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Same-Race Affinities, Out-group Aversion, or Economic Determinism?: Private School Choice and Racial Segregation in Public Schools

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Abstract

Scholars debate whether the contemporary racial segregation across associational social settings in the U.S. results from unabated racial discrimination in housing and education or whether the importance of institutional discrimination has been supplanted by choice dynamics of individuals. Moreover, scholars who argue that choice dynamics currently play a crucial role in maintaining racial segregation debate the relative role of three sociological factors that drive the family preferences. The first suggests that choices are driven by the desire of families to associate with others of the same race. The second suggests that advantaged racial secure their superior racial status by avoiding social settings occupied by subordinated racial groups. The last model suggests that any apparent race-based choice patterns result from average differences of financial resource and community conditions between the members of different racial group. To determine whether individual school choice patterns contribute to racial segregation–and whether such choices support a model of same-race affinities or out-group aversion or are driven by economic inequality–2000 census data are used to examine the association between the racial composition of a child's residential area and the probability that they are enrolled in private school. After controlling for a wide variety of household, community, and school district characteristics, findings indicate that the choice patterns among Asian, black, Hispanic and white students differ dramatically. These patterns highlight the critical nature of individual choice dynamics in sustaining current segregation in the U.S. and that such choices are driven primarily by the attempt of white families to avoid association spaces occupied by non-whites.

Sociologists have theorized three primary ways in which the choices of individuals may have contributed to the persistently high levels of racial segregation in contemporary society. One perspective treats racial classifications such as "black" and "white" as large ethnic groups, the members of which share a common culture. From this view, racial segregation emerges from a benign form of ethnocentrism in which people congregate in social settings occupied by others of "their own kind" because they have "shared interests, similar sensibilities or tastes, a common culture, sense of mutual acceptance, and in-group solidarity" (Fossett 2006, 187). A few prominent scholars maintain that same-race preferences sustain contemporary segregation (Thernstrom and Thernstrom 1997; Paterson 1997 others) and the many members of the general public assume that this is indeed the case (Bonilla-Silva 2006). Indeed, a series of studies by Clark (1991, 1992) argue persuasively that racial segregation patterns may result from same-race preferences.

In contrast to the ethnic theory of race, the group position theory of race developed by Blumer (1958) and elaborated by Bobo (1999) and Bobo and Tuan (2006) suggest that race is a socially constructed system of inequality in which some racial groups actively seek to maintain a privileged social position in relation to other disadvantaged racial groups. From this view, segregation in schools and residential areas is itself an instantiation of dominant group privilege. In the context of the contemporary U.S., whites maintain their superordinate status by avoiding social spaces occupied by members of subordinate racial groups–particularly blacks. Importantly, the group position theory of race suggests that members of less privileged racial groups seek greater social inclusion through integration, although such opportunities remain elusive due the racial preferences of whites and their penchant for engaging in various forms of housing discrimination (Yinger 1995; Massey and Denton 1993).

A final perspective argues that apparent race-based choices for neighborhoods or schools can be attributed to economic disparities between racial groups and differences in neighborhood social and economic conditions in which the average black and white person lives. Following Harris (1999, 2001) I call this the racial-proxy hypothesis. From this theoretical view, contemporary economic inequality between whites, blacks and other minorities are primarily the result of past racial discrimination (Wilson, etc.). Thus economic processes have supplanted racism and government-sponsored discrimination as the primary force driving contemporary racial segregation. The link between individual choices for neighborhoods and racial segregation is driven primarily by non-racial criteria such as an area's poverty rates, public safety, a community's commitment to public education and related social conditions. From this view, the quality of life in a neighborhood far outweighs the importance of racial composition in determining where families chose to live and where they send their children to school.

I explore these three theoretical perspectives directly by examining private school enrollment patterns among racial groups who live in areas that vary widely in their racial, economic, and educational contexts. To do this, I have assembled a large, nationally-representative data set from a variety of sources, the most important of which is the 2000 Five Percent Public Use Micro Data Sample which consists of roughly 2.6 million children aged 5 to 18 who live in 2,070 comminutes that vary greatly in their social composition. I augmented the PUMS with information from the 1999-2000 school year Private School Universe Survey (acquired from the National Center for Educational Statistics) to determine how many private schools were in or nearby the census areas in which children lived. I also integrate data from the Local Educational Agency Finance Files (also from NCES) to estimate per-pupil spending in the

school districts within each PUMS area. Finally, a variety of individual-level PUMS variables were aggregated from individual PUMS records to census areas to capture the racial composition and socioeconomic makeup of each student's surrounding community.

Using these data, I explore three hypotheses derived from the theoretical paradigms of ethnocentrism, group position theory and the racial proxy perspective. The ethnocentric position anticipates that increasing shares of the children in a community who are of the same-race will results in a decreased probability that a student will attend private school. For example, a black family is more likely to enroll their children in a private school if there are fewer black people in their community compared with a similar black family who lives in a community that has higher percentages of other black children. A critical point is that the ethnocentric hypothesis anticipates consistent "same-race" choice patterns among all racial groups. In contrast with the ethnocentric view, the group position theory anticipates patterns of out-group aversion. In the context of private schooling, this means white families will be more likely to send their children to school as the proportion of non-white children in their local area increases. It may also be the case that Asians and Hispanics are more likely to have their children enrolled in private school as an area's black population increases; indeed, Fairlie (2002) demonstrated that Hispanics were more likely to attend private school as the proportion of black children in a neighborhood increased. Still, the group-position model would anticipate little or no association between private school enrollment and neighborhood racial composition among black families. Finally, the racial-proxy perspective anticipates that any apparent race-based patterns of private school enrollment will be eliminated once family- and community-level social and economic characteristics are held constant. For example, black and white children from middle class families and who live in a working-class

neighborhood are equally likely to enroll their children in a private school

The Importance of Individual Choices in Maintaining Racial Segregation

The competing perspectives of same-race preferences, out-group avoidance and the racial proxy hypotheses all share the conjecture that individual preferences for schools and neighborhoods is a dominant force driving group-level segregation patterns. Yet, as number of scholars have noted recently (Macy and Rijt 2006; Goering 2006 Clark 2006), the link between micro-level choices and macro-level segregation is itself a matter of debate within the scholarly community. On the one hand, a great deal of influential scholarship based on housing audit studies[1] suggests that the emergence and persistence of racial segregation results primarily from housing discrimination (Yinger 1995; Massey and Denton 1993, Galster). On the other hand, simulations[2] linking micro-choices with macro-level segregation patterns (Schelling 1971; Fossett 2006) and show-card studies[3] that measure individual preferences for neighborhoods of

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[1] Housing audit research pairs of black and white investigator (who are alike along in almost every way except their race) who approach realty offices to purchase the same home in the same neighborhoods. Findings show that realtors are significantly more likely to deny minorities access to the preferred home or provide them with lower quality service. More importantly in terms of segregation, evidence suggests that realestate agents tend to steer white and minority auditors to neighborhoods in which their own race predominates.

[2] Following the pioneering theoretical efforts of Schelling, Mark Fosset has developed a Windows-based program called SimSeg that enables users to create a virtual city in which hypothetical households can move to and from neighborhoods that vary in their quality, pricing and racial composition. Results of Fosset's simulations suggest that if members of different racial groups have distinct, race-based neighborhood preferences, segregation could (theoretically) be maintained in the absence of housing discrimination.

[3] The original show-card studies asked black and white respondents to state their preference for a series of hypothetical neighborhoods (depicted on show-cards) that varied in their racial composition. Each card consisted of 15 houses with different proportions of white and African American householders. After each respondent is shown a hypothetical neighborhood, they are asked a series of questions (e.g., "would you feel comfortable living in this neighborhood?"; "Would you move out of this neighborhood?"). White respondents are not typically shown hypothetical neighborhoods where the majority of houses are occupied by African Americans, presumably because very few if any white

varying racial compositions indicate that individual preferences are enough to create, sustain or enhance racial segregation. (Bobo and Zubrinsky 1996; Charles 2000; Clark 1991 1992 2002; Farley and Schuman 1976; Emerson, Yancey, and Chai 2001; Farley, Steeh, Jackson, Krysan, and Reeves, 1994; Timberlake 2000). Moreover, research that examines the *actual* residential choices of households provides additional, strong evidence that racial segregation is in practice driven partly by real differences in neighborhood preferences between whites and non-whites (Crowder 2000; Quillian 2002; South and Crowder 1998). It is beyond the scope of this paper to determine the relative the relative importance of choice dynamic versus institutional discrimination. Nevertheless, this paper provides new evidence that actual choices of families is enough to account for a great deal of racial segregation in public schools even in the absence of institutional discrimination. Indeed, Saporito and Sohoni (2006; 2007) have shown that private schooling influences racial segregation in public schools even after accounting for segregation across residential areas; still, scholars have not examined how the choices of individuals across different racial groups have influence racial segregation in public schools.

