Methods of Assigning Race and Hispanic Origin to Births from Vital Statistics Data[1]

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Introduction

The information collected on birth certificates does not include the race and Hispanic origin of the child. In order to utilize birth certificate data in research relating to the race and Hispanic origin of children, a method must be identified for assigning these characteristics to each birth. In the past, assignments have been made solely based on the race and Hispanic origin of the mother or father, which is collected on birth certificates. However, with the number of multiple race and Hispanic origin marriages believed to be increasing over time, the selection of a method that can more accurately capture this population becomes more critical. The "Kid Link File" (KLF) was developed to address this issue and, using census or survey data, links characteristics of children aged 0 to 17 with the characteristics of their parents.[2] This format allows the reported characteristics of the child—such as race and Hispanic origin—to be connected to parents' reporting. Patterns of reporting may then be used to proportionally assign race and Hispanic origin to the birth data. This paper describes the process of developing this file based on various sources of data, including Census 2000, the American Community Survey (ACS), and the 2010 Census. Developing a KLF based on multiple datasets makes it possible to evaluate differences in reporting and potentially calculate changes in race and Hispanic origin identification over time. Various applications of kid link proportions are also explored.

Race and Hispanic Origin Reporting

Births recorded through birth certificates serve as the primary source for determining the size of each native-born cohort (Devine et al. 2010). These data are obtained from the National Center for Health Statistics (NCHS). Because the information collected on birth certificates does not specifically include the race and Hispanic origin of the child, it must be inferred, usually from the race and origin of the parents. When two parents are of identical race and Hispanic origin backgrounds—such as a Black non-Hispanic mother with a Black non-Hispanic father—this assignment process can be fairly straightforward. However, the diversity of the U.S. population and instances of multiracial births have increased over time: between Census 2000 and the 2010 Census, the number of individuals identifying as two or more races increased from 6,826,228 to 9,009,073, or by 32.0 percent, which made this group one of the fastest-growing over the decade (Humes, Jones and Ramirez 2011).

Simultaneously, there have been significant changes in how information on race is collected in the census. Specifically, Census 2000 was the first census to include the option to mark more than one race based on the 1997 U.S. Office of Management and Budget (OMB) revisions to the federal standards on collecting information on race and ethnicity. The revision mandated the collection of a minimum of five racial categories of which individuals could select multiple responses as necessary: White, Black or African American, American Indian and Alaska Native, Asian, and Native Hawaiian or other Pacific Islander (OMB 1997). A sixth "Some Other Race" option was also approved by OMB for inclusion on the census form, which could be selected in any combination with the other five racial categories (U.S. Census Bureau N.D.). Meanwhile, ethnic data consists of two categories: Hispanic or Latino, and Not Hispanic or Latino (OMB 1997). As such, Hispanic individuals may be of any race, and members

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[2]See Jones and Smith 2002 and Jones and Smith 2003 for earlier work on the assignment of race and Hispanic origin using census data.

of any race may be either Hispanic or Non-Hispanic. NCHS was given the option, which they exercised, to also include the category "Other."

In 2003, the new standards were implemented by NCHS to include the option of selecting more than one race on birth and death certificates; however, not all states have adopted this standard. By 2006, 23 states had implemented a revised birth certificate to allow for the reporting of more than one race. The 23 states that reported multiple races for births accounted for 55 percent of U.S. births in 2006. Of the births reported in these states, 1.6 percent was to mothers who identified as multiracial (National Center for Health Statistics 2008).   NCHS provides both the multiple races that are reported and the multiple race responses "bridged" to the pre-1997 OMB four single-race categories: White; Black or African American; American Indian and Alaska Native; and Asian and Pacific Islander.

