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Interracial Couples and Neighborhood Attainment in Percent White,  
Entropy, and Average Income

Hannah Louise Spencer

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Master of Science

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## ABSTRACT

### Interracial Couples and Neighborhood Attainment in Percent White, Entropy, and Average Income

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Master of Science

Previous studies of interracial couples' residential outcomes in the United States have limited their focus to a truncated selection of interracial couple-types. To provide a more complete understanding of the residential patterns of interracial couples and how they fit into the contemporary color line, I assess an expanded set of interracial and monoracial couple-types' outcomes in percentage White, entropy, and neighborhood income. I do this by employing multiple OLS regression analysis using data from the Home Mortgage Disclosure Act from 2005 to 2015. My results suggest that different types of interracial couples follow residential patterns that are distinctive from those of monoracial White couples and in many instances, from those of their monoracial couple-type counterparts.

Keywords: interracial couples, residential segregation, HMDA, color line, racial equality

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## INTRODUCTION

Social scientists have long considered trends in interracial coupling as indicators of changes in social distance and group boundaries (Lee and Bean 2004; Fryer 2007; Qian, Glick, and Batson 2012). Indeed, interracial partnering has been described as the final step in the assimilation process of a minority group into the majority group (Qian and Lichter 2007). Current trends in interracial coupling suggest that racial and ethnic group boundaries are weakening and assimilation is occurring. Since the U.S. Supreme Court struck down anti-miscegenation laws in 1967, rates of marriage and cohabitation between members of different racial and ethnic groups have increased substantially (Lee and Bean 2004; Iceland 2017). In 2015, interracial couples represented 10% of all married couple households, and one in six new marriages were interracial or interethnic (Bialik 2017).

This increase in interracial couples has largely been spurred by the dramatic growth in the number of Latino and Asian immigrants coupled with a declining of racial prejudice (Wright et al. 2003; Qian and Lichter 2007). Because of this increase in immigrants and the subsequent growing population of interracial couples, the traditional Black/White color line, which has historically governed racial and ethnic relations in the U.S., has entered a state of flux. This line has traditionally been demarcated by the persistence of White prejudice and of Black disadvantage across numerous life course outcomes, such as education levels, employment, and housing (Lee and Bean 2007). However, these recent changes in the racial and ethnic composition of the U.S. have prompted scholars to redefine the color line in alternate ways in an attempt to reflect this demographic and social transformation. For instance, scholars have put forth a tripartite racial classification scheme where Blacks and Whites are at the end of a spectrum with non-Black minorities in the middle (Bonilla-Silva 2004), while others have

posited a White/non-White demarcation (Skrentny 2002; Lee and Bean 2007). Numerous scholars have also extended the notion that U.S. multiethnic society is forming around a Black/non-Black divide (Marrow 2009). Others suggest that racial lines may be fading altogether (Lee and Bean 2004).

Despite the growing discourse on the nature of the changing color line, we have a limited understanding as to how the increasing share of interracial couples fit within, and inform, the contemporary color line. Past scholars have attempted to understand interracial couples' place in the color line by observing their relationship with the housing market. However, of the research conducted in this area, only a truncated set of couples have been closely examined (see Wright, Ellis, and Holloway 2011; Wright, Holloway, and Ellis 2013; Gabriel 2016), mostly including only couples that have either a Black or White partner (Gabriel 2016). While this existing research provides valuable insights, it ignores multiple types of interracial couples, only giving us a partial view of how various types of interracial couples relate to, and potentially transform, the color line in the U.S. Moreover, limiting the types of interracial couples one examines obscures the complex racial interactions and assimilation patterns of individuals and couples that do not fit cleanly into the Black/White divide. For instance, what is the neighborhood attainment of an Asian individual, a member of a minority group which is generally higher on the racial hierarchy (Xu and Lee 2013), who partners with a member of a group lower on the racial hierarchical ladder, such as a Black individual? And, what does that indicate for the contemporary color line?

Thus, in this paper, I use a decade of data from the Home Mortgage Disclosure Act and the U.S. Census to investigate the neighborhood attainment of an expanded set of interracial and monoracial couples, including types of interracial couples that have rarely, if at all, been studied.

These will include each possible interracial couple that can be comprised from the four largest racial and ethnic groups in the U.S.: Whites, Latinos, Blacks, and Asians. Specifically, I will examine where these couples fall across a number of neighborhood outcomes: average income, percentage White and, as a measure of racial and ethnic diversity, entropy. These neighborhood outcomes have the potential to provide added insight into emerging changes to the color line in contemporary America, changes that are increasingly important to understand in the context of America's growing diversity.

## BACKGROUND AND THEORY

There are several foundational theoretical perspectives that scholars have traditionally used to explicate the continuing prevalence of residential stratification in the U.S.: spatial assimilation, place stratification, and preferences. The first theoretical perspective, spatial assimilation, posits that as racial and ethnic minority groups gain in socioeconomic status, they translate those gains into neighborhoods that often have higher percentages of Whites (Charles 2003). Therefore, any difference in the quality of neighborhoods among different races and ethnicities is primarily due to differences in socioeconomic resources. In accordance with this perspective, Holloway et al. (2005) found that although interracial couples are unusually concentrated in diverse neighborhoods, higher income interracial couples are more likely to live near Whites than low-income interracial couples. By this understanding, controlling for the socioeconomic characteristic of income should account for the vast majority of differences in residential areas among racial and ethnic groups. In other words, we would expect that interracial couples would live in neighborhoods with similar percentages of Whites as other couples with comparable incomes, regardless of the race or ethnic group that comprise the partnership (i.e. a

Black-Latino couple with the same income as a White-Asian couple would live in similar neighborhoods).

Another theory, known as the place stratification model, focuses on the continuing discriminatory practices that prevent non-Whites, particularly Blacks and Latinos, from assimilating into higher-quality and Whiter neighborhoods (Charles 2003). According to this theory, discriminatory practices in real estate markets are primarily to blame for continued racial and ethnic residential stratification. Well-documented examples of discrimination in the housing market include racial steering by real estate agents into segregated neighborhoods (Galster and Godfrey 2005; Ross and Turner 2005; Turner et al. 2013), exclusionary zoning (Rothwell and Massey 2009), and discriminatory practices from mortgage lenders (Rugh, Albright, and Massey 2015). In addition to discriminatory measures that succeed in preventing racial and ethnic minorities from moving into integrated neighborhoods, Roscigno, Karafin, and Tester (2009) suggest that nonexclusionary discriminatory practices such as harassment, intimidation, and the use of racial slurs may be employed by landlords, realtors, and neighborhoods to target minorities, even once they have already moved into the neighborhood. Such negative experiences may continue to affect segregation levels by driving minority groups from neighborhoods or through information sharing that discourages future minority groups from moving into such neighborhoods (Roscigno et al. 2009).

The place stratification theory also has two variants that scholars have traditionally assessed (Logan and Alba 1993): the strong version and the weak version. The strong version theorizes that racial and ethnic minorities have a more difficult time than Whites translating their socioeconomic resources, such as income, into higher-status neighborhoods due to discrimination. This leads to income having a stronger impact for Whites in neighborhood

attainment than for racial and ethnic minorities. The weak version posits the opposite – that the effect of racial and ethnic minorities’ socioeconomic resources is stronger than the effect of Whites’ socioeconomic resources when it comes to residing in higher-status areas; however, even racial and ethnic minorities with the highest incomes are limited in their attainment of higher-status neighborhoods (Logan and Alba 1993).

These processes of discrimination may affect interracial couples in different ways. One possibility is that a couple comprising of one partner of high racial or ethnic status (such as a White or Asian individual) and one of traditionally low racial or ethnic status (such as a Black or Latino individual) has a more favorable chance of obtaining access to a high-quality neighborhood, due to the social privileges ascribed to the partner of high racial status. If that is the case, we would expect that couples with one White or Asian partner can more easily enter higher quality neighborhoods than couples without a White or Asian partner (Gabriel 2016).

Another possibility is that due to a persistent number of individuals who are uncomfortable with, or who outright oppose, interracial coupling, interracial partnerships may experience discrimination as great as or greater than that faced by monoracial minority couples (Roscigno et al. 2009; Bobo et al. 2012). Indeed, many Black-White couples have reported encountering discriminatory roadblocks in the housing market for “crossing the color line” (Dalmage 2000). Hence, interracial couples may face similar discriminatory obstacles that certain monoracial minority couples encounter in navigating the housing market. However, these patterns will not likely manifest equally among all types of interracial couples, considering that the racial hierarchy that favors Whites and, to a lesser degree, Asians, will probably be present in spite of the racial or ethnic group they are paired with.

