THE NEIGHBORHOOD ATTAINMENT OF BLACK-WHITE INDIVIDUALS WITH BLACK OR WHITE PARTNERS, BLACK-WHITE COUPLES, AND MONORACIAL BLACK AND WHITE COUPLES

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ABSTRACT

Since legal barriers to interracial coupling were struck down in the late 1960s there has been an increasing number of black-white couples which has naturally coincided with growth in the number of black-white multiracial individuals. Despite the growth in these populations there is little known about how these diverse groups function in social life, especially in neighborhood attainment. Thus, in this study we use data from Home Mortgage Disclosure Act and the U.S. Census to the assess the percentage of whites and the average income in the neighborhoods of black-white individuals with black or white partners, black-white couples, and monoracial black and white couples. Employing linear regression analysis, we also assess the potential role of economic resources in explaining the variation in neighborhood attainment of these racially disparate couples. Our findings reveal that the greater the representation of white is within a couple the higher the percentage of white and the higher the average income is in the neighborhoods couples purchase into. These findings have implications for understanding the changing dynamics of the contemporary racial order within the U.S.

INTRODUCTION

Black-white interracial coupling has been a mainstay of American life for generations (Gullickson 2006) despite the strong social taboos and legal proscriptions against these relationships (Romano 2003). These proscriptions were firmly protected because black-white interracial coupling was a distinct threat to the racial order that placed whites on the top, being recipients of the greatest societal advantages, and blacks being relegated to the bottom, frequently enduring pernicious disadvantages (Emirbayer and Desmond 2015). In an effort to maintain the racial order the one-drop rule was adopted throughout many institutions. This rule decreed that any individual with black heritage would be treated as black (Perlmann and Waters 2002). Used as tool to disincentivize black-white racial mixing and to attempt to limit black-white individuals access to the social benefits of whiteness, the one-drop rule functioned as designed—it limited black-white social relations and curtailed the social advantages of black-white individuals with the outcome of maintaining the racial order of white supremacy. But, with a swell of legal actions against various racially discriminatory institutions (Patterson 2001), combined with energetic civil disobedience (Garrow 1986), the 1960s began to usher in greater legal structural equality between blacks and whites (Massey 2015). One of the many discriminatory statues that was defeated during this period was the law banning interracial marriage. Although a majority states had already removed legal proscriptions against interracial marriage, numerous states in the South persistently endured in blocking these unions. However, in 1967 the Supreme Court case *Virginia v. Loving* struck down legal barriers erected against these relationships. Consequently, this has led to an increasing number of black-white couples forming in the U.S. where, approximately, 11% of all interracial couples in 2015 consisted of black-white unions (Livingston and Brown 2017). Naturally, the increase in black-white couples

has coincided with growth in the number of black-white multiracial individuals. Despite being a relatively small portion of all multiracial individuals—around 11% of all multiracial adults (Parker et al. 2015)—black-white individuals are a representation of the growing diversity in the U.S.

However, given that black-white couples and black-white individuals are still a relatively small portion of a growing group of interracial couples and multiracial individuals, there is still much we have yet to learn about how they fit within the enduring racial order that tends to favor whites and disfavor blacks across multiple areas in social life, especially in neighborhood attainment (Crowder and South 2005; Hall, Crowder, Spring, and Gabriel 2017; Massey and Tannen, 2016; Rugh and Massey 2010; Timberlake and Iceland 2007). There has been some research on the neighborhood outcomes of black-white individuals finding that they tend to occupy a middle position between their black and white monoracial counterparts, indicating that the firm racial order that has separated blacks and whites is partially mutable (Wright et al. 2011; Gabriel 2018a). Yet, additional insight can be garnered by investigating the neighborhood attainment of black-white individuals who are partnered with black or white individuals. Given that black-white individuals potentially possess a more varied set of exposures to differing neighborhoods because of having black and white kith and kin that likely reside in separate parts of metropolitan areas, they may be more amendable to entering neighborhoods that vary by race and socioeconomic status (Krysan and Crowder 2017). Thus, by investigating black-white individuals that have either a black or a white partner allows us to understand, for the first time, the potential increased variability in neighborhood outcomes among these groups of couples.

In this study, we use unique data from the Home Mortgage Disclosure Act (HMDA) from 2005 to 2015 that catalogues every home purchase in the U.S. during that period in combination

with multiple population censuses to assess the percentage of whites and the average income in the neighborhoods of black-white individuals with black or white partners, black-white couples, and monoracial black and white couples. Our first analysis of this topic employs linear regression analysis to assess the potential role of economic resources in explaining the variation in neighborhood attainment of these racially disparate set of couples. We also investigate the possible influence of broader metropolitan structural characteristics and regional contexts in explaining group differences in residential outcomes. Addressing this topic will provide a more complete picture of neighborhood stratification and give us salient clues about the changing nature of the contemporary racial order in the U.S.