Such developments have made the process of assigning race and Hispanic origin to birth data more challenging in several ways. First, as indicated by the statistics above, the proportion of the population for whom multiple race and origin assignments must be made is larger, and growing. This means that race and Hispanic origin assignment decisions have greater implications for any resultant estimates of the population. Second, the changes in the collection of race and Hispanic origin data have introduced discrepancies in what data are available by state: a race assignment rule applied in a state where multiple race reporting is not yet available could produce vastly different results when applied in a state still adhering to older race reporting standards. For reliable national-level estimates, a means of establishing consistency in race and origin categories must first be introduced before the matter of assigning race and origin to births can be addressed effectively. However, such a method would ideally work without sacrificing the additional knowledge generated by those states who currently allow for multiple race reporting. Finally, these developments have increased the potential for disjuncture between how individuals self-identified in the past versus how they may choose to identify now: if a particular parent is multiracial, he or she may not have had the opportunity to indicate so on the birth certificate when a child was born, but have had the opportunity to identify as such, or to identify the child as multiracial, in both Census 2000 and the 2010 Census. An example would be a birth where the mother would self-identify as Black (Black alone) and the father as Black and Asian (Black in combination). The birth may be recorded as being to two Black parents (Black alone) on a certificate, but reported as Black and Asian in the 2000 or 2010 Census (Black in combination).

Development of the Kid Link File

To reflect these changes, an approach to assigning race and origin to births in vital statistics data has been developed that relies on patterns in how the race and origin of children in multiracial/ethnic households were reported in census or survey data. At the center of the approach is a dataset based on individual-level records that links children aged 0 to 17 and their presumed biological parents. This "Kid Link File" consists of four sets of variables: characteristics of the child; characteristics of the mother; characteristics of the father; and geographic characteristics of the household (e.g., state, county, etc.). This format allows the reported characteristics of the child—such as race and Hispanic origin—to be associated with parents' reporting.

The process of developing the KLF requires several steps. Initially, state-level records must be merged to household-level records, preserving the data associating individuals with households at the state level. Persons in group quarters are excluded from the file. Then parental race and Hispanic origin are merged onto children's records so that children's race and Hispanic origin reporting can be linked to parent's reporting. Here, the "relationship to householder" variable is used to define children as "natural-born" sons and daughters of the householder, and parents as persons who are the householder, spouse of the householder, or unmarried partner of the householder. [3] Records are kept where there is only one parent in the household.[4] Records with same-sex parents

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[3]This approach operates under the assumption that in the majority of cases, the "natural-born" son or daughter of the householder is similarly the biological child of the householder's spouse or unmarried partner. It is acknowledged that this may result in the misclassification of, for example, families which include children from previous marriages for a particular householder or partner; or the exclusion of, for example, children in multi-generation households where a grandparent is designated as householder.

[4] Single parents are kept on the file to preserve the ability to study the race and Hispanic origin assignment to children within those households. While these cases are not used in the specific assignments discussed in this paper, they may be used in other analyses. It is acknowledged that in analyses where these cases are excluded, to the extent that single parents report race and Hispanic origin differently, results could be affected.

are dropped since the aim is to most closely match the parents' records on the birth certificate in order to focus on the connection between parents' race and Hispanic origin and the race and Hispanic origin reported for children. In the case of same sex parents, both parents wouldn't have contributed genetically to the creation of the offspring. The resulting KLF includes the age, sex, race, and Hispanic origin of the child, mother and father; as well as the state, county, census tract, and household identification numbers. Initially, this process took place to produce a KLF based on Census 2000. This file consists of nearly sixty thousand observations, representing approximately 83 percent of all children ages 0 to 17 reported in Census 2000.[5] More recently, it has also been developed for the 2010 Census. This file consists of just over sixty thousand observations, and represents approximately 81 percent of all children ages 0 to 17 reported in the 2010 Census. Additionally, a KLF has been created based on the ACS 2005-2009 file.[6] The creation of an ACS-based KLF provides the opportunity to investigate whether the make-up of families underwent change between two census dates. Additionally, it becomes possible to interpret the ACS proportions as establishing a linear trend that links Census 2000 and the 2010 Census. The 2005-2009 file was chosen from among the various ACS data files because it provides average survey data for the five-year period, resulting in a larger sample size.

