Who We'll Live With: Neighborhood Racial Composition Preferences of Whites, Blacks and Latinos

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The debate about racial residential preferences has two open questions. First, are neighborhood racial preferences truly racial, or is race a proxy for socio-economic factors? Second, are in-group or out-group preferences more salient? Using the Houston Area Survey, we employ a factorial experiment to assess the effect of racial composition on neighborhood desirability independent of crime, school quality and property values. We survey whites, blacks and Hispanics to examine in-group vs. out-group preferences. Results show that independent of proxies, whites find neighborhoods less attractive as the proportion black or Hispanic increases; the proportion Asian has no impact. Racial composition has little effect on Hispanics' and blacks' neighborhood preferences. We find no evidence of in-group preferences; rather, results suggest that whites express negative out-group preferences toward black and Hispanic neighborhoods.

Racial residential segregation persists. Despite small to moderate declines in the separation between whites and blacks, these declines are smallest in areas with the largest minority populations (Logan 2001). In most metropolitan areas, especially those with the largest black populations, segregation levels are high along multiple dimensions (Massey and Denton 1993, 1989). Compared to blacks and whites, the segregation of other racial/ethnic groups is moderate, but rising. With the explosive growth of Latinos and Asians in the United States, segregation between these two groups and whites has increased over the past 20 years (Logan 2001). In some metropolitan areas, Hispanic-white segregation levels approach black-white segregation levels[1].

Scholars have studied the causes of racial residential segregation for more than half a century. One explanation for persistent segregation holds that individuals' preferences regarding neighborhood racial composition cause continued segregation. Research has examined the implications of whites' and blacks' ideal neighborhood racial makeup and has shown that whites typically prefer neighborhoods that are no more than 20 percent black, whereas blacks prefer neighborhoods that are 50 percent black and 50 percent white. Starting with Schelling (1971) and continuing with Clark (1986, 1991, 1992), Thernstrom and Thernstrom (1997), and Fossett (2006), research using thought experiments and simulations has shown that small differences in preferences can produce substantial and persistent segregation. Several studies conclude that with no other dis-

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crimination (such as in housing or lending markets), segregation will persist given these preferences. In particular, blacks' preferences for 50-50 neighborhoods is sometimes singled out as being segregation promoting, given the much lower proportion of blacks in the population (Fossett 2006). The implications that even small differences in preferences have on residential segregation is one reason the study of preferences is essential.

Here, the debate turns to in-group and out-group preferences. Some scholars hold that race is a factor in residential segregation due to in-group preference; people prefer to live with people like themselves (Clark 1986, 1988, 2002, 2007; McWhorter 2000; Patterson 1997; Thernstrom and Thernstrom 1997). Others argue that the desires of people to avoid out-groups is more powerful in driving segregation (Bobo and Zubrinsky 1996; Charles 2001, 2003; Farley et al. 1993, 1994; Galster 1990; Krysan 1998, 2002; Krysan and Farley 2002; Quillian 2002).

In addition, scholars have debated whether neighborhood racial preferences are truly reflective of *racial* preferences, or instead are reflective of social class preferences. In research on neighborhood racial preferences, some studies conclude that once the effects of factors associated with race – such as housing values – are removed, race does not play an independent role in residential segregation (Frey 1979; Harris 1999, 2001; Taub 1984). Other studies conclude that race does matter above and beyond such proxy factors (Emerson et al. 2001; Krysan and Bader 2007).

The extent to which individuals prefer to live in communities based on racial composition lies at the heart of what we address in this study. The debate over whether racial composition has an independent influence on neighborhood preferences remains unsettled due to inherent limitations of data and methodology. Both behavioral and attitudinal data have substantial weaknesses, making it difficult to resolve the debate regarding the impact of racial composition independent of social class variables. In this article, we move beyond the literature's limitations to make several distinct contributions. We use a factorial experiment to overcome data shortcomings and examine racial preferences independent of commonly cited social class proxies, such as school quality and crime rates. Rather than studying whites' preferences only, we consider the preferences of blacks and Latinos as well. Doing so allows us to address the debate over in-group vs. out-group preferences. We examine these issues in a local metropolitan context rather than more typical national samples. Local contexts have their own particular racial histories, spatial development, racial and ethnic composition, social structures, and other factors shaping the nature of metropolitan racial segregation (Massey and Denton 1993; Farley and Frey 1994; Krysan and Bader 2007). We believe the best way to understand the role of neighborhood preferences is to examine them in the local context; here we focus on the Houston metropolitan area, one of the nation's major immigration destinations.

Measuring Racial Residential Preferences

Sociologists have a long tradition of measuring racial residential preferences. One of the most influential methods for measuring racial preference was developed by Farley et al.

(1978). Survey respondents were shown cards with pictures of houses colored black and white to represent black and white residents of a hypothetical neighborhood. The proportion of houses colored black or white on each card varied, and respondents were asked how willing they would be to live in each neighborhood. Results showed that whites were open to low levels of integration, but most objected to neighborhoods that were over one-third black. Blacks ranked neighborhoods split half and half as the most attractive.

The showcard methodology was replicated in the 1992-1994 Multi-City Study of Urban Inequality and was modified to include Hispanics and Asians (Charles 2001; Farley et al. 1993; Farley, Fielding and Krysan 1997; Zubrinsky and Bobo 1996). A rank ordering of whites' preferences became apparent, with whites most comfortable with Asians and least comfortable with blacks. For all groups, comfort declined as the proportion of out-group members increased. In the same studies, blacks overwhelmingly preferred the most integrated neighborhoods regardless of out-group. Hispanics and Asians both preferred neighborhoods integrated with whites, but chose low levels of integration with blacks.

Despite the well-documented relationship between racial composition and neighborhood desirability, it remains unclear whether racial composition itself is driving out-group preferences. A key question remains: to what extent are "racial" preferences actually measures of racial as opposed to class preferences? Critics argue that racial preference patterns are due to other factors associated with race (e.g., Clark 1986; Ellen 2000; Frey 1979; Harris 1999, 2001). Black neighborhoods are often perceived to have higher crime rates, worse schools and lower property values. Thus, race may serve as a proxy for neighborhood social class characteristics or quality. The debate centers on whether racial composition has an independent effect on preferences, net of other characteristics.