If one accepts that racial segregation is greatly driven by choice dynamics, then the sociological question is whether such dynamics are driven by benign ethnocentrism, out-group aversion or non-racial economic factors. The ethnic paradigm of race proposes that people are more comfortable in social settings with others who share the same educational goals, political orientations, linguistic styles, ancestry, etc. (Omi and Winant 1994). This theoretical perspective anticipates that people from the same group are drawn to neighborhoods and schools occupied by others who share the same social orientations. The tendency to "self-segregate" may be

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families would say they would live in such an area.

particularly strong when sufficient numbers of people from the same group can build institutions that support the ambitions of community members. Although the ethnic paradigm of race is often employed by many whites in popular explanations of high levels of (self)-segregation (Bonilla-Silva 2006), relatively few studies have made an explicit attempt to explore much "same-race affinities" drive the choices of individuals for schools and neighborhoods. One goal of this paper is assess the same-race hypothesis directly by examining how much private school enrollment patterns among whites, blacks, Hispanic and Asians is related to the proportion of people in their neighborhood who are of the same race. To the extent that the ethnic model of racial segregation holds, families of a given race are less likely to enroll their children in private school as the percent of people from their own group comprise an increasing share of the neighborhood.

In contrast to theoretical perspectives that treat race as a form of ethnicity, the group position theory of race originally proposed by Blumer (1958) and developed by contemporary scholars (Bobo and Tuan 2006) offers a radically different account of racial dynamics. The group position theory suggests that racial categories are significant because they are hierarchically ordered along dimensions of domination/subordination and exclusion/inclusion (Bobo and Tuan 2006). This view anticipates that individual preferences for schools and neighborhoods depend essentially on the relative standing of groups in America's racial hierarchy. In terms of school choice, white children, who inherit a position at the top of the racial hierarchy, are increasingly likely to enroll in private school as the percent of black children in their neighborhood increases. Private school enrollment rates among white children may also be associated with the percent of non-black minorities in their neighborhoods. Similarly, Asians and Hispanics may also be more likely to enroll in private school as the percent of blacks in an the surrounding area increases.

Finally, blacks, who have historically occupied the most subordinate position in the racial hierarchy, will seek greater social inclusion through integration. Because black families seek integration, private school enrollment rates among their children will fluctuate little as the racial composition of their residential area changes.

In a third perspective, theorists such as Wilson argue that current economic differences between racial groups (which resulted from a race-based stratification system that has diminished in significance) accounts for the contemporary isolation of blacks in schools and neighborhoods. There are two important ways in which economic conditions influence seeming race-based choices for schools and neighborhoods. First, the average white has more education, wealth, income, and occupational status than the average black, Hispanic or Asian. Second, the economic conditions of neighborhoods vary widely along a number of dimensions that influence where people live and whether they attend local public schools. Harris (1999, 2001) suggests that black families are averse to living in "black neighborhoods" because of the negative living conditions often present in such communities. Such conditions consist of percentage of children who are poor, the average educational levels of their parents, and the financing of local public schools. Given the greater purchasing power of the average white family, they are more likely to enroll their children in private school than the typical non-white, particularly when a wealthier white family lives in a "bad" neighborhood.

Rising Racial Segregation in Public Schools

Recent research based primarily on the U.S. Department of Education's Common Core of Data (consisting of virtually every public school in the nation) has shown that black-white been on the rise since roughly the mid 1980s. This increase represents a reversal of the desegregation

patterns that were observed between the 1960s to the 1990s (Frankenburg, Lee, and Orfield 2003; Logan 2002; Logan and Oakley 2004; Reardon and Yun 2001; Reardon, Yun, and Eitle 2000). For example, Logan's (2002) nationwide report found that, on average, school districts experienced a two-point increase in school segregation (as measured by Dissimilarity) between the 1989–90 and 1999–2000 school years. This shift is significant because residential segregation declined by four points during that same period. Reardon and Yun (2003) similar trends in southern states. Between 1990 and 2000 in which decreasing residential segregation was accompanied by increasing school segregation. Research has also indicated that school segregation between white and Hispanic students has risen steadily since the 1970s (Frankenburg et al. 2003).

The cessation of desegregation of public schools is likely driven by several factors, including increasing segregation patterns between school districts, the retrenchment of court-ordered racial desegregation programs and the changes in private school enrollment patterns. Of these factors, private school enrollment seems to be crucial. For example, Saporito and Sohoni (2006; 2007) have demonstrated that urban public schools are more racially segregated than the neighborhoods they serve and this almost certainly due to the movement of school children from public to private schools. Studies of private school enrollment patterns of individual children seem to indicate that individual choice patterns may account for higher racial segregation in schools then their corresponding neighborhoods. One study of school districts in upstate New York showed that white families are more likely to attend private schools as the percent of non-white students in the neighborhood school increases (Lankford and Wyckoff 1999) and Fairlie and Resch (2002) found that white students were increasingly likely to attend private school as

the percent of minority students in their metropolitan area increased. Fairlie (2002) also found that Latino families are more likely to attend private school as the percent of African American children in their metropolitan area increased. Collectively, these studies suggest a link between micro-level preferences and macro-level racial segregation in public schools. Still, these studies tend to isolate the private school patterns of one racial group and their aversion toward attending public schools in black neighborhoods. Give the focus of "white flight" from "black neighborhoods," existing research does not explicitly theorize or test whether choice patterns are consistent with "same-race affinities," or "out-group aversion." Testing these competing models requires an examination of choice patterns among multiple racial groups across communities that vary in the racial configurations. I undertake this task in this study.

To examine whether racial segregation the results of ethnocentrism or a group-position model of race, I marshal new evidence drawn from the 2000 census to examine private school enrollment patterns of Asian, black, Hispanic and white children were associated with a variety of local racial composition variables. Specifically, I examine whether private school enrollment rates for each of these four racial groups is associated with the percentage of school-aged children who are of the same-race, the percentage of non-black minorities, or the percentage of black children.

DATA AND METHODS

To estimate the probability that a child attended private school, I assembled data from the Census Bureau's 2000 five percent PUMS file for the entire United States. The data used in this study consist of children between five to eighteen who were enrolled in first through twelfth grades. The data consist of just under 2.6 million children. Using these data, I use random

intercept logistic regression to estimate the probability that a child is enrolled in private school. Separate estimates are made for four mutually exclusive racial groups: white, black, Asian and Hispanic children. The data are also divided up into elementary, middle, and high school levels. Estimating separate regression models for each combination of race/school level simplified the analyses by eliminating the need to create a large number of interaction terms between a student's race, community racial composition, and the remaining independent variables included in the analyses. Table 1 shows the descriptive statistics and subtotals for each combination of race at the high school-level (the appendix contains the parallel results for elementary and middle schools).

(Table 1 About Here)

Contextual Variables

The key independent variable used to estimate private school enrollment was the percent of a Public Use Micro Sample area's (hereafter PUMS area) children who were non-Hispanic black children and between the ages 5 to 18 and enrolled in school. There are 2,069 PUMS areas included in this study and the percent of a black children in PUMS areas ranges from 0 to 98 percent. The number of variety of PUMS areas permits me to examine the influence of racial composition on private school enrollment without extrapolating beyond the range of the data.[4] I

[4] In this study, a "community" is loosely represented by a PUMS area. These census areas consist of roughly of 100,000 people. Although PUMS areas are not ideal representations of a school's neighborhood, highly dense and geographically small PUMA areas are reasonable approximations of an area that may influence a family's decision to enroll their children in private school. (Indeed, PUMS areas are much smaller than metropolitan areas and urban counties.) To determine if the relationships reported in this study vary by a PUMS area's population density, I ran models that included PUMS areas that had a at least 10 (and at least 25) children per square mile. Excluding rural areas from the analyses had a negligible influence on the results reported in the main body of this paper (tables and graphs available upon request).

also included a quadratic term for the percent of black children in a PUMS area to determine whether the relationship between private school enrollment and area racial composition was curvilinear.