A third theoretical perspective asserts that the segregated residential patterns evident among racial and ethnic groups can mainly be attributed to differences in preferences. Whites, in particular, tend to prefer living in predominantly White areas, whereas Blacks express a clear preference for higher diversity (Charles 2003). Whites in particular rate all-White neighborhoods more favorably than racially mixed or all-Black neighborhoods, even after controlling for the perceived social class of neighborhoods (Krysan et al. 2009). Moreover, Whites have exhibited an aversion to living too close to higher concentrations of racial and ethnic minorities, particularly Blacks. This can be seen in quantitative evidence that observes that Whites tend to migrate out of neighborhoods at higher rates when other racial and ethnic minorities are present in their neighborhoods (South and Crowder 1998; Crowder 2000, Crowder, Hall, and Tolnay 2011), contributing to a phenomenon known as “White flight.” There is also a rank-ordering of the racial and ethnic groups that Whites are comfortable sharing a neighborhood with, with Asians at the top, Hispanics in the middle, and Blacks at the bottom (Charles 2003).

In the case of interracial couples, past research has suggested that these couples are drawn to areas with higher racial and ethnic diversity (Holloway et al. 2005; Wright et al. 2013; Gabriel 2016). Black-White couples in particular seem drawn to diversity no matter which racial group forms the neighborhood majority (Wright et al. 2011). The potential reasons why this is are manifold. For Black-White couples, many report choosing to live in diverse neighborhoods as a response to not fitting in to either predominantly White neighborhoods nor predominantly Black neighborhoods (Dalmage 2000). Likewise, all types of interracial couples may choose a more diverse neighborhood as a place where they feel comfortable and relatively safe as an interracial couple (Dalmage 2000). Interracial couples’ preferences for diverse neighborhoods could also stem from a compromise between both members of the partnership, or a combination

of both partners' knowledge of available neighborhoods (Gabriel 2018). It is unclear, however, whether and to what extent this preference for diversity varies across different types of couples, although we may expect that couples with a White partner will generally live in less diverse neighborhoods than couples with a Black partner, regardless of their partner's race/ethnicity (Gabriel 2016).

The aforementioned three theories have frequently been used to explain the bulk of the persistence of racial segregation; however, in recent years, scholars have called for new theories that clarify and deepen our understanding of the phenomenon (Crowder and Krysan 2016). A relatively new theoretical perspective has been developed called the social structural sorting perspective. This perspective focuses on a combination of many social factors, including, but not limited to, individual neighborhood knowledge, lived experiences, social networks, and the media, that affect where a person moves (Krysan and Crowder 2017). These factors are often highly influenced by one's race. Thus, these race-based social factors influence neighborhood destinations, both as an independent factor and in conjunction with socioeconomic ability, housing market discrimination, and residential preferences, as discussed above.

In the case of interracial couples, because social spheres are racially segregated, both individuals who comprise the couple likely have different life experiences and knowledge of potential residential areas in which to live. Merging together the social background and neighborhood knowledge of two individuals of differing racial or ethnic backgrounds potentially transforms the set of residential options a couple is aware of or is willing to consider. For example, an Asian-Latino couple, comprised of an Asian individual and a Latino individual with distinct neighborhood knowledge and experiences based on their social networks and personal

backgrounds, may have a set of neighborhood options that looks very different from that of a monoracial Asian couple.

The metropolitan context of an area is another important force in influencing the extent of, and variation in, patterns of residential stratification between different racial and ethnic groups. In particular, there are certain characteristics which may shape the ability of racial and ethnic minorities to move into high-quality neighborhoods (Pais, South, and Crowder 2012). One of these characteristics is the level of racial and ethnic residential segregation in the greater metropolitan area. High levels of such segregation may signify discriminatory practices already present in the local housing market, making it difficult for non-Whites to attain residence in higher-quality neighborhoods, even if they possess the socioeconomic status to do so (Pais et al. 2012). In this vein, certain regions of the U.S., such as the Northeast and Midwest, tend to have higher levels of segregation due to historical patterns of discrimination (Timberlake and Iceland 2007).

Furthermore, the overall racial and ethnic composition of the metropolitan area affects patterns of residential stratification. In areas with large non-White populations, there is some evidence that Whites segregate themselves more vigorously from non-Whites (such as through participating in “White flight”), possibly because they view the minority population as more of a threat (Pais et al. 2012). Additionally, metropolitan areas with an overall diverse racial and ethnic population are simply more likely to have diverse neighborhoods for interracial couples to migrate into (Gabriel 2018).

Because large metropolitan areas are generally more expensive to migrate into, the population size of a metropolitan area also matters, considering that non-Whites, along with Whites, will likely pay a higher financial cost to attain higher-quality neighborhoods in such

areas (Pais et al. 2012). Additionally, the availability of new housing in an area provides racial and ethnic minorities with a greater opportunity to gain access to those neighborhoods, because new housing developments are more likely to prioritize fair housing laws and lack the exclusionary legacy of old housing developments (Timberlake and Iceland 2007; Pais et al. 2012; Rugh and Massey 2014). Finally, a metropolitan's economic base often influences the size of certain subpopulations residing there, which can also have an effect on patterns of residential stratification (Logan, Stults, and Farley 2004). These subpopulations include members of the military, government employees, and university students, which tend to be associated with lower segregation, as well as manufacturing workers and seniors over the age of retirement, which are associated with higher levels of segregation (Timberlake and Iceland 2007; Rugh and Massey 2014).

Based on this collective theoretical information, I proceed with investigating the following research questions:

1. How do the neighborhood outcomes of percentage White, entropy, and average income differ across couples after accounting for theoretically-derived contextual variables?
2. Are there differences in neighborhood outcomes across couples by applicant income and, if so, to what degree?
3. How do two traditionally high-status racial groups, Whites and Asians, compare when it comes to attaining neighborhood outcomes when partnered with a typically lower-status racial or ethnic group, such as Latinos and Blacks?

## DATA AND METHODS

The data I use to investigate these research questions originates from the Federal Financial Examinations Council (FFIEC) under the 1975 Home Mortgage Disclosure Act (HMDA), which makes available data from millions of individuals who received mortgage loans to buy a house. This is a universe of data and not a random sample, providing substantial statistical power to analyze these research questions.

In addition to providing information on the mortgage loans received, the HMDA data includes information on the borrowers' (and co-borrowers') race, ethnicity, income, and the census tract location of the mortgaged property. For this study, I focus on the characteristics of the borrowers and the census tracts they migrate to. Additionally, I am only interested in mortgage borrowers who are actually moving to a new home; thus, I exclude individuals who are refinancing their existing mortgage.

I use census tracts to represent neighborhoods, an operationalization that has been frequently employed in prior research concerning neighborhood attainment (Iceland and Nelson 2010; Crowder et al. 2011; Wright et al. 2011; Crowder, Pais, and South 2012). I use the Neighborhood Change Database (NCDB), which normalizes 2000 census tract data to 2010 census boundaries. I also use linear interpolation/extrapolation to estimate values for data in the years in between censuses.

The HMDA data include a variety of racial and ethnic categories for respondents; however, the borrowers and co-borrowers I have included are limited to White ( $N=9,164,829$ ), Black ( $N=433,622$ ), Asian ( $N=587,680$ ), and Latino ( $N=788,761$ ) monoracial couples, as well as interracial couples made up of any combination of those races, that is: Black-White ( $N=100,782$ ), White-Latino ( $N=400,275$ ), White-Asian ( $N=209,276$ ), Black-Latino ( $N=20,157$ ), Black-Asian

( $N=10,112$ ), and Latino-Asian ( $N=19,430$ ). In total, this data includes 11,734,924 borrowers and co-borrowers, comprising of 10,974,892 monoracial couples and 760,032 interracial couples.

I analyze these data using linear regression, with my dependent variables being at the neighborhood-level: percent White, entropy, and average family income. Entropy, a measure of neighborhood diversity used much in past research (cf Wright et al. 2011; Gabriel 2016), is expressed as

$$E_j = s \times \sum_{r=1}^r (P_{rj}) \ln[1/P_{rj}]$$

where  $P_{rj}$  equals a given racial/ethnic group's proportion of the population in tract  $j$ . A scaling constant  $s$  is included so that the value of  $E_j$  ranges from 0 to 1. An entropy score of 0 indicates total racial/ethnic homogeneity in a tract, whereas a score of 1 indicates completely equal representation among all groups within a tract.