Several studies have used preference for actual neighborhoods to address this question. Krysan and Bader (2007) asked Detroit area respondents if they would consider moving to 33 actual Detroit area neighborhoods. They found that racial composition had an effect on desirability beyond the social characteristics of a neighborhood. Other work using the MCSUI finds the desirability of communities varies by a community's racial composition (Charles 2001; Krysan 2002). Whites rated communities with large proportions of minorities as undesirable, while minorities found these neighborhoods most desirable.

Inherently limiting in studies using actual neighborhood desirability is the structure of the neighborhoods in the metropolitan context studied. Krysan and Bader (2007), for example, study the desirability of neighborhoods in Detroit where few neighborhoods are more than minimally integrated (in this case, most are no more than 7%), leaving respondents restricted in expressing preference for integration. A second problem in using actual neighborhoods is that neighborhoods have histories, reputations, schools, amenities and other characteristics. While this more closely reflects reality, it is complicating to researchers attempting to single out the role of racial composition.

Alternatively, researchers commonly use behavioral data, studying the factors associated with residential movement or locational attainment (Alba and Logan

1991; Clark and Ledwith 2007; Rosenbaum and Friedman 2001). However, where people move and live is the end result of a variety of processes, including not only preferences, but also affordability, demographic differences, differences in housing preference, housing market and lending discrimination, actual and perceived group hostilities, and differential access to market information. Researchers typically have limited information on these processes. As a result, it is difficult to infer from behavioral data the independent role of racial preferences.

While in reality people must work within the constraints of actual neighborhoods, for the purpose of understanding how race shapes neighborhood preferences, hypothetical neighborhoods allow a more pure understanding of racial preference. Emerson et al. (2001) tested for independent racial preferences using a factorial experiment, a technique used to disentangle competing, related influences on an outcome (Durham 1986; Hunter and McClelland 1991; Rossi and Anderson 1982; Shlay et al. 2005). Factorial surveys use vignettes as the foundation for analysis. A vignette is a description of a multidimensional phenomenon, in this case a neighborhood, similar to a short story read to a respondent. Vignettes are created by randomly assigning characteristics to neighborhoods; random assignment ensures that the characteristics are uncorrelated. Using multivariate analysis, researchers can then examine the independent influence of each characteristic on the outcome.

In the case of neighborhood desirability and racial composition, Emerson et al. (2001) told respondents that they were looking for a house and had found one they like. Respondents were then told about a neighborhood with randomly generated combinations of crime rates, school quality and property values, as these are the most commonly cited reasons for not wanting to live in a minority neighborhood. Specifically, respondents were told that the public schools in the area were of low, medium or high quality; crime was low, average or high; property values were declining, stable or increasing; and the neighborhood was 5-100 percent black, Latino or Asian. Respondents were then asked how likely they would be to buy the house. Results showed whites expressed stronger negative preferences as the proportion of blacks (but not Asians or Hispanics) in a neighborhood increased, net of the proxies of school quality, crime levels and housing values.

Most recently, the factorial experiment has been adapted to use videos, varying visual cues of social class and changing the race of neighborhood residents shown (Krysan et al. 2009). This is a particularly useful approach, as it does not require a respondent to mentally juggle multiple neighborhood characteristics but rather shows visually a set of characteristics. In addition, it simulates how people actually consider a neighborhood: by driving through to see what it is like. The drawback of the video experiment is that it requires in-person interviews rather than telephone surveys.

In-Group and Out-Group Preferences

If neighborhood racial preferences exist independent of social class preferences, the question turns to the nature of these preferences. Some scholars argue that people of

all racial/ethnic communities prefer to live with their own racial group when possible. Segregation does not result from groups avoiding or excluding others; segregation happens because people choose to live near those like themselves. Clark (1992, 2002) has demonstrated the best evidence to support this position, suggesting that in-group preferences reflect a natural ethnocentrism or "race myopia." He argues that whites exhibit the strongest in-group preferences; it is in-group preference, rather than prejudice, that explains whites' avoidance of minority populations (Clark 2002). Other scholars in this tradition cite the decline over time in whites' stated prejudice and the increase in stated willingness to live in diverse neighborhoods.

When segregation persists despite shifts in whites' attitudes, some posit it is minority in-group preferences rather than white prejudice driving residence patterns (McWhorter 2000; Patterson 1997; Thernstrom and Thernstrom 1997). For example, Clark (2002) shows that while minority groups express preferences for integrated neighborhoods as a first choice, their second choice neighborhoods are considerably more same-race; these preferences may contribute to segregation.

Other researchers take issue with in-group preference as a driver for segregation. Ihlanfeldt and Scafidi (2002) test minority preference in three cities and conclude that if the effects of all minority in-group preferences were removed, segregation levels would decline by just six percentage points. Bobo and Zubrinsky (1996) note another reason for skepticism of the in-group preference hypothesis: in-group preferences may allow majority group members to conveniently mask prejudices. As evidence, they show that in the Detroit Area Study white respondents who cited in-group preference for wanting to live in heavily white neighborhoods were also likely to express negative stereotypes of blacks.

Out-group preferences, or racial prejudice, also figure prominently in segregation research. At the bivariate level, race clearly matters in residential preferences, especially for whites (Bobo and Zubrinsky 1996; Charles 2001, 2003; Clark 1991; Ellen 2000; Farley et al. 1978, 1994; Massey and Denton 1993). Racial groups prefer to avoid other races in ways consistent with their societal status. In studies of actual neighborhoods in the MCSUI, whites expressed the most reluctance to living with blacks, followed by resistance to Hispanics. Whites expressed the least resistance to living with Asians (see Charles 2003 for a review). Once again, the question hinges on whether or not these preferences are truly racial.

Further complicating the story of preferences is how factors other than race may affect an individual's racial preferences. The best work on this has been done in the area of class, with research showing that for blacks, preference for integrated neighborhoods increases with income and education levels (Clark 2009).

The Research Gap

We address several unanswered questions about racial preferences. First, we attempt to disentangle the role of racial composition from that of social class. We use the factorial experiment method so as to allow the key variables to be independent, enabling us

to control for the racial proxy variables of crime, school quality and property values. We improve upon previous factorial studies (i.e., Emerson et al. 2001) by including preferences of blacks and Hispanics and studying segregation at the metropolitan level rather than the national level.

