The Causes and Consequences of Distinctively Black Names[*]

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Abstract

In the 1960's, Blacks and Whites chose relatively similar first names for their children. Over a short period of time in the early 1970's, that pattern changed dramatically with most Blacks (particularly those living in racially isolated neighborhoods) adopting increasingly distinctive names, but a subset of Blacks actually moving toward more assimilating names. The patterns in the data appear largely consistent with a model in which the rise of the Black Power movement influenced how Blacks perceived their identities. Although distinctively Black names provided little signal of socio-economic status in previous generations, among Blacks born in the last two decades there is a strong correlation between parental characteristics and distinctively Black names. We find, however, no negative causal impact of having a distinctively Black name on life outcomes. Although that result is seemingly in conflict with previous audit studies involving resumes, we argue that the two sets of findings can be reconciled.

On May 17, 1954, the landmark Supreme Court decision in *Brown v. Board of Education of Topeka, Kansas* ruled, unanimously, that segregation in public schools was unconstitutional. This ruling paved the way for the fall of Jim Crow and large-scale desegregation. In the 1960s, a series of further government actions were taken with the goal of achieving racial equality and integration, most notably the Civil Rights Act of 1964, Executive Order 11246 in 1965, and the Fair Housing Act of 1968. The civil rights movement arguably represents one of the most profound social transformations in American history (Woodward 1974 and Young 1996).

Nonetheless, an enormous racial divide persists. There are large disparities between Blacks and Whites in the United States on many indicators of social and economic welfare including income (Bound and Freeman 1992, Chandra 2003, Heckman, Lyons and Todd 2000, and Smith and Welch 1989), educational achievement (Jencks and Phillips 1998), out-of-wedlock childbearing (Ventura and Bachrach 2000), health (see Chandra and Skinner, forthcoming), and criminal involvement (Reno et.al. 1997). The degree of residential segregation by race, though lower today than in 1970, remains high (Cutler, Glaeser, and Vigdor 1999, Massey 2001).

Racial differences also persist, and in some cases have even become more pronounced, on a wide range of cultural dimensions including musical tastes (Waldfogel, forthcoming), linguistic patterns (Wolfram and Thomas 2002), and consumption choices. For instance, the cigarette brand Newport has a 75 percent market share among Black teens, but just 12 percent among White teen smokers; 65 percent of white teens smoke Marlboro compared to only 8 percent of blacks. Seinfeld, one of the most popular sitcoms in television history among whites, never ranked in the top 50 among blacks. Indeed, of the top ten shows with the highest

viewership among Whites during the 1999-2000 television season, only one show was also among the top ten for blacks: NFL Monday Night Football.

Understanding whether cultural differences are a *cause* of continued economic disparity between races is a question of great social importance. Cultural differences may be a cause of Black economic struggle if Black culture interferes with the acquisition of human capital or otherwise lowers the labor market productivity of Blacks (as argued in the culture of poverty paradigm in sociology, see Hannerz 1969, Lewis 1966, Riessman 1962, and implicitly, Anderson 1990). For instance, high-achieving Black children may be ostracized by their peers for "acting white," potentially leading to lower investment in human capital (Fordham and Ogbu 1986, Austen-Smith and Fryer 2003). Speaking "Ebonics" may interfere with the ability to interact with White co-workers and customers, or disrupt human capital acquisition more directly.[1] On the other hand, the presence of a Black culture may simply be the *consequence* of past and current segregation and economic inequality, but play no role in perpetuating economic disparity. If differences in tastes do not influence human capital acquisition or labor market productivity, then there is little reason to believe that such tastes will have a causal negative economic impact on Blacks. For example, "soul food" (Counihan and Van Esterik 1997) and traditional African American spirituals (Jackson 1944) can be traced to the social conditions endured during slavery, but are unlikely to be causes of current poverty. Eliminating cultural differences in this scenario would have no overall impact on Black welfare relative to Whites.

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[1] Orr (1989) writes "I did not even know there was something called Black English when I began to realize that many of the difficulties that my students were having were rooted in language. It was the incongruence of the obvious intelligence and determination of these students with the unusual kinds of misunderstandings that persisted in their work that drove me to find answers....For the students whose first language was Black English vernacular, language can be a barrier to success in mathematics and science."

A primary obstacle to the study of culture has been the lack of quantitative measures. In this paper, we focus on one particular aspect of Black culture --the distinctive choice of first names—as a way of measuring cultural investments. Our research builds upon a growing literature by economists devoted to understanding a diverse set of social and cultural phenomena (Akerlof and Kranton 2000, Berman 2000, Fryer 2003, Glaeser, Laibson, and Sacerdote 2002, Ianaconne 1992, Lazear 1999). In contrast to these earlier papers, however, our contribution is primarily empirical and focuses on individual cultural decisions.

Using data that cover every child born in California over a period of four decades, our analysis of first names uncovers a rich set of facts. We first document the stark differences between Black and White name choices in recent years.[2] For example, more than forty percent of the Black girls born in California in recent years received a name that not one of the roughly 100,000 White girls born in California in that year was given. Even among popular names, racial patterns are pronounced. Names such as DeShawn, Tyrone, Reginald, Shanice, Precious, Kiara, and Deja are quite popular among Blacks, but virtually unheard of for Whites.[3] Connor, Cody, Jake, Molly, Emily, Abigail, and Caitlin are distinctively White names. Each of those names appears in at least 2,000 cases, with less than two percent of recipients Black.[4] Overall, Black choices of first names differ substantially more from Whites than do the names chosen by native born Hispanics and Asians.

More surprising, perhaps, is the time series pattern of Black first names. In the 1960s, the

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[2] There are multiple dimensions along which a name can be considered "black" or "white." For example, Lieberson and Mikelson (1995) study distinctive patterns of phonemes that are characteristic of Black names. In this paper, we study only one dimension of the issue: the relatively frequency with which Blacks and Whites choose a given name for their children.

[3] For example, there are 405 children named DeShawn, 403 of whom are Black. The name Tyrone is given to 445 Black boys and only 12 Whites. 274 out of 277 Shanice's are Black, as are 377 out of 388 girls named Precious, and 521 out of 539 girls named Deja.

[4] The most extreme case is for the name Molly, in which only 6 of 2,328 children given the name are Black.

differences in name choices between Blacks and Whites were relatively small, and factors that predict distinctive Black names in later years (single mothers, racially isolated neighborhoods, etc.) do little to predict Black names in the 1960's. Blacks who lived in highly racially segregated neighborhoods adopted names that were almost indistinguishable from Blacks in more integrated neighborhoods. Within a seven-year period in the early 1970's, a profound shift in naming conventions took place, especially among Blacks in racially isolated neighborhoods. The median Black female in a segregated area went from receiving a name that was twice as likely to be given to Blacks as Whites to a name that was more than twenty times as likely to be given to Blacks. Black male names moved in the same direction, but the shift was less pronounced. Among a subset of Blacks, encompassing about one-fourth of Blacks overall and one-half of those in predominantly White neighborhoods, name choices actually became more similar to those of Whites during this period.

We argue that these empirical patterns are most consistent with a model in which the rise of the Black Power movement influenced Black identity. Other models we consider, such as ignorance on the part of Black parents who unwittingly stigmatize their children with such names, simple price theory models, and signaling models, all contradict the data in important ways.

The paper concludes by analyzing the causal impact of distinctively Black names on life outcomes. Previous studies have found that distinctively black names are viewed negatively by others (e.g. Busse and Seraydarian 1977). Most persuasive are audit studies in which matched resumes, one with a distinctively Black name and another with a traditionally White name, are mailed to potential employers (Jowell and Prescott-Clarke 1970, Hubbick and Carter 1980,

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Brown and Gay 1985, Bertrand and Mullainathan 2002). Such studies repeatedly have found that resumes with traditional names are substantially more likely to lead to job interviews than are identical resumes with distinctively Black names. These results suggest that giving one's child a Black name may impose important economic costs on the child. In our data, however, we find no compelling evidence of a causal impact of Black names on a wide range of life outcomes after controlling for background characteristics.

Although seemingly in conflict with the audit study findings, we believe the two sets of results can be reconciled. To the extent that Black names are used simply as signals of race by discriminatory employers, it is unlikely that names would be correlated with job outcomes beyond the interview stage since the employer directly observes the applicant's race once an interview takes place. In the face of discriminatory employers, it is actually in the interest of both employee and employers for Blacks to signal race, either via a name or other resume information, rather than undertaking a costly interview with little hope of receiving a job offer. More generally, we show that Black names are correlated with family background characteristics that may predict labor market productivity, even after controlling for the type of information available to employers on resumes. If that is the case, then it may be efficient (albeit illegal) for employers to use names in screening applicants. Once an individual is personally known to us, names wane dramatically in importance, as a moment of reflection about one's own oddly named acquaintances and co-workers will likely bear out. Because of this, and the fact that the cost of changing one's name is low, it is hard to imagine how names could plausibly have a large impact on life outcomes, even if resume callbacks are somewhat reduced. Therefore, we conclude that the stark differences in naming patterns among Blacks and Whites is best explained as a

consequence of continued racial segregation and inequality, rather than a cause that is perpetuating these factors.

The remainder of the paper is structured as follows. Section II describes the data used in the analysis. Section III summarizes the basic patterns observed in the data. Section IV attempts to reconcile the stylized facts with a range of potential theories. Section V analyzes the causal impact that names have on life outcomes and reconciles our results with previous audit studies. Section VI concludes. A data appendix describes the details of our sample construction.

II. The Data

The data used in this paper are drawn from the Birth Statistical Master File maintained by the Office of Vital Records in the California Department of Health Services. These files provide information drawn from birth certificates for virtually all children born in California over the period 1961-2000 – over sixteen million births. With the approval of the California Committee for the Protection of Human Subjects, we have been able to supplement the information contained on the public use versions of these data sets with personal identifiers including mother's first name, mother's maiden name, and child's full name.

The data are remarkably rich. The information included varies by year and has generally been increasing over time. For our entire sample, we have information on the baby's first name, race, gender, date of birth, hospital of birth, and birth weight, as well as the mother's maiden name, parental ages, and inferred marital status. Beginning in 1989, information on parental education, residential zip code, and source of payment were added to the data. Also starting in 1989 we know the mother's exact date of birth, which is a critical element for linking

information from a woman's own birth certificate to that of her children for those women who are both born in California and later give birth there. This allows us to look at the relationship between circumstances at a woman's birth (e.g. her own name, her mother's level of education, her mother's marital status, racial segregation, etc.) and the situation in which that same woman lives in when she gives birth decades later.[5] It also enables us to link information from all births to the same mother that took place in California, which permits the comparison of naming patterns controlling for mother-fixed effects.

We restrict our sample to non-Hispanic Blacks (referred to simply as Blacks).[6] In determining how Black a name is, our comparison group is non-Hispanic Whites. Summary statistics for the Black babies are provided in Table 1. We divide the sample into four sets of years: 1961-1967, 1968-1977, 1978-1988, and 1989-2000. The cutoffs for these groups have been chosen with three goals in mind: (1) roughly equalizing the time periods in each group, (2) matching the cutoffs to breaks in trend in the aggregate data, and (3) grouping years in which similar sets of covariates are available. Excluded from the data set are a small percentage of observations missing information on names. When other variables are missing, we opted to leave the observation in the analysis, including an indicator variable for the missing value. A few notable trends are apparent in the summary statistics. The fraction of Black children born out-of-wedlock rises over the sample, from 31 percent in the early period to 58 percent in the latest years. The fraction of interracial births also rises sharply, almost doubling over the period.

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[5] Unfortunately, the father's first name is not included in the data, so a parallel analysis cannot be performed for males.

[6] There is some ambiguity in racial and ethnic categorizations when children are born to parents of different races. We use the classification of a child's race and ethnicity on the birth certificate to assign these categories, except in the years 1999 and 2000 when the information on child's race is missing. In those years, a child is considered Black if either parent is Black. Before 1989, we do not have explicit identifiers for Hispanics. Using information from later years of data, however, we are able to effectively identify Hispanic surnames and drop from the sample any child born to a parent with a surname or maiden name that is more than ten percent Hispanic.

White women are five times more likely to give birth to children with Black fathers than are Black women with White fathers. The fraction of teenage births, initially rises, but then falls to the lowest levels (18 percent) in the period 1989-2000. Shifting attention to the aggregate variables in the bottom portion of the table, the Black share of births steadily rises over the sample, going from 12.85 percent initially to 27.72 percent.