I include a variety of individual- and contextual-level controls, including applicant income, the percentage of Whites in the metropolitan area, log of the population in the metropolitan area, the percentage of individuals in government positions, the percentage of individuals who work in manufacturing, the percentage of the population who are over the age of 65, the percentage of individuals in the military, the percentage of college students, the percentage of housing built in the last 10 years, and region of the U.S. I also include a control for the year of observation to account for temporal variation in my neighborhood outcomes.

## ANALYTIC STRATEGY

I first present descriptive results for how each type of couple compares in terms of percent White, entropy, and average income. In order to assess the statistical significance of these relationships, I estimate three sets of models using multiple OLS regression, one set for

each of the outcomes of interest. These models estimate the effect of couple-type on these outcomes, while controlling for the individual- and contextual-level controls mentioned above. I also include an interaction between couple-type and applicant income, allowing me to investigate how different types of couples' selection of neighborhood varies across applicant income. To supplement these findings, I created plots of marginal effects using the Stata marginsplot command, which display the predicted values for each of the three outcomes of interest in this paper by applicant income. In these graphs, in order to lessen the effect of outliers on the predicted values, I cut off the applicant income at the 10<sup>th</sup> and 90<sup>th</sup> percentile.

## RESULTS

### *Descriptive Statistics*

Table 1 shows the descriptive statistics for the variables of interest in this paper arranged by couple-type. Examining the descriptive statistics for the dependent variables, we see that Asian couples live in neighborhoods with the highest average family income (\$115,401), with Latino couples living in the lowest-income neighborhoods (\$77,477). Of all interracial couples, White-Asian couples live in the highest income neighborhoods (\$113,960), with Black-Latino couples residing in the poorest areas (\$84,565). Not surprisingly, White couples reside in neighborhoods with the highest percentage of Whites (79.18%). Additionally, all couple-types with a White partner live in neighborhoods with higher percentages of Whites than couples without White partners. Despite their higher average neighborhood income, Asian couples live in neighborhoods with fairly low concentrations of Whites (54.67%). Black couples reside in neighborhoods with even fewer Whites (50.10%), and Latino couples are concentrated in areas with the fewest Whites (42.88%).

[Table 1 about here]

Couples who live in the most racially and ethnically diverse neighborhoods tend to involve at least one Asian partner: the three highest entropy scores are associated with Asian (58.03), Black-Asian (58.41), and Latino-Asian (58.59) couples. White-Asian couples are the exception, with a considerably lower entropy score than all other couples with an Asian partner (49.96). Similar to White-Asian couples' exposure to neighborhood entropy are Black-White (49.09) and White-Latino (49.06) couples. Black-White and White-Latino couples are also found in less diverse neighborhoods than their monoracial Black or Latino couple counterparts, though considerably more diverse than White couples' neighborhoods (38.18).

Couple-types also vary widely by applicant income. Couples with an Asian partner have the highest average incomes, with White-Asian couples possessing the highest incomes (\$141,390), followed by Asian couples (\$140,350). Although Black couples (\$96,600) and Latino couples (\$86,370) tend to have some of the lowest average incomes, Black-Asian and Latino-Asian couples have some of the highest. In fact, Black-Asian couples (\$117,350) are almost identical to White couples (\$117,560) in terms of average applicant income, and Latino-Asian couples (\$119,970) have an even higher average. This suggests that partnering with an Asian individual has a significant pull on the average applicant income of other groups, even if the non-Asian partner is part of a traditionally lower-status group. A White individual partnering with a member of traditionally lower-status group also has an effect on increasing average applicant income, as seen in the average incomes of Black-White couples (\$104,350) and White-Latino couples (\$110,490), though the pull is not as strong as that of Asians. The interracial couple-type with no Whites or Asians in its partnership, Black-Latino, remains at the lower end of the income spectrum (\$95,870).

### *Neighborhood Attainment: Percent White*

Table 2 presents the results of an ordinary linear regression analysis of neighborhood percent white for the various couples in my study. Model 1 of Table 2 includes a measure for couple-types, with White couples serving as the reference group and year of observation as a control. The coefficient for each couple-type is negative and statistically significant ( $p < .001$ ), indicating that each couple-type lives in neighborhoods with a lower percentage of Whites than monoracial White couples. The couple-type that is most distinctly different from White-White couples is Latino-Latino couples ( $b = -36.39$ ), followed by Black-Black ( $b = -29.35$ ) and Black-Latino couples ( $b = -28.41$ ). There is also a distinct group of couples with at least one Asian partner but no White partner that have greater shares of Whites in their neighborhoods than the previously mentioned racially and ethnically diverse couples: Latino-Asian ( $b = -26.12$ ), Black-Asian ( $b = -24.62$ ), and Asian-Asian ( $b = -24.44$ ). Finally, and in-line with theoretical expectation, the couples that are most similar to White couples in the concentration of Whites in their neighborhoods are those couples with one White partner: White-Latino ( $b = -12.72$ ), Black-White ( $b = -12.13$ ), and White-Asian ( $b = -10.98$ ).

[Table 2 about here]

In Model 2 of Table 2, I add metropolitan-level control variables to better assess the net differences of these diverse couples and the concentration of whites in their neighborhoods. Adding these metropolitan controls reveals meaningful changes in each coefficient, making each couple-type more similar to White-White couples and also changing the order in which each couple falls in comparison to the other couple-types. With the added metropolitan-level controls, the couple-types with the lowest concentration of Whites in their neighborhoods in relation to monoracial White couples consist of couples who have typically had low shares of Whites in

their neighborhoods (Charles 2003; Holloway et al. 2005): Black-Black ( $b = -23.08$ ), followed by Latino-Latino ( $b = -21.63$ ) and Black-Latino ( $b = -18.43$ ). The couples that are most similar to White couples continue to be couples with one White partner. There are also a number of negative and statistically significant ( $p < .001$ ) metropolitan-level effects: percent foreign born, percent of housing built in the last 10 years, percent of government workers, percent in the military, percent in manufacturing, and percent of residents over the age of 65. The percent of college students and the percent of Whites in the metropolitan area have a positive effect on the percentage of Whites in the neighborhoods of couples, both of which are statistically significant ( $p < .001$ ).

In Model 3, providing a test of the spatial assimilation theory, I control for the socioeconomic resources of couples to assess whether couple-type differences in neighborhood percent White are eliminated. The results highlight that there is a slight positive association between applicant income and percent White in the neighborhood ( $0.0143, p < .001$ ). However, the inclusion of this variable has minimal impact on couple-type differences in the percent of Whites in neighborhoods in which diverse couples reside relative to White-White couples, indicating support for the place stratification theory.

In the final model of Table 2, I assess the strong and weak versions of the place stratification theory by including an interaction between applicant income and couple-type. This interaction estimates the extent to which income's effect on percent White varies across couple-type. For each couple-type, there is a positive coefficient associated with the interactive effect relative to White-White couples, with Black-Latino couples experiencing the greatest gains from socioeconomic status ( $0.0411$ ), followed by Latino ( $0.0324$ ), Black ( $0.0209$ ), Latino-Asian ( $0.0195$ ), Asian ( $0.0192$ ), Black-Asian ( $0.0140$ ), White-Latino ( $0.0119$ ), Black-White ( $0.0110$ ),

and with White-Asian experiencing the smallest effect of their socioeconomic status on their attainment of neighborhoods with higher shares of Whites (0.00837). This finding suggests that the effect of income on neighborhood percent White is stronger for non-White and interracial couples than it is for the comparison group, White-White couples, which is consistent with the weak version of the place stratification perspective.