The second question we attempt to answer is to what extent whites, blacks and Hispanics express in-group vs. out-group racial residential preferences. Many studies of racial segregation include only the preferences of whites, or at best whites and blacks. We measure the preferences of the three major U.S. ethno-racial groups to examine how preferences vary and to what extent each group expresses in-group and out-group preferences. We theorize that the presence of in-group preferences will play out such that an in-group will consider neighborhoods less desirable with increasing proportions of *all* out-groups. In contrast, out-group preferences would be evident if neighborhoods composed of *specific* out-groups are less desirable. We attempt to disentangle these very preferences to speak to questions of in-group and out-group preferences.

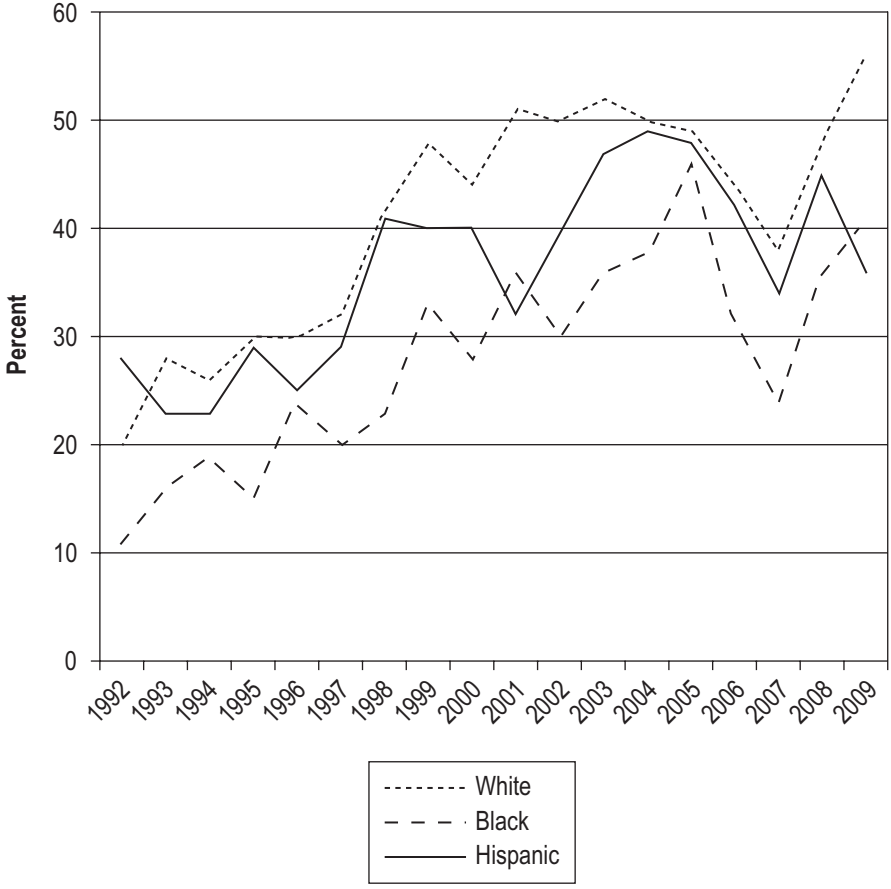
Houston as the Local Context[2]

Because segregation is shaped within local contexts[2] (Farley and Frey 1994), the best way to understand the effects of racial composition is in light of the home environment. An effective analysis of neighborhood racial preferences requires an urban area with the strong presence of multiple racial groups. Houston, the nation's fourth largest city and sixth largest metropolitan area, fits these criteria. Houston sits directly at the intersection of the United States' large population of blacks in the Southeast and large population of Hispanics in the Southwest. Harris County, in which Houston resides, has more than 750,000 blacks, more than a million Latinos, slightly fewer Non-Hispanic whites and about 250,000 Asians.

Houston has a mixed history of race relations (Streetman 2005). It was a slaveholding city and later had an active chapter of the Ku Klux Klan, two documented lynchings, several cross burnings and persistent school segregation. However, unlike most major cities, Houston has not had a race riot since 1917. Houston's civil rights leaders of the 1950s and 1960s were effective in peacefully bringing about integration in most areas of public life. In addition, Houston is ranked as a top place for Latinos to attend college, has a high rate of minority-owned businesses, and is ranked by the *Black Enterprise* reader poll as one of the five best cities for blacks (Brown and Padgett 2004).[3] According to the Houston Area Survey (Klineberg 2010), significant percentages of Houstonians give positive ratings to ethnic relations in the city, and the pattern has improved over time, with the notable exception of a two-year period following the arrival of over 100,000 Hurricane Katrina evacuees from New Orleans. Figure 1 shows the percent of respondents by ethnic group rating ethnic relations in the Houston area as good or excellent from 1992 to 2009.

In 1980-2000, the Houston area became a majority-minority metropolitan area**.** The percentage black remained stable (18-19%), the percentage Anglo declined from two-thirds (63%) to less than half (42%), the percentage Latino doubled from 16

Figure 1. Percent of Respondents Rating the Relations Among Ethnic Groups in the Houston Area as Good or Excellent, by Ethnic Group



Source: Klineberg (2010)

percent to 33 percent, and the Asian percentage tripled from 2 percent to 6.5 percent. During this period, the metropolitan population increased by 1.5 million, but only 12 percent of that growth was due to whites. Asians accounted for 13 percent of the growth, blacks for 16 percent and Latinos for 59 percent. These trends accelerated in the 1990-2000 decade and have continued through the 2000-2010 decade.

Houston's accelerating racial diversity has had interesting impacts on segregation. From 1990 to 2000, the index of dissimilarity score between whites and Latinos and between whites and blacks increased, while dissimilarity between blacks and Latinos decreased.[4] Exposure indices, which measure the likelihood of having persons of another race in one's neighborhood, show that whites' exposure to blacks decreased between 1990 and 2000, but whites' exposure to Hispanics increased slightly. Thus, despite increasing segregation between whites and Hispanics, the substantial growth

in Hispanics overall resulted in a slight increase in the presence of Hispanics in the average white's neighborhood. From the perspective of whites and blacks in Houston, the absolute and relative growth of Latinos has been explosive.[5]

Whites' and blacks' experiences of living in a metropolitan area with large numbers of Latinos may have effects on race relations. The doubling of the Hispanic population in Houston from 1980 to 2000 is an enormous relative increase. Group threat theory, as put forth by Blumer (1958) and Blalock (1957, 1967) and tested by Quillian (1995, 1996), holds that prejudice is a result of the dominant group feeling threatened by the subordinate group. One way this threat is experienced is through a large minority population; larger group sizes mean more competition for scarce resources and the threat of mobilization (Blalock 1967). In Houston, this suggests that whites and blacks may have relatively high levels of prejudice against Hispanics.