Once the base file has been produced, it may be used to identify patterns in how the race and origin of children in multiracial/ethnic households were reported by generating the proportion of children identified as a particular race or Hispanic origin for each combination of parents of specified races or origins (e.g., the proportion of children identified as Asian with a White alone mother and Asian alone father). To generate these proportions, a program was designed to produce counts of children identified in the census as each race or origin of interest, according to the combination of parents' races or origins—that is, the program produces a crosstabulation of every defined child category by every combination of defined parent categories. Race for the mother, father, and child are identified with a race variable that reclassifies respondents who selected the race category "Some Other Race" (SOR) into specific race groups through a process of imputation. The program excludes cases from the proportions if the race or Hispanic origin of the father or mother is missing; or if the race or Hispanic origin of the mother, father or child is imputed—with two exceptions. The first exception occurs when the race imputation resulted from the respondent identifying as SOR in combination with one or more of the standard race categories, in which case SOR was dropped and the respondent assigned the single or multiple standard categories he/she had also selected. The second exception occurs when the Hispanic origin imputation was the result of a multiple response being given a unique Hispanic or Non-Hispanic code. In both scenarios, these cases were included in the proportions. These exceptions were identified with the use of the imputation flag variables, which indicated that the specific type of imputation had taken place. Ultimately, the totals by combination of parents' races or origins for each of the race-and-Hispanic-origin-of-child groups are divided by the total children for that specific combination of parents' races. The resultant proportions allow for the analysis of the effect of each combination of parents on the assignment of race or Hispanic origin to births. Table 1 displays the percentage (proportion multiplied by 100) of children ages 0 to 17 identified either as a single race or as multi-race for thirty-six different racial combinations of mothers and fathers in Census 2000, the ACS 2005-2009 file, and the 2010 Census. In the 2010 Census, for instance, of all children with a Black alone mother and a White alone father, 48.4 percent were identified by a single race, while 51.6 percent were identified by two or more races. This categorization scheme does not distinguish the specific race or the specific combination of races. However, it would be possible to do so as the KLF may be used to calculate proportions for any desired parent or child race and Hispanic origin groups, as well as cross-combinations of the two characteristics (e.g., proportions for Non-Hispanic Whites and Hispanic Whites). Proportions may also be calculated for any age of child or range of ages from 0 to 17.

Furthermore, by examining the proportions based on different data sources side-by-side, it is possible to evaluate differences in reporting and, potentially, to calculate changes in race and Hispanic origin identification over time. For example, the percentage of children with an Asian alone mother and Black alone father identified as multi-race in Census 2000 was 57.6, whereas in the 2010 Census, the rate was 68.9 percent. This seems to suggest that, over time, the proportion of children with Asian alone mothers and Black alone fathers identified as two or more races is increasing. Figure 1 illustrates the differences in proportions across the two Census-based datasets, and how they

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[5] To the extent that the remaining cases in any of the KLFs are not representative of the national population with regard to race and Hispanic origin, the results will be affected.

[6] The ACS data are based on a sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions see http://www.census.gov/acs.

can be interpreted to be indicative of a trend. It is important to recognize, however, that some of these trends (differences) could be due to differences in measurement between the three sources, such as variations in the instructions or the specific wording of the race and Hispanic origin questions. How to interpret and apply perceived trends is contingent upon the types of assumptions a researcher is willing to operate under.

Once a set of proportions is calculated, it may be applied to the pool of births with a desired combination of parental races and/or Hispanic origins to estimate the number of births of a specified race or origin. This "pool of births" may be based on natality data obtained from NCHS, future births projected by the Census Bureau, or some other source. As an example, in order to determine the number of births to White alone mothers and Native Hawaiian and Pacific Islander fathers identified as multi-race, one could multiply the total number of births to that parent combination on the NCHS 2009 Birth Data File by one of the multi-race proportions for that parent combination in the table above, such as .476 (the proportion from the 2010 Census). Which data source is most appropriate is another decision to be made by the researcher based on the time period over which the births took place and the types of assumptions he or she is willing to make.

Application of Kid Link Proportions

Kid link proportions have several useful applications within the production of estimates and projections at the U.S. Census Bureau. Specifically, kid link proportions were recently used in the 2010 Demographic Analysis to estimate the population according to the race categories of Black and non-Black and ethnicity categories of Hispanic and non-Hispanic (Demographic Analysis Research Team 2010). Kid link proportions are also currently used to assign race and Hispanic origin to projected births in order to develop projections of the population. Both of these applications are described below.

Demographic Analysis

In the United States, a collection of methods have been used to develop estimates of the population at the national level for comparison with decennial census counts. These estimates are developed from various types of demographic data in order to build a historical accounting of population change. The term Demographic Analysis (DA) has been used to refer to these approaches for assessing the quality of the census. For many decades, the U.S. Census Bureau has used DA estimates in a macro-level approach for evaluating census counts (Devine et al. 2010).