[Figure 1 about here]

Figure 1 displays predicted values of neighborhood percent White by couple-type and applicant income (in \$1,000s) and holding the remaining controls in Model 4 at their mean values. The figure affirms that there is a relatively modest positive association between applicant income and percent White in neighborhood, meaning that higher income is associated with a higher concentration of Whites in each couples' neighborhood. However, the figure does illustrate there is variation in slopes across couple-type. For the lowest-earning White couples with incomes of around \$50,000 are shown to live in neighborhoods that are slightly under 80% White. The highest-earning White couples with incomes of around \$200,000 live in neighborhoods that are about 80% White. Thus, the slope is nearly flat for White monoracial couples. There are couples with more prominent slopes, such as Black, Latino, and Black-Latino couples, whose lowest-earning couples and highest-earning couples live in neighborhoods that span a difference of around 4 to 5%. Perhaps the most notable pattern evident in the graph, however, is the clear clustering of couple-types into three groupings: high-, middle-, and low-percentage White neighborhoods. White monoracial couples are alone in their position in high-percentage White neighborhoods, while couples with only one White partner (Black-White, White-Latino, White-Asian) cluster together in the middle-range. Finally, all remaining couples (Black, Latino, Asian, Black-Latino, Black, Asian, and Latino-Asian), which contain no White

members, are clustered similarly together in the low-percentage White range, with Latino couples slightly lower than the cluster of the other couple-types.

*Neighborhood Attainment: Entropy*

Table 3 presents the results of an ordinary linear regression analysis investigating neighborhood entropy across couple-types. Model 1 of Table 3 includes couple-types (with White-White couples as the reference group) and year of observation. This model indicates that the coefficient for each couple-type is positive and statistically significant ( $p < .001$ ), showing that each couple-type lives in more diverse neighborhoods than White couples. The couple-types with the highest coefficients, and thus most different from White-White couples, are couples comprised of at least one Asian partner: Latino-Asian ( $b = 20.19$ ), Black-Asian ( $b = 20.08$ ) and Asian-Asian ( $b = 19.76$ ). Black-Latino couples also have high entropy levels ( $b = 19.56$ ), followed by Latino-Latino ( $b = 16.72$ ) and Black-Black ( $b = 15.25$ ). As expected, the couple-types that are most similar to monoracial White couples are those that are comprised of one White partner and one non-White partner: White-Asian ( $b = 11.57$ ), Black-White ( $b = 10.82$ ), and White-Latino ( $b = 10.74$ ).

[Table 3 about here]

Model 2 of Table 3 adds the metropolitan-level variables mentioned above, which does affect the order of some of the coefficients. Each coefficient remains statistically significant ( $p < .001$ ), but with the metropolitan controls the couple-types experiencing the greatest diversity are now Black-Asian ( $b = 11.06$ ), Black-Latino ( $b = 10.44$ ), and Asian-Asian ( $b = 10.27$ ). Following this are Black-Black ( $b = 8.97$ ), Latino-Asian ( $b = 8.26$ ), Black-White ( $b = 7.71$ ), and White-Asian couples ( $b = 5.18$ ). With these controls, Latino-Latino couples are actually the second-most similar to White monoracial couples ( $b = 4.21$ ), with White-Latino couples being the most

similar ( $b = 10.74$ ). Additionally, there is a positive and statistically significant effect between neighborhood entropy and a number of metropolitan-level variables such as percent foreign born, log of total population, percent of housing built in the last 10 years, percent of government workers, percent in the military, percent in manufacturing workers, and percent of residents over 65. Conversely, there is a negative and statistically significant association between entropy and the percent of Whites in the metropolitan area, as well as the percent of college students in the metropolitan area.

In Model 3, I control for applicant income, testing the effect of a couple's socioeconomic resources on their level of neighborhood entropy. There is a slight negative association between applicant income and entropy ( $-0.0083, p < .001$ ). This highlights that each \$1,000 increase in applicant income is associated with a 0.0083 decline in the level of diversity in these couples' neighborhoods. However, this difference does not substantively alter the coefficient sizes of the couple-types or their order in comparison to White monoracial couples, indicating that the spatial assimilation theory does not hold among this diverse population of couples. Model 4 includes an interaction between applicant income and couple-type, testing the strong and weak versions of the place stratification theory by estimating the extent to which the effect of income varies across different couple-types. Almost all of the couple-types have a negative coefficient for the interactive effect, suggesting that the effect of their income on neighborhood entropy is weaker for non-White couples than it is for White-White couples, consistent with the strong version of the place stratification theory. The one exception to this pattern is Latino couples, who emerge with a positive coefficient, suggesting that for them, the effect of their income is stronger than it is for White monoracial couples, consistent with the weak version of the place stratification theory.

[Figure 2 about here]

Figure 2 illustrates the predicted values of neighborhood entropy by couple-type and applicant income while holding the remaining covariates from Model 4 at their means. There is a slight overall negative association between applicant income and entropy, suggesting that as applicant income increases, the level of diversity of a couple's neighborhood declines. This negative association is stronger for some couples than for others. For example, as applicant income increases for Asian and White-Asian couples, the level of entropy in their neighborhoods decreases at a faster rate than it does for monoracial Latino and Black couples. A stark disparity that is evident in the figure is the difference between White couples and every other couple-type. White couples are shown to live in areas with a considerably low entropy scores, in the high 30 range. The predicted entropy scores of couples with no White partner range from about 54 to 60. Couples with one White partner all have similar entropy scores to one another, hovering around the 50 level, meaning that the neighborhoods in which they reside tend to be about halfway in between total racial homogeneity and total racial integration. These scores are lower than the entropy levels of non-White couples, but their predicted values are still more similar to non-White couples than to monoracial White couples.

*Neighborhood Attainment: Average Income*

Table 4 shows the results of an ordinary linear regression analysis of average household income in the neighborhood. Model 1 of Table 4 includes only a measure for the couple-types and for the year of observation, with Whites serving as the comparison group. This initial model reveals that there is substantive variation in the couple-types along this outcome. The couple-type with the largest negative coefficient is Latino-Latino ( $b = -20288.0$ ), followed by Black-Latino ( $b = -14637.4$ ) and Black-Black couples ( $b = -14097.8$ ). There are other couples with

negative coefficients, though not as extreme: Black-White ( $b = -7676.7$ ), White-Latino ( $b = -3106.2$ ), Black-Asian ( $b = -2340.5$ ), and Latino-Asian ( $b = -359.8$ ). The negative coefficients for the aforementioned couple-types signify that these couples live in neighborhoods with a lower average income than the comparison group, White couples. Conversely, there are two couple-types with positive coefficients, signifying residence in neighborhoods with higher average incomes than the neighborhoods of White couples: Asian-Asian ( $b = 16309.0$ ) and White-Asian ( $b = 14022.3$ ).

[Table 4 about here]

Model 2 adds the metropolitan-level controls. In some cases, the addition of these controls attenuates the outcome of average income; in other cases it increases the outcome. The three largest negative coefficients belong to the same three most negative couples in Model 1: Latino ( $b = -30622$ ), Black-Latino ( $b = -24190$ ), and Black ( $b = -21642$ ). The other negative coefficients are now in the following order: Latino-Asian ( $b = -12466$ ), Black-Asian ( $b = -12434$ ), Black-White ( $b = -11238$ ), and White-Latino ( $b = -8073$ ). The only two positive coefficients, as above, belong to Asian couples ( $b = 1252$ ) and White-Asian couples ( $b = 5788$ ). There are several metropolitan-level variables that have a positive and statistically significant ( $p < .001$ ) association with average income: foreign born in the metropolitan area, percent white in the metro, log of the total population, percent of government workers, percent in the military, percent in manufacturing workers, and percent of college students. Percent of seniors and buildings built in the past 10 years are negatively associated with average income in the neighborhood.

In Model 3 of Table 4, the variable of applicant income is added to the regression. As expected, there is a positive association between applicant income and average income in the

neighborhoods in which couples reside (100.2,  $p < .001$ ). This suggests that as couples gain in socioeconomic status, they can more easily buy into higher-income neighborhoods, offering support for the spatial assimilation theory. The addition of applicant income as a control also attenuates each of the couple-type coefficients to be more similar to White couples, except for in the case of Asian couples. For Asian couples, controlling for income actually increases the coefficient from  $b = 1252$  to  $b = 1885$ . In Model 4 of Table 4, as in the regressions for previous outcomes, I add an interaction effect between couple-type and applicant income to estimate whether there are couple-type differences in the effect of income on residing into higher-income neighborhoods. There is a positive coefficient for every couple-type compared to White couples, except for Black couples. That means that with the exception of Black couples, the effect of applicant income on average neighborhood income is stronger for non-Whites than it is for White couples. This provides support for the weak version of the place stratification perspective, except for Black couples. The effect of applicant income is weaker for Black couples than for White couples, aligning with the strong version.

