groups cluster together in the poorest areas. If the percent white is the measure of neighborhood quality, the ethnic structure of locational attainment is much more predictable. Whites are at the top, followed by Asians, native-born Latinos, with foreign-born Latinos and blacks ending up in the least white neighborhoods. These findings collectively imply that when whites and minority groups are compared, Los Angeles County is no different from other parts of the country. Whites continue to occupy the best neighborhoods relative to all other minorities. Yet, we do find that beyond minority-white differences, there is evidence of an ethnic hierarchy that largely depends on the dependent variable under examination. Importantly, across both dependent variables, blacks and undocumented Latinos end up in similar types of neighborhoods.

While these additive results point to a residential landscape that still segregates whites from all other minorities, when undocumented Latinos are compared to blacks, our findings have to be interpreted relative to national patterns. Again, Hall and Greenman (2013) find that undocumented Latinos lag behind native-born blacks in access to desirable communities. When we compare our results to theirs, our findings may suggest that in Los Angeles County, undocumented Latinos may not be performing as poorly as might be expected. Indeed, their lack of legal papers should hinder their ability to access quality neighborhoods relative to their black and documented Latino counterparts. However, certain hidden and unmeasured structural forces may penalize undocumented Latinos in Los Angeles less than in the nation as a whole. For example, Los Angeles' undocumented Latinos may be less disadvantaged relative to other documented minorities than undocumented Latinos in other metropolitan areas. If the theoretical focus was put on blacks, an alternative interpretation could be that Los Angeles provides an environment in which blacks should have an advantage over undocumented Latinos. However, they are unable to capitalize on this advantage and are relegated to the same types of neighborhoods as undocumented Latinos and foreign-born documented Latinos. Whatever interpretation one prefers, we believe the finding implies that Los Angeles

County may be headed toward a locational attainment hierarchy in which whites are segregated and separated from non-whites, but where undocumented Latinos do not significantly lag behind their documented black counterparts.

With regard to our non-additive findings, our most theoretically significant results pertain to comparisons of the effects of socioeconomic status between undocumented Latinos and their white and black counterparts. We find when undocumented Latinos are compared to historically advantaged whites and historically disadvantaged blacks, their socioeconomic status effects are either equal to both groups or weaker than both groups. One interpretation of this finding is that although blacks and undocumented Latinos for the most part end up living in very similar types of communities in Los Angeles County, obtaining nontrivial amounts of income and education does not enable undocumented Latinos to gain any advantage over even historically disadvantaged blacks. As such, a lack of legal papers may hinder undocumented Latinos with substantial resources from using those resources to escape undesirable neighborhoods, placing them at a disadvantage relative to blacks, whose ascribed status has placed them at a historical disadvantage. Another interpretation could be that the results are in line with Jody Vallejo's qualitative findings (Vallejo, 2009, 2012). Indeed, she reports that Mexican immigrants use their resources to provide social and financial support to their own communities. One way of doing so is for undocumented Latinos to remain in poor and non-white communities even if some of them obtain the resources to make alternative decisions. The social support gained from living close to co-ethnic peers may be a resource that undocumented Latinos do not wish to give up even if they can make other choices. This may be so because Los Angeles likely contains diverse neighborhoods that are not predominantly white but still safe, livable, and close to co-ethnics. Given that this finding pertains to financially well-off undocumented Latinos, the locational attainment process in Los Angeles may be partly one of choice and not of exclusion. Thus, even though we argue that the Los Angeles County region appears to be moving toward a white–nonwhite ethnic hierarchy of locational attainment, undocumented Latinos with substantial resources may still see a range of choices with regard to the neighborhoods they inhabit. Moreover, self-selection into class heterogeneous or even advantaged minority enclaves is increasingly possible. Put differently, as minority group size increases, the opportunity for advantaged self-selection into neighborhoods increases as well. Thus, Los Angeles County, with its majority–minority population, may serve as a harbinger of things to come in the U.S. at large.