Additionally, Hispanics–particularly first-generation immigrants, who comprise 55 percent of all Hispanic adults in the city–have lower average levels of education, income and occupational status than white Americans. The influx of Hispanic immigrants could lead non-Hispanic Houstonians to develop a more negative Hispanic racial ideology than is found in most national surveys. Given that Hispanics are the most rapidly growing racial/ethnic group in the United States and are increasingly dispersed throughout the country, the patterns observed in Houston may anticipate future patterns nationwide.

Methods

We set out to move beyond the current literature by answering two questions. First, how much of a role does race play in neighborhood preference independent of the proxies commonly associated with it? We consider this question not just for whites, as is commonly done, but for blacks and Latinos as well, allowing us to add to the literature on segregation by considering that minority preferences matter as well. Second, to what extent do whites, blacks and Latinos express in-group preferences (a desire to live with people like themselves) vs. negative out-group preferences (a desire to avoid specific out-groups)? By asking each racial group about multiple other racial groups, we are able to assess preferences with regard to specific racial groups, then pull these findings together to show a picture of in-group and out-group preference. We answer our questions using a factorial experiment design. This provides several advantages. First, we are able to vary neighborhood characteristics in order to determine the independent impacts of racial composition, as well as allowing for a wide range of neighborhood options. Second, we are able to consider neighborhood preferences without the long list of complicating factors involved with actual mobility decisions and the limited variation in actual neighborhoods.

Data

Data for this study come from two expanded versions of the Houston Area Survey, an annual telephone survey of public opinion in Harris County, Texas that began in

1982 and is currently conducted by the Kinder Institute for Urban Research at Rice University (Klineberg 2005). Respondents are selected each year through a two-stage random-digit-dialing procedure. In each household reached, the respondent is selected randomly from all residents ages 18 or older. Using back translation and the reconciliation of discrepancies, each year's questionnaire is translated into Spanish. The interviews analyzed here were conducted during February and March of 2003 and 2005.

To enlarge the number of black and Hispanic respondents, additional interviews were conducted each year using identical random selection procedures and terminating the interviews if the respondent was not of the ethnic background required. These expanded surveys provide representative samples from each of the three largest racial/ethnic groups: blacks, whites and Hispanics. The survey's response rates in 2003 and 2005 were 53 percent and 48 percent respectively, indicating the percent of completed interviews in relation to all possible numbers dialed in the telephone samples. Of the phone numbers when a person was reached, 70 percent completed the interviews.[6]

Factorial Experiment Design

We used a factorial experiment modeled after the one employed by Emerson et al. (2001) as a module included on the Houston Area Survey. Respondents were asked to imagine they were looking for a house and found one they liked more than any other house: "It has everything you've been looking for; it's close to work, and within your price range." They were then told about the neighborhood context using randomly generated combinations of characteristics. Because the most commonly cited reasons for not wanting to live in an area with many racial others are high crime rates, poor quality schools and declining property values (Farley et al. 1978, 1994; Harris 1999), these variables were included in the vignettes. As is custom with most vignette studies, respondents were read one and only one randomly generated combination of neighborhood factors.

> Checking on the neighborhood you find that:
>
> • the public schools in the area are of [low/high] quality,
> • property values are [declining/increasing],
> • the crime rate is [low/high], and
> • the neighborhood is [0-100%] [black, Hispanic, white or Asian] and [1-x%] [respondent's race].

Both the order of the variables and the particular value of each variable are randomly computer generated. Each vignette described a neighborhood composed of the respondent's own racial group and one other group (e.g., blacks might be asked about a white-black neighborhood or an Asian-black neighborhood). This variable ranged from 100 percent composed of the respondent's own racial group to 100 percent composed of the specified other group, in increments of 10 percentage points. We include only two racial groups in the vignettes for two reasons: first, for cognitive simplicity, and second,

to mirror the reality that few real neighborhoods in Houston are composed of more than two races.[7] After hearing their version of the vignette, respondents were asked, "How likely or unlikely do you think it is that you would buy this house?" Responses were distributed on a four-point scale ranging from very unlikely to very likely.[8]

To better envision how these vignettes sound to a respondent, we present two vignettes. In the first example, we present the vignette a black woman was read. She heard: "Imagine you were looking for a house and you found one you liked more than any other house. It has everything you've been looking for; it's close to work, and within your price range. Checking on the neighborhood, you find that the property values are increasing, the crime rate is high, the neighborhood is 30 percent Asian and 70 percent black, and the public schools in the area are of high quality. How likely or unlikely do you think it is that you would buy this house? Do you think it is very likely, somewhat likely, somewhat unlikely, or very unlikely?"

In the second example, a Latino heard the following vignette: "Imagine you were looking for a house and found one you liked more than any other house. It has everything you've been looking for; it's close to work, and within your price range. Checking on the neighborhood you find that the crime rate is declining, property values are declining, the public schools in the area are of low quality, and the neighborhood is 20 percent white and 80 percent Latino. How likely or unlikely do you think it is that you would buy this house? Do you think it is very likely, somewhat likely, somewhat unlikely, or very unlikely?"

For each racial group, there are 264 different possible vignettes.[9] Given randomization and the approximately 1,000 respondents each for blacks, Latinos and whites, each possible vignette will be heard by about four same-race people, ensuring we have multiple cases within every possible cell. More importantly, we have approximately 30 respondents within each possible neighborhood racial composition combination.

This experimental method allows us to test the effects of proxy variables and of racial composition on the likelihood of buying a house independent of one another. By varying the proxies randomly, we can examine the independent impact of race on the stated likelihood of buying a house. Each respondent is given only *one* neighborhood to ensure that he or she is not able to discern what is being varied and therefore consider how to react. While this means we are unable to compare any individual respondent's preferences toward each out-group, we can compare these preferences across same-race individuals (Emerson et al. 2001).