[Figure 3 about here]

To provide greater clarity to the results shown in Model 4 of Table 4, Figure 3 displays predicted values of average neighborhood income for each couple-type by applicant income while simultaneously fixing the remaining covariates at their means. There is a positive association between applicant income and average income for each couple-type. This figure also demonstrates the variation in average income among different couple-types. Asian and White-Asian couples live in neighborhoods with the highest average incomes, with a positive slope stretching well above the averages of the other couples. The lowest-earning Asian and White-Asian couples (with incomes of around \$50,000) are predicted to live in neighborhoods with an

average income of over \$100,000. By contrast, Latino couples with similar incomes are predicted to live in neighborhoods of with an average income of under \$80,000. The highest-earning Asian and White-Asian couples are predicted to live in neighborhoods with average incomes of around \$130,000. There is also a slight grouping effect evident among different types of couples, with Asian and White-Asian couples clustered in the highest-income neighborhood and a group of couples including White, Black-White, White-Latino, Black-Asian, and Latino-Asian clustered in the middle-range (it's interesting to note that Black-Asian couples are very similar to White monoracial couples). The third grouping of couples are clustered in the lowest-income neighborhoods: Latino, Black, and Black-Latino couples (couples with neither a White partner nor an Asian partner).

## CONCLUSION

In this paper I have used data from the Home Mortgage Disclosure Act and the U.S. Census to analyze the neighborhood attainment of an array of couple-types, including many that have not previously been examined by scholars. These couple-types include both monoracial and interracial couples consisting of the four largest racial and ethnic groups in the U.S.: Whites, Latinos, Blacks, and Asians. I have investigated the relationship between these couple-types and three neighborhood characteristics: Percent White, Entropy, and Average family income. The results of this analysis are consistent with previous research that suggests that interracial couples have patterns of neighborhood attainment distinct from those of monoracial couples (Wright et al. 2011; Gabriel 2016), but offers expanded insight on the neighborhood outcomes of couple-types that have received little attention in the past, such as Black-Asian and Asian-Latino. Focusing on these less-commonly studied couple-types is a crucial addition to the residential

stratification literature because they are a growing share of the interracial couple population and they offer a deeper understanding of the changing color line in the United States.

My findings suggest that the outcome of percent White in the neighborhood is highly connected to the racial makeup of a couple—specifically, the Whiteness of a couple. There is a clear pattern of White monoracial couples living in the Whitest neighborhoods, by a substantial margin. Couples with one White partner and one non-White partner tend to live in neighborhoods with a lower percentage of Whites than those of White-White couples, but still high. Finally, couples with no White partner live in the least White neighborhoods. The theoretical implications of this pattern suggest a White/non-White color line in this outcome, meaning that there is a clear divide between the outcomes of couples with Whites and those without, where non-White couples such as monoracial Latino and Asian couples, or a combination such as Latino-Asian, look more similar to monoracial Black couples than White couples (Lee and Bean 2007).

In the outcome of neighborhood entropy, we also see a notable divide between the outcomes of Whites and the outcomes of non-Whites. By a large margin, White couples live in the least diverse neighborhoods. Couples with one White partner tend to live in neighborhoods that are more similar to those of their non-White counterparts, although they are still less diverse. Among the couples that live in the most diverse neighborhoods are Asian couples and couples with one Asian partner and one non-White partner: Black-Asian and Latino-Asian. This could suggest that Asians have a unique desire for diversity in their neighborhoods of choice. This might be due to the preference of some Asians to live in ethnic communities.

For the outcome of average income, Asian couples and White-Asian couples live in the highest-income neighborhoods. Latinos and Blacks who are partnered with an Asian individual

also live in relatively high-income neighborhoods, compared to Latino and Black monoracial couples. Hence, in this case, being partnered with an Asian individual increases one's access to high-income neighborhoods, even more so than having a White partner. This suggests that the pull of an Asian partner on the neighborhood socioeconomic status of a traditionally lower-status group is stronger than the pull of a White partner. This could be due to relative prestige that many Asians hold as members of the "model minority" in the United States.

One of the aims of this paper was to determine to what degree, if any, the neighborhood outcomes discussed above vary according to applicant income. This was a focus because it provides a test of the spatial assimilation theory of segregation, under the assumption that higher applicant income, a measure of socioeconomic status, would allow couples to purchase into higher-status neighborhoods. My results provide mixed support for this theory. In the case of the outcomes of percent White and entropy, controlling for applicant income had only a minimal effect on the outcomes of couples. For the outcome of average income, the effect of applicant income was more substantial, with higher-earning couples living in wealthier neighborhoods than lower-earning couples of the same ethnoracial type. These results suggest that for some neighborhood outcomes, such as average neighborhood income, the spatial assimilation theory can explain, at least partially, the patterns of neighborhood attainment across a diverse set of interracial couples. However, for the neighborhood outcomes of percent White and entropy the spatial assimilation theory does not adequately explain the neighborhood attainment patterns highlighted in my results, pointing to other theories such as place stratification.

There are some limitations to this analysis. The Home Mortgage Disclosure Act data which I use includes only couples who received mortgage loans to buy a house. This selection thus excludes couples who are renters, limiting the generalizability of this study to homeowners

who bought a home with a mortgage loan. Therefore, future research could use alternative data that includes renters. Another limitation is that there is little individual-level information in the data, including information that could affect residential decisions, such as knowledge of different neighborhoods, location of kin, and residential preferences.

Future research should continue to investigate the residential search and acquisition processes of interracial couples. Qualitative approaches could be extremely helpful in determining what couples value in neighborhoods when making residential decisions. Future research would also benefit by teasing out the interaction of gender and race within interracial couples on neighborhood attainment. Policymakers should promote programs that increase neighborhood knowledge (Krysan and Crowder 2017) with the intention to promote integration between racial and ethnic groups.

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TABLES

Table 1. Descriptive Statistics for the Analyses of Monoracial and Interracial Couples: Home Mortgage Disclosure Act: 2005-2015

Variable	White		Black		Latino		Asian		Black-white		White-Latino		White-Asian		Black-Latino		Black-Asian		Latino-Asian	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<i>Dependent Variables</i>																				
Average Family Income (Tract)	98,510	45,040	82,218	33,271	77,477	32,986	115,401	53,198	91,500	39,611	96,355	42,845	113,960	54,341	84,565	34,293	97,180	43,441	99,694	45,158
% White in Tract	79.18	17.33	50.10	27.95	42.88	27.08	54.67	25.48	66.97	23.13	66.35	23.00	68.03	21.87	50.69	25.88	54.44	25.38	52.88	25.03
Entropy	38.18	18.77	53.11	18.29	54.80	18.35	58.03	17.43	49.09	19.20	49.06	18.68	49.96	18.91	57.84	17.35	58.41	18.09	58.59	17.30
<i>Independent Variables</i>																				
<i>Economic Resources</i>																				
Applicant Income	117.56	135.95	96.60	94.23	86.37	80.10	140.35	126.06	104.35	103.49	110.49	108.44	141.39	135.55	95.87	64.12	117.35	120.48	119.97	113.82
<i>Region</i>																				
Northeast	0.16	0.37	0.13	0.33	0.09	0.29	0.18	0.39	0.14	0.35	0.11	0.31	0.14	0.35	0.16	0.37	0.12	0.33	0.10	0.30
Midwest	0.13	0.34	0.13	0.34	0.08	0.26	0.12	0.32	0.21	0.40	0.14	0.34	0.15	0.36	0.08	0.27	0.10	0.30	0.07	0.25
South	0.36	0.48	0.65	0.48	0.39	0.49	0.24	0.43	0.42	0.49	0.39	0.49	0.28	0.45	0.47	0.50	0.41	0.49	0.30	0.46
West	0.23	0.42	0.09	0.29	0.44	0.50	0.46	0.50	0.23	0.42	0.37	0.48	0.43	0.50	0.29	0.45	0.37	0.48	0.53	0.50
<i>Metropolitan Characteristics</i>																				
% White in metro	68.17	16.25	58.35	13.38	48.29	17.22	52.47	16.30	63.76	16.00	58.03	17.57	58.91	17.52	53.79	15.81	55.06	15.57	49.77	16.09
Log of total pop in metro	13.90	1.57	14.51	1.39	14.60	1.45	15.01	1.24	14.18	1.42	14.29	1.50	14.52	1.40	14.60	1.38	14.64	1.31	14.81	1.31
% housing built in past 10 years	14.21	6.45	15.59	6.43	15.64	7.00	12.40	6.47	14.73	6.39	15.45	6.69	13.69	6.52	15.40	6.91	14.81	6.66	14.39	6.97
% in govt. in metro	2.26	1.16	2.63	1.53	2.20	1.03	2.34	1.34	2.51	1.40	2.34	1.18	2.47	1.40	2.48	1.30	2.73	1.55	2.36	1.24
% in military in metro	0.34	0.96	0.59	1.16	0.54	1.22	0.58	1.31	0.55	1.20	0.52	1.23	0.64	1.36	0.71	1.36	0.85	1.54	0.71	1.54
% in manufacturing in metro	5.22	2.33	4.55	1.91	4.18	1.88	4.71	2.05	4.77	2.10	4.47	2.00	4.64	2.01	4.10	1.75	4.16	1.83	4.27	1.76
% in college in metro	2.39	3.62	3.24	3.94	3.09	4.22	4.67	5.15	2.58	3.57	2.64	3.83	3.35	4.33	3.38	4.62	3.33	4.30	3.67	4.59
% 65+ in metro	1.57	8.39	2.10	9.93	2.80	12.02	3.60	14.49	1.63	8.42	1.99	9.68	2.36	11.01	2.51	11.64	2.06	10.05	2.71	12.15
Year	2009	3.43	2008	3.38	2009	3.48	2009	3.38	2009	3.52	2009	3.48	2010	3.41	2009	3.53	2009	3.54	2010	3.48
N of observations	9,164,829		433,622		788,761		587,680		100,782		400,275		209,276		20,157		10,112		19,430	