BACKGROUND AND THEORY

Previous research has made it clear that there is a constellation of forces that differentiate the neighborhood outcomes of blacks and whites. Exploring these theories associated with these forces can provide a base to understand the neighborhood attainment of black-white individuals with black or white partners and black-white couples. Among the collection of forces that have received considerable treatment in influencing black residential stratification from whites is the role of economic resources. Otherwise known as the spatial assimilation theory (Logan and Alba 1993; South, Crowder, and Chavez 2005; Woldoff 2008), this theory asserts that minority groups convert increased economic resources across the life course into higher status neighborhoods. Spatial assimilation theory is built on the understanding that blacks have lower levels of economic resources (Squires and Kubrin 2005), which leads to the conclusion that racial differences in neighborhood attainment are simply reflections of differences in socioeconomic status (Charles 2003). For black-white couples, there is some support for the assimilation argument in recent studies of the topic. In their analysis of data from the 1990 U.S. Census,

Holloway et al. (2005) observed that high-income black-white couples were more likely to live in neighborhoods with whites than with nonwhites. In a more recent study conducted by Gabriel (2018b), he found that higher income black-white couples were likely to live in lower poverty neighborhoods than their black-white couple counterparts with fewer economic resources. For black-white individuals, however, less is known about their socioeconomic status. Similar to black-white couples, Iceland (2017) has observed that the black-white individuals tend to reside in an "in-between" status between whites and blacks across a number of socioeconomic indicators, one of which being median household income.

Despite blacks increasing in economic resources they have historically been unable to convert these resources into predominantly white and higher income neighborhoods (Logan and Alba 1993). This has led scholars to posit that discrimination is likely exerting sufficient force to block blacks from spatial assimilating into higher quality neighborhood. Called the place stratification theory, it suggests that blacks encounter discriminatory forces in the housing market—manifesting in assorted ways—from racial steering by real estate agents (Turner et al. 2012) to predatory mortgage lending (Rugh and Massey 2010). Some scholars assert that these, and other (Rothwell and Massey 2010), discriminatory forces coalesce to create persistent obstructions for blacks in their attempt to reside in whiter and higher income neighborhoods even among economically advantaged blacks. The place stratification model also stands in opposition to the spatial assimilation model in that it predicts racial disparities in the effect of economic resources on attaining predominantly white and higher income neighborhoods. First, the "weak version" of the place stratification theory argues that the influence of income will be less pronounced for whites than for minorities and that only the most economically advantaged minorities will gain access to white and wealthier neighborhoods. But even the highest earning

blacks are predicted to not attain the level of integration that low-income whites will. Second, the "strong version" states that due to discrimination, blacks are unable to convert their economic resources into higher-status neighborhoods, leading to more pronounced effects of income on residential attainment for whites than for blacks (Logan and Alba 1993).

Although there has yet to be any research on the how the place stratification theory relates to black-white individuals with black or white partners, a small number of scholars have assessed how place stratification theory relates to the neighborhood attainment of black-white couples. In his analysis of the level of neighborhood poverty that black-white couples are apt to migrate into, Gabriel (2018b) observed that black-white couples tend to follow the weak version of the place stratification theory. Meaning that black-white couples with the greatest economic resources are apt to migrate to higher poverty neighborhoods than the lowest income white couples. As it relates to black-white individuals, there is one study on the residential segregation of this group that finds that these individuals are more likely to reside in whiter neighborhoods than blacks while also living in higher diversity neighborhoods than whites (Bennett 2011). Based on this research from Bennett and other prior findings that blacks have encountered difficulties to entering and remaining in predominantly white and higher income neighborhoods, we might assume that black-white individuals with black partners are likely to purchase a home in lower income and more diverse neighborhoods than whites. Conversely, black-white individuals with white partners might be endowed with a greater ability to purchase into predominantly white and higher income neighborhoods because of the advantaged social position of the white partner.

Besides discrimination functioning as a determinant of neighborhood attainment, racial differences in preferences for neighborhoods with specific racial compositions has been

postulated to be a salient force in this process as well (Charles 2000; Krysan and Farley 2002; Krysan et al. 2009). Past research studying the neighborhood attainment of black-white couples has observed that these couples tend to report a preference for neighborhoods with meaningful levels of racial and ethnic diversity (Krysan and Farley 2002). As it relates to black-white individuals with black or white partners and black-white couples this preference for higher neighborhood diversity can be driven by both push and pull factors. In her interviews with black-white couples, Dalmage (2003) finds a push factor that many of these couples purposely select neighborhoods with higher diversity to avoid the threat of discrimination toward their families. Alternately, Moran (2001) observes a pull factor towards diverse neighborhoods for black-white couples that want to raise their children in an area that reflects their families' diversity. If both of these push and pull factors were observed among black-white individuals with black or white partners we might expect that both of these types of couples would reside in neighborhoods of greater diversity than whites.

Scholars have also recently asserted that the processes of neighborhood attainment are likely strongly influenced by disparate levels of neighborhood knowledge between racial groups (Krysan and Crowder 2017). Krysan and Crowder argue with their theory, the social structural sorting perspective, that neighborhood decisions are influenced by "residential histories and daily activities (work, school, shopping, and so on) that provide individuals with direct exposure to specific neighborhoods and allow for the development of familiarity" with neighborhoods throughout their metropolitan areas (Krysan and Crowder 2017:52). Because of the history of high-levels of residential segregation between blacks and whites (Logan and Stults 2011), many blacks and whites have operated in same-race social and spatial spheres (Krivo et al. 2013). But for black-white individuals, however, their exposure to a broader selection of neighborhoods

throughout their metropolitan areas likely occurred because of having kith and kin located in racially segregated places. This could, in all likelihood, not only provide them a greater knowledge of these racially segregated places, but also instill a certain degree of comfort in neighborhoods of varying racial and socioeconomic status above and beyond their same-race heritage counterparts. This ability of black-white individuals to be comfortable in both black and white social and spatial worlds has been observed in their friendship networks. Quillian and Redd (2009) found that adolescent black-white individuals were especially likely to serve as a link between their same-race heritage groups. Therefore, in the realm of neighborhood attainment, black-white individuals with black or white partners could be particularly flexible in the neighborhoods they enter, potentially providing the neighborhood preferences of their same-race partner to become accentuated in their housing search and acquisition process.