By interviewing samples of whites, blacks and Hispanics, we are able to isolate the role of both in-group and out-group racial preferences in driving segregation. If racial preferences do not exist, we will find that only the proxy factors (school quality, property values and crime rates) are statistically significant predictors of respondents' stated likelihood of buying the house in question. If racial preferences do exist, the racial composition of a neighborhood will have a significant effect net of the social class proxies and controls.

If the respondents have in-group preferences, higher percentages of *all* other racial groups should decrease the stated likelihood of buying a house at similar magnitudes.

If there are significant negative out-group preferences, however, higher percentages of different racial groups would have varying effects on the likelihood of buying the house. For example, if whites have in-group preferences, higher percentages of blacks, Hispanics and Asians should have similar impacts on whites' likelihood of buying the house. However, if whites have negative out-group preferences toward only one racial group, the effects of racial composition would be significant only for that group. Because we ask about specific racial groups (as opposed to simply saying "non-white"), we can determine specific racial preferences and hierarchies of preference for each racial group.

Table 1: Descriptions, Measurements, Means and Standard Deviations for Variables Used in the Analysis

Variable Description	Measurement	Whites		Blacks		Hispanics	
Likelihood of buying home	1 = very unlikely, 2 = somewhat unlikely, 3 = somewhat likely, 4 = very likely	2.25	(1.18)	2.37	(1.21)	2.36	(1.18)
Racial Composition of Neighborhood							
Percent white	Measured in intervals of 10% so that 0 = 0% other race, 10 = 100%	—		5.06	(3.10)	4.95	(3.17)
Percent black		4.91	(3.16)	—		5.02	(3.18)
Percent Hispanic		4.80	(3.15)	4.79	(3.06)	—	
Percent Asian		5.43	(3.43)	5.62	(3.12)	4.65	(3.04)
Proxy Variables							
School quality	2 = high, 1 = low	1.50	(.50)	1.47	(.50)	1.49	(.50)
Crime level	2 = high, 1 = low	1.48	(.50)	1.51	(.50)	1.49	(.50)
Housing values	2 = increasing, 1 = decreasing	1.49	(.50)	1.49	(.50)	1.51	(.50)
Control Variables							
Formal education	Number of years of schooling	14.7	(2.53)	13.6	(2.40)	11.8	(3.15)
Lives in a house owned by respondent or immediate family	Yes = 1	.81	(.40)	.56	(.50)	.54	(.50)
Respondent is female	Yes = 1	.48	(.50)	.48	(.50)	.52	(.50)
Age	Number of years	47.7	(16.5)	41.6	(16.8)	34.7	(13.6)
Respondent has children living at home	Yes = 1	.38	(.49)	.44	(.50)	.60	(.49)
Married	Yes = 1	.30	(.46)	.15	(.36)	.29	(.46)
Immigrant	Yes = 1	.05	(.21)	.04	(.19)	.55	(.50)
Race of Interviewer							
White	Yes = 1	.38	(.48)	.33	(.47)	.16	(.37)
Black	Yes = 1	.31	(.46)	.39	(.49)	.19	(.39)
Hispanic	Yes = 1	.29	(.45)	.23	(.42)	.61	(.49)
Asian	Yes = 1	.06	(.23)	.08	(.26)	.06	(.23)
Total N		1,048		989		990	

Note: Data shown are means with standard deviations in parentheses.

Variables

Descriptions of the variables, their means, and standard deviations are given in Table 1. We include control variables (e.g., education, home ownership, gender, and age) that mobility theory suggests may impact the likelihood of buying a house. We also include controls for the race of the interviewer. We tested the effects of the ethnic composition of a respondent's home ZIP code and the ethnic composition of a respondent's friends. These variables had no significant effects and their inclusion did not change the substantive results, so we removed them from the models presented.

Results

We used cumulative logit regression models to test for neighborhood racial composition effects on the stated likelihood of buying a house among whites, blacks and Hispanics. For each racial group, separate models were run testing the effects of increasing populations of each of the other racial groups. For example, white respondents who were given hypothetical neighborhoods that were white-black are all included in one cumulative logit model, white respondents given white-Hispanic neighborhoods are in a second, and white respondents given white-Asian neighborhoods are in a third. Because respondents were each given only one hypothetical neighborhood, each observation is independent. We included both linear and quadratic effects of racial composition; the quadratic term was never significant, so it is dropped in the models presented. All of the regression coefficients presented are unstandardized coefficients; to compare coefficient strengths we examine predicted probabilities at the end of this section.

Table 2 contains the results of predicting whites' stated likelihood of buying the house, including proxy and control variables. Model 1 shows the coefficients and standard errors for whites asked about blacks. All three proxy variables significantly predicted whites' likelihood of buying a house, all in the expected direction. Most important, racial composition had a significant negative effect on whites' reported likelihood of buying the house. In other words, white respondents were less likely to say they would buy the house as the percentage of black residents in the neighborhood increased, even after controlling for the proxy variables.

Having children and being older also decreased whites' probability of saying they would buy the home. We examined whether interactions existed between these two variables and the percent black (and also the proxies); no interactions were significant. As seen by examining models 2 and 3, it is only when whites are asked about black-white neighborhoods that having children and age reduce the likelihood of buying the home.

Model 2 shows the findings for whites asked about Hispanics. The racial composition variable again had a significant effect: the higher the neighborhood percentage of Hispanics, the less willing whites were to say they would buy the house, net of the proxies. This result differs importantly from previous work based on national survey data, which found that the percent of Hispanics in a neighborhood had no significant effect on whites' preferences (Emerson et al. 2001).

Model 3 shows the results for whites asked about Asians. In this model, only home values and crime rates were significant predictors; education quality is *not* a significant factor. There are similar findings when blacks and Hispanics are asked about Asians. Notably, our variable of interest, the percent Asian in the neighborhood, was not significant.

In additional models (results not shown), we examined the racial composition variable across the intervals from 0 to 100 percent. Whites do not express less interest in buying a home when a neighborhood is between 0 and 20 percent black or Hispanic after the level of blacks and Hispanics reach 30 percent; however, the likelihood of whites saying they would buy the house begins to drop, net of the proxies.