Table 2. Regression of Percent White in Tracts for Interracial Couples: Home Mortgage Disclosure Act: 2005-2015

Independent Variables	Model 1	Model 2	Model 3	Model 4
<i>Couple combinations</i>				
Black couples	-29.35*** (-970.67)	-23.08*** (-929.03)	-22.67*** (-917.57)	-24.76*** (-708.39)
Latino couples	-36.39*** (-1595.41)	-21.63*** (-1105.64)	-20.85*** (-1067.35)	-23.73*** (-861.12)
Asian couples	-24.44*** (-934.31)	-13.48*** (-614.72)	-13.39*** (-614.65)	-16.00*** (-504.58)
Black-White couples	-12.13*** (-197.11)	-9.197*** (-184.11)	-8.936*** (-180.08)	-10.12*** (-144.04)
White-Latino couples	-12.72*** (-405.14)	-5.236*** (-204.13)	-4.971*** (-195.05)	-6.306*** (-174.80)
White-Asian couples	-10.98*** (-255.56)	-4.213*** (-120.30)	-4.315*** (-124.03)	-5.426*** (-108.64)
Black-Latino couples	-28.41*** (-207.27)	-18.43*** (-165.71)	-17.87*** (-161.74)	-21.88*** (-110.42)
Black-Asian couples	-24.62*** (-127.32)	-15.28*** (-97.41)	-15.03*** (-96.41)	-16.68*** (-76.80)
Latino-Asian couples	-26.12*** (-187.12)	-12.70*** (-112.03)	-12.36*** (-109.73)	-14.68*** (-89.98)
<i>Metropolitan characteristics</i>				
% foreign born in metro		-0.266*** (-228.66)	-0.302*** (-260.18)	-0.309*** (-267.11)
% white in metro		0.623*** -1144.77	0.622*** -1149.74	0.619*** -1145.79
Log of total population in metro area		1.366*** -285.57	1.314*** -276.33	1.322*** -278.38
% housing built in past 10 years		-0.0917*** (-93.45)	-0.0794*** (-81.44)	-0.0744*** (-76.39)
% in government in metro		-0.405*** (-85.83)	-0.417*** (-88.85)	-0.426*** (-90.93)
% in military quarters in metro		-0.516*** (-105.14)	-0.530*** (-108.74)	-0.526*** (-108.14)
% in manufacturing in metro		-0.0723*** (-25.62)	-0.0604*** (-21.54)	-0.0668*** (-23.85)
% in college in metro		0.171*** -77.08	0.162*** -73.55	0.162*** -73.61
% 65+ in metro		-0.0192*** (-33.70)	-0.0158*** (-27.91)	-0.0150*** (-26.48)
<i>Region</i>				
Northeast		3.556*** (171.16)	3.563*** (172.66)	3.633*** (176.30)
Midwest		3.431*** (198.94)	3.462*** (202.10)	3.483*** (203.67)

South	2.234***	2.180***	2.162***
	(163.68)	(160.79)	(159.77)
<i>Interactions</i>			
Applicant income (in \$1000s)		0.0143***	0.0116***
		-396.57	-299.89
Black couples X applicant income			0.0209***
			(82.05)
Latino couples X applicant income			0.0324***
			(145.27)
Asian couples X applicant income			0.0192***
			(115.34)
Black-White couples X applicant income			0.0110***
			(22.98)
White-Latino couples X applicant income			0.0119***
			(51.32)
White-Asian couples X applicant income			0.00837***
			(32.83)
Black-Latino couples X applicant income			0.0411***
			(23.95)
Black-Asian couples X applicant income			0.0140***
			(10.86)
Latino-Asian couples X applicant income			0.0195***
			(19.77)
Year	-0.342***	-0.0233***	-0.0343***
	(-206.55)	(-16.26)	(-24.06)
Constant	765.5***	67.62***	88.98***
	(230.38)	(23.31)	(30.88)

*N* of observations = 11,734,924

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 3. Regression of Entropy in Tracts for Interracial Couples: Home Mortgage Disclosure Act: 2005-2015

Independent Variables	Model 1	Model 2	Model 3	Model 4
<i>Couple combinations</i>				
Black couples	15.25*** (526.71)	8.970*** (375.14)	8.728*** (365.56)	8.904*** (263.25)
Latino couples	16.72*** (765.69)	4.216*** (223.94)	3.760*** (199.18)	3.508*** (131.52)
Asian couples	19.76*** (789.25)	10.27*** (486.48)	10.22*** (485.14)	12.25*** (399.14)
Black-White couples	10.82*** (183.52)	7.716*** (160.50)	7.564*** (157.71)	8.252*** (121.34)
White-Latino couples	10.74*** (357.49)	3.876*** (157.00)	3.722*** (151.07)	4.397*** (125.93)
White-Asian couples	11.57*** (281.20)	5.187*** (153.87)	5.246*** (156.01)	6.132*** (126.85)
Black-Latino couples	19.56*** (149.06)	10.44*** (97.49)	10.11*** (94.66)	11.19*** (58.32)
Black-Asian couples	20.08*** (108.45)	11.06*** (73.26)	10.91*** (72.45)	11.58*** (55.12)
Latino-Asian couples	20.19*** (151.08)	8.261*** (75.73)	8.061*** (74.07)	8.752*** (55.42)
<i>Metropolitan characteristics</i>				
% foreign born in metro		0.197*** (175.61)	0.217*** (194.04)	0.219*** (195.58)
% white in metro		-0.396*** (-754.97)	-0.395*** (-755.19)	-0.394*** (-754.71)
Log of total population in metro area		0.917*** (199.20)	0.948*** (206.27)	0.940*** (204.69)
% housing built in past 10 years		0.320*** (339.14)	0.313*** (332.20)	0.312*** (330.91)
% in government in metro		0.965*** (212.37)	0.972*** (214.36)	0.973*** (214.69)
% in military quarters in metro		0.654*** (138.53)	0.662*** (140.62)	0.657*** (139.64)
% in manufacturing in metro		0.0215*** (7.91)	0.0145*** (5.36)	0.0190*** (7.01)
% in college in metro		-0.178*** (-83.48)	-0.173*** (-81.24)	-0.172*** (-80.73)
% 65+ in metro		0.00961*** (17.48)	0.00762*** (13.89)	0.00727*** (13.26)
<i>Region</i>				
Northeast		-6.708*** (-335.46)	-6.712*** (-336.49)	-6.732*** (-337.59)