DATA AND METHODS

Our primary data source for our analysis is characteristics of homebuyers who obtained mortgage loans from 2005 to 2015. The data on mortgage loans are made available by Federal Financial Examinations Council (FFIEC) under the 1975 Home Mortgage Disclosure Act (HMDA). We concatenated records on conventional purchase money loan originations for owner-occupied single-family unit properties from the 2005-2015 annual HMDA Loan Application Register data sets (FFIEC 2005, 2006, 2010, 2011, 2015). By law the HMDA data includes information on the race and income of the borrower (and co-borrower), and the census tract and metropolitan area identifiers of the mortgaged property.

We are less interested in the mortgage loan characteristics than with the racial status of the homebuyers and their census tract locations. We follow the example of other researchers who have used the HMDA data to study neighborhood attainment outcomes (Fischer 2013; Fischer

and Lowe 2015) and exclude borrowers who are using loans to refinance an existing mortgage to better proxy for the decision to move and select a neighborhood. We also follow much of the prior work in this area (e.g., Crowder, Pais, and South 2012; Massey, Gross, and Shibuya 1994; Quillian 2002) by using census tracts to represent neighborhoods. Although census tracts are imperfect operationalizations of neighborhoods (Lee et al. 2008), they provide close to total coverage of the nation during our study period, are summarized for a variety of theoretically relevant measures, and approximate the usual conception of a neighborhood (Jargowsky 1997; White 1987). Potential problems associated with changes in tract boundaries across decennial censuses are overcome by our use of the Neighborhood Change Database (NCDB),[1] which normalizes 2000 and 2010 census tract data to 2010 census boundaries. We use the NCDB's data on tracts from the 2000 and 2010 censuses, and use linear interpolation/extrapolation[2] (cf. Quillian 2003) to estimate values for all tract and metropolitan characteristics in non-census years.

Since 2004 the HMDA data have included up to five different race fields and a separate question on Hispanic ethnicity. For our analysis, we select borrowers and co-borrowers who form interracial or monoracial dyads with a total sample of 9,697,657 home purchases. Included in our sample are a series of couple combinations consisting of multiracial black-white individuals with black partners (N = 3,588), black-white individuals with white partners (N = 2,238), black-white couples (N = 97,647), black-black couples (N = 431,259), and white-white couples (N = 9,162,655). Thus, the sample sizes of multiracial individuals and interracial couples

[1] Data are available online (www.geolytics.com/USCensus,Neighborhood-Change-Database-1970-2000,Products.asp).
[2] Values for intercensal years are assumed to fall on a straight line between values for endpoints defined by the most recent past and future decennial censuses.

in the HMDA data provide us a unique opportunity to analyze neighborhood attainment outcomes at the census tract level than most datasets.

Analytically, we use linear regression to compare all couples with black representation to white-white couples along two dependent variables: the neighborhood percentage of non-Hispanic whites and the average neighborhood income. Additionally, because couples are nested within metropolitan areas, we cluster the standard errors within our linear regressions at the metropolitan-level.

We consider the effects of a number of theoretically relevant micro-level and contextual independent variables that may account for group differences in neighborhood attainment. A key micro-level characteristic is the applicant income, measured in thousands of dollars. We also consider metropolitan structural characteristics that have known to be related with neighborhood attainment (Frey and Farley 1996; Iceland and Nelson 2010). These covariates include: the percentage of the population that are racial and ethnic minorities, the level of black-white segregation as measured by the dissimilarity index, the log of the total population size, the percentage of housing built in the last 10 years, the percentage in government positions, the percentage of individuals in the military, the percentage in the labor force employed in manufacturing, the percentage enrolled in college, the percentage of the population aged more than 65 years, and the region of the U.S. Additionally, we include an indicator for the year of observation in order to account for trends in neighborhood racial and socioeconomic change.

RESULTS

Table 1 illustrates descriptive statistics of the variables used in our analysis for the various couple combinations. In terms of the percentage of whites in the neighborhoods of homebuyers, white-white couples have the highest concentration of whites in their neighborhoods with black-

black couples possessing the least amount of whites. Black-white individuals with white partners have the highest percentage of whites in their neighborhoods out of all couples with black representation followed by black-white couples and black-white individuals with black partners. A similar pattern emerges among couple combination differences in average neighborhood income, where couples with the highest white representation within their couples purchase into neighborhoods that have higher average incomes. Applicant income also follows this same pattern where white-white couples have the highest level of income, black-black couples the lowest, and the remaining couple combinations have increasing levels of neighborhood income associated with greater white representation within couples.

[Table 1 about here]

There are also key differences between couples in metropolitan characteristics that could likely be associated with purchasing into predominantly white and higher income neighborhoods. For instance, couples with greater white representation within their couples tend to have fewer minorities in their metropolitan areas; and, typically live in metropolitan areas with lower levels of black-white residential segregation. Not surprisingly, couples with greater black representation within their couple live metropolitan areas with more individuals working within government jobs. And, following prior research on racial diversity being a outcropping of military presence, couples with great black representation have higher concentrations of those in military quarters within their metropolitan area. Lastly, most home purchases are in the South of the U.S. with black-black couples and black-white individuals with black partners being highly represented in that region. Also of note, black-white individuals with white partners have the greatest representation within the West out of all couples within our analysis. This potentially

reflects the fact that black-white couples had historically found greater refuge in that region out of any other.