While we believe that we have done careful job of estimating our models and interpreting the associated coefficients, we admit that our analyses still suffer from drawbacks. Specifically, despite the statistical correction, we cannot overlook the fact that a non-trivial proportion of the sample was not re-interviewed for follow-up. As such, we cannot definitively state that our results would remain the same if we had a larger sample size. However, we are confident that we have done as careful a job as we could have with the imperfect data that we had. In addition, even though part of this discussion is about undocumented Latinos who have substantial resources, the actual numbers of the undocumented who fit this criteria is arguably very small. As such, we stand by our interpretations above, but do so cautiously, admitting that they are still preliminary. Yet we believe that they open an important avenue for future scholarship and serve as a needed elaboration to past work.

In summation, these results indicate that living in poor and non-white neighborhoods is a fate disproportionately borne by minorities. They are segregated into neighborhoods that are poorer and further away from whites. This should concern academics and policy experts because a growing body of work suggests that residing in neighborhoods lacking in resources can compromise the assimilation prospects of minorities, especially new immigrants. In addition, our results imply that well-off undocumented Latinos do not follow the pattern prescribed by the spatial assimilation model by moving to majority white or non-poor neighborhoods. While interesting, this result needs further verification. We encourage future scholars to explore this pattern with additional dependent variables that measure neighborhood quality.

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## References

- Adelman, R.M., 2005. The roles of race, class, and residential preferences in the neighborhood racial composition of middle-class blacks and whites. *Social Sci. Q.* 86, 209–228.
- Alba, R.D., Logan, J.R., 1993. Minority proximity to whites in suburbs: an individual-level analysis of segregation. *Am. J. Sociol.* 98, 1388–1427.
- Alba, R.D., Nee, V., 1997. Rethinking assimilation theory for a new era of immigration. *Int. Migr. Rev.* 31, 826–874.
- Alba, R.D., Nee, V., 2003. *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Harvard University Press, Cambridge.
- Alba, R.D., Logan, J.R., Bellair, P.E., 1994. Living with crime: the implications of racial/ethnic differences in suburban location. *Soc. Forces* 73 (2), 395–434.
- Allison, P.D., 1977. Testing for interaction in multiple regression. *Am. J. Sociol.* 83 (1), 144–153.
- Blau, P., Duncan, O.D., 1967. *The American Occupational Structure*. Free Press, New York.
- Braunmoeller, B.F., 2004. Hypothesis testing and multiplicative interaction terms. *Int. Organization* 58 (4), 807–820.
- Charles, C.Z., 2003. The dynamics of racial residential segregation. *Annu. Rev. Sociol.* 29, 167–207.
- Chavez, L.R., 1998. *Shadowed Lives: Undocumented Immigrants in American Society*. Harcourt Brace, New York.
- Cort, D.A., 2011. Reexamining the ethnic hierarchy of locational attainment: evidence from Los Angeles. *Soc. Sci. Res.* 40, 1521–1533.
- Donato, K.M., Massey, D.S., 1993. Effects of the immigration reform act on the wages of Mexican immigrants. *Soc. Sci. Res.* 74, 523–541.