Midwest		-7.627*** (-459.56)	-7.645*** (-461.79)	-7.656*** (-462.62)
South		-2.505*** (-190.70)	-2.473*** (-188.75)	-2.475*** (-188.92)
<i>Interactions</i>				
Applicant income (in \$1000s)			-0.00833*** (-239.47)	-0.00737*** (-197.00)
Black couples X applicant income				-0.00155*** (-6.28)
Latino couples X applicant income				0.00324*** (-15.01)
Asian couples X applicant income				-0.0147*** (-91.36)
Black-White couples X applicant income				-0.00644*** (-13.94)
White-Latino couples X applicant income				-0.00604*** (-27.03)
White-Asian couples X applicant income				-0.00644*** (-26.09)
Black-Latino couples X applicant income				-0.0110*** (-6.60)
Black-Asian couples X applicant income				-0.00568*** (-4.55)
Latino-Asian couples X applicant income				-0.00580*** (-6.08)
Year	0.408*** (258.03)	0.241*** (174.48)	0.247*** (179.52)	0.248*** (179.97)
Constant	-782.6*** (-246.02)	-436.6*** (-156.43)	-449.1*** (-161.26)	-450.3*** (-161.72)

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*N* of observations = 11,734,924

\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Table 4. Regression of Average Family Income for Interracial Couples: Home Mortgage Disclosure Act: 2005-2015

Independent Variables	Model 1	Model 2	Model 3	Model 4
<i>Couple combinations</i>				
Black couples	-14097.8*** (-208.93)	-21642.8*** (-343.47)	-18725.5*** (-313.19)	-17582.7*** (-207.72)
Latino couples	-20288.0*** (-398.50)	-30622.3*** (-617.27)	-25139.4*** (-531.81)	-26809.9*** (-401.65)
Asian couples	16309.0*** (279.38)	1252.7*** (22.52)	1885.7*** (35.76)	-5482.6*** (-71.37)
Black-White couples	-7676.7*** (-55.87)	-11238.0*** (-88.71)	-9410.1*** (-78.35)	-10555.7*** (-62.02)
White-Latino couples	-3106.2*** (-44.34)	-8073.3*** (-124.10)	-6217.6*** (-100.79)	-8611.3*** (-98.55)
White-Asian couples	14022.3*** (146.19)	5788.8*** (65.17)	5072.8*** (60.24)	-1159.7*** (-9.59)
Black-Latino couples	-14637.4*** (-47.85)	-24190.4*** (-85.75)	-20267.0*** (-75.78)	-25097.3*** (-52.28)
Black-Asian couples	-2340.5*** (-5.42)	-12434.7*** (-31.25)	-10632.8*** (-28.19)	-11326.3*** (-21.54)
Latino-Asian couples	-359.8 (-1.15)	-12466.7*** (-43.37)	-10059.3*** (-36.91)	-14065.1*** (-35.59)
<i>Metropolitan characteristics</i>				
% foreign born in metro		864.7*** (293.16)	615.2*** (219.34)	605.2*** (215.89)
% white in metro		14.29*** (10.35)	4.208** (3.22)	1.918 (1.47)
Log of total population in metro area		6610.1*** (544.70)	6241.9*** (542.36)	6270.3*** (545.32)
% housing built in past 10 years		-129.4*** (-52.00)	-43.26*** (-18.33)	-35.10*** (-14.88)
% in government in metro		3453.1*** (288.34)	3372.6*** (297.06)	3374.8*** (297.51)
% in military quarters in metro		260.8*** (20.96)	161.3*** (13.68)	179.9*** (15.27)
% in manufacturing in metro		71.16*** (9.94)	154.9*** (22.83)	138.5*** (20.44)
% in college in metro		316.8*** (56.24)	254.3*** (47.61)	250.0*** (46.87)
% 65+ in metro		-80.40*** (-55.51)	-56.43*** (-41.09)	-54.70*** (-39.87)
<i>Region</i>				
Northeast		9175.4*** (174.13)	9226.6*** (184.70)	9335.5*** (187.05)
Midwest		6611.4*** (151.17)	6831.8*** (164.78)	6882.4*** (166.17)

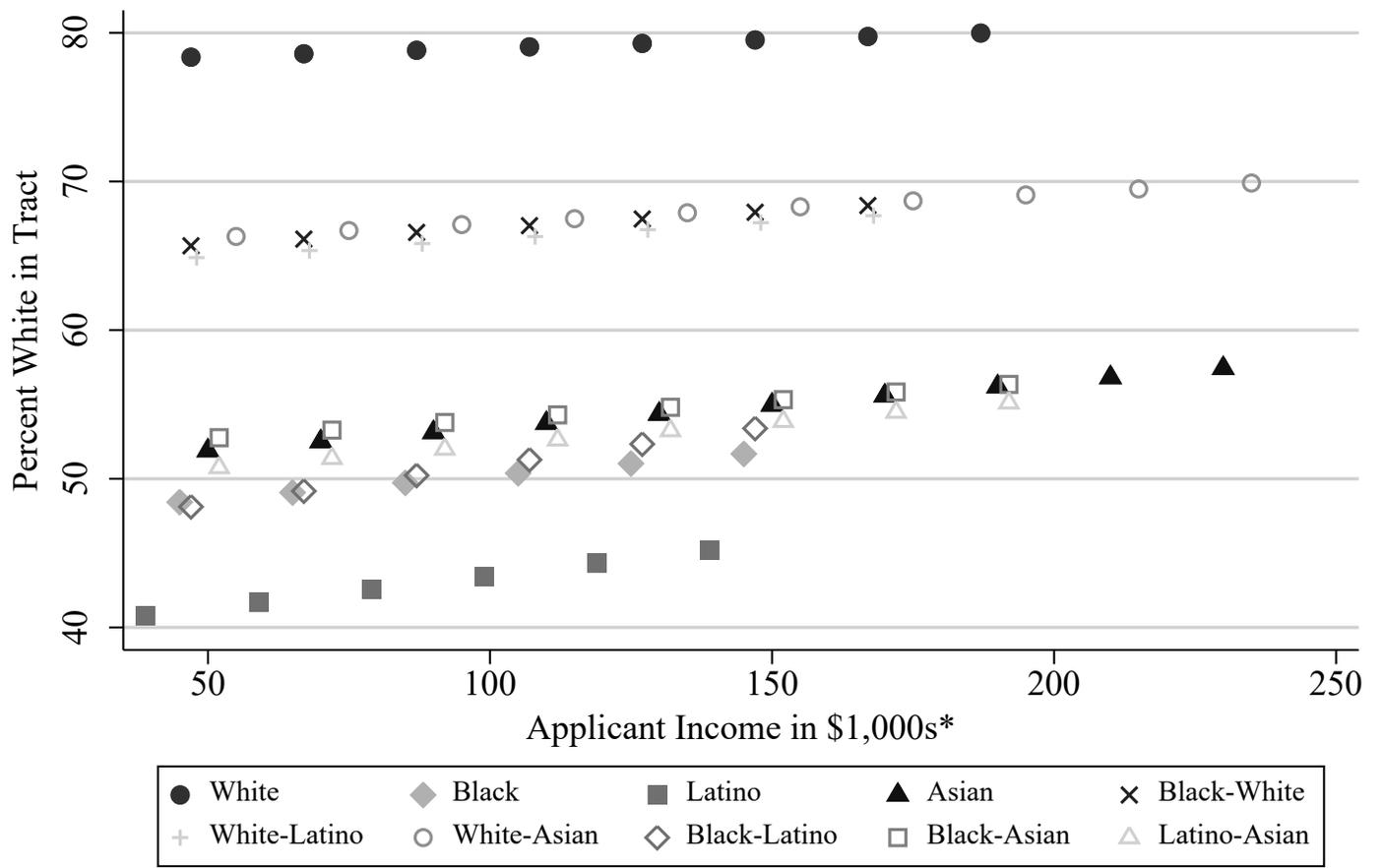
South	3971.4***	3593.2***	3575.5***	
	(114.75)	(109.51)	(109.07)	
<i>Interactions</i>				
Applicant income (in \$1000s)		100.2***	95.97***	
		(1149.92)	(1024.75)	
Black couples X applicant income			-13.01***	
			(-21.08)	
Latino couples X applicant income			17.96***	
			(33.23)	
Asian couples X applicant income			53.44***	
			(132.69)	
Black-White couples X applicant income			10.31***	
			(8.92)	
White-Latino couples X applicant income			21.34***	
			(38.15)	
White-Asian couples X applicant income			44.87***	
			(72.65)	
Black-Latino couples X applicant income			49.25***	
			(11.84)	
Black-Asian couples X applicant income			5.791	
			(1.85)	
Latino-Asian couples X applicant income			33.61***	
			(14.08)	
Year	2828.6***	2478.1***	2401.2***	2402.6***
	(766.52)	(681.03)	(695.95)	(697.01)
Constant	-5585762.5***	-4995233.8***	-4845263.0***	-4847748.8***
	(-753.23)	(-679.13)	(-694.74)	(-695.75)