In the approach taken by the U.S. Census Bureau, administrative records on births, deaths, and estimates of international migration are used to estimate the population under 65, while estimates of the population 65 and over are developed from data on Medicare enrollment and estimates of the number of those not enrolled. In 2000, DA estimates were produced by age, sex, and the race categories of Black and non-Black; in 2010, this practice was continued with the addition of producing estimates for the Black in combination population, and by Hispanic origin (Hispanic and non-Hispanic) for ages under 20. The DA estimates have been limited to the Black and non-Black race categories because of the limitations of the available historical data. Similarly, the estimates by Hispanic origin were limited to ages under 20 due to the limitation of the historical estimates of international migration and vital statistics data (Demographic Analysis Research Team 2010).

The value of the DA estimates by race and origin as an indicator of the quality of the census depends largely on the extent to which consistency is obtained between the DA estimate and the census categories with which they are being compared—that is, to be effective, DA must produce estimates that align with the census race and Hispanic origin categories as closely as possible. However, this must take place within the limitations of the available administrative data, which include birth certificates which do not identify the race or Hispanic origin of the child. Different techniques have been applied to address such limitations: for DA in 2000, race was assigned to births based on the race of the father because it produced an estimate of the Black population that had the closest agreement with the tabulated census responses from among other approaches based on the reported race of the parents (Adlakha et al. 2002). In 2010, the use of micro-level vital-statistics data allowed for greater flexibility in assigning race to more recent births (those since 1980) while also making it possible to re-tabulate the birth data for earlier years. The basic strategy for assigning the race categories needed for DA (Black alone, Black in combination, and not Black alone or in combination) was to identify a birth as non-Black if both parents on the birth certificate were non-Black, and Black if both parents were Black. If the parents' races on the birth certificate reflected a Black and non-Black combination, Census 2000-based kid link proportions were applied.

The KLF was used to calculate the proportions of children identified in Census 2000 as Black alone, Black in combination, or not Black alone or in combination according to every mother/father combination of White alone, Black alone, American Indian and Alaska Native alone, and for a combined Asian/Native Hawaiian or Other Pacific Islander parent category. The parent category of Asian combined with Native Hawaiian or Other Pacific Islander was used because the majority of births between 1980 and 2007 were recorded using birth certificates with the combined category (Asian and Pacific Islander) rather than the separate Asian and Native Hawaiian or Other Pacific Islander categories. The resulting proportions (see Table 2) were then applied to each birth based on the reported race of both parents on the birth certificate to obtain a race distribution consistent with the patterns of reporting in Census 2000. For example, where a child had a Black mother and a White father, that child would be designated as Black alone 33.8 percent of the time, and non-Black alone 66.2 percent of the time (the sum of the children in the non-Black alone or in combination and Black in combination categories). When both parents are of the same race (Black or non-Black), all of the births were assigned the race of their parents.

A noteworthy benefit of this approach was the manner in which it made it possible to address how births that occur to one Black parent and one non-Black parent are sometimes given the race of the mother and sometimes the race of the father, but the majority are identified as multiracial rather than relying solely on the reported race of either parent. As is evident in Table 2, for Census 2000, the proportion of births with at least one Black alone parent identified as Black in combination ranged from a high of 56.5 percent for the combined Asian /Native Hawaiian or Other Pacific Islander Mother and Black Father category to a low of 16.4 percent for the Black Mother and American Indian and Alaska Native Father category.

The production of DA estimates has been traditionally limited to two broad race categories (Black and non-Black) with no reference to ethnicity. Recently, however, there has been an increased interest in expanding beyond the DA Black and non-Black race categories as the racial and ethnic composition of the nation's population has changed, and as the data available for such estimation have allowed. The Hispanic population has grown substantially over the past several decades. In 2010, Hispanics comprised approximately 16 percent of the population, up from about 13 percent in 2000 (Humes, Jones and Ramirez 2011), 9.0 percent in 1990 (U.S. Census Bureau 1991), and 6.4 percent in 1980 (Gibson and Jung 2005). This growth in the Hispanic population has played an increasingly important role in shaping the size and age structure of the U.S. population.