The bottom row of Table 1 presents our summary measure of how distinctively Black first names are. The measure we choose, which we term our "Black name index" (BNI) is:

$$BNI_{name,t} = \frac{\Pr(name|Black,t)}{\Pr(name|Black,t)+\Pr(name|White,t)} * 100 \qquad (1)$$

where *name* reflects a particular first name and *t* reflects the year of birth. The index ranges from 0 to 100. If all children who receive a particular name are White, then BNI takes on a value of 0. If only Black children receive a name, BNI is equal to 100. More generally, the interpretation of BNI is straightforward. Imagine you have an urn containing equal numbers of Black and White balls. Each ball has a different name on it, with the proportions determined by the actual frequency of names in the Black and White population. BNI represents the probability that a ball pulled out of the urn with that name on it will be Black, multiplied by 100. If Whites and Blacks are equally likely to choose a name, BNI equals 50. If Blacks are four time as likely to select a name, then BNI takes on a value of 80 (e.g., 4/ (4+1)*100=80).[7] This measure is invariant to the fraction of the population that a particular minority group comprises, and to the overall popularity of a name. The summary statistics in the bottom two rows of Table 1 demonstrate how stark differences in naming patterns are across races. The mean BNI for

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[7] In computing BNI for a particular child, we exclude that child from the calculation. When a name is unique, meaning that only one child receives that name in a particular year, we assign the name a value of 0 if the person getting the name is White and 1 if the baby is Black.

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Blacks rises from 60.9 in the early period (implying that the mean Black name is given to Blacks about 50 percent more often than it is given to Whites) to 71.0 in the last period (implying the name these names are given to Blacks about two and one-half times more frequently than Whites).

Figure 1 more clearly demonstrates the dramatic differences between Black and White name choices. The figure presents a smoothed plot of the probability distribution function of Black and White names. The horizontal axis reflects how Black an individual's name is. The vertical axis measures the density of names chosen by race. More than forty percent of Whites are given names that are at least four times as likely to be given to Whites (between 0-20). The fraction of Whites steadily shrinks as one moves from left to right in the figure. More than half of all Blacks have names that are at least four times as likely to be given to Blacks (between 81-100). For both races there is very little weight in the middle of the distribution (41-60), implying that there are relatively few individuals carrying names that are similarly likely for Blacks and Whites.

One might suspect that the sharp differences across races in Figure 1 may in part be an artifact of how we construct our measure of Black names using the observed empirical distribution. In other words, we might mis-categorize a name as being distinctively Black or White simply because for many names we observe only a few individuals with that name.[8] Figure 2, which is identical to Figure 1 except that it compares the naming patterns of Whites to that of American-born Asians, demonstrates that this is not the case. With the exception of a small fraction (approximately ten percent) of the Asian population adopting names that are rare

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[8] Although, arguing against this conjecture, the results in Figure 1 only change slightly when we exclude names received by twenty or fewer children in the sample.

among Whites, name choices of American-born Asians strongly parallel White name choices. A comparison of native-born Hispanics and Whites in Figure 3 shows differences in naming patterns among these two groups, although there is still substantially more overlap than for Blacks and Whites.

Another difference between Black and White naming patterns is the greater usage of unique or nearly unique names in the Black community. Figures 4a and 4b report, by race and gender, the number of children born in California in that same year (regardless of race) with that child's name. Remarkably, nearly 30 percent of Black girls receive a name that is unique among the hundreds of thousands of children born annually in California. Among Whites, that fraction is only five percent. Similarly, the fraction of unique names among Black boys is six times higher than for White boys, although only about half the rate of Black girls. The median Black child shares his or her name with 23 other children; the number is almost fifteen times greater for Whites (351).[9]

Perhaps the most interesting findings in the data are the changes in the distribution of name choices over time. For children born in each year between 1961 and 2000, we compute our Black name index and then rank order the Blacks in our sample according to how Black their name is. Figure 5 presents the mean BNI by year for each of the four quartiles of the distribution. The top quartile is very close to 100 throughout the entire time period (i.e. almost one-quarter of Blacks had names virtually never given to Whites throughout the sample) and thus exhibits little time-series variation. For the other three quartiles, Black naming patterns were largely stable throughout most of the 1960s. Beginning in the late 1960s, the second quartile

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[9] The differences between Blacks and Whites in figures 4 are not primarily due to the fact that there are many more Whites than Blacks born in California each year. If we randomly select a subset of Whites equal in size to the number of Blacks born each year, a similar pattern of results persists.

from the top experiences a sharp rise in how Black the name choices are. Between 1968 and 1977, the mean BNI within this quartile goes from roughly 75 (meaning the name was three times as likely to be given to a Black baby as a White baby) to almost 95 (15 times more likely to be given to a Black baby). The third quartile also rises over that time period, but not as sharply, and also steadily increases over the period 1985-2000. The bottom quartile, in contrast, remains almost unchanged throughout the sample period.

Figure 6 is identical to Figure 5, except that it disaggregates the data by the degree of racial segregation in the hospital in which a Black baby is born. We show only the top and bottom deciles (i.e. the 10 percent of Blacks giving birth in hospitals with the greatest percent Black and the lowest percent Black respectively) to highlight the extremes of the distribution. The most important observation emerging from Figure 6 is the widening gap between the names given to Black babies born in predominantly Black and predominantly White hospitals over time. At the beginning of the sample, name choices differ little by the degree of racial segregation. For example, in the bottom quartile, Blacks born in racially segregated hospitals have a mean BNI of 26 versus 23 for Blacks born in predominantly White hospitals. By 1978, these gaps have widened substantially, particularly in the third quartile where Blacks in Black hospitals have shifted more than twenty points relative to the beginning of the sample, but names of Blacks in White hospitals are essentially unchanged. Interestingly, among the Black babies given the least distinctively Black names (the bottom quartile), those born in White hospitals actually see a discernible *decrease* in how Black their names are, in contrast to the rest of the distribution.

Figure 7 presents the time path of the median Black name for the eight California

counties with the greatest number of Blacks in 1990. With the exception of Orange County, the other counties follow remarkably similar time-series patterns. Orange County, which has a much smaller fraction Black than any of the other counties shown and has the highest per capita incomes, follows a path more similar to the 10th percentile Black names in other counties. The similarities across counties suggest that the forces that are operating on Black names are being driven by macro forces, rather than locally isolated phenomena.

The sharp increase in distinctively Black names among some Blacks is driven both by an increased prevalence of unique names and by the choice of non-unique names that are far more common among Blacks than Whites. In the early 1960s, the variety of names among Black females (as captured by Herfindahl or entropy measures) was substantially less than that of White females. White and Black males exhibited roughly the same degree of variety in that early period. Recently, for both males and females, there is much greater variety in naming for Blacks than Whites. Figures 8a and 8b present time-series data on the percentage of babies with unique first names by gender and racial mix of the birth hospital, where a unique name is defined as a name that no other baby born in California that year shares. The fraction of Black baby girls receiving unique names rose for the first fifteen years of the sample. Initially rates of unique naming were similar among Blacks in predominantly Black and predominantly White neighborhoods (around 10 percent); that gap grows over time. Nonetheless, even for Blacks in White neighborhoods, almost one-quarter of baby girls received unique names. Among Whites, the rates are around five percent, although this (as well as the Black numbers) is likely to be an upper bound due to typographical errors being counted as unique names. Figure 8b documents a parallel, though less pronounced, phenomenon for Black boys. In 1961 the percentage of unique

names ranged from 5-6%, irrespective of hospital. By 2000, one-fifth of Black boys born in predominantly Black hospitals in 2000 receive unique names.

Table 2 examines the relationship between parental characteristics, birth circumstances, and the names given to children at four different points in time. We estimate equations of the form:

$$BNI_i = \beta X_i + \alpha \xi_h + \theta \gamma_c + \varepsilon_i,$$

where X_i represents an array of individual level background variables and ξ_h represents hospital level variables and γ_c denotes county level variables. The first four columns of the table correspond to different sample periods. Column 1 reflects Black children born between 1961 and 1967, before the sharp changes in Black naming behavior. Column 2 has births occurring between the years 1968 and 1977, the years in which the transition occurred. Columns 3 and 4 capture the periods 1978-1988 and 1989-2000 respectively. We separate these two time periods because of the availability of a more complete set of covariates after 1989. Also, after 1989 we have the necessary information to link multiple births to the same women, allowing for the inclusion of mother fixed effects in Column 6. All of the controls included in the regression are taken from a child's birth certificate and thus are determined at the time of birth. For the entire period, covariates available include parents' marital status, age, and race, mother's place of birth, her total number of children, months of prenatal care, the baby's birth weight, the percent Black at the birth hospital, the percent black in the county, and whether the child is born in a county hospital. In the later years of the sample, the set of included controls is much richer; they include income and percent Black at the ZIP code level, highest grade completed by mother and father, and expected source of payment.

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Columns 1-4 hold the set of covariates constant and compares the relative importance of these variables in predicting BNI over the four periods. A number of results emerge. First, holding fixed all of the variables controlled for in these specifications; names are becoming increasingly Black over the time period, as indicated by the rising value of the constant term in the regressions. Although the constant term does not have a direct interpretation, the differences between the constants reflect mean shifts in naming behavior. Thus, a Black woman with identical characteristics along the dimensions we control for would have chosen a name that is over 20 points higher on our BNI index in the last period relative to the first period. A second central result is that the link between low socio-economic status and Black names becomes much stronger over time. For instance, the coefficients on mother's age, birth weight, and single mother are less than one-half as large in the first period (column 1) as they are in the last period (column 4), and father's age has no impact in the early period. Note also that the R-squared in the regressions increases steadily over time, meaning that these characteristics explain a growing fraction of the variation in names.

The specification estimated in column (5) and (6) are similar to those in the previous columns of the table, except that a much richer set of covariates are available in this latter period. The additional variables added to the specification carry coefficients that one might expect: Blacker name choices are associated with residing in lower-income zip codes, lower levels of parental education, not having private insurance, and having a mother who herself has a Blacker name.

The last column of table 2 adds mother-fixed effects to the specification. Thus, the identification comes from changes in a mother's situation across different births. To the extent

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that mothers anticipate the changes that occur in their circumstances between births and factor

these expectations into the name given to their first child, the fixed-effects coefficients will be

biased towards zero.[10] The estimates in column (6) are generally substantially smaller in

magnitude than in the earlier columns, with the exception of variables reflecting how Black the

neighborhood is and the coefficient on female. Interestingly, the coefficient on mother's age

flips sign, implying that women who have babies early in life tend to choose Black names

relative to other women, but that a given women picks slightly Blacker names for her children as

she grows older. In addition, the inclusion of mother-fixed effects raises the R-squared from

.092 to .773 -- there is a great degree of continuity in the names mothers choose for their

children, implying that person-specific tastes are quite important determinants of name choice.

The results with mother-fixed effects suggest either that temporary changes in circumstances

have a relatively small impact on name choices, or that our measures of current circumstances

are noisy.

V. Understanding the patterns in the data through the lens of economic theory

A number of stylized facts emerge from the analysis of the preceding sections. Blacks,

much more than other minorities, choose distinctive names for their children. The

distinctiveness of Black names has risen greatly over time, most notably in the late 1960s and

early 1970s. These shifts in naming patterns have not been uniform. The median Black name has

shifted dramatically towards being distinctively Black. Among the quarter of the Black

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[10] There is little empirical evidence that mother's successfully anticipate changes in circumstances. We are no more successful predicting the name of the first child born using information on the mother's circumstances at the time of her last birth, than we are doing the reverse. If women are forward-looking, one would expect future information to be more valuable in prediction that past circumstances. Similarly, when we look at the middle birth of women who have three babies in our sample, the future circumstances are less predictive than the past circumstances.

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population choosing the names most common among Whites, the opposite pattern is evident. Further, Blacks living in highly segregated Black communities today are much more likely to have distinctively Black names than those in integrated communities, whereas this was not the case in the early 1960's. Finally, until the late 1970s, the choice of Black names was only weakly associated with socio-economic status; in the 1980s and 1990s distinctively Black names have come to be increasingly associated with mothers who are young, poor, unmarried, and have low education.