Observing the bivariate relationship between private school enrollment and the percent of black children in each is informative. If there is a higher propensity for white children than non-white children to be enrolled in private schools as the percent of black children in the PUMS are increases, this suggests that racial segregation of black children results from different ***patterns*** of private school enrollment among the racial groups. If different patterns of enrollment do exist, the issue becomes whether segregation emerges from racial preferences per se' or from differences in socioeconomic and demographic characteristics among racial groups. For example, it may be that income and wealth differences between white and black families accounts for the greater propensity of whites than blacks to enroll their children in private school (particularly when their children live in neighborhoods with high proportions of black children).

To determine whether correlations between neighborhood racial composition and private school enrollment can be accounted for by other factors, I developed a variety of neighborhood, family, and student level-level control variables. Among the most important control variables are those that capture neighborhood socioeconomic conditions. Community poverty is measured by the percent of a PUMS area's school-aged children who lived below the poverty level. Also included in the models were the percent of adults (over 25) who were college-educated, the percent who were employed as professionals, and the median income of individuals. Income inequality was measured by the Gini coefficient. To calculate Gini, it is necessary to first sort each individual's income (within a PUMS area) in ascending order and then calculate inequality using:

$$G = \frac{\sum_{i=1}^{n} (2i - n - 1)x'_i}{n^2 \mu}$$

where I is an individual's rank order number, n is the number of total individuals, x'_i is an individual's income and μ is average income.

Per-pupil spending within PUMS areas was calculated to represent an indication of the level of educational commitment within the local community. Data on per pupil educational expenditures was obtained from the National Center for Educational Statistic's 1998 Local Educational Agency Finance Files. Given that the geographic boundaries of school districts and PUMS areas are incongruent, I used population-weighted areal interpolation to reallocate data from school districts to PUMS areas (for details on interpolation methods and their accuracy, see Gregory and Ell 2005; Lam 1983; Saporito, Chavers, Nixon and McQuiddy 2007). The process reallocating data from school districts to PUMS areas begins by overlying the two boundaries (using Geographic Information Systems or GIS for short) and creating a third map representing their unique intersections. Spending per pupil rates were assigned to each intersection (based upon the school district in which the intersection was located) and then multiplied by the number of children living within the intersection. This product results in a population weighted estimate of per-pupil spending within each intersection.[5] The weighted poverty rates for each overlap are then summed for a given PUMS area and divided by the total number of children residing within that PUMS area. The process of population-weighted areal interpolation is represented by:

[5] The number school-aged children who live in each overlap is determined by locating census block groups within each of them. In this study, block groups are nested entirely within the boundaries of school districts and PUMS areas.

$$S_j = \frac{\sum_{kj=1}^{n} (P_{kj})(S_{kj})}{\sum_{kj=1}^{n} (P_{kj})}$$

where P_{kj} is the total population living within the intersection of school district k and PUMS area j and spending per pupil in each intersection is represented by S_{kj}.

To approximate the level of educational disruption that may take place in local schools if there is a great deal of turnover in the student population, I calculated the percent of students in the PUMS area who moved into a new house during the last five years. I also calculated the degree of residential segregation among school-aged children from seven the seven racial categories in the census (i.e., people who were Hispanic or non-Hispanic Asian, black, Hawaiian, Native American, other, or multiracial) across census tracts within each PUMS area using Thiel's (1972) entropy index of segregation (H). In this study, H essentially measures the average racial diversity of census tracts within a PUMA area compared with the overall racial diversity of the entire PUMA area. Values of H range from zero to one, where zero represents a state of perfect integration (which results if every tract within a PUMA had the same racial diversity as that found for the entire PUMA area) and a value of one represents perfect segregation (which occurs when each tract is mono-racial). To calculate *H*, it is necessary to first calculate "entropy" (E):

$$E_j = \sum_{r=1}^{r} J_r \ln \frac{1}{J_r}$$

where J_r is the proportion of an area's population comprised of racial group r. Entropy must be calculated for the PUMS area as a whole (E) and for each tract within a PUMA (E_i). Values of H are then calculated with:

$$H = \frac{\sum_{j=1}^{n} \frac{t_j}{T}(E - E_j)}{E}$$

Where T is the total population of the PUMA and t_i is the population of the tract (see Reardon and Firebaugh 2002 for details). Measuring the spatial heterogeneity of racial groups within a PUMS area is important because, for example, white children who live in a PUMS area with high segregation are, by definition, likely to live in a subsection of the PUMS area with high percentages of other white children. This could theoretically influence their likelihood of enrolling in private school independent of the racial composition of a PUMS area as whole.

I also developed other variables related directly to an area's racial composition and which may account for correlations between private school enrollment and the percent of non-white children in a community. These include the percent of children in a PUMS area who did not speak English and the percent of children who were foreign-born. It is necessary to account for these factors as they are correlated with racial measures such as the percent of non-white children in PUMS area.

Population density as measured by children per square mile within a PUMS area. Two measures of private school accessibility were also created. The first accessibility measure is the number of private schools per square mile within each PUMS area. The second is the number of private schools within one mile of each PUMS area's perimeter (also divided by the square miles of the PUMS area). Since theses analyses are divided into grade-levels, only private schools with grade-levels that corresponded with the grade-level of the student were included in these availability measures. For example, private elementary schools per square mile were included in

models of elementary-aged children. The source of data for private school locations is the 1999-2000 school-year Private School Universe Survey (citation) which identifies the zip code locations for a complete list of all private schools within the U.S.[6] The final set of contextual variables consisted of dummy variables for four regions of the country (south, north, mid-west and west).

Household- and Student-level Characteristics

Table 2 summarizes student- and household-level variables (by race and school level) that are included in models of private school enrollment. A critical issue is whether disparities in income and wealth between white and non-white families accounts for racial differences in how much community racial composition affects enrollment rates in private school. To control for income differences between racial groups, the natural log of annual household income was included in the analyses, along with monthly housing costs (i.e., monthly mortgage or rent), whether the household received public assistance, and the value of residential property occupied by household members.[7]

Table 2 About Here

Occupational variables consisted of the highest occupational status of a child's parents. For example, if one parent is employed as a professional and the other is a laborer, the household occupational status is coded as "professional." Five dummy variables represent household

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[6] I used GIS to locate the center of the zip code in which each school was located. This zip code centroid approximated the location of each school. This enabled me to estimate the number of privates schools per square mile (by grade level) within each student's PUMS area and the number of private schools within one mile of each PUMS area's boundary. There were 29,159 private schools for the 1999-2000 school year.

[7] The PUMS data provide property value is in categorical form. Six dummy variables are used in these analyses: no property (the reference category); less than $50,000, $50,000 to $99,999; $100,000 to $199,999; $200,000 to $499,999; and greater than $499,999).

employment status: householders laborers, service workers and non-officers in the military (the reference category); operators and craftsmen; administrative, salespersons and technicians; professionals; officials and managers. The highest degree holder in the family represented the household's educational level. Six categories of educational attainment were used: less than high school (the reference category); high school; some college; college, masters; and doctorate.

Household-level control variables included he number of school-aged children in the household and the number of vehicles owned by the family. A variety of dummy variables were also created. These consisted of the marital status of the householder (married=1), whether the family lived in their current house for at least five years (five years or more years=1), whether both parents were citizens (citizens=1), and whether or not both of the parents were foreign- born (foreign-born=1). Student-level control variables include gender (male=1), age, disability status (disabled=1), and ability to speak English (speak English=1).