As with race, the Hispanic origin question on birth certificates collects information on the Hispanic origin of the mother and father, but not the child. When both parents were of the same ethnicity (both Hispanic or both not Hispanic), births were assigned the ethnic origin of their parents. When one parent was Hispanic and the other non-Hispanic, KLF proportions were once again utilized. These Census 2000-based proportions are provided in Table 3. Overall, it was found that 61.9 percent of children were reported as Hispanic when the mother was Hispanic and the father was non-Hispanic, and 69.8 percent of children were reported as Hispanic when the mother was non-Hispanic and the father was Hispanic. These proportions were applied to impute Hispanic origin of children in the birth data when one-parent is Hispanic and the other is non-Hispanic. Overall, this classified 65.6 percent of births with one-Hispanic parent as Hispanic (Demographic Analysis Research Team 2010). This was consistent with previous research which found the proportion of children with both a Hispanic and non-Hispanic parent who are reported as Hispanic to be around 63 percent (Lee and Edmonston 2005).

Population Projections

The Census Bureau produces population projections on a periodic basis. The projections are based on a cohort-component method where the components of population change—births, deaths, and international migration—are projected for each birth cohort. For each passing year, the population is advanced one year of age. The new age categories are updated using survival rates and levels of net international migration projected for the passing year. New birth cohorts are added each year to form the population under one year of age by applying projected age-specific fertility rates to the female population aged 15 to 49, and updating the new cohort for the effects of mortality and net international migration.

This approach entails the development of assumptions on fertility trends by age, race, and Hispanic origin for use in projecting the age-specific fertility rates (ASFRs) so that they can be applied to the female population of childbearing age. The development of fertility assumptions relies, in part, on patterns of fertility evident in a time

series of natality data obtained from NCHS in conjunction with Census Bureau estimates of the female population. Current research in the area of fertility is also taken into consideration. For the 2008 National Population Projections based on Census 2000, assumptions for three mutually exclusive and exhaustive groups were used: Hispanic origin of any race, non-Hispanic Black alone, and non-Hispanic all other races. The separate fertility schedules of the three groups were assumed to converge in 2100, when the levels of the Hispanic and non-Hispanic Black alone populations would assume the schedule of the non-Hispanic all other races population.

A number of methodological challenges are inherent in projecting fertility. For example, when ASFRs are projected and applied to females of childbearing age, a race and Hispanic origin must be determined for the resultant births before they can be subjected to the effects of mortality and international migration and aged through the population. Various methods have been used to make these assignments in the past, including assigning race and Hispanic origin solely based on that of the mother or father. However, unlike the example of DA where only the race of the parents was necessary to calculate proportions, the assignment of race and Hispanic origin to *future* births necessitates two additional steps: determining the future racial and ethnic composition of mothers and potential fathers, and identifying the propensity for specific combinations of race and Hispanic origin groups to produce children.

In this regard, the fertility methodology for the most recent national projections released in 2008 and 2009 required four main pieces of information: (1) the race of the mother; (2) the composition of potential fathers by race in the projected population; (3) the propensity of women of a given race and Hispanic origin combination to have children with men of a given race and Hispanic origin combination; and (4) how particular race and Hispanic origin combinations of parents identify their child with regard to race and Hispanic origin. The first two components came from the projected population. The third and fourth components were produced using a Census 2000-based KLF. By linking parents' records with their children, it becomes possible to calculate proportions based on the frequency with which women of each race and Hispanic origin combination have children with men of each of the race and Hispanic origin combinations, and how they ultimately identify their children. Table 4 provides a sample of proportions representing the propensity of women in six race categories to have children with men in each of the same six race categories.

For the 2008 and 2009 national projections, proportions were held constant over the projection horizon. However, they could also have been projected to change based on past trends. Differences in the respective proportions across KLFs based on separate data sources could be used to identify possible trends, and Table 1 supports this notion. Still, even when the proportions are held constant, the number of children projected to be born to each parent combination varies each year based on fluctuations in the projected number of men and women of each race and Hispanic origin group to which the proportions are applied. For example, applying projected ASFRs to the female American Indian and Alaska Native (AIAN) alone population ages 15 to 49 in the years 2022 and 2044 produces 35,540 births and 39,822 births respectively. This also implies that many fathers in each year, and so applying the proportions from Table 4 results in the parental race combination breakdown in Table 5. That is, the calculations for births to AIAN alone mothers and White alone fathers would be:

$0.3465 * 35,540$ births $=$ 12,315 births to AIAN alone mothers and White alone fathers in 2022
$0.3465 * 39,822$ births $=$ 13,798 births to AIAN alone mothers and White alone fathers in 2044

In Table 6, the respective race-of-child proportions for the six combinations of AIAN alone mothers and fathers by parents' race above are presented. As with the proportions of specific parent combinations, the proportion of children assigned to each race and Hispanic origin group can be held constant or varied over the projection horizon.