In this section, we consider the extent to which existing theories can successfully explain this disparate set of facts. The four models we compare differ substantially. In the first model, Black parents are misinformed about the world; distinctively Black names are costly mistakes in this model. The second model, in contrast, is a simple price theory model in which parents are optimally choosing names for their children, trading off benefits of having a Black name in a Black community and benefits of having a White name in the White community. In the third class of models, names serve as signals of otherwise unobservable personal characteristics. The final model considered is the identity model of Akerlof and Kranton (2000).[11]

The Ignorance Model

One explanation for the prevalence of distinctively Black names is ignorance on the part of Black parents, who fail to appreciate the costs they are imposing on their children through such choices. The audit study results of Jowell and Prescott-Clarke (1970), Hubbick and Carter

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[11] All of these models stand in contrast to the taste-based frameworks of previous research such as Lieberson (2000), who argues that names are driven by popular fads and fashions. Without further restrictions, there are few testable empirical predictions of the taste-based model. One would imagine, however, that a conceivable prediction of a taste-based approach would be that naming patterns should demonstrate local variation, as there are certain to be variations in local tastes and styles or at least variations in the timing of adopting fads in naming trends. Figure 7 demonstrates that this is not an important feature of our data. Everywhere except Orange County, Black naming conventions follow remarkably similar patterns.

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(1980), Brown and Gay (1985), and Bertrand and Mullainathan (2002), for instance, suggest that Black names may be punished in the labor market.

This theory fails to adequately explain the sharp increase in distinctively Black names in the late 1960s and early 1970s, as well as the fact that those adopting Black names in that period were largely representative of the Black community more generally. On the other hand, one cannot *a priori* rule out that this explanation has potential relevance for explaining at least some of the patterns of the last two decades. If it became apparent in the 1980s that there were costs to having a Black name, one might expect that parents who were likely to be best informed about these costs (e.g., older working parents living in less racially isolated neighborhoods) would choose such names less frequently, whereas learning on this dimension might be more gradual for teenage mothers in the inner city. In absolute terms, this explanation fails, because the adoption of Black names rose throughout the 1990s. At least in relative terms, however, there was a shift in the 1980s and 1990s towards an increasing concentration of distinctively Black names among parents least likely to be well informed about the potential stigma of such names in broader society. In light of results presented later in the paper that call into question the costs of adopting distinctively Black names, however, we are quite skeptical of this theory as an explanation for the observed phenomena.

Price Theory Model

Consider the following skeletal outline of a price theory model of names, which we derive formally in an earlier version of this paper (Fryer and Levitt 2002). Parent's give names to their children at birth to maximize the child's expected utility. Individuals are born into neighborhoods that differ in racial composition. People live and work in the same

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neighborhoods. Moving between neighborhoods is costly. The returns to ability are assumed to be higher in predominantly White neighborhoods. White names provide benefits in interactions with Whites; Black names are beneficial when interacting with Blacks. We also assume that the value of a White name is increasing in ability, motivated by the audit study literature which suggests that the primary cost of a distinctively Black name is via the labor market. A child's ability is not known with certainty at birth, although the distribution from which the child's ability will be drawn is known.

In this model, parents will opt for Whiter names when (i) their children are more likely to be high ability, (ii) the cost of moving to predominantly White neighborhoods falls, (iii) returns to ability rise in the labor market, (iv) the relative cost of having a White name when interacting with Blacks falls, and (v) the benefit of having a White name when interacting with Whites rises.

The predictions of this model face mixed success in terms of the patterns observed in the data. Consistent with the theory is the fact that those in racially isolated communities are especially likely to adopt distinctively Black names in recent decades, and that such names are most common among groups likely to face the greatest barriers to participating in traditional labor markets. This theory, however, does quite poorly in explaining the sharp rise in distinctively Black names in the late 1960s and early 1970s — a period immediately following the passage of national Fair Housing laws in 1968, falling social barriers to integration, and increased economic opportunity for Blacks. Empirically, urban racial segregation which had been rising began to fall around this time and has steadily declined for three decades (Cutler, Glaeser, and Vigdor 1999).[12] In light of these apparent reductions in the costs of switching

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[12] Although the level of residential racial segregation has declined at a relatively slow rate, to the extent that these persistent declines were anticipated and parents are concerned with the impact a name will have on their children as

between neighborhoods, one would have expected a shift away from distinctively Black names at precisely the point where such names were becoming most prevalent.[13]

Additionally, it is not clear that the price theory model provides an adequate explanation as to why Black names are much more distinctive than Asian or Hispanic names, when presumably many of the same tradeoffs might also exist among those minority groups.

A Signaling Model

In a third attempt to explain our disparate set of facts, we develop a simple signaling model in which distinctively Black names serve as a signaling device, but are otherwise not productive, along the lines of prior research by Iannacone (1992), Berman (2000), and Fryer 2003).[14] Imagine a predominantly Black neighborhood populated by Black individuals of one or two types: those who have a strong affinity for the Black community (the "black" type) and those who do not (the "white" type). An individual's type is fixed at birth and cannot be changed. Each individual knows her own type, but type is not observable to others. An individual's utility is determined by his type and the neighborhood's perception about his type. Regardless of one's actual type, social interactions in the Black community yield higher utility if others believe that one has an affinity for the Black community.[15] Thus, all else being equal, both types prefer to be

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adults in the labor market, one would nonetheless expect to see an immediate, abrupt shift in naming patterns.

[13] A proponent of this theoretical framework might argue that a more nuanced application of the theory could account for the time series patterns of the early 1970s. Wilson (1987) argues that those who escaped inner cities improved their position relative to whites, whereas those left behind became even more marginalized. Thus, the bifurcation of Black name choices reflects this bifurcation, with those trapped in the inner cities adopting Blacker names because their life prospects have worsened and those leaving the inner city doing the opposite. That conjecture, however, is inconsistent with the patterns of who actually chooses Black names. In the 1970's, variables that are associated with inner city residency (e.g. being a single mother) are not strong predictors of black names. The 1970's shift to distinctive black names was a very broad (in terms of the set of blacks participating) change in naming patterns by a diverse set of parents. The "ghettoization" of black names did not begin until the 1980's, when distinctive black names became synonymous with low income, single motherhood, and low birth-weight babies.

[14] For a formal treatment of this model, see the earlier version of this paper Fryer and Levitt (2002).

[15] For example, those with an affinity to the Black community may be more likely to contribute to local public goods than those with "white" identities, inducing better treatment from their neighbors. For instance, Anderson

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perceived as being a "black" type.

One way in which an individual signals his or her type is by the names that they choose for their children. In the model, each parent has one child and bestows a name on that child. The (suitably anthropomorphized) community observes the name each parent gives his or her child, and based on that signal, draws unbiased inferences about the parent's type. As in the price theory model, we assume that White names provide labor market benefits. The total cost and marginal cost of giving a child a Blacker name is lower for a parent with the "black" type.

Either separating or pooling equilibria may arise in such models. In any separating equilibrium, parents whose type is "black" are willing to give otherwise costly names to their children simply because it allows them to distinguish themselves from parents who identify as "white," and derive more utility from social interactions. As a result, peers come to regard Black names as a signal of community loyalty. In any pooling equilibrium, the payoff to social interactions is determined by the underlying population distribution of types. Pooling is likely to occur, in our model, when the marginal rates of substitution for both types of parents are similar.

The predictions of the signaling model fit some of the basic patterns observed in the data. The naming patterns in the 1960s, for instance, look roughly consistent with a pooling equilibrium in which one's choice of name is not a strong signal. Any mechanism that amplified the differences in the cost of signaling between the two types could cause a bifurcation in the distribution of Black names such as occurred in the early 1970s, with "black" types moving to distinctively Black names and "white" types shifting towards Whiter names (if they previously had been in a pooling equilibrium) or continuing to choose traditional white names (if they formerly were in a separating equilibrium). Such a change could have come as a result of the

(1999) talks about the importance of having others "watch your back."

Black Power movement in the late 1960's (Van Deburg 1992), or as an equilibrium response to increased opportunities for some blacks due to the civil rights movement (Fryer 2003). The latter could explain the change if distinctively Black names are used as signal of one's intentions to engage in social interactions in the Black community in the future.

The signaling model appears to fall short in explaining three dimensions of the data.[16] First, in the 1980s and 1990s, individuals who are most likely to adopt distinctively Black names (young, unmarried women in predominantly Black neighborhoods) are those with the least need to signal affinity with the Black community or their commitment to remaining in the neighborhood. Second, the signaling model has a hard time explaining why Black names became more prevalent among many different types of Blacks, including those who live in mostly White communities. Third, the signaling model provides little rationale as to why Blacks might engage much more extensively in signaling than do either Asians or Hispanics.

An Identity Model

The primary shortcoming of the signaling model in explaining the data is that, for a large segment of the Black community, distinctively Black names appear to be viewed as a benefit rather than a cost. In the signaling model, an investment must be costly to provide a credible signal. Using a similar framework, but allowing Black names to be a benefit for those with the "black" type and a cost for those with the "white" type converts the signaling model into a simple identity model.

In particular, we have in mind the framework of Akerlof and Kranton (2000). In their language, identities are accompanied by certain "prescriptions" that define appropriate behaviors

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[16] Also troubling for a signaling story is the fact that we find little evidence that Black names impose costs on people who carry them. Without costs, the signal is not credible.

for a person of that type. When an individual takes actions in line with these prescriptions (e.g. a "black" type choosing a distinctively Black name, or a "white" type choosing a White name), there is a utility benefit.

To justify the patterns in the time series circa 1970 through this model, there must be a shock to the identity prescriptions (i.e. what it means to be Black) around this time period. The rise of Black Power appears to be precisely that sort of shock. The underlying philosophy of the Black Power movement was to encourage Blacks to accentuate and affirm black culture and fight the rumors of black inferiority (Van Deburg 1992). Within the Black community, there were widespread changes in hair styles and the rising popularity of afro-centric clothing between 1968-1975 (Van Deburg 1992, Woodward 1974). The adoption of distinctively Black names would be completely consistent with these other cultural phenomena. The identity model may also help to explain why naming patterns among Blacks are quite distinctive from Whites, but Asians name their children in much the same manner as Whites. For instance, if Asian "prescriptions" stress financial success and assimilation, Asian names would be expected to mirror those of Whites.

Another fact consistent with a Black Power explanation is that the concentration of Blacks by county is a much stronger predictor of Black names in the 1968-1977 period than the rest of the sample. In column 2 of Table 2, the coefficient on that variable is .152 (standard error of .017) for 1968-1977, but never larger than .061 in any other period. The county-level trends in Figure 7 also exhibit a basic consistency with a Black Power story. Alameda (in which Oakland is located), Los Angeles, and San Francisco counties were the centers of the Black Power movement. Black names increased earlier and to a greater extent in these three counties

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than the rest of the state.

VI. Do names have a causal impact on life outcomes?

In light of audit studies documenting the use of names as a screening device by employers, one might expect that having a distinctively Black name should be causally linked to worse economic outcomes, holding all else equal. In this section, we link information from a woman's own birth certificate to her adult circumstances as reflected in the information on the birth certificates of her children at the time she gives birth.

In order to make this linkage, a woman must be born in California and later give birth in California. We focus our analysis on Black women born in 1973 and 1974 -- the earliest years for which we have the necessary information to make reliable links. Of the estimated 46.4 percent of women still residing in California who have given birth, we appear to match at a high rate (over 90 percent).[17] We are able to uniquely link 42 percent of Black women born in California in 1973-74 to children born 1989-2000. The subset of women that we successfully link is not representative of all women born in 1973-1974. In particular, the women we eventually link are themselves born to slightly younger, unmarried mothers and are less likely to be biracial. The differences between the whole sample and the linked subset are consistent with higher fertility rates and lower rates of cross-state mobility among these groups.

Our approach to testing for a causal impact of names involves predicting adult life outcomes as a function of everything known about a woman and her parents at the time of her

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[17] According to the 1990 Census, roughly 20 percent of Black women born in California live outside the state during their childbearing years. Also based on 1990 Census data, 42 percent of Black women born in California have no children by age 27. If leaving California is independent of the decision to have a child by age 27, then 46.4 percent of Black women born in California should give birth in California in our sample. (1-.2)*.58. For details of how this linkage is performed, see the data appendix.