Neighborhood Percentage White for Home Purchasers

Table 2 displays the results from a linear regression of neighborhood percentage white on various couple combinations. In Model 1, with white-white couples serving as the reference category, black-black couples emerge with the lowest exposure to whites in the neighborhoods they purchase into out of all couples. Black-white couples with white partners on the other hand purchase into neighborhoods with the highest shares of whites out of all couples with black representation. This is followed by black-white couples and black-white couples with black partners. These results reveal a relatively large difference in percentage white in the neighborhoods black-white individuals with white partners and those with black partners possess. Indeed, black-white couples with white partners have, on average, 20.87 percent more whites in their neighborhoods than their counterparts with black partners.

[Table 2 about here]

Model 2 includes theoretically relevant metropolitan characteristics and region to control for the variation associated between the various couple combinations, neighborhood percentage white, and contextual characteristics. It is not surprising that the contextual characteristic of black/white segregation is seemingly strongly associated with the level of whites couples are exposed to in the neighborhoods they purchase into. This characteristic demonstrates that net of other contextual characteristics that higher levels of black/white segregation is associated with couples purchasing into neighborhoods with higher concentrations of whites. The coefficient for region follows theoretical expectation where the those in the Northeast having a higher share of whites in their neighborhoods relative to couples who purchase homes in the West. Most

important for our purposes, however, is that there is a slight attenuation in the coefficient size for each couple with black representation relative to white couples. However, there still remains substantial differences between the level of percentage white in the neighborhoods that couples with black representation purchase into relative to white-white couples.

In Model 3, we include an interaction between couple combinations and applicant income to investigate whether, and to what degree, the neighborhood concentration of whites varies between couples. For white-white couples, the effect of higher applicant income is positive, meaning that higher income white-white couples purchase into neighborhood with higher percentages of whites. Black-black couples witness the greatest returns to their economic resources in the percentage of whites in the neighborhoods they purchase into relative to all other couples with black representation. The effect of applicant income for black-white individuals with white partners is basically negligible in comparison to white-white couples. Black-white couples and black-white individuals with black partners see a relatively small and positive effect of applicant income on the level of whites in their neighborhoods.

[Figure 1 about here]

To gather additional information related to the findings presented in Model 3 we include Figure 1 which illustrates the predicted values of neighborhood percentage white for the couple combinations in the analysis by applicant income, holding the remaining covariates at their mean values. First, the intercepts for each couple combination highlights that couples with greater white representation are more likely to purchase into whiter neighborhoods than couples with less white representation. Furthermore, the effect of applicant income on the level of whites in the neighborhoods couples with black representation purchase into is relatively modest but stronger than that of white-white couples. This finding, following the weak version of the place

stratification theory, illustrates that although couples with black representation have a stronger effect of income even couples with the highest applicant incomes do not come near having the same degree of whites in their neighborhoods as white-white couples.

NEIGHBORHOOD AVERAGE INCOME FOR HOME PURCHASERS

Table 3 shows the findings from a linear regression of average neighborhood income on all of the couples in our analysis. Model 1 in Table 3 show that all couples with black representation purchase into neighborhoods that possess lower average neighborhood incomes that white-white couples. Relative other couples with black representation, black-black couples are revealed to have the greatest disparity in average neighborhood income in the neighborhoods they purchase into compared to white-white couples. Similar to the outcome for neighborhood percentage white, black-white individuals with white partners are most similar to white-white couples in the average income their neighborhoods possess followed by black-white couples and black-white individuals with black partners.

[Table 3 about here]

Model 2 includes metropolitan characteristics and region to account for the association these contextual measures have with the outcome of average neighborhood income and the various couple combinations. There are multiple metropolitan characteristics that are positively associated with couples purchasing into a higher income neighborhood: the percentage of minorities, the total population, the share of the population in government positions, and the concentration of individuals in college. After controlling for these, and other contextual characteristics, the disparity in average neighborhood income actually increases between all couples that have black representation and white-white couples.

In Model 3 we include an interaction between applicant income and couple combinations to explore potential variations in the effect of applicant income across couples. White-white couples demonstrate a strong and positive impact of applicant income on purchasing into higher income neighborhoods. Black-white couples, however, experience an even greater impact of applicant income on purchasing into higher income neighborhoods as compared to white-white couples. The couple with the next strongest effect of applicant income on the level of average income in the neighborhoods they purchase into are black-black couples, followed by black-white individuals with white partners and black-white individuals with black partners.

[Figure 2 about here]

In Figure 2 we illustrate the predicted values of neighborhood average income for various couple combinations by applicant income, net of metropolitan characteristics and region. The results of this figure show a more complex story than what was illustrated in Figure 1. Starting with black-black couples, they have the lowest intercept out of all couple combinations and the effect of applicant income for this couple combination follows the strong version of the place stratification theory. Black-white individuals with black partners also demonstrate also follow the strong version of the place stratification theory, however, the effect of applicant income is the weakest out of all couple combinations. Conversely, black-white couples show the strongest positive slope between applicant income and neighborhood average income, following the weak version of the place stratification theory. Lastly, black-white individuals with white partners are rather similar to white-white couples in the level of average income in the neighborhoods they purchase into across their income distribution. However, the effect of applicant income is weaker than it is for white-white couples meaning they align with the strong version of the place stratification.