While the models presented in this study include a variety of individual and contextual variables that may account for private school enrollment, I would have ideally like to include more further indicators public school quality beyond per-pupil spending. Similarly, local crime rates (particular among school-aged children) could be included in the model as well, but such data do not exist for the entire country below the county level. Still, I can make provisional conclusions regarding the strength of community racial composition in driving enrollment rates in private schools while holding constant a variety of student and community characteristics.

Statistical Methods

Given that the dependent variable is binary (where enrolled in private school equals 1) and children are nested within PUMS areas, I use a two-level random intercept logistic regression

models to estimate the probability that a student attends a private school given their personal, family and census area characteristics. I use a random intercept model to correct for potential intra-cluster correlations of students characters within each PUMS areas. Such models corrects biases to both parameter estimates and their standard errors (Guo and Zhao 2000; Wong and Mason 1985) by modeling the effects of unmeasured PUMS area characteristics (with the random intercept) that may cause some families to live in the same area.

In these analyses, y_{ij} is a binary response for student i in PUMS area j and independent variables at the student level are represented by x_{ij}. The probability that a student attends private school is represented by $p_{ij}=Pr(y_{ij}=1)$. The two-level random intercept model is:

$$\log\frac{p_{ij}}{1-p_{ij}} = \beta_0 + \beta_1 x_{ij} + u_j$$

where u_j is the random intercept. The models presented in this paper are fitted using the xtlogit commands available in Stata 10 estimation procedures are based on numerical integration (StataCorp 2007). For ease of interpretation, I graph estimated probabilities of private school enrollment across PUMS areas within given changing percentages of a given racial group (either of the percent of children of the same race, the percent black and the percent of non-black minority) while holding constant all other independent variables at their means. The estimated probabilities integrate out the random intercept (i.e., u_j) associated with living in a given PUMS area and thus represent the effect of PUMS area racial composition after purging unmeasured

characteristics of particular PUMS areas that may influence the probability that a child attends private school.[8]

RESULTS

Table 3a presents regression models for each racial group (and three grade levels) showing the log-odds of private school attendance given the area's children who of the same race. Absent control variables, the coefficients indicate modest support from the "same-race affinity" model of choice dynamics. Specifically, black and Hispanic children (at all three grade levels) are more significantly more likely to be enrolled in private school as the area's share of children who of their own race declines. The same is the case for white children at the middle and high school levels. The only racial group that does not exhibit any apparent same-race choices are Asian children. It seems that, except for Asians, children who share the same ethnic backgrounds are more likely to attend local public schools with children who are like themselves "culturally" but this contentment diminishes steadily as the proportion of children who are not of the same race rises.

Table 3a about here

As shown in Table 3b, preliminary support for the same-race models almost disappears completely when control variables are included in the second set of models that include the battery of individual- and community-level control variables. Ceteris Paribus, private school

[8] Analyses based upon ordinary logistic regression with robust standard errors produced the same substantive results as the random intercept models. Results are available upon request. It should be noted that children are clustered within families and it may seem desirable to use a three-level random intercept model with the xtmelogit package in Stata. However, family clusters are very small, particularly given that the analyses are broken into grade levels. Within each grade level, the average number of children per family is 1.2 (with 66 percent of observations consist of one child families and 99 percent of observations consisting of families with three or fewer children).

enrollment rates among Asian, black, and Hispanic students do not fluctuate with the percent of students in the surrounding area who are of the same race. Thus, it seems that, at least for non-white groups, the influence of community racial composition is a mere proxy for other local conditions.

Table 3b about here

Perhaps more important than the results for Asians, blacks and Hispanics are the results for whites. There is no statistically significant decline in the proportion of white elementary or middle school students in private school as the proportion of children of the same race (i.e., white children) in the area diminishes (although the quadratic terms are statistically significant for these two group). The only statistically significant same-race variable occurs at the high school level. Moreover, unlike non-white groups, the battery of control variables included in the models in Table 3b do not account for the influence of community racial composition when examining the private school enrollment among white children.

To give the coefficients in Table 3b substantive meaning, Figure 1 illustrates the association between private school enrollment rates given the percent of an area's population who are of the same race as high school students. As the graph indicates, there is indeed a meaningful decline in the percentage of high school aged white children who attend private school as the percent of white children in their communities diminishes. Specifically, when none of the children in an area are white, 28 percent of (high school aged) white children are enrolled in private school; when an area is all white, roughly six percent of children are enrolled in private school. This is a substantial decline.[9] Unlike white children, private school enrollment rates

[9] Although the results for elementary and middle school-aged white children are not statistically significant, the decline in private school enrollment among children in these grades is almost as steep.

among Asians, black and Hispanic students do not fluctuate significantly with changes in the proportion of children of their own race. Taken together, the enrollment patterns among the four racial groups lend themselves to the tentative conclusion that same-race affinities are not driving school choices (and any apparent same-race patterns are a proxy for other community-and student-level characteristics). Only among white children are same-race factors a possible force in the choice patterns of whites, but these results are by no means conclusive. To examine this issue further, I present additional models of private school selection that examine the r

An examination of enrollment patterns among various racial groups by the share of the population that is black provides evidence that enrollment rates among white children may in fact be driven by out-group aversion rather than same-race affinities. The coefficients shown in Table 4 (under the heading "avoidance of blacks") indicate that, among white children at all three grade levels, there is a positive, strong and consistent relationship between private school enrollment and the proportion of a community's population that is black. (These models show only the coefficients for race but the results are based on analyses that include all available control variables.) In contrast to white students, coefficients for "percent black" for the other three racial groups are not statistically significant or substantively meaningful. The percent of black children in the community simply does not predict the likelihood that Asian, black or Hispanic children will be enrolled in private school. Figure 2 illustrate the substantive results of these analyses for high school students[10]:

Table 4 about here

Graphs are available upon request.

[10] Graphs for elementary and middle school children are virtually the same as those shown in figure 2 and are available upon request.

The figure below indicates that private school enrollment rates for white students rise precipitously as the proportion of black children in the community increases. All things equal, about seven percent of white children are enrolled in private school when they live in a community with no black children; about 43 percent of white children are enrolled in private school when they live in an area in which 99 percent of the children are black. This is a 36 percentage point difference. Importantly, among white children, the slope for the "black avoidance" model shown in Figure 2 are steeper than they are for the "same race" model shown in Figure 1. Taken together, the results are consistent with the group-position theory of race when a community's black population is included in the analyses.

Figure 2 about here

Table 4 also explores whether the percentage of non-black minorities in a community is associated with private school enrollment rates. The proportion of non-black minorities in an area is not significantly associated with the private school enrollment rates for any racial group. Thus, while the proportion of an area's population that is black is a strong and consistent predictor of private school enrollment rates among whites, various combinations of Asian, Hispanic, and "other" racial groups is not influential in driving the choices of any racial group (including those of white children).

A direct comparison of same-race affinities and out-group aversion

To this point, the results suggest that white students are much more likely to be enrolled in private school as the proportion of black children in their communities increases. However, high-school aged white students also are less apt to attend private school as the proportion of white children in their communities increases. Still, four factors suggest that the evidence is more

consistent with a model of "out-group" aversion than one of "same-race" affinities. First, for white students, the association between the private school enrollment and the proportion of white children in the community is statistically significant for high school aged children only; by contrast, coefficients for percent black in the community are statistically significant for white children at all three grade levels. Second, for whites, there is a stronger association between private school enrollment and the proportion of black children in the community than there is between private schooling and the proportion of the community that is white. Third, children who are non-white are no more or less likely to be enrolled in private school when the share of the community's population that is of the same race declines (a trend inconsistent with a model of same-race affinities). Fourth, Asian, black and Hispanic children are no more or less likely to be enrolled in private school as the proportion of black children in their communities increases–a fact consistent with a model of out-group aversion. While these initial findings are not conclusive, they lay the ground-work for more complex analyses that may, at least with data used in this study, clarify whether out-group models are truly a better fit of reality than same-race models.