Applying the proportions from Table 6 to the totals in Table 5 produces the number of births that would be assigned to each race category under the assumption that both the proportions of mother-father race combinations and race assignment proportions remain constant over the projection horizon. These resulting totals are presented in Table 7, and they illustrate the influence of the projected number of men and women by race on the number of children ultimately assigned to each race category over time. Even when the proportions of fathers by race and of children racial assignments are held constant, there will still be variation in the number of children assigned to each race category. For this reason, holding the percentage of AIAN alone mothers with White alone fathers constant at 34.7 (Table 4) and the percentage of resulting births identified as AIAN alone constant at 48.4 (Table 6) produces 5,956 AIAN alone births to this parent combination in 2022, but 6,673 AIAN alone births in 2044 (Table 7). Still, further research will be done to examine approaches and the benefits to allowing these ratios to vary.

Conclusion

The Kid Link File relies on patterns in the assignment of race and ethnic origin to children in the census or American Community Survey to assign race and Hispanic origin to vital statistics data. This is done by calculating proportions based on the number of children identified as a particular race and Hispanic origin for each possible parental combination of race and Hispanic origin, and applying these proportions to the vital statistics data. Proportions may be calculated based on different sources of data, making it possible to identify and analyze differences and trends across time. These trends may be incorporated into the production of estimates or projections.

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Table 1. Percent of Children Ages 0-17 in Selected Race Groups by Data Source and Parental Race Combination

Race of parent		Race of child (percent of total children ages 0-17) by Kid Link File data source			
		Census 2000		**2010 Census**	
Mother	**Father**	**One race**	**Multi-race**	**One race**	**Multi-race**
White alone	White alone	99.89	0.11	99.80	0.20
White alone	Black alone	51.18	48.82	42.90	57.10
White alone	AIAN alone	83.32	16.68	79.74	20.26
White alone	Asian alone	45.55	54.45	34.96	65.04
White alone	NHPI alone	58.11	41.89	52.44	47.57
White alone	Two or More	44.69	55.31	35.02	64.98
Black alone	White alone	60.01	39.99	48.41	51.59
Black alone	Black alone	99.83	0.17	99.72	0.28
Black alone	AIAN alone	83.28	16.72	76.05	23.95
Black alone	Asian alone	58.64	41.36	41.25	58.75
Black alone	NHPI alone	64.79	35.21	53.93	46.07
Black alone	Two or More	60.43	39.57	50.57	49.43
AIAN alone	White alone	82.10	17.90	79.56	20.44
AIAN alone	Black alone	67.53	32.47	59.19	40.81
AIAN alone	AIAN alone	99.45	0.55	99.34	0.66
AIAN alone	Asian alone	58.28	41.72	53.92	46.08
AIAN alone	NHPI alone	60.98	39.02	47.21	52.79
AIAN alone	Two or More	51.21	48.79	44.19	55.81
Asian alone	White alone	45.61	54.39	32.64	67.36
Asian alone	Black alone	42.44	57.56	31.14	68.86
Asian alone	AIAN alone	61.19	38.81	53.03	46.97
Asian alone	Asian alone	99.66	0.34	99.69	0.31
Asian alone	NHPI alone	46.07	53.93	33.88	66.12
Asian alone	Two or More	37.69	62.31	23.12	76.88
NHPI alone	White alone	60.35	39.65	54.41	45.59
NHPI alone	Black alone	47.51	52.49	39.91	60.09
NHPI alone	AIAN alone	66.93	33.07	56.38	43.62
NHPI alone	Asian alone	50.07	49.93	40.57	59.43
NHPI alone	NHPI alone	99.23	0.77	99.00	1.00
NHPI alone	Two or More	36.93	63.07	26.23	73.77
Two or More	White alone	44.02	55.98	34.67	65.33
Two or More	Black alone	49.10	50.90	41.20	58.80
Two or More	AIAN alone	46.75	53.25	39.50	60.50
Two or More	Asian alone	31.60	68.40	23.20	76.80
Two or More	NHPI alone	27.36	72.64	20.21	79.79
Two or More	Two or More	10.46	89.54	9.74	90.26