SUPPLEMENTAL ANALYSIS OF THE NEIGHBORHOOD ATTAINMENT OF BLACK-WHITE INDIVIDUALS AND BLACK-WHITE INDIVIDUALS WITH BLACK OR WHITE PARTNERS

The results shown thus far illustrate a clear pattern that black-white individuals with black or white male partners appear to have a high degree of variability in their neighborhood attainment outcomes depending on the race of their same-race partner. To gain greater traction on this variation we have estimated two separate sets of predicted values that explore the variation in neighborhood percentage white and neighborhood average income by applicant income for black-white individuals and black-white individuals with black or white partners while holding metropolitan characteristics and region and their mean values (the fully specified models are shown in Appendix Table A1). The logic behind this test is that we are interested in exploring the unique impact that having a black or a white partner has on the neighborhood outcomes of black-white individuals. By comparing the gap in neighborhood attainment outcomes between black-white individuals with black or white partners and black-white individuals we can gain added insight into this potential variation.

[Figure 3 about here]

As it relates to the first neighborhood outcome presented in Panel A of Figure 3, neighborhood percentage white, black-white individuals and black-white individuals with black partners possess relatively similar positive slopes of applicant income. Furthermore, the highest income black-white individuals are also comparatively alike to the highest income black-white individuals with black partners in their exposure to whites in the neighborhoods they purchase into. Both of these groups, however, are much lower in their exposure to whites compared to black-white couples with white partners. A partially equivalent overall pattern occurs in Panel B that estimates the neighborhood average income of the same three groups. However, these

predicted values illustrate a greater variability than the results illustrated in Panel A. For instance, the lowest income black-white individuals reside in substantially less advantaged neighborhoods compared to their counterparts with black and, especially, those with white partners.

CONCLUSION

Scholars have noted the recent rise in the number of interracial couples and their multiracial children (Livingston and Brown 2017; Parker et al. 2015) calling for greater attention to be given to these groups that are diversifying the landscape of U.S. institutions (Alba and Beck 2018). In this paper we have undertaken this challenge by using data from the Home Mortgage Disclosure Act and the U.S. Census to investigate the neighborhood percentage white and neighborhood average income of black-white couples with black or white partners, black-white individuals, black-white couples, and monoracial black and white couples.

Our results highlight that a number of distinct neighborhood attainment patterns are associated with these various couple combinations in our study. We observed that black-white couples with greater white representation had higher shares of whites in the neighborhoods they purchased into along with higher levels of neighborhood average income while controlling for well-established contextual characteristics. In regards to the findings associated with the outcome of neighborhood percentage white, income has a modest impact on these couples' exposure to neighborhoods with higher white concentrations.

While the place stratification theory would suggest that the residual gap that couples with black representation have in the level of neighborhood percentage white relative white-white couples would be largely due to housing market discrimination, it is quite possible that the distance between couples with black representation and white-white couples is related to a

combination of subtle individual and social forces, discrimination being one of the components. Although the data that is currently available makes it impossible to neatly and clearly adjudicate how these couples economic standing, residential preferences, exposure to discrimination, and neighborhood knowledge all combine to create the patterns presently described, some theoretical explanations for this neighborhood attainment patterns are possibly more likely than others.

Given that neighborhood percentage white increases the greater the representation of white is within a couple signals that the disparities between couples with black representation and white-white couples are not primarily caused by certain types of housing market discrimination, such as racial steering by real estate agents. Surely, this type of discrimination is likely occurring, but the likelihood that it drives such a coordinated hierarchical pattern of neighborhood attainment across the U.S. seems improbable. However, these patterns seem to point to the notion that the combined individual histories of members of couples play a significant role in shaping the residential search patterns of these unique couples. For example, black-white individuals are going to likely have kin and kith networks more even distributed across metropolitan areas, even those metropolitan areas that are highly segregated. This exposure to a broader swath of neighborhoods appears to possibly endows them with a certain flexibility in neighborhood attainment. It is important to mention, however, that black-white individuals and their partners still function within a housing market whose foundations were built on definitively discriminatory policies that set into motion a system of neighborhood attainment that currently stratifies blacks and whites into relatively distinct and separate areas.

As it pertains to the outcome of neighborhood average income, there is substantially greater variability in this neighborhood characteristic across couples than that of neighborhood percentage white; nevertheless, couples with greater white representation tend to reside, on

average, in higher income neighborhoods. Moreover, the effect of applicant income is much stronger for each couple combination in along this outcome compared to neighborhood percentage white. In conjunction with the relatively flat slopes for neighborhood percentage white and applicant income, the stronger slopes across all types of couples associated with neighborhood average income indicates that some couples with black representation are able to convert their economic resources into higher diversity, higher income neighborhoods. This finding aligns with previous research that indicates that black-white couples are apt to pursue moving into areas that are both relatively diverse and affluent (Dalmage 2000).