Table 5 about here

To this end, I run regression models for white students (at all three grade levels) that include variables for both the percent of white and the percent of black children in their communities. (As in prior analyses, these models include the quadratic terms for the racial composition variables.) These results are shown in Table 5. Two important results emerge. First, holding the percent of black children in a community constant eliminates the statistically significant relationship between the percent of white children in the community and the

probability that a (high school aged) white children is enrolled in private school. The absence of a relationship between private schooling and same-race community composition is also found among elementary- and middle-school white students. While empirical support for the "same-race" model disappears completely, including multiple racial groups in the analyses *enhances* the relationship between the percent of black children in the community and private school enrollment remains positive and strong for white students (at all three grade levels). This second finding bolsters initial support for the "out-group" avoidance perspective found in previous results.

Figures 3a and 3b

I produce a final set of graphs to illustrate the substantive relationship between private schooling and different mixes of community racial composition. The relationship between the percent of white children in a community and predicted private school enrollment rates among whites is shown in Figure 3a; the predicted probabilities of private school enrollment shown in the figure are based on a scenario in which 10 percent of children in a community are black and the percent of white children ranges from 0 to 90 percent.[11] Unlike prior results (illustrated in Figure 1 and based on coefficients in Table 3b) Figure 3a indicates that there is no meaningful relationship between the percent of white children in a community and private enrollment among white students once the percent of black children in a community is held constant. Enrollment

[11] It is not possible to include the percent of non-black minorities in the regression models given the collinearity that would inevitably occur among all the racial composition variables. Nevertheless, excluding non-black minorities from a "full" regression model does present a problem. Basic regression models presented in Table 4 show that the percent of non-black minorities in a community is not associated with private school enrollment among whites (or other racial groups). Moreover, if a community is 10 percent black and 30 percent white, the models essentially regard the remaining 60 percent of children as non-white and non-black children.

rates range from .15 to .09 as white children in a community increases from 0 to 90 percent. Apparently, among white children–as among Asians, blacks, and Hispanics–the proportion of children in a community who are of the same race is inconsequential in driving choices.

While Figure 3a apparently eliminates support for a same-race model of private school choice, Figure 3b further substantiates an aversion model of private school choice among white children. Figure 3b depicts a scenario in which the percent of white children in a white child's community is held at 10 but the percent of black children varies from 0 to 90. Private school enrollment rates increase from 12 percent when none of the children in a community are black to 63 percent when 90 percent of the children are black. This 51 percentage point increase is precipitous, leaving no doubt that the percent of a community's children who are black is a driving force in private school enrollment among whites even when a host of individual, familial and community characteristics are held constant.

CONCLUSION

The results produced in analyses above were driven be several interlocking theoretical and empirical questions. A fundamental theoretical question is whether the individual choices of families who belong to different racial groups are different enough to sustain racial segregation. Results show clearly that private school enrollment patterns among white families are differ significantly from those of Asian, black and Hispanic families and that variation in choice patterns across racial groups are distinct enough to sustain segregation even in a climate in which institutional discrimination may be less severe now than in the past.

Moreover, private school enrollment patterns of white students are highly correlated with the proportion of children in a community who are black. Such patterns cannot be accounted for

by a taste for congregating with others form the same racial group. Results show that the proportion of black children in a community influences school choices and shows clearly that white families are averse to enrolling their children in public schools with higher proportions of black students. By contrast, the proportion of a community's children who are white has no significant or substantive relationship with private school enrollment patterns among white children after controlling for a variety of community and household characteristics. Examining the simultaneous influence of black and white children in a community on private school enrollment patterns shows clearly that whites avoid blacks but this pattern is simply not the inverse of being drawn toward whites. This is a critical finding. When considered alongside the fact that Asians, blacks, Hispanics *and* whites are not drawn toward "their one kind," there is no support for the argument that racial segregation in contemporary U.S. is driven by same-race preferences. Indeed, the evidence leads to the opposite conclusion: segregation is driven by the racial aversion of white families toward black communities. This is the second important theoretical debate that my empirical research helps to clarify.

A third critical theoretical issue is whether average economic difference between racial groups and the communities in which they live account are a proxy for race-based differences in the choice patterns of racial groups. Results show that, among white families, holding constant a battery of individual and community-level characteristics–including family income, parental education and occupation and community poverty rates and per-pupil spending–private school enrollment rates are positively and strongly associated with the proportion of black children in the community. Among white families the presence of blacks is not a mere proxy for a community's quality of life. Yet, importantly, apparent race-based school choice patterns among

non-white students disappear completely when familial and community characteristics are held constant. This suggests that–at least among non-whites–community economic conditions matter but race does not–a finding solidly supporting the racial-proxy hypothesis for Asians, blacks and Hispanics.

Finally, scholars of school segregation have shown that racial segregation in public schools has increased during the last 10 to 15 years. My findings indicate that the aversion of white children to attend public school when they live in “black” communities may be a causal force in driving increasing segregation in public schools.

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Tables and Graphs

Table 1. Descriptive Statistics of PUMS Areas for Students Enrolled in High School by Race

	White		Black		Hispanic		Asian		Total	
	$\bar{x}$	**sd**	$\bar{x}$	**sd**	$\bar{x}$	**sd**	$\bar{x}$	**sd**	$\bar{x}$	**sd**
Dependent Variable										
% Enrolled in Private Sch.	10.1	30.1	4.2	20.0	5.5	22.7	8.6	28.0	.09	.28
Contextual Variables										
Racial and Ethnic										
% Black	8.2	12.8	41.1	26.8	10.0	13.7	9.9	13.4	12.8	19.0
% Non-Black Minority	14.7	15.6	17.6	19.0	52.7	27.1	43.2	27.0	21.4	23.0
% White	77.1	19.6	41.3	26.3	37.3	27.0	46.9	27.1	65.8	27.9
% Asian	2.3	4.1	2.4	4.2	4.6	7.0	13.9	13.5	3.0	5.7
% Hispanic	8.9	12.7	12.1	16.6	44.0	27.4	23.0	20.1	14.7	20.3
(H) Multi-Group Seg. *	11.5	7.6	17.6	9.7	13.3	7.9	10.7	6.7	.13	.1
% Foreign Born	4.3	4.4	6.1	5.9	11.9	7.1	11.9	7.2	5.9	5.9
% Non-English	.2	.4	.3	.5	1.0	1.0	.5	.7	.3	.6
Socioeconomic										
% Poor	13.7	7.4	23.4	11.2	22.4	11.6	15.3	10.1	16.3	9.7
Median Person Income	16.3	6.8	13.8	6.6	13.6	6.7	18.5	7.4	15.7	6.9
Income Inequality (Gini) *	50.3	5.8	53.0	6.4	51.2	6.0	48.7	5.6	.51	.06
% Unemployed	3.9	1.6	5.8	3.1	6.3	3.3	4.6	2.4	4.5	2.40
% College Educated	22.6	11.5	20.0	10.4	19.6	11.0	28.9	13.5	22.1	11.50
% Professionals	30.3	9.1	26.9	9.0	26.4	9.9	34.2	11.5	29.5	9.51
% Residential Mobility	44.4	7.4	46.5	7.0	47.4	7.1	46.1	7.8	45.1	7.44
Educational										
Per Pupil Spending	3.8	1.0	3.8	1.1	3.7	1.0	4.0	1.2	3.8	1.0
Private High. Sch/mi^2 *	.13	.59	.42	.93	.42	.95	.50	1.10	.22	.74
Bordering Private High/mi^2 *	.07	.56	.34	1.30	.31	.93	.40	1.39	.15	.80
Demographic										
Children/mi^2 *	10.7	29.0	42.1	86.1	53.8	94.1	49.1	71.4	22.2	57.2
Midwest	.30	.46	.16	.37	.08	.26	.11	.31	.24	.43
North	.20	.40	.15	.36	.14	.34	.20	.40	.19	.39
South	.31	.46	.61	.49	.31	.46	.18	.38	.35	.48
West										
N (students)	486,773		91,164		96,982		25,049		699,968	
N (PUMS areas)										

*Notes: Median income for individuals and Per Pupil Spending are measured in thousands; (H) and Gini are multiplied by 100 for presentation; mi^2 refers to per square mile of the PUMS area.