Table 2: White respondents–Coefficients from Cumulative Logit Models Regressing the Likelihood of Buying a House on Neighborhood Racial Composition, Proxy Variables and Control Variables

	Model 1: Asked about Blacks		Model 2: Asked about Hispanics		Model 3: Asked about Asians	
Independent Variable	Coefficient	(t-ratio)	Coefficient	(t-ratio)	Coefficient	(t-ratio)
Percent other racial group	-.12***	(-4.11)	-.11***	(-3.52)	-.01	(-.28)
Proxy Variables						
Educational quality high	.91***	(4.81)	1.38***	(6.90)	.10	(.34)
Crime level high	-1.28***	(-6.64)	-1.73***	(-8.40)	-.98**	(-3.21)
Housing values increasing	1.10***	(5.87)	.70***	(3.51)	1.11***	(3.53)
Control Variables						
Education level	-.02	(-.53)	-.02	(-.63)	.04	(.59)
Owns house	-.10	(-.03)	-.53*	(-1.85)	.13	(.29)
Female	.02	(.17)	.06	(.37)	.04	(.13)
Age	-.02**	(-2.26)	-.01	(-.84)	-.02	(-1.59)
Has children	-.70***	(-2.85)	-.07	(-.07)	-.41	(-1.19)
Married	-.18	(-1.12)	-.08	(-1.07)	.18	(.52)
Immigrant	.66	(1.47)	-.19	(-.37)	.24	(.41)
Black interviewer	.15	(.43)	—		—	
Hispanic interviewer	—		.17	(.83)	—	
Asian interviewer	—		—		1.15	(1.93)
Survey year	.25	(1.24)	.40	(.18)	—	
N	438		408		163	
Nagelkerke R^2	.26		.30		.17	
-2 Log-likelihood	1,038.7		958.2		405.6	
Degrees of freedom	12		12		12	

*p < .05 **p < .01 ***p < .001 (two-tailed tests)

Furthermore, the stated likelihood of whites buying a house declined throughout the full range from 30 percent to 100 percent black or Hispanic. Importantly, there was no level of Asians, even at the top, where race had a significant impact on whites' stated likelihood of buying a home.

If whites were displaying a generalized in-group preference, the effect of percent Asian in a neighborhood would have the same magnitude and direction as that found for the percent black or Hispanic. That the Asian effect is not significant suggests that whites' preferences displayed in models 1 and 2 are not the result of in-group preferences, but instead indicate negative out-group preferences directed specifically toward blacks and Hispanics.

Table 3 presents models for the black respondents. Model 1 shows results for blacks asked about whites. Our variable of interest, racial composition, was not significant. Of the proxy variables, only school quality and crime level were significant. Model 2 shows the results for blacks asked about Hispanics. Again, the racial composition variable was not significant. All three proxies are significantly related to buying a home, in the expected direction. Model 3 shows that blacks do express negative preference toward Asians, significant at $p < .05$.

Again, for each of the out-groups in question we considered if there were cut-points throughout the distribution of neighborhood racial composition. For example, it is possible that as a continuous variable racial composition has no impact on blacks' preferences, but above a given level of an out-group (say 80%), blacks express preferences. The data show this is not the case; at no level of whites or Hispanics did blacks express racial preferences.

Table 4 contains the results for Hispanic respondents. Model 1 shows the effects of Hispanic-white neighborhood composition. The racial composition of the neighborhood had no effect. Model 2 shows the results for Hispanics asked about blacks.[10] The percent black had no significant effect. Model 3 shows the result for Asian neighborhood composition. Asian composition has no significant effect. Looking for cut-points, Hispanics (like blacks) did not express racial composition preferences toward any out-group at any level of composition.

To better understand the comparative magnitude of coefficients from the cumulative logit models, we computed predicted probabilities[11] of a respondent saying he or she was "very likely" to buy a home in a hypothetical neighborhood.[12] Table 5 presents predicted probabilities when varying racial composition from 0 to 100 percent of the out-group, the crime rate from low to high, and the school quality from high to low, all while holding other variables at their mean (including the other proxies and the racial composition). Statistically significant differences are noted in bold. This table allows us to compare the strength of the racial composition coefficient as compared to the proxy variables. For example, the first two rows of the first column show the predicted probability of a white respondent saying he or she is very likely to buy a home in a neighborhood that is 0 percent black, 100 percent white compared to a neighborhood that is 100 percent black, 0 percent white. Those probabilities are .25 for a fully white

neighborhood and .09 for a fully black neighborhood. This is the same magnitude difference as between a low crime and high crime neighborhood, and slightly bigger than the difference between high quality and low quality schools. The predicted probabilities with regard to race for whites asked about Hispanics are of similar magnitude, and again on par with the differences between low to high crime and high quality to low quality schools. These predicted probabilities that not only is there a statistically *significant* effect of racial composition for whites asked about blacks and Hispanics, but that effect is *substantial*, comparable in magnitude to the effects of neighborhood crime and school quality.

Table 3: Black respondents – Coefficients from Cumulative Logit Models Regressing the Likelihood of Buying a House on Neighborhood Racial Composition, Proxy Variables and Control Variables

	Model 1: Asked about Whites		Model 2: Asked about Hispanics		Model 3: Asked about Asians	
Independent Variable	Coefficient	(t-ratio)	Coefficient	(t-ratio)	Coefficient	(t-ratio)
Percent other racial group	-.05	(-1.85)	-.04	(-.96)	-.10*	(-2.46)
Proxy Variables						
Educational quality high	.80***	(4.51)	.80***	(3.45)	.65*	(2.53)
Crime level high	-1.54***	(-7.81)	-1.16***	(-4.84)	-1.53***	(-5.70)
Housing values increasing	.34	(1.66)	.70**	(3.00)	.04	(.17)
Control Variables						
Education level	.03	(.23)	-.10	(-1.88)	-.01	(-.19)
Owns house	-.38	(-1.90)	-.01	(-.04)	-.18	(-.64)
Female	-.18	(-1.59)	.15	(.65)	-.26	(-.99)
Age	-.01	(-2.04)	-.02**	(-3.14)	.01	(.75)
Has children	-.17	(-1.00)	-.08	(-.35)	-.06	(-.20)
Married	.04	(.57)	.04	(.15)	-.29	(-.94)
Immigrant	.04	(-.16)	-.46	(-.64)	-.43	(-.53)
White interviewer	-.36	(-.56)	—		—	
Hispanic interviewer	—		.21	(.87)		
Asian interviewer	—		—		-1.10	(-1.88)
Survey year	.71***	(3.49)	-.07	(-.14)	—	
N	425		275		222	
Nagelkerke R^2	.22		.19		.21	
Log-likelihood (final)	1,036.7		681.2		548.8	
Degrees of freedom	12		12		12	

*p < .05 **p < .01 ***p < .001 (two-tailed tests)

We can briefly answer our two main questions. First, we find that racial composition of neighborhoods has an effect on white respondents' expressed likelihood of buying a home, independent of the commonly cited proxy variables related to social class. In particular, whites are less likely to state they would buy a home as the proportion of black or Hispanic residents in a neighborhood increases. Additionally, blacks express lower likelihood of buying a home as the proportion of Asian residents increases.