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own birth, including her name:

$$y_i^{adult} = \beta BNI_i + X_i^{birth} \Gamma + \lambda_{ih}^{birth} + \varepsilon_i \qquad (3)$$

where i indexes women, h represents hospitals, and the superscripts *adult* and *birth* correspond to the time at which the variable is measured. We analyze a wide selection of outcome variables as the dependent variable. All of the covariates included in the earlier analysis of the cohorts born in the 1970s are also in this specification. We limit the sample to the last birth that we observe for a particular woman in order to most closely approximate the long-run outcomes of the women, although the results are not sensitive to this restriction. The clear weakness of this empirical approach is that if unobserved characteristics of the woman are similarly correlated both with life outcomes and her name, our approach is likely to exaggerate the true causal link between a woman's name and her life outcomes.[18]

The results of estimating equation (3) for a number of different outcomes are presented in the top two rows of Table 3. The top row does not include any controls; the second row includes the full set of controls. In both cases, only the coefficient on the woman's own Black Name Index is presented in the table. In the absence of controls for background characteristics, Blacker names are uniformly associated with worse adult outcomes. Given the correlation between Blacker names, growing up in segregated neighborhoods, and more difficult home environments, this relationship is expected. What is surprising, especially in light of the biases discussed above, is how limited the impact of a woman's name is on her life outcomes once we control for other factors that are present at the time of her birth. When we include covariates in the basic

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[18] One logical solution to this problem would be to use the name of the woman's mother as an instrument. The mother's name is a strong predictor of her daughter's name, but one might plausibly argue that controlling for a wide range of covariates at the time of the daughter's birth, the mother's name will have no impact on her daughter's adult outcomes. Unfortunately, the mother's first name is not included in our data set until 1982, so this instrumental variables strategy will not be feasible until more years of time have passed.

specification (row 2), we find statistically significant coefficients for only four outcomes: percent Black in the hospital the mother gives birth, whether the woman is unmarried at the time of the birth, per capita income among Blacks living in her ZIP code, and how Black a name the woman chooses for her own child. Even in these cases of statistical significance, the magnitude of the coefficients associated with the BNI is substantively small. Changing the BNI from 50 to100 raises the percent Black in the hospital where the mother gives birth by less than one percentage point, the probability of an unmarried birth two-tenths of one percentage point, and per capita income for Blacks in the ZIP code by $100. The largest impact that a woman's name appears to have is on how she names her children. An increase of 50 in the BNI raises the BNI of her children by about 3 – a little more than half the impact that being a single mother has on naming, and the same impact as having the child in a hospital in which an extra 30 percent of the births are to Blacks. None of the other variables considered yield statistically significant coefficients: years of education of the woman or the father of her child, mother's age at first birth, private insurance coverage, her baby's birth weight, and number of total children born to date.[19]

In the remaining rows of Table 3, we replace our continuous measure of BNI with a series of mutually exclusive indicator variables corresponding to having a unique name, a BNI greater than 80 but not unique, a BNI between 50 and 80, and the omitted category which is a BNI less than 50. One rationale for analyzing the data in this form is that the imposition of a linear relationship over the whole range of the Black name index may be inappropriate. For instance, a move from 25 to 50 may be inconsequential to a woman's life outcomes, but a move

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[19] The absence of a causal impact of names on our outcome measures might lead one to suspect that our outcome measures are noisy or not capturing relevant phenomena. As a test of this hypothesis, we tried including a woman's years of education as an explanatory variable in the regressions reported in Table 3. A woman's education has a large impact with the expected sign on the relevant outcomes such as ZIP code income, suggesting that it is not simply bad outcome measures that account for our null findings with respect to names.

from 75 to 100 may have important implications. There is little in the results to challenge the findings discussed above. In almost all cases, in the raw data the presence of a Blacker name is associated with worse outcomes. Once we control for other variables, however, the impact of names tends to diminish or evaporate.[20] Particularly in light of the biases likely to be pushing the results towards finding a spurious negative relationship between names and outcomes, we conclude that there is little evidence that how Black one's name is causally impacts life outcomes.

An important question is how our results can be reconciled with the audit-studies that report lower interview rates for resumes with distinctively Black names (Jowell and Prescott-Clarke 1970, Hubbick and Carter 1980, Brown and Gay 1985, Bertrand and Mullainathan 2002). The first point to note is that it is unlikely that a Black name could have a large impact on one's labor market success at any other step in the process. Once an employer has met a candidate in person, race is directly observable. A person's manner of speaking, dress, interview responses, and on-the-job performance no doubt provide far better signals of productivity than a name. A second important point is that it is not that costly to change one's name, either legally or with respect to what name is put on a resume. If job applicants understand the costs of having distinctively Black names, one would expect to frequently observe name changes of this kind,

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[20] We have also explored whether other aspects of naming have a causal impact on life outcomes. For example, one might expect that having the "wrong" kind of name (i.e. a White name in a Black neighborhood and vice-versa) will, at least in terms of utility, adversely affect life outcomes. We attempted to identify people with the "wrong" names in two different ways. In the first approach, we calculate the deviation between the BNI that a person actually received and the BNI that we predict they should have received based on their birth circumstances. The absolute magnitude of the deviation represents how "wrong" their name is from an *ex ante* perspective. An alternative way of characterizing someone as having the "wrong" name is to look at cases in which a woman's name is mismatched *ex post* with the actual neighborhood in which she lives as an adult. In neither case do we find a systematic link between having the "wrong" name and the types of outcomes we are measuring.

and yet they appear to be rare.[21] Third, even if some employers select interview candidates based on Black names, there are other employers who do not. In an efficient market with sufficiently many non-discriminatory employers, the presence of discrimination need not result in worse outcomes for Blacks (Becker 1957). Fourth, in the face of a discriminatory employer, it is actually beneficial for the Black worker to signal race with a name. Job interviews are time consuming and potentially involve missing work for those searching while employed. If a discriminatory employer will not hire the Black applicant anyway, it is more efficient to make one's race apparent prior to the interview stage. Blacks with distinctive names may actually do better than Blacks with traditional names by avoiding these needless interview costs. Finally, empirically a relatively small fraction of the jobs actually obtained are through this formal resume-based process. Granovetter (1974) reports that approximately 10% of respondents in a survey report obtaining their job through job advertisements.

A different, but related question is why employers less frequently give interviews to applicants with distinctively Black names. One possibility is animus towards Blacks involving racial discrimination unrelated to productivity differences. An alternative interpretation is that Black names, because of self-selection among Black parents, provide useful signals of human capital to employers, even controlling for race itself and other information available on resumes. Audit study data are equally consistent with either of these hypotheses.[22]

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[21] When comparing Black women born in California in 1973-74 who also later give birth in California, we are able to identify women with last names and dates of birth that uniquely match, but first names that do not match. Excluding obvious typographical errors, such cases represent a trivial percent of all women. Among this group, the apparent name changes are almost equally distributed between women reporting names that are more distinctively Black when they give birth as when they were themselves born, and vice-versa. The name a woman reports on her child's birth certificate, however, may differ from what she lists on a resume.

[22] From a legal perspective, the use of names as a basis for hiring decisions is likely to be a violation of current law, regardless of whether there are underlying productivity differences. In the 1971 decision *Griggs v. Duke Power*, the Supreme Court ruled unanimously that policies that are neutral on their face, but have a disparate impact on Blacks

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We cannot directly test between these two hypotheses for two reasons. First, our data set lacks direct measures of productivity. We do, however, observe worker characteristics that might be correlated with labor productivity (see, e.g. Heckman and Carneiro 2003), but are typically not included on a resume (and are for the most part illegal for employers to inquire about): whether a woman is a single mother, was born to a teenage mother, was raised in a single-parent household, or the degree of racial segregation into which she was born. The second difficulty in testing this hypothesis is that we do not have in our data all of the information on a resume (e.g., particular schools attended, complete work history, misspellings).

Our empirical strategy, in light of these shortcomings, is to estimate a number of specifications in the general spirit of equation (2), varying the set of covariates included in the regression. A critical difference between the earlier estimates and those presented below are that we now include information about the adult circumstances of a woman as covariates, since such information is on the resume. The results are presented in Table 4. Columns of the table correspond to different factors that might be correlated with labor productivity due to their influence on human capital: segregation in one's birth hospital, mother's marital status, and whether one's mother was a teenager. The entries in the table are the coefficient on the woman's Black name index. Each table entry is from a different regression. The two columns of the table correspond to specifications with and without controls. The second column includes the woman's age, years of education, whether or not she has private health insurance (the best

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are not allowed. This doctrine was codified in the Civil Rights Act of 1991 after the 1989 case *Antonio v. Wards Cove Packing* modified the *Griggs* ruling by stating that policies with disparate impacts were allowable as long as they served a legitimate business interest. Indeed, even the use of names to choose a subset of Blacks from an entirely Black hiring pool would probably be viewed as illegal under *Connecticut v. Teal*, in which it was found that even policies that have no disparate impact on a protected group, but harm some individuals within that group, violate the law.

measure we have with respect to the quality of her current employment), zip code of residence fixed effects, and year dummies. These variables capture some of the information on a resume. In all cases, our sample is the set of women who we observe both at their birth in 1973-74 and as adults in 1989-2000.

The results in Table 4 suggest that a woman's first name is indeed a useful predictor of the circumstances in which she grow up, which may in turn be correlated with labor productivity. Comparing columns (1) and (2), the types of information available to employers on a resume does little to reduce the value of this signal. In columns (2), a woman with a BNI equal to one (implying a name that no Whites have) is 10 percentage points more likely to have been born to a teenage mother and 9 percentage points more likely to have been born out-of-wedlock than a Black woman living in the same zip code with the same age and education, but carrying a name that is equally common among Whites and Blacks. The woman with a Black name is also more likely to have been born in a Black neighborhood and to herself be unmarried. Thus, while we cannot rule out animus on the part of employers, we find evidence supporting a potential productivity-related statistical discrimination motive for employers to base interview decisions on first names.

VIII. Conclusion.

We document stark differences in naming patterns between Blacks and Whites, and demonstrate that these patterns change sharply over time. While most Blacks have shifted towards more distinctively Black names (particularly in the late 1960s and early 1970s), the fraction of Blacks choosing starkly White names has also increased. How distinctively Black

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one's name was appears to have signaled little in the early 1960s. Naming conventions differed modestly across parental characteristics or neighborhood types. The last two decades, however, have led to a "ghettoization" of distinctively Black names, i.e. a distinctively Black name is now a much stronger predictor of socio-economic status. Among the theories we consider, models in which the rise of the Black Power movement triggers important changes in Black identity appear to be most consistent with our data. In contrast with prior audit studies of Black names on resumes, we find little evidence that names have a causal impact on adult life outcomes.