Table 2. Descriptive Statistics of Households and Students Enrolled in High School by Race

	White		Black		Hispanic		Asian		Total	
	$\bar{x}$	**sd**	$\bar{x}$	**sd**	$\bar{x}$	**sd**	$\bar{x}$	**sd**	$\bar{x}$	**sd**
Household Variables										
Income										
Household Income (logged)	10.8	1.4	10.0	1.9	10.3	1.7	10.7	1.6	10.6	1.6
Receives Public Assistance	.02	.14	.10	.29	.07	.26	.08	.27	.04	.19
Education *										
Less than H.S.	.05	.23	.21	.40	.41	.49	.19	.39	.13	.33
High School	.25	.43	.30	.46	.22	.41	.14	.35	.25	.43
Some College	.35	.48	.34	.47	.24	.43	.21	.41	.33	.47
College	.19	.40	.10	.30	.07	.26	.26	.44	.17	.37
Masters	.10	.30	.04	.20	.03	.17	.11	.32	.08	.27
Professional or Doctorate	.05	.22	.02	.12	.02	.15	.09	.29	.05	.21
Employment *										
Unemployed/NILF	.03	.16	.12	.32	.07	.25	.06	.24	.05	.21
Laborer, Service, Military	.07	.25	.20	.40	.19	.40	.09	.10	.10	.30
Operator or Craftsperson	.16	.37	.18	.39	.30	.46	.20	.40	.18	.39
Sales, Tech. or Adm.	.30	.46	.28	.45	.24	.43	.23	.42	.29	.45
Professional	.24	.42	.14	.34	.10	.30	.25	.43	.20	.40
Official or Manager	.21	.41	.08	.27	.09	.29	.16	.37	.18	.38
Wealth and Dept										
Monthly Housing Expenses	783	722	558	487	674	553	1081	866	749	688
Does Not Own Property	.15	.36	.44	.50	.41	.49	.32	.47	.23	.42
Property Value < $50,000	.10	.29	.15	.36	.12	.32	.05	.21	.10	.30
Property Value 50 to 125K	.23	.42	.22	.42	.17	.38	.09	.28	.22	.41
Property Value 125 to 200K	.32	.47	.14	.35	.21	.41	.23	.42	.28	.45
Property Value 200 to 300K	.11	.31	.03	.17	.05	.23	.15	.35	.09	.29
Property Value 300 to 500K	.06	.24	.01	.10	.02	.15	.11	.32	.05	.22
Property Value > $500,000	.03	.18	.00	.06	.01	.09	.06	.24	.03	.16
Number of Vehicles	2.5	1.1	1.5	1.1	1.9	1.2	2.2	1.2	2.3	1.2
Household Composition										
Married	.78	.42	.43	.49	.69	.46	.84	.37	.72	.45
Kids in Household	2.01	1.03	2.19	1.26	2.38	1.24	2.20	1.28	2.1	1.1
Same House Last 5 years	.67	.47	.58	.49	.56	.50	.57	.50	.64	.48
Student Variables										
Male	.51	.50	.49	.50	.51	.50	.52	.50	.51	.50
Age	16.0	1.2	16.0	1.3	15.9	1.3	15.9	1.3	16.00	1.26
Speaks non-English Language*	.07	.25	.08	.27	.71	.45	.71	.45	.18	.38
Disabled	.08	.28	.13	.33	.11	.32	.08	.27	.09	.29
N Observations	486,773		91,164		96,982		25,049		699,968	

*Notes: Household variables for education and employment represent the highest degree and the highest occupational category held by either parent; Students who speak a non-English Language may also speak English.

Table 3a. Same-Race Models of Private School Enrollment by Student Race and Grade Level *Excluding Control Variables*

	Race of Student							
	White		Black		Hispanic		Asian	
	b	(se)	b	(se)	b	(se)	b	(se)
Percent Same Race	-.011**	.003	-.014*	.004	-.011*	.004	-.025	.010
Percent Same Race Squared	-.0001	.000	.0002**	.0000	.0001	.00005	.0004*	.0002
Constant	-1.119**	.086	-3.324**	.066	-2.755**	.056	-2.484**	.062
N students	486,773		91,164		96,982		25,049	
N PUMS areas	2,070		1,961		2,043		1,879	
Log Likelihood								
χ^2								
ρ								
High Sch. Students								
σ_μ								
Percent Same Race	-.009*	(.003)	-.020**	(.004)	-.014**	(.003)	-.015	(.009)
Percent Same Race Squared	-.00006	(.0003)	.0003*	(.00005)	.00008	(.00004)	.0006	(.0002)
Constant	-1.056**	(.078)	-3.051**	(.059)	2.616**	(.048)	-2.314	(.058)
N students	536,865		110,130		121,847		25,420	
N PUMS areas	2,069		1,998		2,058		1,869	
Log Likelihood	-183075		-20847		-25568		-8283	
χ^2	557		34		51		10	
ρ	.144		.186		.158		.163	
Mid. Sch. Students								
σ_μ	.744		.865		.786		.802	
Percent Same Race	-.005	(.003)	-.017**	(.004)	-.017**	(.003)	-.011	(.009)
Percent Same Race Squared	-.00007*	(.0000)	.0002**	(.0000)	.0001	(.00004)	.0005	(.0002)
Constant	-1.492	(.285)	-3.431	(.414)	-3.437	(.389)	-4.060	(.675)
N students	528,663		116,876		139,829		24,838	
N PUMS areas	2,068		1,982		2,062		1,869	
Log Likelihood								
χ^2								
Elem. Sch. Students								
σ_μ								

* Notes: Standard errors are in parentheses.

* $p < .01$; ** $p \leq .001$ (two tailed tests)

Table 3b. Same-Race Models of Private School Enrollment by Student Race and Grade Level *Including Control Variables**

	Race of Student							
	White		Black		Hispanic		Asian	
	b	(se)	b	(se)	b	(se)	b	(se)
Percent Same Race	-.013**	(.003)	.007	(.004)	.001	(.004)	-.022	(.013)
Percent Same Race Squared	-.0001	(.00003)	-.00001	(.00004)	-.00003	(.00005)	.001	(.0002)
Constant	-1.643**	(.326)	-4.123**	(.536)	-3.509**	(.520)	-3.877**	(.799)
N students	486,773		91,164		96,982		25,049	
N PUMS areas	2,070		1,961		2,043		1,879	
Log Likelihood	-138,046		-14,191		-17,842		-6,448	
χ^2	13,124		2,201		3,279		1,077	
ρ	.103		.075		.115		.131	
High Sch. Students σ_μ	.614		.516		.654		.705	
Percent Same Race	-.005	(.003)	.0004	(.004)	-.005	(.004)	-.010	(.013)
Percent Same Race Squared	-.0001**	(.00003)	.0001	(.00004)	-.00001	(.00004)	.0003	(.0002)
Constant	-1.707**	(.302)	-3.236**	(.454)	-3.818**	(.436)	-4.372**	(.729)
N students	536,865		110,130		121,847		25,420	
N PUMS areas	2,069		1,998		2,058		1,869	
Log Likelihood	-173,095		-18,931		-22,859		-7,490	
χ^2	19,231		3,759		5,075		1,317	
ρ	.096		.070		.090		.137	
Mid. Sch. Students σ_μ	.591		.499		.571		.723	
Percent Same Race	-.0002	(.003)	.008	(.003)	-.004	(.003)	-.009	(.012)
Percent Same Race Squared	-.0001**	(.00003)	.000004	(.00004)	.00000	(.00004)	.0004	(.0002)
Constant	-1.493**	(.285)	-3.431**	(.414)	-3.437**	(.389)	-4.060**	(.675)
N students	528,663		116,876		139,829		24,838	
N PUMS areas	2,068		1,982		2,062		1,869	
Log Likelihood	-184,006		-23,090		-25,600		-8,168	
χ^2	21,045		4,836		6,545		1,188	
ρ	.087		.068		.069		.121	
Elem. Sch. Students σ_μ	.559		.491		.494		.674	

* Notes: Coefficients are based on full models that include all of the control variables shown in Tables 1 and 2. Complete results of all control variables are available upon request. Standard errors are in parentheses.