There was also substantial variation in neighborhood outcomes between black-white individuals with black or white partners. In our supplemental analysis comparing black-white individuals with black or white partners to black-white individuals, we observed that the presence of a white partner for a black-white individual sharply increased their chances of purchasing into whiter and higher income neighborhoods. For black-white couples with black partners—they are similar to black-white individuals. These findings highlight that the neighborhood attainment of black-white individuals seems to be strongly influenced by the race of their partner, especially when their partner is white. Interestingly, we see that the neighborhood attainment of black-white individuals is similar to black-white individuals with black partners. This pattern may signal the effect of racial hypodescent among those who of self-identify as black and white. Even though individuals identify as black-white in the HMDA data they may claim black as their strongest identity in their lived experience and be treated as such in the housing market. This overall pattern might suggest that black-white individuals, when not partnered with a black or a white partner, are likely to purchase into neighborhoods that have a greater representation of their black heritage.

It is clear, however, that much is not known about the neighborhood attainment of black-white individuals, black-white individuals with black or white partners, and black-white couples. Part of the difficulty in learning more about these specific groups has been the little amount of data that allows the investigation of these groups. Although the HMDA data that we use is novel, scholars have noted a number of complexities in investigating these diverse populations with available data. Liebler and colleagues (2017) have demonstrated that structural circumstances may influence whether individuals report or fail to report certain aspects of their racial identity. Additionally, while for the sake of our analysis black-white individuals are treated as "similar" despite whether they are coupled with a black or a white individual. Yet, there is a distinct possibility that black-white individuals who couple with whites possess some distinct differences from those who couple with blacks that might influence the disparate neighborhood outcomes we have demonstrated. Based on this, the creation of data that provides greater amounts of information on black-white individuals who couple with blacks or whites would surely be fruitful. It would also be important know how these patterns of neighborhood attainment occur for renters. However, the fact that the HMDA that we use represents homeowners, their patterns of neighborhood attainment potentially have more lasting consequences on broader patterns of residential stratification because homeowners are typically likely to remain in their neighborhoods longer than renters and are likely more apt to develop stronger ties within their communities. What is clear about this line of research, though, is that there are numerous directions that can and, we assert, should be studied as it relates to this diverse population that will have an impact on broader patterns of stratification in coming decades.

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Table 1. Descriptive statistics for the analyses of black-white individuals in couples, black-white and monracial black and white couples: Home Mortgage Disclosure Act, 2005-2015

	White-white		Black-white ind./white partner		Black-white		Black-white ind./black parnter		Black-black	
	mean	*sd*	*mean*	*sd*	*mean*	*sd*	*mean*	*sd*	*mean*	*sd*
Neighborhood outcomes										
Neighborhood percentage white	79.18	17.32	70.94	21.58	66.83	23.172	57.52	26.36	50.06	27.95
Neighborhood average income	98508.16	45038.65	95210.67	41774.61	91371.26	39539.56	86597.25	37898.99	82199.17	33248.72
Economic resources										
Applicant income ($1,000)	117.56	135.94	105.72	140.85	104.29	101.69	102.20	160.26	96.57	93.76
Metropolitan characteristics										
Percentage minority in metro	31.82	16.24	34.93	16.39	36.28	15.99	39.20	15.27	41.66	13.36
Black/white dissimilarity	0.52	0.14	0.52	0.13	0.53	0.13	0.55	0.12	0.57	0.11
Total population in metro area (log)	13.89	1.56	14.13	1.45	14.18	1.42	14.39	1.39	14.51	1.39
Percentage housing built in past 10 years	14.21	6.44	14.29	6.28	14.73	6.38	14.72	6.53	15.59	6.43
Percentage in government in metro	2.26	1.16	2.45	1.36	2.51	1.40	2.53	1.42	2.62	1.53
Percentage in military quarters in metro	0.34	0.96	0.52	1.17	0.55	1.20	0.60	1.17	0.59	1.15
Percentage in manufacturing in metro	5.22	2.33	4.82	2.12	4.77	2.09	4.66	2.05	4.54	1.90
Percentage in college in metro	2.39	3.61	2.56	3.63	2.58	3.56	3.17	3.92	3.23	3.93
Percentage 65+ in metro	1.56	8.38	1.47	8.50	1.63	8.40	1.67	9.03	2.10	9.92
Region	*Percent*		*Percent*		*Percent*		*Percent*		*Percent*	
Northeast	16.27		16.05		13.90		18.40		12.82	
Midwest	25.49		20.81		20.64		14.78		13.12	
South	35.53		36.67		42.33		51.47		64.65	
West	22.69		26.44		23.10		15.32		9.38	
Year	2009.58	3.42	2010.35	3.44	2009.80	3.52	2009.45	3.50	2008.80	3.37
N of Observations	9,162,655		3,588		97,647		2,238		431,529	

Table 2. OLS regression of neighborhood percentage white for black-white individuals in couples, black-white and monoracial black and white couples: Home Mortgage Disclosure Act, 2005-2015