More generally, this paper takes first steps towards an attempt to understand what role Black culture might play in explaining continued poverty and racial isolation. With respect to this particular aspect of distinctive Black culture, we conclude that carrying a black name is primarily a *consequence* rather than a cause of poverty and segregation
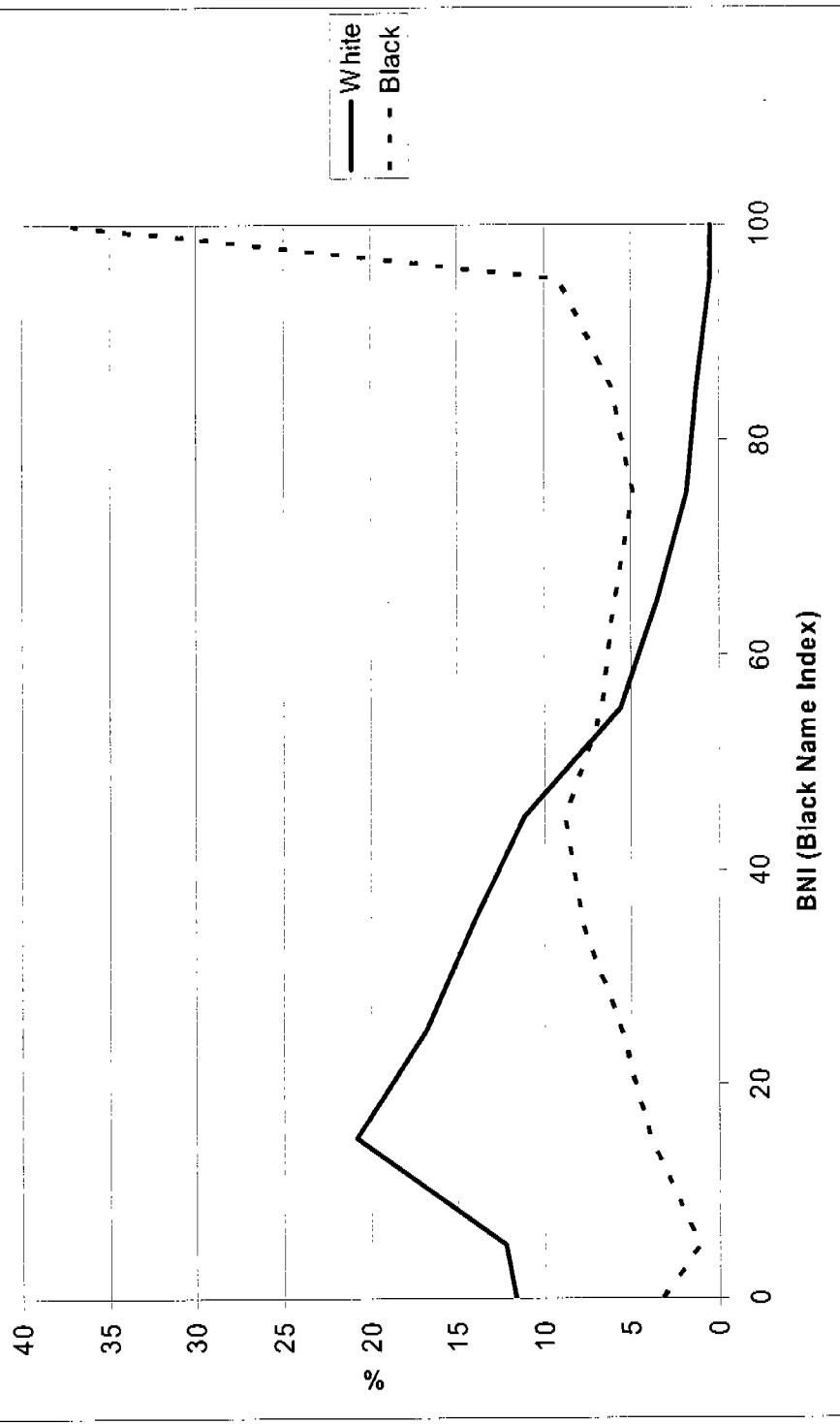
Figure 1: 1989 - 2000 BNI distribution for Black vs White

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Figure 2: 1989 - 2000 ANI distribution for Asian vs White
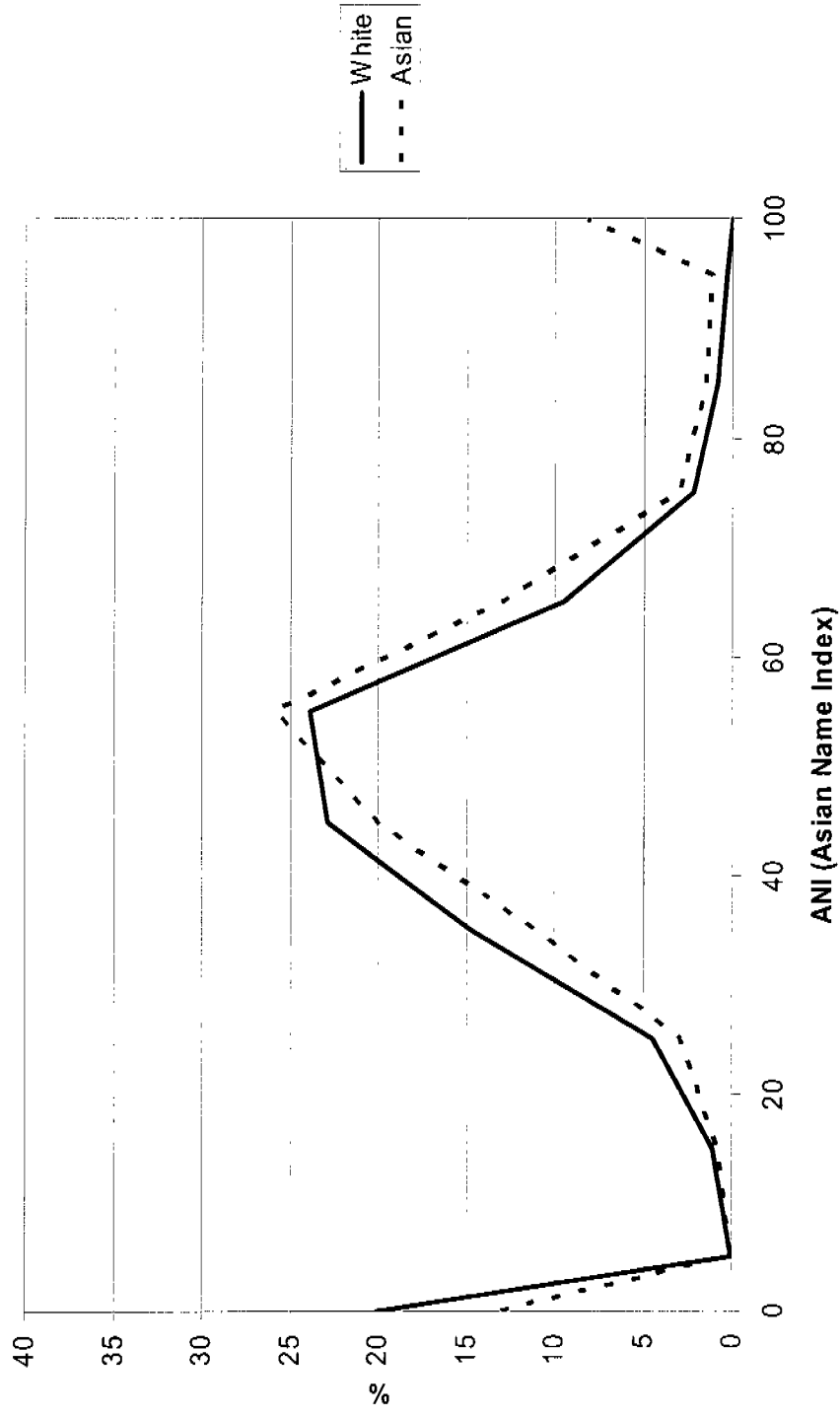
Figure 3: 1989 - 2000 HNI distribution for Hispanic vs White

33
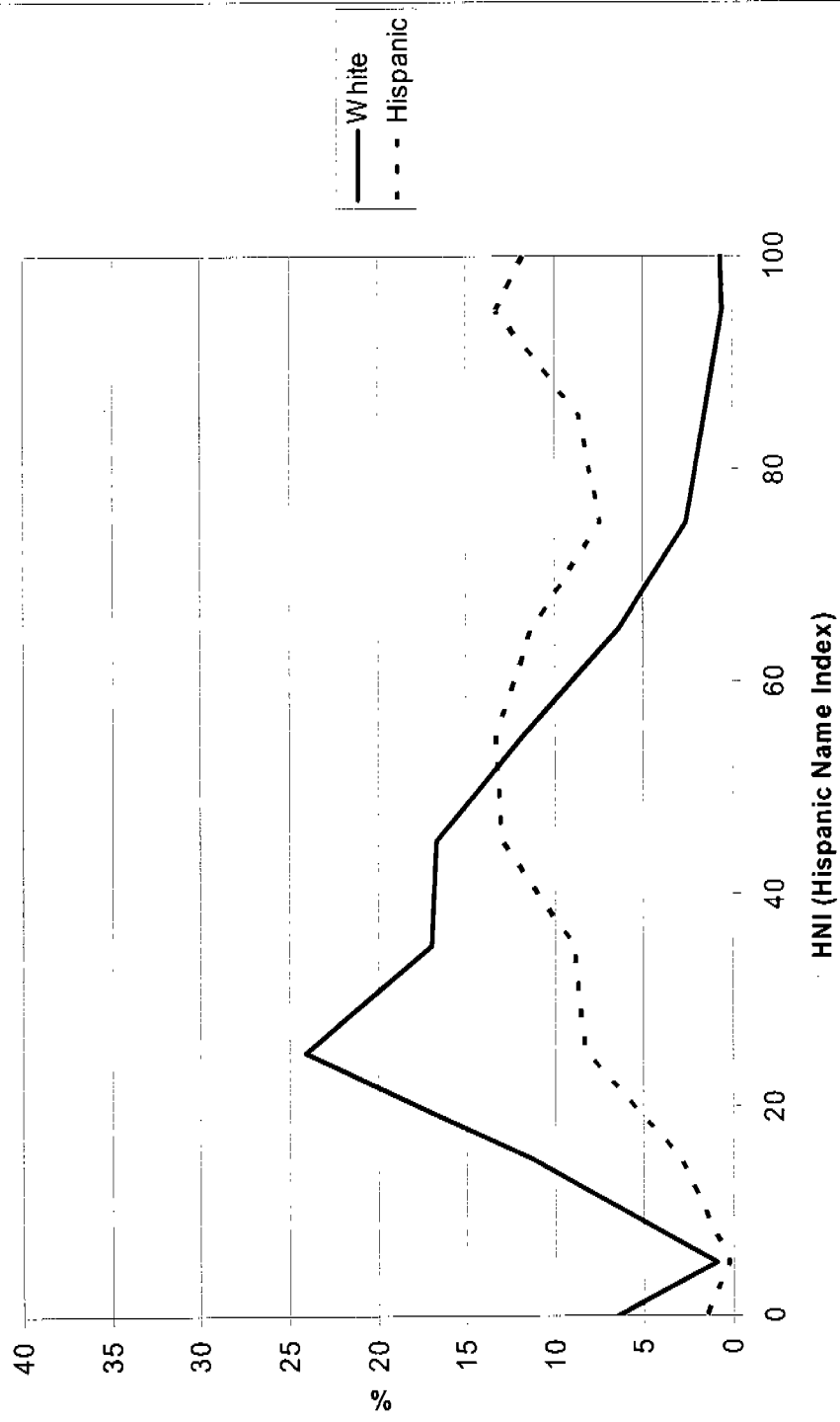
Figure 4a: Distribution of Male Babies by How Many Share a Name
(among children of all races born in California in a year)

Legend: ☐ White Male ■ Black Male

Y-axis: Percent of babies, by race — 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55

X-axis: 1, 2-5, 6-50, 51-500, 500+

Number of male babies born in California in the same year with the same name as this baby
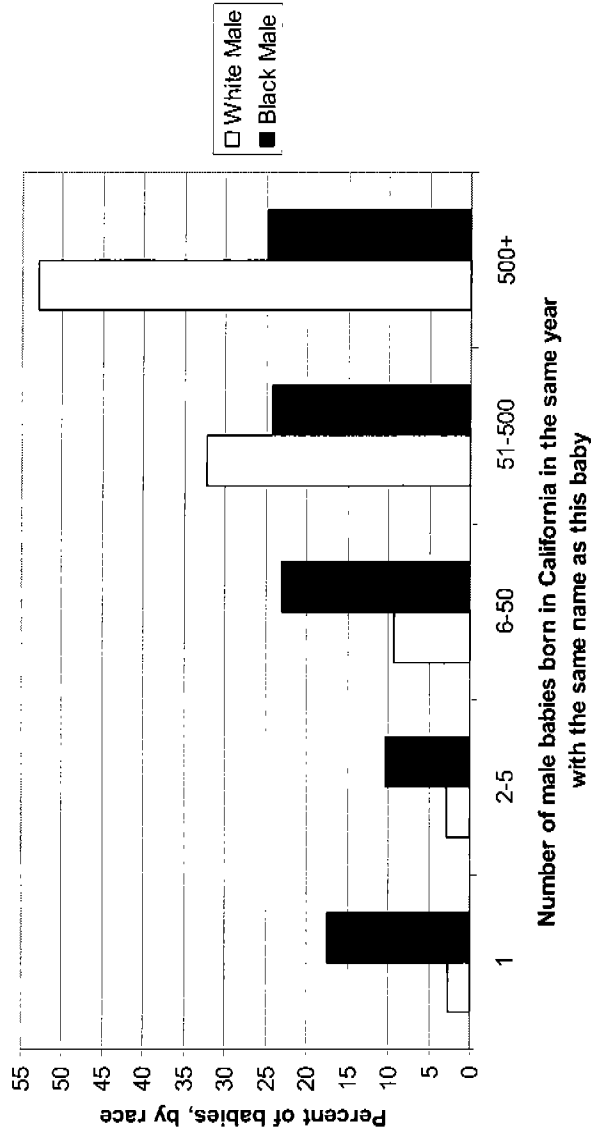
Figure 4b: Distribution of Female Babies by How Many Share a Name
(among children of all races born in California in a year)