- Emerson, M.O., Yancy, G., Chai, K.J., 2001. Does race matter in residential segregation? Exploring the preferences of white Americans. *Am. Sociol. Rev.* 66, 922–935.
- Farley, R., Frey, W.H., 1994. Changes in the segregation of whites from blacks during the 1980s: small steps toward a more integrated society. *Am. Sociol. Rev.* 66, 922–935.
- Farley, R., Steeh, C., Krysan, M., Jackson, T., Reeves, Keith., 1994. Stereotypes and segregation: neighborhoods in the Detroit area. *Am. J. Sociol.* 100, 750–780.
- Flippen, C.A., 2012. Laboring Underground: The Employment Patterns of Hispanic Immigrant Men in Durham, NC. *Soc. Probl.* 59 (1), 21–42.
- Freeman, L., 2000. Minority Housing Segregation: A Test of Three Perspectives. *J. Urban Issues* 22 (1), 15–35.
- Frey, W.H., Farley, R., 1996. Latino, Asian, and Black segregation in U.S. metropolitan areas: are multiethnic metros different? *Demography* 33, 35–50.
- Friedman, S., Rosenbaum, E., 2007. Does suburban residence mean better neighborhood conditions for all households? Assessing the influence of nativity status and race/ethnicity. *Soc. Sci. Res.* 36, 1–27.
- Friedrich, R.J., 1982. In defense of multiplicative terms in multiple regression equations. *Am. J. Political Sci.* 26 (4), 797–833.
- Hall, M., Greenman, E., 2013. Neighborhood and housing quality among undocumented immigrants. *Soc. Sci. Res.* 42, 1712–1725.
- Hall, M., Greenman, E., Farkas, G., 2010. Legal Status and Wage Disparities for Mexican Immigrants. *Soc. Forces* 89, 491–513.
- Iceland, J., 2004. Beyond black and white: residential segregation in multiethnic America. *Soc. Sci. Res.* 33, 248–271.
- Iceland, J., Weinberg, D.H., Steinmetz, E., 2002. Racial and Ethnic Residential Segregation in the United States, 1980–2000. U.S. Census Bureau, Special Report Series, CENSR-3. U.S. Government Printing Office, Washington, DC (retrieved 18.11.10).
- Kaushal, N., 2006. Amnesty programs and the labor market outcomes of undocumented workers. *J. Human Resour.* 14 (3), 631–647.
- Kossoudji, S.A., Cobb-Clark, D.A., 2002. Coming out of the shadows: learning about legal status and wages from the legalized population. *J. Labor Econ.* 20 (3), 598–628.
- Krysan, M., Farley, R., 2002. The residential preferences of blacks: do they explain persistent segregation? *Soc. Forces* 80, 937–980.
- Logan, J.R., 2013. The persistence of segregation in the 21st century metropolis. *City Commun.* 12, 160–168.
- Logan, J.R., Alba, R.D., 1993. Locational returns to human capital: minority access to suburban community resources. *Demography* 30, 243–268.
- Logan, J.R., Alba, R.D., Zhang, W., 2002. Immigrant Enclaves and Ethnic Communities in New York and Los Angeles. *Am. Sociol. Rev.* 67, 299–322.
- Logan, J.R., Molotch, H., 1987. *Urban Fortunes: The Political Economy of Place*. University of California Press, Berkeley.
- Logan, J.R., Alba, R.D., Leung, S., 1996. Minority access to white suburbs: a multi-regional comparison. *Soc. Forces* 74, 851–881.
- Logan, J.R., Stults, B.J., Farley, R., 2004. Segregation of minorities in the metropolis: two decades of change. *Demography* 41, 1–22.
- Massey, D.S., 1985. Ethnic residential segregation: a theoretical synthesis and empirical review. *Sociol. Social Res.* 69, 315–350.
- Massey, D.S., Bartley, 2005. The changing legal status distribution of immigrants: a caution. *Int. Migr. Rev.* 39 (2), 469–484.
- Massey, D.S., Denton, N., 1992. Racial identity and the segregation of Mexicans in the United States. *Soc. Sci. Res.* 21, 235–260.
- Massey, D.S., Denton, N., 1993. *American Apartheid: Segregation and the Making of the Underclass*. Harvard University Press, Cambridge.