	Model 1	Model 2	Model 3
Couple combinations			
Black-white individual/white partner	-8.243 ***	-6.080 ***	-5.927 ***
	(0.587)	(0.347)	(0.544)
Black-white couples	-12.347 ***	-9.372 ***	-10.315 ***
	(0.578)	(0.486)	(0.513)
Black-white individual/black partner	-21.658 ***	-17.220 ***	-17.454 ***
	(1.123)	(1.194)	(1.544)
Black couples	-29.119 ***	-23.236 ***	-24.982 ***
	(1.790)	(1.827)	(1.731)
Metropolitan Characteristics			
Percentage minority in metro		-0.668 ***	-0.676 ***
		(0.018)	(0.018)
Black/white dissimilarity		16.338 ***	16.430 ***
		(1.982)	(2.021)
Total population in metro area (log)		0.070	0.011
		(0.214)	(0.219)
Percentage housing built in past 10 years		-0.023	-0.012
		(0.036)	(0.037)
Percentage in government in metro		-0.359	-0.360
		(0.197)	(0.212)
Percentage in military quarters in metro		-0.338 *	-0.346 *
		(0.131)	(0.134)
Percentage in manufacturing in metro		0.023	0.032
		(0.064)	(0.065)
Percentage in college in metro		0.116	0.089
		(0.067)	(0.068)
Percentage 65+ in metro		-0.011	-0.007
		(0.009)	(0.009)
Region			
Northeast		1.597 *	1.707 *
		(0.674)	(0.683)
Midwest		1.334 *	1.462 *
		(0.601)	(0.612)
South		0.882	0.987
		(0.550)	(0.559)
Economic resources			
Applicant income ($1,000)			0.010 ***
			(0.001)
Interactions			
Black-white ind./white partner X Applicant income			0.000
			(0.004)
Black-white couples X Applicant income			0.011 ***
			(0.002)
Black-white ind./black partner X Applicant income			0.005
			(0.008)
Black-black couples X Applicant income			0.021 ***
			(0.005)
Year		0.053	0.045
		(0.029)	(0.028)
Constant	79.185 ***	-15.483	-0.833
	(0.875)	(58.025)	(57.479)

N of observations = 9,697,657*; * p* < .05, ** *p* < .01, *** *p* < .001

Table 3. OLS regression of neighborhood average income for black-white individuals in couples, black-white and monoracial black and white couples: Home Mortgage Disclosure Act, 2005-2015

	Model 1	Model 2	Model 3
Couple combinations			
Black-white individual/white partner	-3297.492 **	-8313.167 ***	-4341.920
	(1103.415)	(782.407)	(3520.877)
Black-white couples	-7136.906 ***	-11474.516 ***	-11087.743 ***
	(1255.722)	(794.459)	(1266.827)
Black-white individual/black partner	-11910.915 ***	-18417.532 ***	-10516.965 ***
	(2427.674)	(2036.991)	(3108.859)
Black couples	-16308.997 ***	-22367.473 ***	-18405.334 ***
	(2233.549)	(2115.112)	(1673.330)
Metropolitan Characteristics			
Percentage minority in metro		294.483 ***	225.256 ***
		(78.237)	(67.810)
Black/white dissimilarity		2166.516	2753.298
		(8922.234)	(8061.974)
Total population in metro area (log)		6917.876 ***	6402.817 ***
		(782.436)	(700.078)
Percentage housing built in past 10 years		-205.540	-104.543
		(176.895)	(152.478)
Percentage in government in metro		2658.936 *	2729.502 *
		(1347.005)	(1202.823)
Percentage in military quarters in metro		111.818	40.466
		(783.807)	(652.877)
Percentage in manufacturing in metro		-6.064	83.339
		(337.772)	(301.385)
Percentage in college in metro		1158.777 *	913.820 *
		(469.211)	(425.027)
Percentage 65+ in metro		-129.543 *	-96.806
		(54.012)	(50.081)
Region			
Northeast		3991.709	4952.588
		(4569.666)	(4090.804)
Midwest		1781.421	2973.570
		(2694.235)	(2455.664)
South		-2147.544	-1236.041
		(2513.437)	(2310.739)
Economic resources			
Applicant income ($1,000)			95.306 ***
			(4.475)
Interactions			
Black-white ind./white partner X Applicant income			-22.142
			(34.279)
Black-white couples X Applicant income			13.318
			(10.045)
Black-white ind./black partner X Applicant income			-54.307 *
			(26.764)
Black-black couples X Applicant income			-10.608
			(9.279)
Year		2368.642 ***	2308.390 ***
		(97.258)	(90.485)
Constant	98508.164 ***	-4774122.932 ***	-4657476.670 ***
	(2377.474)	(199782.080)	(185335.748)

N of observations = 9,697,657; * $p < .05$, ** $p < .01$, *** $p < .001$

Appendix Table A1. OLS regression of neighborhood percentage white and neighborhood average income for black-white individuals and black-white individuals with black or white partners by applicant income: Home Mortgage Disclosure Act, 2005-2015

	Model 1 Neigborhood percentage white		Model 2 Neighborhood average income	
Couple combinations				
Black-white individual/white partner	14.744	***	19366.723	***
	(1.256)		(4236.068)	
Black-white individual/black partner	5.603	***	15068.800	***
	(1.276)		(3158.958)	
Metropolitan Characteristics				
Percentage minority in metro	-0.817	***	3.709	
	(0.024)		(47.750)	
Black/white dissimilarity	-9.209	*	7209.257	
	(3.602)		(7629.386)	
Total population in metro area (log)	-0.89*	*	4348.165	***
	(0.444)		(767.073)	
Percentage housing built in past 10 years	-0.013		244.004	
	(0.058)		(160.145)	
Percentage in government in metro	-0.699	***	4186.897	***
	(0.197)		(1083.123)	
Percentage in military quarters in metro	-0.497	*	-161.193	
	(0.226)		(761.784)	
Percentage in manufacturing in metro	-0.054		795.886	*
	(0.139)		(376.868)	
Percentage in college in metro	-0.073		490.235	
	(0.242)		(269.495)	
Percentage 65+ in metro	0.012		-44.649	
	(0.030)		(30.967)	
Region				
Northeast	-1.202		763.679	
	(1.049)		(2930.679)	
Midwest	0.634		649.170	
	(0.899)		(2416.978)	
South	1.479		-145.007	
	(0.881)		(2225.016)	
Economic resources				
Applicant income ($1,000)	0.071	***	195.381	***
	(0.007)		(13.020)	
Interactions				
Black-white ind./white partner X Applicant income	-0.055	***	-113.957	**
	(0.009)		(37.362)	
Black-white ind./black partner X Applicant income	-0.054	***	-149.839	***
	(0.013)		(31.699)	
Year	0.395	***	2553.066	***
	(0.070)		(136.881)	
Constant	-690.869	***	-5149616.869	***
	(140.180)		(279043.868)	