Legend: ☐ White Female ■ Black Female

Y-axis: Percent of babies, by race — 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55

X-axis: 1, 2-5, 6-50, 51-500, 500+

Number of female babies born in California in the same year with the same name as this baby
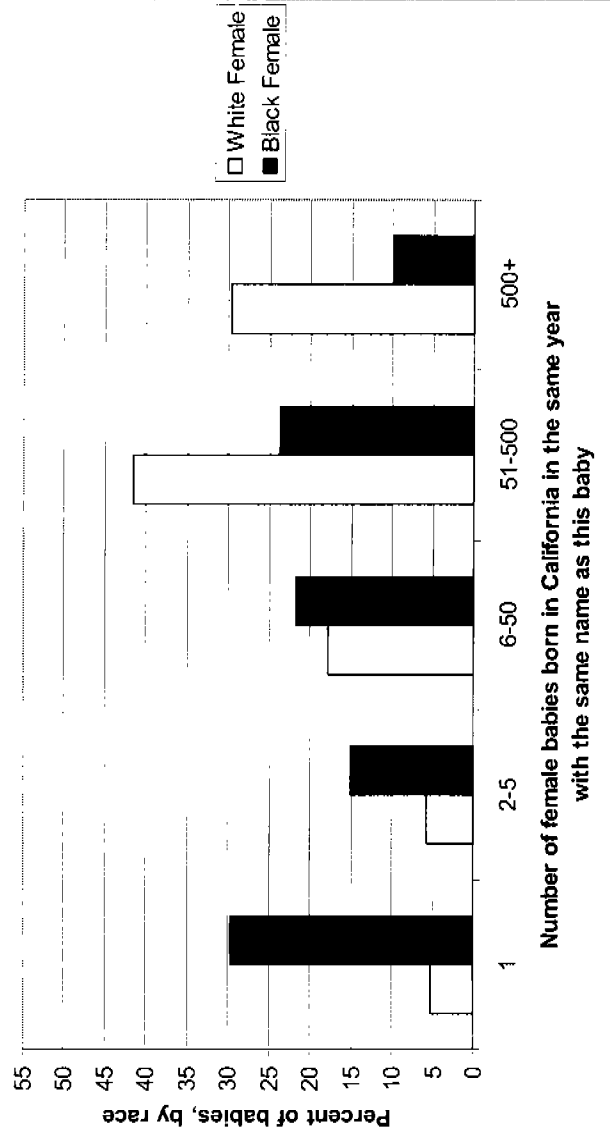
Figure 5: Black Naming Patterns, 1961 - 2000
by Quartile of Black Name Index

Black Name Index (0=all White, 100=all Black)

Year

Bottom Quartile
Third Quartile
Second Quartile
Top Quartile

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Figure 6: Changes in Black Naming Patterns by Racial Composition of Neighborhood and by Quartile of Black Name Index

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Figure 7: Trend in Black Names by County, 1961 - 2000
50th Percentile of Black Name Index

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Figure 8a: Percentage of Unique Girl Names
by Racial Mix of the Hospital

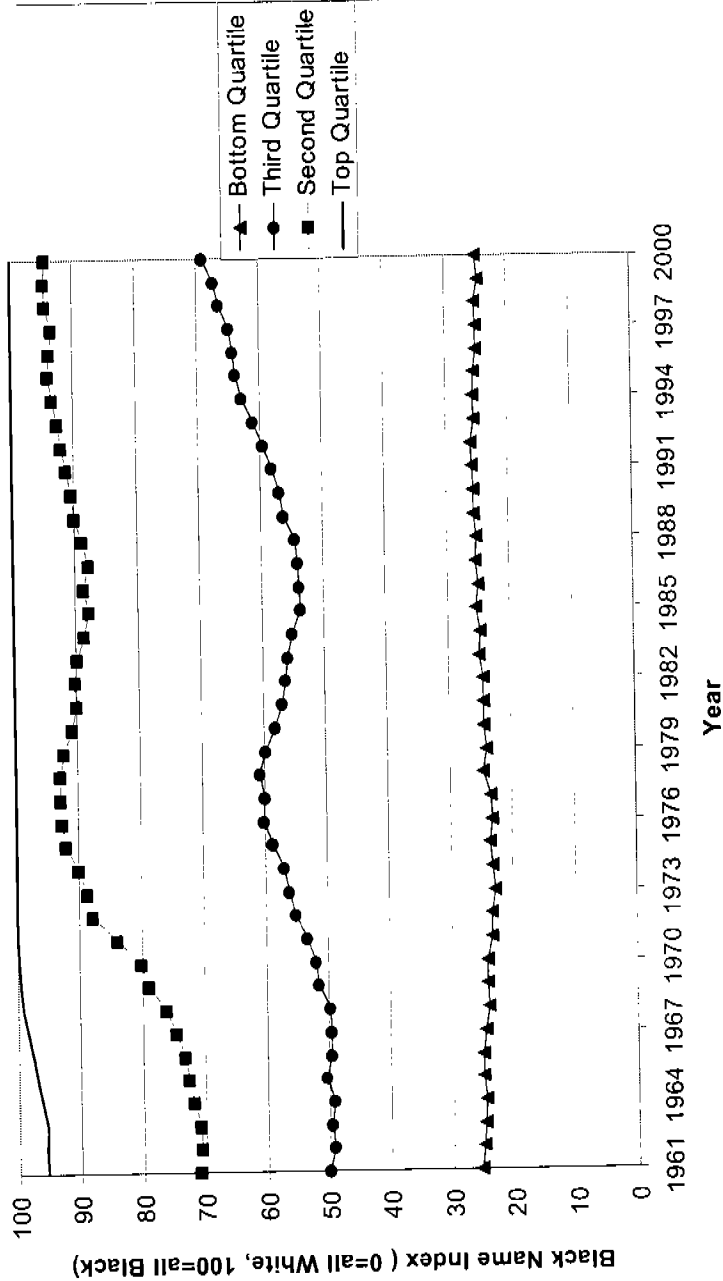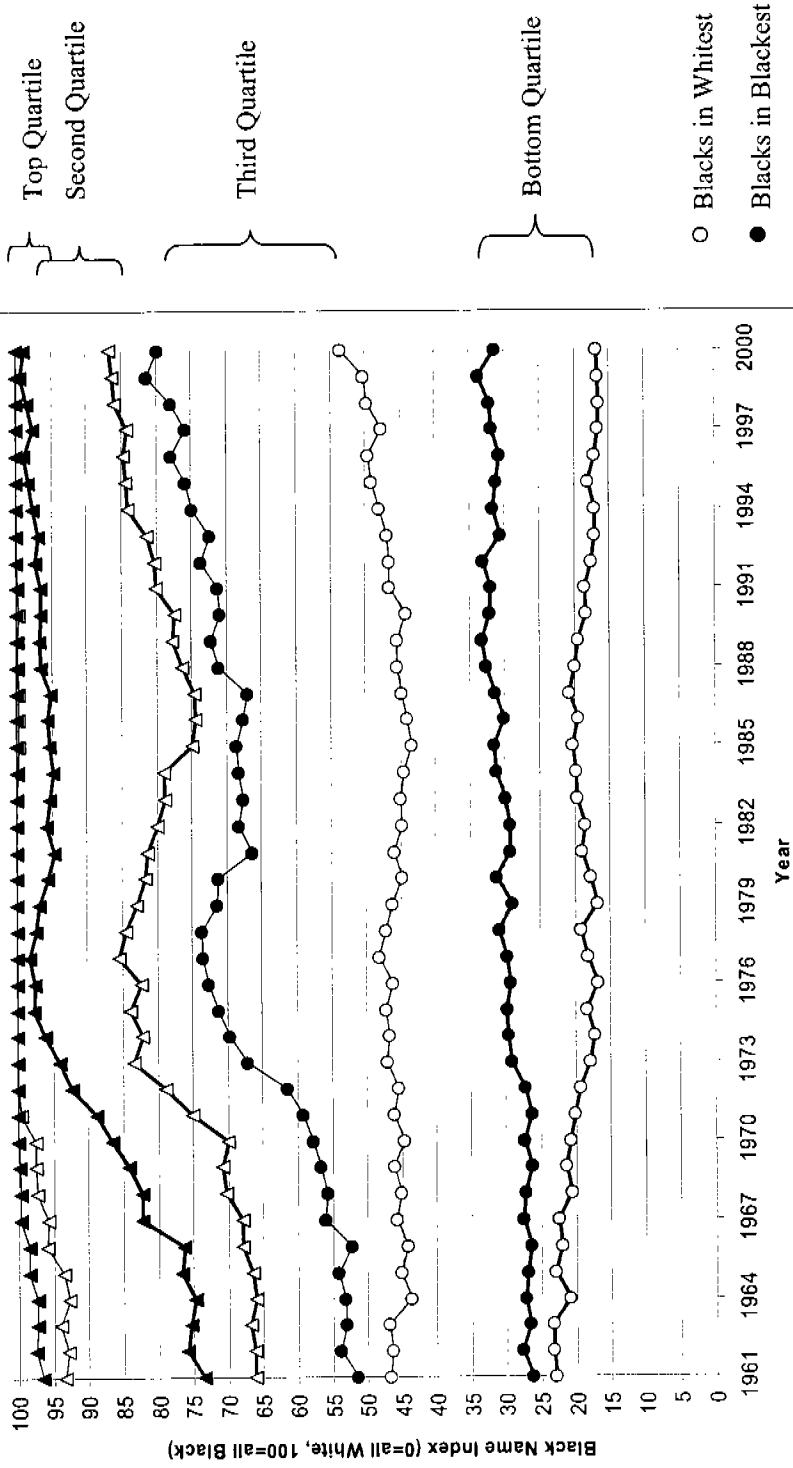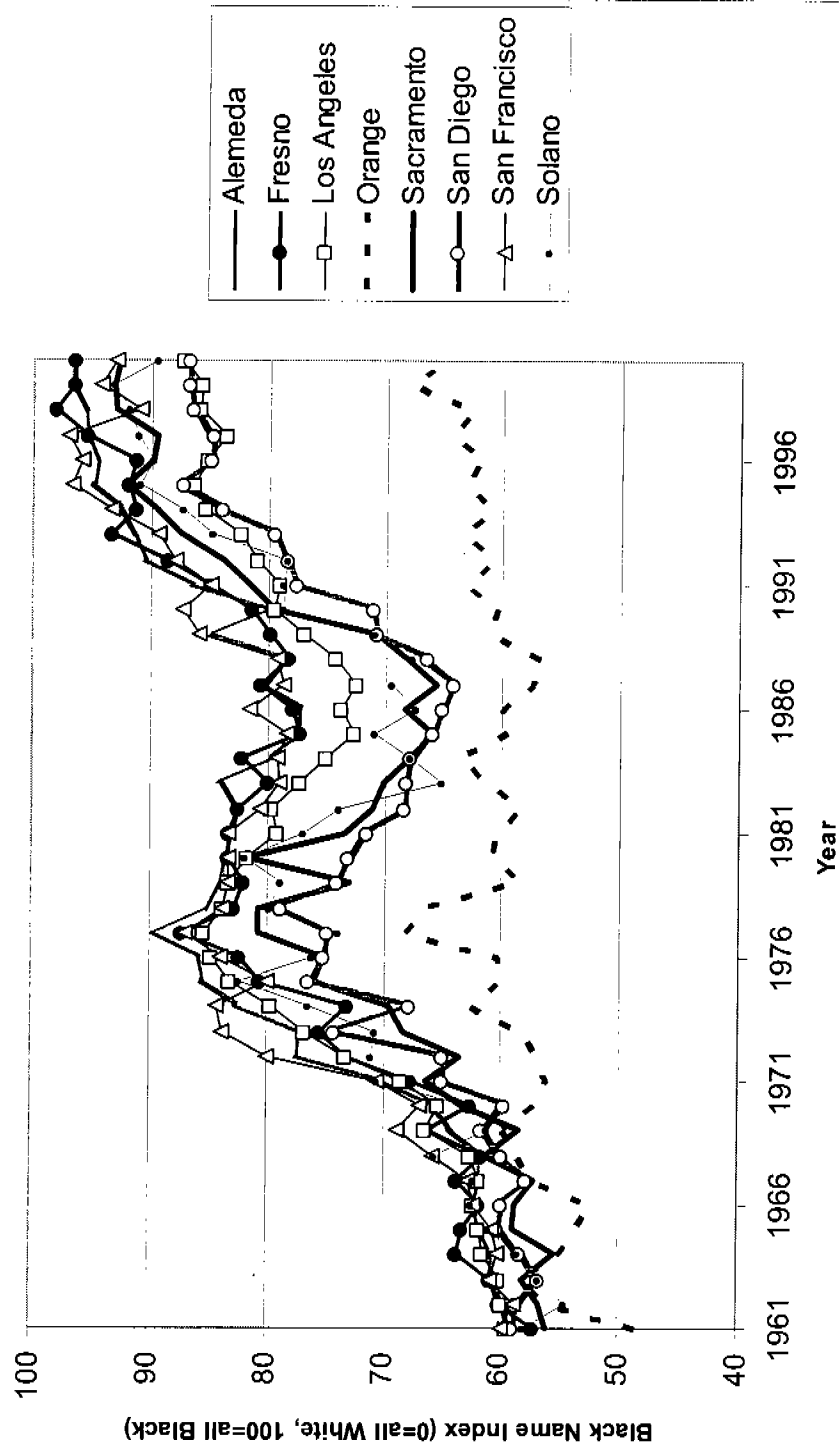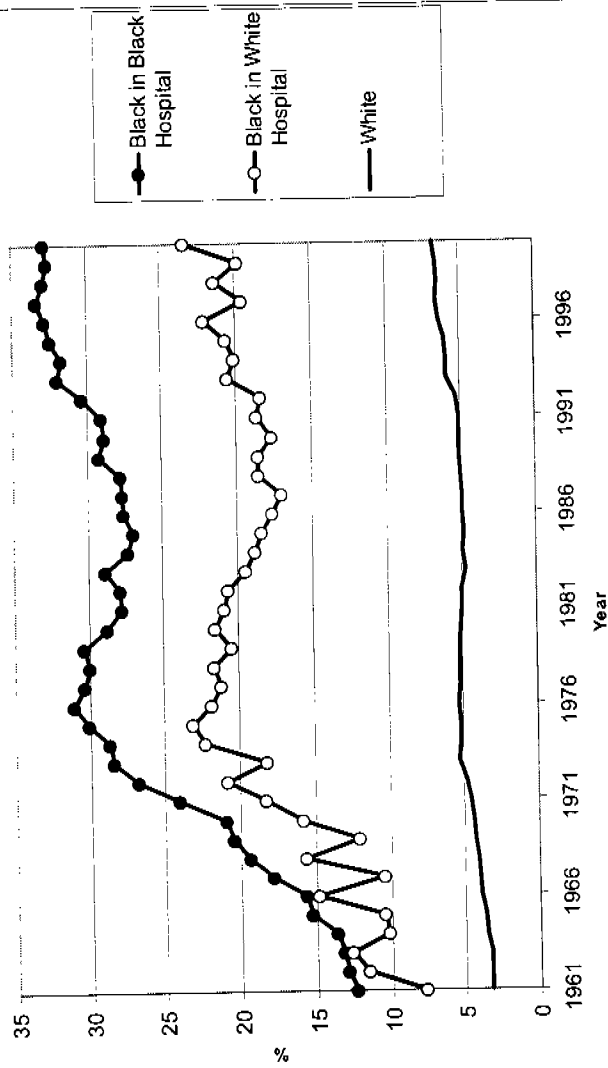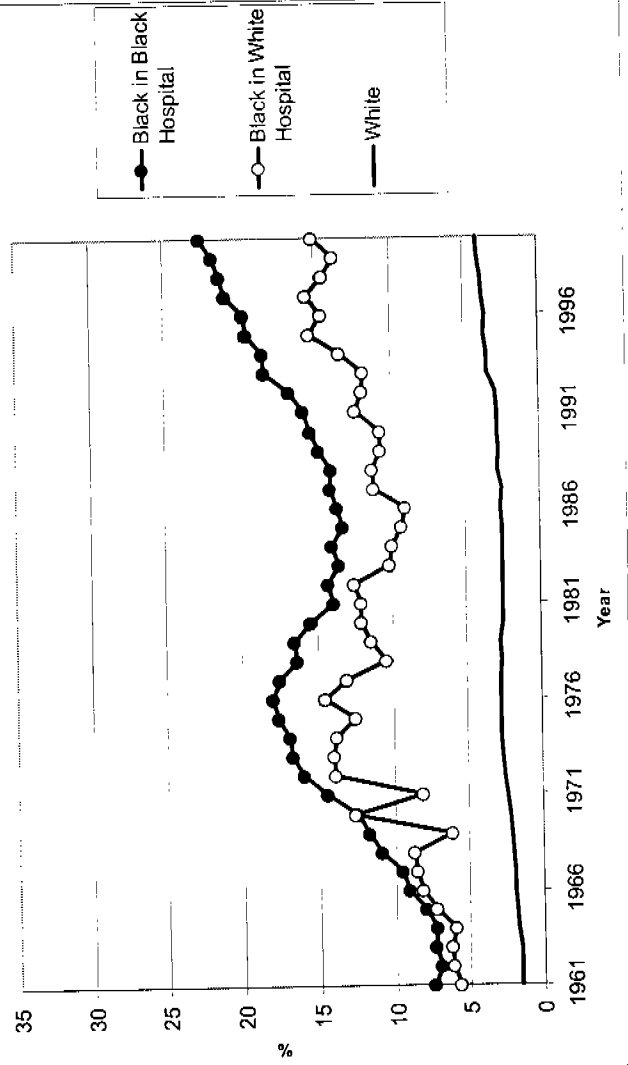Figure 8b: Percentage of Unique Boy Names
by Racial Mix of the Hospital