* $p < .01$; ** $p \leq .001$ (two tailed tests)

Table 4. Comparison of Same-race Affinity and Out-group Aversion Models of Private School Enrollment by Race and Grade Level *Including Control Variables**

	Race of Student							
	White		Black		Hispanic		Asian	
	b	(se)	b	(se)	b	(se)	b	(se)
Avoidance of blacks	Same race-affinity							
Percent Black	.034**	(.003)	.007	(.004)	.031**	(.005)	.006	(.007)
Percent Black Squared	-.0001*	(.00004)	-.000008	(.00004)	-.0003**	(.00006)	.00005	(.00009)
Constant	-2.799**	(.291)	-4.123**	(.537)	-3.095**	(.506)	-3.528**	(.769)
Log Likelihood								
χ^2								
ρ								
σ_μ								
Avoidance of non-black minorities								
Percent non-black minority	-.008	(.003)	.0002	(.005)	-.004	(.005)	-.012	(.007)
Percent non-black minority squared	.00006	(.00004)	.00003	(.00006)	.00003	(.00005)	.0002	(.00007)
Constant	-3.705**	(.319)	-4.454**	(.546)	-3.545**	(.533)	-4.201**	(.794)
Log Likelihood								
χ^2								
ρ								
σ_μ								
High School Students								
Avoidance of blacks								
Percent Black	.030**	(.003)	.0004	(.004)	.029**	(.004)	.029**	(.007)
Percent Black Squared	-.0001*	(.00003)	.00005	(.00004)	-.0003**	(.00006)	-.0002*	(.00009)
Constant	-2.600**	(.270)	-3.236**	(.453)	-3.614**	(.424)	-3.855**	(.695)
Log Likelihood								
χ^2								
ρ								
σ_μ								
Avoidance of non-black minorities								
Percent non-black minority	-.005	(.003)	-.002	(.005)	-.009	(.004)	.0006	(.007)
Percent non-black minority squared	.00002	(.00004)	.00007	(.00006)	.00007	(.00004)	.00000	(.00007)
Constant	-3.314**	(.294)	-3.639**	(.464)	-3.963**	(.450)	-4.239**	(.725)
Log Likelihood								
χ^2								
ρ								
σ_μ								
Middle School Students								
Avoidance of blacks								
Percent Black	.030**	(.002)	.008	(.003)	.020**	(.004)	.024**	(.006)
Percent Black Squared	-.0001**	(.00003)	.000004	(.00004)	-.0002*	(.00005	-.0002	(.00008)
Constant	-2.257	(.256)	-3.431	(.414)	-3.214	(.380)	-3.430	(.637)
Log Likelihood								
χ^2								
ρ								
σ_μ								
Avoidance of non-black minorities								
Percent non-black minority	-.0009	(.003)	-.0008	(.004)	-.006	(.004)	.012	(.006)
Percent non-black minority squared	-.00002	(.00003)	.00003	(.00005)	.00005	(.00004)	-.00009	(.00006)
Constant	-2.874**	(.276)	-3.867**	(.427)	-3.533**	(.401)	-3.869**	(.667)
Log Likelihood								
χ^2								
ρ								
σ_μ								
Elementary Sch. Students								

* Notes: Coefficients are based on full models that include all of the control variables shown in Tables 1 and 2. Complete results of all control variables are available upon request. Standard errors are in parentheses. Numbers of students and PUMS areas for each race and grade level are also the same as reported in Tables 1, 2 and 3a and 3b.

* $p < .01$; ** $p \leq .001$ (two tailed tests)

Table 5. Comparison of the Relative Influence of White and Black Community Composition Variables on the Private School Enrollment of White Students (*Including Control Variables)**

	Grade Level of White Students					
	High School		Middle School		Elementary School	
	b	(se)	b	(se)	b	(se)
Community Racial Composition	Same race-affinity					
Percent White	-.007	(.004)	.001	(.004)	.004	(.003)
Percent White Squared	.00001	(.00003)	-.0001	(.00003)	-.00008*	(.00003)
Percent Black	.029**	(.003)	.023**	(.003)	.022**	(.003)
Percent Black Squared	-.0001	(.00004)	-.0001	(.00004)	-.0001	(.00004)
Constant	-1.076**	(.039)	-1.136**	(.038)	-1.236**	(.038)
N Students	486,773		536,865		528,663	
N PUMS areas	2,070		2,069		2,068	
Log Likelihood						
χ^2						
ρ						
σ_μ						

**Notes*: Standard errors are in parentheses. Coefficients are based on full models that include all of the control variables shown in Table 3a; Numbers of students and PUMS areas for each race and grade level are also the same as reported in Table 3. Complete results of all control variables and available upon request.

* $p < .01$; ** $p \leq .001$ (two tailed tests)

Figure 1. Estimated proportion of students enrolled in private school by race and the percent of children in the community who are of the same race (high school students)

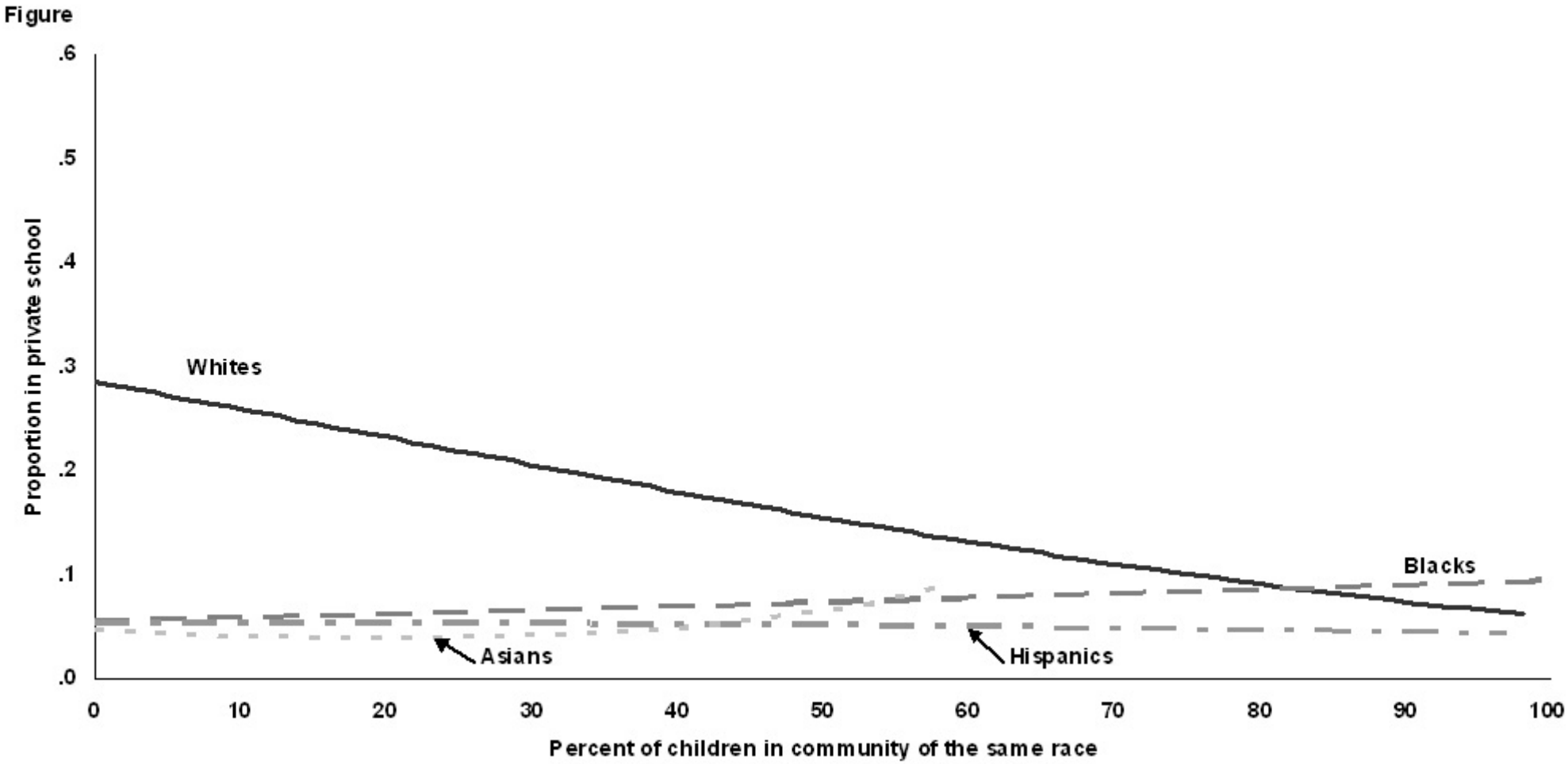

Figure 2. Estimated proportion of students enrolled in private school by race and the percent of children in the community who are black (high school students)