- Massey, D.S., Fischer, M.J., 1999. Does rising income bring integration? New results for Blacks, Hispanics, and Asians in 1990. *Soc. Sci. Res.* 28, 316–326.
- Massey, D.S., Gross, A.B., Shibuya, K., 1994. Migration, segregation, and the geographic concentration of poverty. *Am. Sociol. Rev.* 59 (3), 425–445.
- McConnell, E.D., Marcelli, E.A., 2007. Buying into the American dream? Mexican immigrants, legal status, and homeownership in Los Angeles County. *Social Sci. Q.* 88 (1), 199–221.
- Passell, J.S., 2006. *The Size and Characteristics of the Unauthorized Migrant Population in the U.S.: Estimates Based on the March 2005 Current Population Survey*. Pew Hispanic Center Papers, Washington, DC.
- Passell, J.S., Cohn, D., 2008. Trends in Unauthorized Immigration: Undocumented Inflow Now Trails Legal Inflow. Pew Hispanic Center Papers, Washington, DC.
- Quillian, L., 2002. Why is black–white residential segregation so persistent? Evidence on three theories from migration data. *Soc. Sci. Res.* 31, 197–229.
- Rosenbaum, E., Friedman, S., 2001. Differences in the locational attainment of immigrant and native-born households with children in New York City. *Demography* 38, 337–348.
- Sharp, G., Iceland, J., 2013. The residential segregation patterns of whites by socioeconomic status, 2000–2011. *Soc. Sci. Res.* 42, 1046–1060.
- Shlay, A.B., Rossi, P.H., 1981. Keeping up the neighborhood: estimating net effects of zoning. *Am. Sociol. Rev.* 46, 703–719.
- Solari, C.D., Mare, R.D., 2012. Housing crowding effects on children's wellbeing. *Social Sci. Res.* 41, 464–476.
- South, S.J., Crowder, K.D., 1997. Escaping distressed neighborhoods: individual, community, and metropolitan influences. *Am. J. Sociol.* 102, 1040–1084.
- South, S.J., Crowder, K., Chavez, E., 2005. Exiting and entering high-poverty neighborhoods: Latinos, Blacks, and Anglos compared. *Soc. Forces* 84, 873–900.
- South, S.J., Crowder, K., Pais, J., 2008. Inter-neighborhood migration and spatial assimilation in a multi-ethnic world: comparing Latinos, Blacks, and Anglos. *Soc. Forces* 87, 415–443.
- Squires, G.D., Kim, S., 1995. Does anybody who works here look like me?: mortgage lending, race, and lender employment. *Social Sci. Q.* 76, 823–838.
- Stolzenberg, R.M., Relles, D.A., 1997. Tools for intuition about sample selection bias and its correction. *Am. Sociol. Rev.* 62 (3), 494–507.
- Vallejo, J.A., 2009. Brown picket fences: the immigrant narrative and patterns of giving back among the Mexican origin middle-class in Los Angeles. *Ethnicities* 9 (1), 2–23.
- Vallejo, J.A., 2012. *Barrios to Burbs: The Making of the Mexican–American Middle Class*. Stanford University Press, Palo Alto, CA.
- Waldinger, R., Bozorgmehr, M., 1997. *Ethnic Los Angeles*. Russell Sage Foundation, New York.
- Wilkes, R., Iceland, J., 2004. Hypersegregation in the twenty-first century. *Demography* 41, 23–36.
- Wilson, W.J., 1987. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. The University of Chicago Press, Chicago, IL.
- Wilson, W.J., 1996. *When Work Disappears: The World of the New Urban Poor*. Alfred A. Knopf Inc., New York, NY.
- Yinger, J., 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. Russell Sage Foundation, New York.

## Further reading

- Bayer, P., McMillan, Rueben, K.S., 2004. What drives racial segregation? New evidence from census microdata. *J. Urban Econ.* 56, 514–535.
- Clark, W.A.V., 2002. Ethnic preferences and ethnic perceptions in multi-ethnic settings. *Urban Geogr.* 23, 237–256.
- Crowder, S., South, S.J., Chavez, E., 2006. Wealth, race, and inter-neighborhood migration. *Am. Sociol. Rev.* 71, 72–94.
- Iceland, J., Wilkes, R., 2006. Does socioeconomic status matter? Race, class, and residential segregation. *Soc. Probl.* 53, 248–273.