N of observations = 19,488; * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 1. Predicted neighborhood percentage white for black-white individuals in couples, black-white and monoracial black and white couples by applicant income: Home Mortgage Disclosure Act, 2005-2015

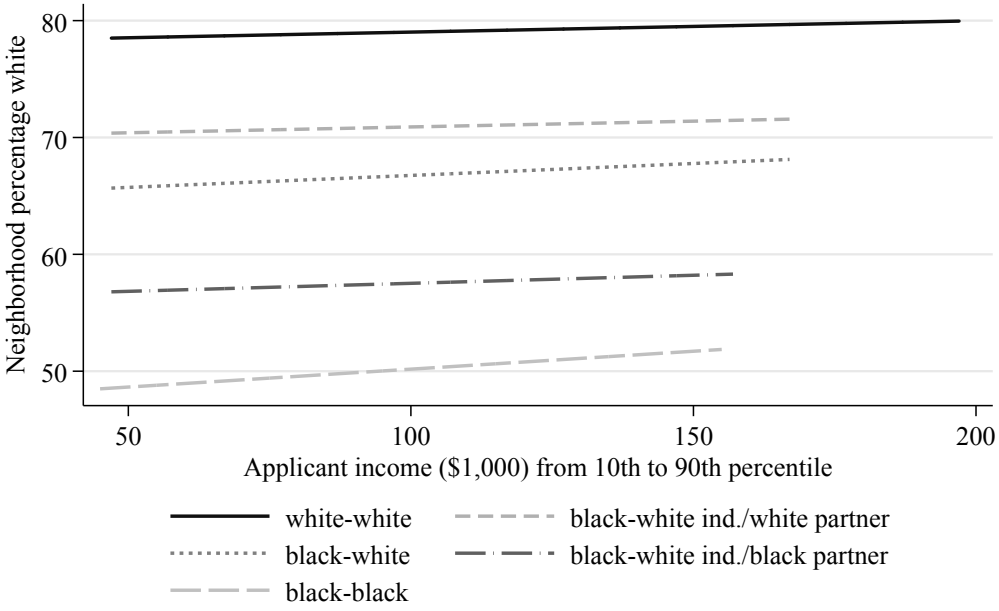

Figure 2. Predicted neighborhood average income for black-white individuals in couples, black-white and monoracial black and white couples by applicant income: Home Mortgage Disclosure Act, 2005-2015

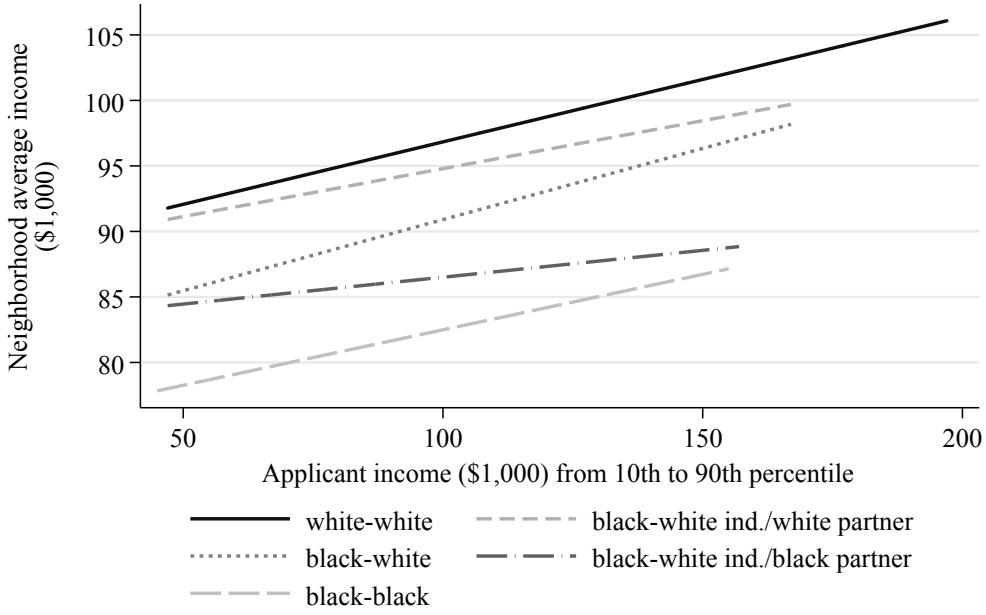

Figure 3. Predicted neighborhood percentage white and neighborhood average income for black-white individuals and black-white individuals with black or white partners by applicant income: Home Mortgage Disclosure Act, 2005-2015