Table 1: Summary Statistics

Years / Variables	1961-1967	1968-1977	1978-1988	1989-2000
Female Percentage	49.4%	49.2%	49.1%	49.2%
Age of mother at time of birth	24.43	23.26	24.45	25.71
	(6.12)	(5.55)	(5.47)	(6.16)
Age of father at time of birth	28.47	26.86	27.75	28.73
	(7.49)	(7.20)	(7.28)	(7.61)
Mother born in California	0.14	0.39	0.51	0.62
	(0.35)	(0.49)	(0.50)	(0.48)
Mother unmarried at time of birth	0.31	0.46	0.56	0.58
	(0.46)	(0.50)	(0.50)	(0.49)
Birth weight (in grams)	3098.76	3127.67	3181.99	3223.71
	(581.17)	(598.15)	(587.47)	(591.03)
Total number of children	3.20	2.29	2.11	2.29
	(2.36)	(1.68)	(1.34)	(1.50)
Months of prenatal care	5.87	6.77	7.08	7.28
	(1.95)	(1.68)	(1.59)	(1.59)
Teen mother at time of birth	0.23	0.29	0.20	0.18
	(0.42)	(0.45)	(0.40)	(0.38)
Private Hospital	0.49	0.73	0.78	0.79
	(0.50)	(0.44)	(0.42)	(0.41)
White mother	-	0.10	0.13	0.19
	-	(0.30)	(0.33)	(0.40)
White father	-	0.02	0.02	0.04
	-	(0.14)	(0.15)	(0.18)
Mother's years of education	-	-	-	12.59
	-	-	-	(2.00)
Father's years of education	-	-	-	12.61
	-	-	-	(2.55)
Privately insured	-	-	-	0.43
	-	-	-	(0.49)
Per capita income in ZIP code	-	-	12073.68	13171.02
(All residents in 1989, 1989 dollars)	-	-	(5296.38)	(5276.93)
Per capita income in ZIP code	-	-	11032.02	11582.49
(Blacks in 1989, 1989 dollars)	-	-	(3850.33)	(4189.81)
Percent of Black population in ZIP code	-	-	33.36	37.85
	-	-	(37.78)	(34.53)
Percent of black babies in birth county	12.85	17.78	23.86	27.72
	(4.19)	(6.82)	(8.98)	(10.10)
Percent of black babies in birth hospital	37.97	32.29	40.37	41.87
	(28.03)	(24.15)	(27.50)	(27.58)
Black Name Index	60.93	66.90	68.45	71.00
	(27.79)	(31.40)	(31.42)	(31.62)
Black Name Index - Median	60.21	70.87	75.13	84.22
Number of observations	165,226	259,231	409,069	500,932

Notes: All data are drawn from California birth certificate records, except for the information on ZIP codes which combines birth certificate information with data from the 1990 Census. The sample in columns 1 - 4 represent all Blacks born in California between 1961-1967, 1967-1977, 1978-1988, and 1989-2000, respectively. See the data appendix for further details of the construction of the samples and variables.

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Table 2: Determinants of Name Choices Among Blacks

Dependent Variable: Black Name Index Given to Child at Birth						
Variable\Years	1961-1967	1968-1977	1978-1988	1989-2000	1989-2000 Full Covs.	1989-2000 Mother FE's
Female	1.31	3.22	4.73	3.14	3.28	4.16
	(0.14)	(0.14)	(0.11)	(0.10)	(0.10)	(0.07)
Percent of Black babies in birth hospital	0.045	0.059	0.079	0.090	0.027	0.017
	(0.003)	(0.005)	(0.004)	(0.004)	(0.004)	(0.002)
Percent of Black babies in County	0.064	0.151	0.042	0.015	0.012	0.003
	(0.020)	(0.017)	(0.010)	(0.010)	(0.010)	(0.008)
Mother Born in California	-2.17	0.45	-0.12	0.33	0.01	-
	(0.35)	(0.16)	(0.11)	(0.11)	(0.10)	-
Mother's age at time of birth	-0.35	-0.52	-0.61	-0.73	-0.50	0.18
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)
Father's age at time of birth	0.00	-0.17	-0.13	-0.18	-0.15	-0.06
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Months of Prenatal Care	-0.07	0.28	-0.03	-0.17	-0.04	-0.01
	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)
County Hospital	1.13	-0.11	0.65	-0.03	-0.97	-0.59
	(0.20)	(0.29)	(0.19)	(0.30)	(0.29)	(0.17)
Birth weight in kilograms	-0.43	-1.08	-1.88	-1.71	-0.54	-0.01
	(0.12)	(0.11)	(0.09)	(0.08)	(0.08)	(0.08)
Total Number of Children	0.21	0.70	1.28	1.80	0.82	-0.05
	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)
Single Mother	2.05	4.15	5.15	4.62	2.88	0.21
	(0.28)	(0.15)	(0.13)	(0.12)	(0.11)	(0.10)
Percentage of Black Babies in Zip Code	-	-	-	-	-0.0036	-0.0094
	-	-	-	-	(0.0024)	(0.0021)
Per Capita Income (All residents, 1989)	-	-	-	-	-0.000058	-0.000009
	-	-	-	-	(0.000016)	(0.000016)
Per Capita Income (Black residents, 1989)	-	-	-	-	-0.000228	-0.000070
	-	-	-	-	(0.000019)	(0.000019)
Mother's years of education	-	-	-	-	-0.822	0.042
	-	-	-	-	(0.030)	(0.034)
Father's years of education	-	-	-	-	-0.274	-0.039
	-	-	-	-	(0.022)	(0.020)
Privately Insured	-	-	-	-	-2.94	-0.54
	-	-	-	-	(0.15)	(0.11)
White Mother	-	-	-	-	-12.34	-
	-	-	-	-	(0.13)	-
White Father	-	-	-	-	-18.06	-6.57
	-	-	-	-	(0.26)	(0.38)
Constant	66.59	75.86	81.03	88.04	103.96	3.74
	(0.78)	(0.60)	(0.51)	(0.51)	(0.63)	-
R-squared	0.0116	0.0346	0.0437	0.0564	0.0919	0.7733

Number of Observations	165226	257622	409069	500932	500932	500932

Notes: The dependent variable in all columns is the Black Name Index of the name given to the child at birth. The Black Name Index ranges from zero for names that are only given to Whites to 100 for names that are only given to Blacks. All variables included on the right-hand side of the regression are known at the time of a baby's birth. Included in the regression, but not reported in the table are indicator variables for missing values. Standard errors are clustered to take into account correlation across people born in the same hospital in the same year.