Second, our models indicate that no racial group – whites, blacks or Hispanics – express in-group preferences. None of these groups express consistent negative attitudes toward all other out-groups. There are three particular out-group prejudices

Table 4: Hispanic respondents – Coefficients from Cumulative Logit Models Regressing the Likelihood of Buying a House on Neighborhood Racial Composition, Proxy Variables and Control Variables

	Model 1: Asked About Whites		Model 2: Asked About Blacks		Model 3: Asked About Asians	
Independent Variable	Coefficient	(t-ratio)	Coefficient	(t-ratio)	Coefficient	(t-ratio)
Percent other racial group	.00	(.05)	-.01	(-.28)	.06	(1.03)
Proxy Variables						
Educational quality high	1.57***	(7.66)	1.14***	(6.02)	.83*	(2.36)
Crime level high	-1.49***	(-7.30)	-1.35***	(-7.08)	-1.35***	(-3.69)
Housing values increasing	-.03	(-.20)	-.11	(-.59)	.39	(1.09)
Control Variables						
Education level	-.02	(-.30)	-.05	(-1.52)	.00	(.04)
Owns house	-.06	(-.37)	-.25	(-1.25)	.72	(1.80)
Female	-.01	(.23)	.30	(1.65)	-.46	(-1.28)
Age	-.01	(-1.26)	-.01	(-1.07)	-.01	(-1.03)
Has children	-.05	(-.33)	.08	(.36)	-.47	(-1.16)
Married	-.33	(-1.39)	-.29	(-1.40)	.01	(.01)
Immigrant	-.18	(-.96)	-.34	(-1.57)	.41	(.98)
White interviewer	.08	(.12)	—		—	
Black interviewer	—		.14	(.73)	—	
Asian interviewer	—		—		.10	(.12)
Survey year	-.37	(-1.83)	-.14	(-.67)	—	
N	386		421		132	
Nagelkerke R^2	.29		.22		.23	
Log-likelihood (final)	932.4		1,043.3		301.9	
Degrees of freedom	12		12		12	

*p < .05 **p < .01 ***p < .001 (two-tailed tests)

that emerge from our models, however: Whites express prejudice toward blacks and Hispanics, and blacks express prejudice toward Asians.

Finally, a small but interesting finding is that education quality matters less when any group is asked about Asian neighborhoods. For whites, the school quality variable is not a significant predictor. For blacks and Asians, school quality is still significant at the $p < .05$ level, but the coefficients are considerably smaller than when these groups are asked about non-Asian neighborhoods.

Table 5: Predicted Probabilities in Percentages

Neighborhoods	Whites Response			Blacks Response			Hispanics Response		
that Have:	Blacks	Hispanics	Asians	Whites	Hispanics	Asians	Whites	Blacks	Asians
0% other race	**25**	**23**	24	23	20	**39**	18	19	18
100% other race	**9**	**9**	21	15	15	**21**	18	18	29
Low crime	**25**	**29**	**32**	**36**	**27**	**43**	**30**	**31**	**36**
High crime	**9**	**7**	**15**	**11**	**10**	**14**	**9**	**10**	**13**
Good schools	**22**	**27**	23	**26**	**24**	**34**	**32**	**29**	**32**
Poor schools	**10**	**8**	21	**14**	**13**	**22**	**9**	**12**	**17**

Note: statistically significant differences at the $p < .05$ level are noted with bold font

Discussion

What are the racial preferences of American ethno-racial groups? Our study advances the debate on racial preferences by examining the neighborhood racial preferences of whites, blacks and Hispanics. First, this research suggests that for white Americans racial composition does play an independent role in neighborhood preferences, net of the racial proxies. Even after controlling for three commonly cited proxy factors (crime rates, school quality, and housing values), we find that the percentages of both blacks and Hispanics in a neighborhood have independent effects on whites' stated likelihood of buying a house, with a higher percentage in both cases predicting a lower likelihood.

We also found that whites express no aversion to buying a house in a high proportion Asian neighborhood. This suggests that whites do not have generalized in-group preferences, but instead are expressing resistance to living in black and Hispanic neighborhoods in particular. This also suggests that even if the proxy factors were removed in actuality or in whites' perceptions, whites would still prefer neighborhoods that were composed of a low percentage of blacks and Hispanics.

Other than whites, the only group that expressed negative racial preferences was blacks asked about Asians. Although group threat theory suggests that blacks might experience the most competition with the rapidly growing Hispanic population (and thus the most negative out-group preferences), it is only when blacks were asked about Asians that we found a racial composition effect. These findings are consistent with the Houston Area Survey (Klineberg 2005), which finds that blacks give the lowest ratings to the relations between blacks and Asians in the Houston area. Researchers have found that Asians

have negative attitudes toward blacks, often expressed in neighborhood and hiring preferences (Kim 1999; Yoon 1997; Min 1996). One explanation for the negative preference blacks express toward Asians is that blacks are reacting to negative attitudes and prefer to live away from Asians. This is entirely speculative, however, and further testing would require more data on Asians' preferences and a more in-depth look at black attitudes.

A significant finding of this research has to do with whites' attitudes toward Hispanics. Previous work at the national level found that Hispanic neighborhood composition had no effect on whites' preferences (Emerson et al. 2001). However, this study found that Hispanic neighborhood composition had an effect comparable to the effect of black neighborhood composition. Nationally, not as many whites have direct experience with the rapidly growing Hispanic population. Houston residents, however, have witnessed a rapid, recent, significant increase in the number and percent of Hispanics in the area. This fact may have led white residents, formerly the absolute majority of the metro area, to feel threatened by the burgeoning size and influence of the Hispanic population, in line with the predictions of group threat theory.