*N* of observations = 11,734,924

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

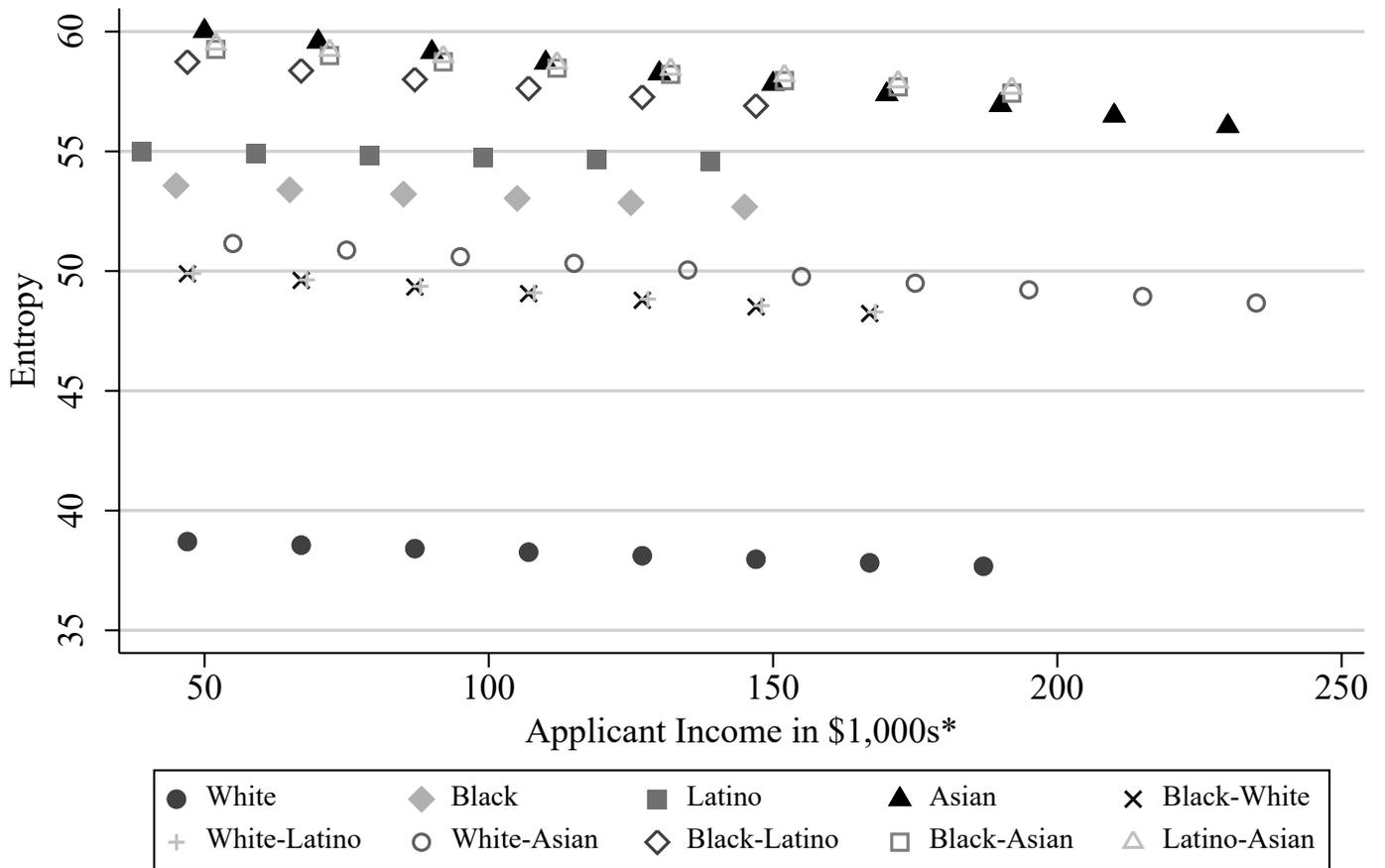
FIGURES

Figure 1. Percent White in Neighborhood by Interracial and Monoracial Couples by Applicant Income: Home Mortgage Disclosure Act: 2005 to 2015



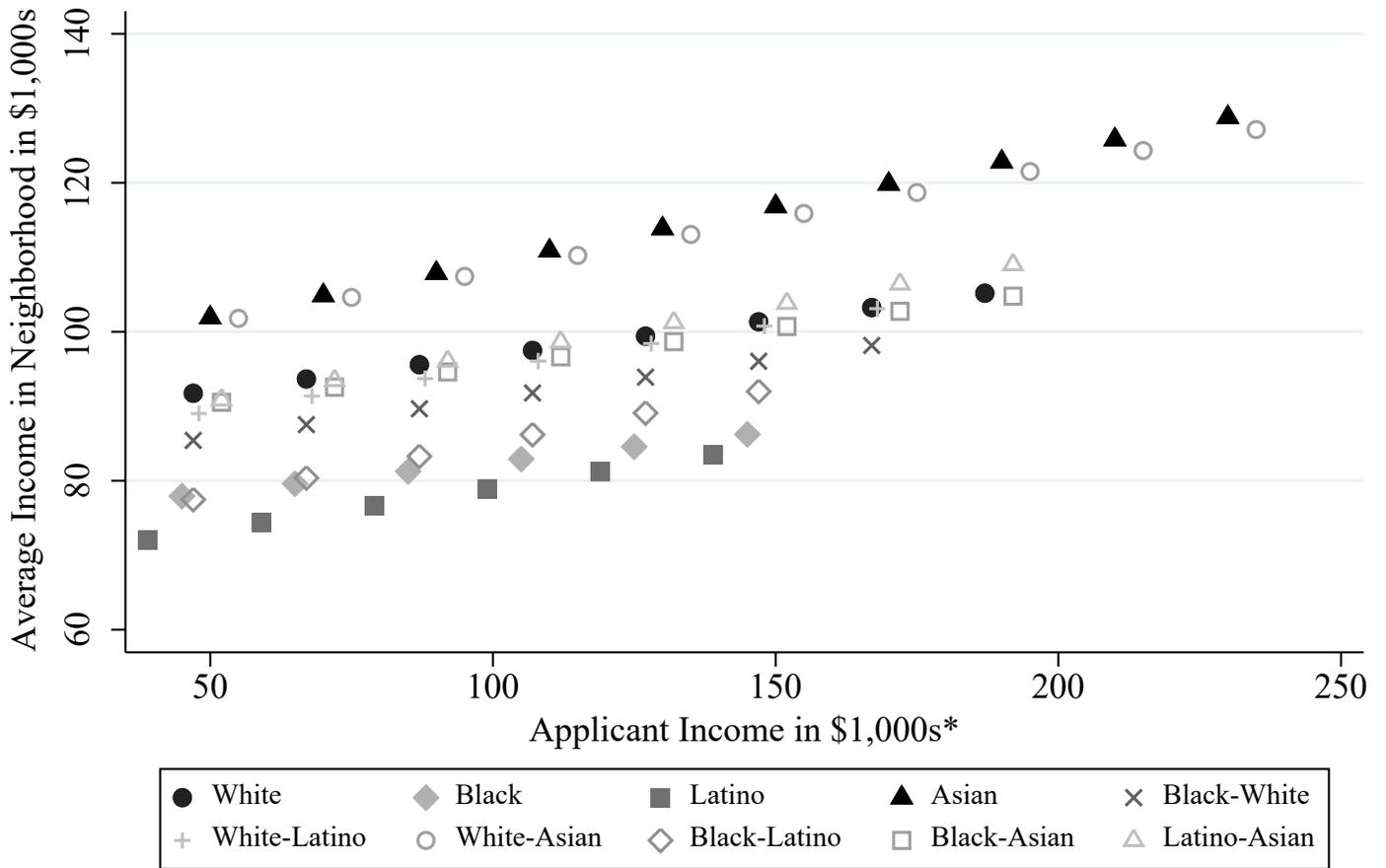
\*income constrained to 10th - 90th percentiles

Figure 2. Entropy by Interracial and Monoracial Couples by Applicant Income: Home Mortgage Disclosure Act: 2005 to 2015



\*income constrained to 10th - 90th percentiles

Figure 3. Average Income in Neighborhood by Interracial and Monoracial Couples by Applicant Income: Home Mortgage Disclosure Act: 2005 to 2015



\*income constrained to 10th - 90th percentiles