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Table 3: The Relationship Between Names and Adult Outcomes

		(1) Percent Black in Residential ZIP code as an adult	(2) Percent Black in hospital where mother gives birth as an adult	(3) Percent minority in hospital where mother gives birth as an adult	(4) Years of education (the woman herself)	(5) Years of education (father of woman's child)	(6) Woman's age at first birth	(7) Baby's birth weight in grams	(8) Unmarried when baby born	(9) Privately insured at time of birth	(10) Total children born so far	(11) Per capita ZIP code income (all residents)	(12) Per capita ZIP code income (Black residents)	(13) Black Name Index of name chosen for her child
	Mean	43.29	47.43	57.01	12.37	12.22	19.58	3219.42	0.71	0.37	2.01	12587.01	11170.08	77.84
	Standard Dev.	(35.04)	(27.22)	(23.33)	(1.59)	(2.25)	(2.97)	(560.36)	(0.45)	(0.48)	(1.16)	(4697.46)	(3551.65)	(29.23)
Coefficient on:	**Other controls?**													
Black Name Index (linear)	No	0.0602	0.0543	0.0458	-0.00057	-0.00055	-0.00203	-0.27	0.00072	-0.00039	0.00087	-7.14	-4.96	0.0810
		(0.0099)	(0.0080)	(0.0101)	(0.00049)	(0.00072)	(0.00081)	(0.16)	(0.00014)	(0.00014)	(0.00032)	(1.39)	(1.08)	(0.0087)
Black Name Index (linear)	Yes	0.0155	0.0172	0.0201	0.00079	-0.00004	0.00087	-0.04	0.00035	-0.00008	0.00045	-2.21	-1.94	0.0620
		(0.0096)	(0.0072)	(0.0092)	(0.00046)	(0.00072)	(0.00073)	(0.17)	(0.00013)	(0.00014)	(0.00030)	(1.06)	(1.39)	(0.0092)
Unique Name	No	3.65	3.09	3.10	-0.027	-0.043	-0.166	-20.52	0.054	-0.036	0.080	-457.09	-391.76	6.65
		(0.90)	(0.68)	(0.85)	(0.042)	(0.060)	(0.072)	(14.20)	(0.012)	(0.012)	(0.028)	(124.95)	(91.87)	(0.77)
Black Name Index>80	No	5.39	4.64	3.25	0.016	-0.043	-0.140	-19.80	0.040	-0.031	0.057	-545.11	-307.71	5.14
		(0.85)	(0.70)	(0.84)	(0.044)	(0.060)	(0.077)	(14.48)	(0.012)	(0.012)	(0.029)	(116.25)	(91.11)	(0.77)
50>Black Name Index>80	No	2.22	2.04	1.39	0.012	-0.054	-0.030	0.36	0.012	-0.040	0.064	-164.80	-175.72	1.70
		(1.02)	(0.81)	(0.98)	(0.047)	(0.073)	(0.096)	(16.75)	(0.014)	(0.015)	(0.034)	(135.96)	(101.88)	(0.87)
Unique Name	Yes	0.45	0.34	0.98	0.074	-0.008	0.033	-6.13	0.028	-0.013	0.043	-77.90	-191.39	5.30
		(0.86)	(0.63)	(0.78)	(0.039)	(0.061)	(0.064)	(14.56)	(0.012)	(0.012)	(0.026)	(124.56)	(90.84)	(0.80)
Black Name Index>80	Yes	2.25	1.99	1.73	0.120	0.000	0.078	0.10	0.011	-0.008	0.022	-169.94	-96.50	3.64
		(0.83)	(0.63)	(0.78)	(0.040)	(0.060)	(0.070)	(14.88)	(0.012)	(0.013)	(0.028)	(115.55)	(89.59)	(0.79)
50>Black Name Index>80	Yes	0.66	0.67	0.61	0.038	-0.046	0.015	10.68	0.000	-0.031	0.038	-18.91	-105.17	1.07
		(0.95)	(0.73)	(0.89)	(0.042)	(0.070)	(0.084)	(16.66)	(0.013)	(0.014)	(0.031)	(133.43)	(99.04)	(0.86)

Notes: The dependent variable is listed at the top of each column. The values reported in the table are the coefficient on the measure of how Black an individual's name is. The bold horizontal lines denote coefficients from different specifications. In the top two rows, the key regressor is the Black Name Index. In the bottom four rows, three indicator variables are included denoting whether a name is unique, greater than 80 on the Black Name Index, or between 50 and 80. The omitted category is less than 50 in those specifications. Results are presented with no controls and including the full set of covariates used in Table 2. The sample is the set of Black women for whom we are able to successfully match their own birth certificate information to that of their children when the women themselves give birth. Standard errors, in parentheses, are clustered to take into account multiple births to the same woman. All of the covariates in the regressions are known as of 1973-74 when the women are born. All of the outcome variables correspond to the circumstances when they give birth as adults in the period 1989-2000.

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Table 4: The Signaling Value of Names to Employers

Dependent variable	Coefficient on Black Name Index when the following set of controls are included in the regression:	
	(1)	(2)
	No controls included	Controls similar to information on a resume
Percent of black babies in birth hospital	0.0710	0.0544
	(0.0059)	(0.0082)
Woman born to a teenage mother	0.00247	0.00243
	(0.00010)	(0.00015)
Woman born to an unmarried mother	0.00201	0.00182
	(0.00010)	(0.00016)
Woman herself unmarried at time she gives birth	0.00043	0.00025
	(0.00010)	(0.00009)

Notes: The relevant dependent variable is listed on the left-hand side of the table. The values reported in the table are the coefficients on the Black Name Index of the woman. Each table entry is from a separate regression. In column 1, no controls are included. In column 2, controls for a woman's age, years of education, whether she is privately insured, ZIP code of residence, and year dummies are included. These variables proxy for some of the types of information available to employers on resumes. The sample used in all regressions is the set of women for whom we successfully link information from their own birth certificate to their child's birth certificate. Unlike earlier regressions, these specifications control for choices that a woman makes over the course of her life, such as years of education. The number of observations is 11,257 in all cases.

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Data Appendix

In this data appendix, we describe the data sources that we draw upon in our analysis, give a description of some data limitations and other data issues we confronted, provide useful definitions and describe the process used to link mothers.

A. DATA SOURCES

Birth Data: Our empirical analyses are mainly based on data drawn from the Birth Statistical Master File maintained by the Office of Vital Records in the California Department of Health Services. These files provide information drawn from birth certificates for virtually all children born in California over the period 1961-2000. With the approval of the California Committee for the Protection of Human Subjects, we have been able to supplement the information contained on the public use versions of these data sets with personal identifiers including mother's first name, mother's maiden name, and child's full name.

Zip Code Statistics: U.S. Bureau of the Census, American Fact Finder, 1990 Census

Demographic and Socioeconomic Data: For an accuracy check on mother-children links, data were obtained from the American Community Survey 5 Percent Public Use of Microdata Samples (PUMS) for California and United States(All States), U.S. Bureau of the Census

Arabic First Names: To identify and discard Arabic names from our data, we used Bruce Lansky (1999); *Baby Names Around the World.*

B. DATA LIMITATIONS AND OTHER DATA ISSUES

Race/Ethnicity: From 1998 to 2000, information of a child's race is missing. For these three years, a child is considered Black if either parent is Black.

Birth Place of Mother: From 1964 to 1969, Birth Place of Mother Variable is missing.

Mother's Date of Birth: Not available until 1989.

Mother's First Name: Not available until 1982.

Mother's Residential Zip Code: Not available until 1982.

Race/Ethnicity of Mother: Not available until 1970.

Race/Ethnicity of Father: Not available until 1970.

Education of Mother: Not available until 1989.

Education of Father: Not available until 1989.

Age of Father: From 1966 to 1967, Age of Father variable is missing.

Unmarried: From 1961 to 1964 and from 1997 to 2000, Unmarried variable is missing.

Hospital Ownership Code: In 1961 and from 1998 to 2000, Hospital Ownership Code variable is missing.

Hispanics: Prior to 1982, most Hispanics are included with whites and it is not possible to accurately calculate statistics for Non-Hispanics. Beginning in 1982, an identifier for Hispanic ethnicity was added to the birth certificate in California. Using information from later years (1989 to 2000), however, we are able to effectively identify Hispanic surnames and drop from the sample any child born to a parent with a last name that is more than ten percent Hispanic.

Foreign Born Mothers: Throughout the 1970s, 1980s and 1990s, California has experienced a tremendous change in demographics due primarily to the arrival of immigrants from around the world. By 1996, nearly half of the births (45.2%) in California were to foreign-born women. Thus, we added a dummy variable "foreign" for foreign-born mothers. Another dummy variable "USA" was added for those mothers who were born in the U.S. but outside of California.

California Born Mothers: For the regressions, a dummy variable "Cali" is used instead of "foreign" and "USA" variable for California-Born Mothers. Percentage of California Born Mothers is consistent (around 40 Percent) from last 60s to late 90s. For early 60s, percentage of California Born Mothers is a few percentage points lower.

Link of Children (1973-1974) – Mother (1989-2000): For following cases, we were able to link birth certificate information from the woman's own birth in 1973-1974 to the birth of her children in 1989-2000:

- If one has a unique last name among babies born in the woman's own birth date
- If one has a unique first name among babies born in the woman's own birth date
- If one has a unique "first name + last name" among babies born in the woman's own birth date
- If one has a unique "last name + first name initial" among babies born in the woman's own birth date
- If one has a unique "first name + last name initial" among babies born in the woman's own birth date

C. DATA DEFINITIONS

Race/Ethnicity: Race and Ethnicity were defined as follows:

Black: ethnicity is non-Hispanic, and race is Black

White: ethnicity is non-Hispanic, and race is White

American Indian: ethnicity is non-Hispanic, and race is American Indian, Eskimo, or Aleut.

Asian/Pacific Islander: ethnicity is non-Hispanic, and race is any of the following:

Asian (Unspecified) or Asian (Specified): Chinese, Japanese, Korean, Vietnamese, Cambodian, Thai, Laotian, Filipino, Indian, Samoan, Hawaiian, Guamanian, or Pacific Islander.

Latino (Hispanic): ethnicity is Hispanic regardless of any race

Name Index: Black, Asian, and Hispanic name indices were defined as follows:

Black Name Index (BNI):

Using only Black and White babies:

If one is Black,

Prob(Black)= (number of people who share your first name and black, minus one in one's birth year) / (number of blacks in one's birth year minus one in one's birth year)

Prob (White) = (number of people who share your first name and white in one's birth year) / (number of whites in one's birth year in one's birth year)

If one is White,

Prob (Black) = (number of people who share your first name and black in one's birth year) / (number of blacks in one's birth year in one's birth year)

Prob(White)= (number of people who share your first name and white minus one in one's birth year) / (number of whites in one's birth year minus one in one's birth year)

BNI = [Prob(black) / (Prob(black) + Prob(white))] * 100

Asian Name Index (ANI):

Using only Asian and White babies:

If one is Asian,

Prob(Asian)= (number of people who share your first name and Asian in one's birth year minus one) / (number of Asians in one's birth year minus one in one's birth year)

Prob(White)= (number of people who share your first name and White in one's birth   year) / (number of Whites in one's birth year in one's birth year)

If one is White,

Prob(Asian)= (number of people who share your first name and Asian in one's birth year) /(number of Asians in one's birth year in one's birth year)

Prob(White)= (number of people who share your first name and White minus one in one's birth year) / (number of Whites in one's birth year minus one in one's birth year)

ANI = [Prob(Asian) / (Prob(Asian) + Prob(White))] * 100

Hispanic Name Index (HNI):

Using only Hispanic and White babies:

If one is Hispanic,

Prob(Hispanic)= (number of people who share your first name and Hispanic in one's   birth year minus one) / (number of Hispanics in one's birth year minus one in one's birth year)

Prob(White)= (number of people who share your first name and White in one's birth year) / (number of Whites in one's birth year in one's birth year)

If one is White,

Prob(Hispanic)= (number of people who share your first name and Hispanic in one's birth year) / (number of Hispanics in one's birth year in one's birth year)

Prob(White)= (number of people who share your first name and White minus one in one's birth year) / (number of Whites in one's birth year minus one in one's birth year)

HNI = [Prob(Hispanic) / (Prob(Hispanic) + Prob(White))] *100

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