Importantly, as the Hispanic population of the United States continues to grow (in both absolute and relative numbers), a growing segment of white America will have comparable experiences. While to date, significant portions of Hispanic segregation from whites can be explained by differences in class and acculturation (Alba et al. 1999; Alba, Logan and Stults 2000; Logan, Alba and Leung 1996; Massey and Fischer 1999; Massey and Mullan 1984; Meyer 2000; Iceland and Wilkes 2006), if white Americans develop negative preferences toward Hispanics, racial preferences may also contribute to Hispanic segregation.

This study supports previous research that finds little evidence that segregation is a result of minority preferences for minority neighborhoods. At the same time, our work provides no evidence that minorities would prefer majority white neighborhoods to minority neighborhoods. Instead, it seems that for people of color school quality and crime rates are the dominant factors in choosing neighborhoods. Net of these proxies, the racial makeup of the neighborhood has no measurable effect on neighborhood desirability. Insofar as racial composition matters for blacks and Hispanics, black avoidance of high percentage Asian neighborhoods is the only racial effect.

Although we believe this study's focus on one metropolitan area is a strength, it is inherently a limitation as well. The residents of any one metropolitan area are not representative of all U.S. residents. However, we believe that the choice of Houston for this study is a special strength. The racial transformations seen in Houston over the past 25 years, particularly with respect to the growth of the Hispanic population, are likely to foreshadow changes in the rest of the nation. Nationally, Hispanics are the fastest growing racial/ethnic group, and the Hispanic population is spreading to new, more varied destinations across the United States (Massey and Capoferro 2008; Tienda and Mitchell 2006).

It remains unclear in this research *why* black and Hispanic neighborhood composition has an independent effect on whites' stated likelihood of buying a house. First, it is possible that for whites, race is a master status, strongly implying high or low

status in and of itself (Hughes 1945). Alternatively, it is clear from black and Hispanic responses that a white neighborhood is not accorded higher status simply for being white, suggesting that if race is a master status in residential choices, it is used as such only by white Americans.

There are other possible explanations for whites' attitudes. It may be that whites simply will not or cannot separate race from the proxies associated with it, even if told otherwise. When informed that a black neighborhood has low crime and good schools, whites may not be able or willing to uncouple race from other neighborhood characteristics. If this is the case, then for whites race embodies the proxies. That is, the categories "black" and "Hispanic" may mean for whites higher crime rates, declining property values and poor quality schools. The finding that respondents do not consider school quality when asked about Asian neighborhoods may also support this claim. As Asians are often stereotyped as being good students, it is possible that here, again, respondents are unable to separate their stereotype from a given reality; respondents assume a neighborhood will have good schools if there are Asians in the neighborhood, regardless of what they are *told* about the neighborhood's schools.

Another possible explanation is that white Americans still feel uncomfortable in contexts where they are not the clear majority; given time and increased diversity, whites may well become more accepting of racial diversity in general. This argument is not well supported by the findings from this study, however. Whites appear to be comfortable with Asians, a group that has had high immigration to the U.S. along the same timeline as Hispanics, but whites are not as comfortable with Hispanics or blacks. Further research is needed to determine how the experience of continuing segregation and intergroup inequalities may contribute to neighborhood racial preferences.

Race continues to shape residential processes and patterns in urban America. This study shows that minorities are not independently affected by racial composition when assessing the desirability of a neighborhood, save the case of blacks asked about Asian neighborhoods. Our data strongly suggest that minority in-group preferences are not a principal cause of residential segregation. In addition, whites do not display in-group preferences. Rather, insofar as preferences matter for residential segregation, our findings suggest it is negative out-group preferences expressed by whites – directed specifically toward blacks and Latinos – that matter.

Notes

1. "White" refers to those classifying themselves as non-Hispanic whites or Anglos. "Hispanic" refers to respondents classifying themselves as Hispanic or Latino.
2. Figures reported are from the U.S. Census Bureau (www.census.gov) and the Lewis Mumford Center (http://mumford1.dyndns.org/cen2000/WholePop/WPSegdata/3360msa.htm).
3. The other cities in the top six were: Atlanta; Dallas; Charlotte; Washington, D.C.; and Nashville.
4. Using 2000 U.S. Census tracts, the Houston metro index of dissimilarity between blacks and whites was 68 (19th most segregated among the 50 largest metros); the index for

Hispanics and whites was 58 (11th most segregated of the 50 largest metros) and Asians and whites was 49 (3rd most segregated of the 50 largest metros). Dissimilarity between blacks and Hispanics was 52, between blacks and Asians 61, and between Asians and Hispanics 58 (Logan 2001).

5. The Asian population has grown rapidly, but at just 7 percent of the metropolitan area, Asians are likely less threatening. Because of the difficulty in obtaining an adequately large sample, we do not include Asian respondents.
6. We compared our data with the same years of the American Community Survey. The base sample of the Houston Area Survey (before adding black and Hispanic oversamples) slightly over-represents whites and under-represents Hispanics. When we correct for this difference, other socio-demographic factors–age, education, income–do not differ between the Houston Area Survey and the American Community Survey.
7. Using only two racial groups in a neighborhood does not negate the importance of studying preference in a multiracial city; residents in a multi-racial city may have more salient preferences toward all other groups.
8. Although not presented as an answer, 32 respondents volunteered "don't know" in answering how likely they would be to buy the home. Further analyses showed that inclusion of the "don't know" answers as a middle category produced similar results.
9. To limit the possible number of vignettes, the proxy variables had only two categories. The impact of limited variability is that proxy coefficients are likely to be larger than they otherwise might be.
10. This cumulative logit fails the test of parallel lines. Using the diagnostic suggested by Clogg and Shihadeh (1994) and models developed by Williams (2006), we find this is due to varying effects of age and varying levels of insignificance in the black racial composition coefficient.
11. To calculate predicted probabilities we use simulations as described by King, Tomz and Wittenberg (2000) and we employed the CLARIFY software (Tomz, Wittenberg and King 2003).
12. We also computed predicted probabilities of respondents saying they were "very likely" or "somewhat likely." All results are substantively similar; for parsimony we presented estimates only for the "very likely" category.

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