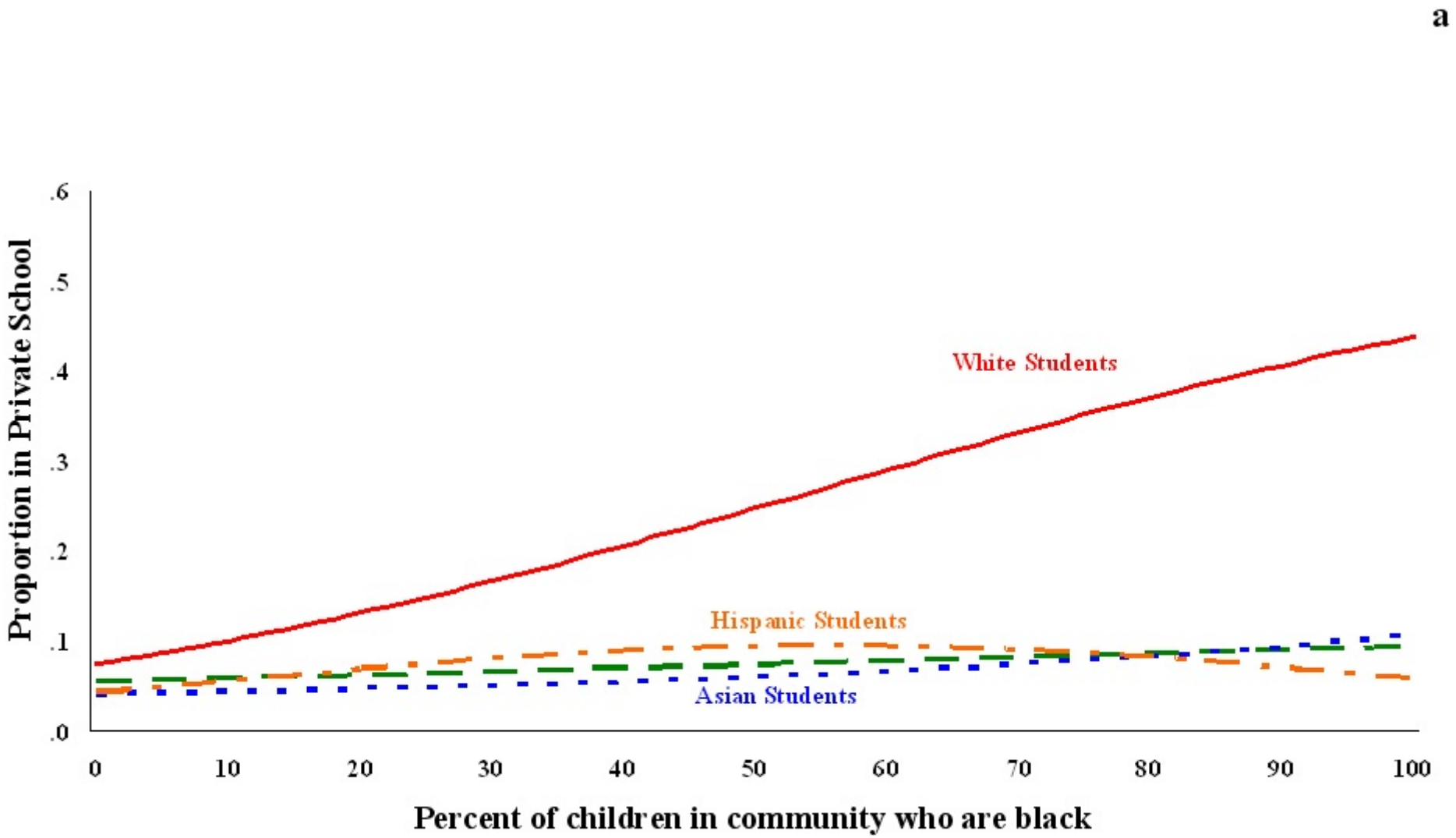

Figure 3a. Estimated proportion of white students enrolled in private school by the percent of children in the community who are white (holding percent black constant at 10)

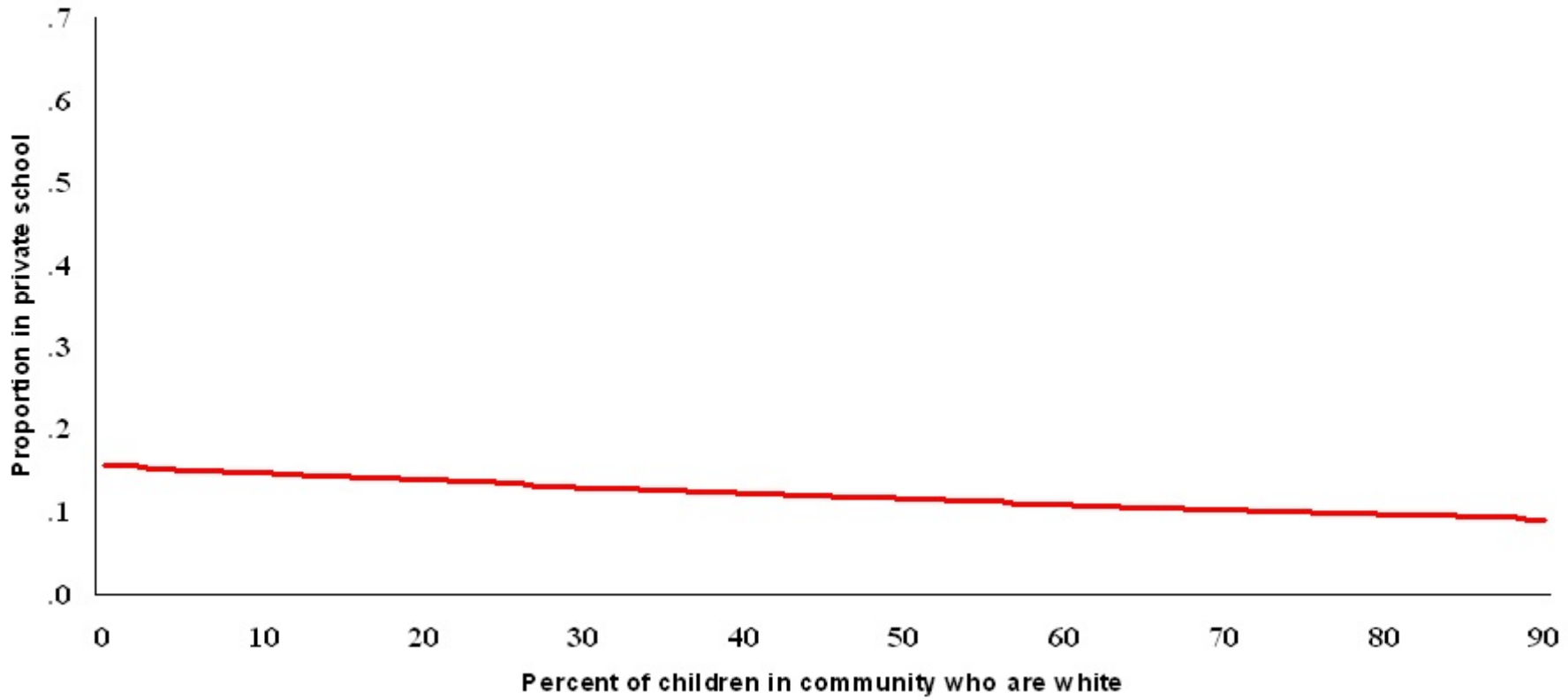

Figure 3b. Estimated proportion of white students enrolled in private school by the percent of children in the community who are black (holding percent white constant at 10)