AIAN = American Indian and Alaska Native
NHPI = Native Hawaiian and Other Pacific Islander
Source: U.S. Census Bureau, Population Division, Census 2000 and Census 2010

Table 2. Percentage of Children Ages 0-17 in Demographic Analysis Race Groups by Parental Race Combination: Census 2000-Based Kid Link File

Race of parent		Race of child (percent of total children)		
Mother	**Father**	**Black alone**	**Black in combination**	**Non-Black alone or in combination**
Black alone	Black alone	99.53	0.17	0.30
Black alone	White alone	33.77	39.82	26.41
Black alone	AIAN alone	58.26	16.40	25.35
Black alone	Asian or NHPI	36.19	40.32	23.48
White alone	Black alone	32.47	48.65	18.88
AIAN alone	Black alone	39.32	31.58	29.10
Asian or NHPI	Black alone	31.56	56.46	11.98
White alone	White alone	0.05	0.05	99.89
AIAN alone	White alone	0.11	0.19	99.70
Asian or NHPI	White alone	0.05	0.12	99.82
White alone	AIAN alone	0.15	0.26	99.59
AIAN alone	AIAN alone	0.12	0.09	99.79
Asian or NHPI	AIAN alone	0.73	0.27	99.00
White alone	Asian or NHPI	0.10	0.19	99.70
AIAN alone	Asian or NHPI	0.35	0.78	98.88
Asian or NHPI	Asian or NHPI	0.04	0.02	99.94

AIAN = American Indian and Alaska Native
NHPI = Native Hawaiian and Other Pacific Islander
Source: U.S. Census Bureau, Population Division, Census 2000

Table 3. Hispanic Origin of Children Ages 0-17 by Parental Hispanic Origin Combination: Census 2000-Based Kid Link File

Hispanic origin of parent		Children ages 0-17		
Mother	**Father**	**Total**	**Percent Hispanic**	**Percent not Hispanic**
Hispanic	Not Hispanic	823,516	61.38	38.62
Not Hispanic	Hispanic	826,064	69.83	30.17
Hispanic	Hispanic	5,478,445	98.18	1.82
Not Hispanic	Not Hispanic	36,179,696	99.80	0.20

Source: U.S. Census Bureau, Population Division, Census 2000

Table 4. Parents[1] of Children Ages 0 to 17 in Census 2000-Based Kid Link File by Race

	Race of Father					
Race of mother	**White alone**	**Black alone**	**AIAN alone**	**Asian alone**	**NHPI alone**	**Two or More**
White alone	97.58	0.98	0.42	0.40	0.05	0.56
Black alone	2.70	96.45	0.14	0.14	0.03	0.53
AIAN alone	34.65	2.99	59.56	0.58	0.22	2.00
Asian alone	14.19	1.29	0.15	82.79	0.19	1.40
NHPI alone	19.14	4.80	0.65	3.77	67.41	4.23
Two or more	47.34	10.11	2.07	4.62	1.14	34.72

[1]"Parents" are defined as persons who are the householder, spouse of the householder, or unmarried partner of the householder in households where there are natural-born children aged 0-17.
AIAN = American Indian and Alaska Native
NHPI = Native Hawaiian and Other Pacific Islander
Source: U.S. Census Bureau, Population Division, Census 2000

Table 5. Projected Births to American Indian and Alaska Native Alone Mothers by Race of Father: 2022 and 2044

Year	Number of Projected Births of by Race of Father					
	White alone	Black alone	AIAN alone	Asian alone	NHPI alone	Two or More
2022	12,315	1,063	21,168	206	78	711
2044	13,798	1,191	23,718	231	88	796

AIAN = American Indian and Alaska Native
NHPI = Native Hawaiian and Other Pacific Islander
Source: U.S. Census Bureau, Population Division, 2008 National Population Projections

Table 6. Percent of Children Ages 0-17 in Selected Race Groups by Parental Race Combination: Census 2000-Based Kid Link File

Race of parent		Race of child (percent of total children)					
Mother	Father	White alone	Black alone	AIAN alone	Asian alone	NHPI alone	Two or More
AIAN alone	White alone	33.56	0.11	48.36	0.06	0.01	17.90
AIAN alone	Black alone	1.53	39.32	26.47	0.16	0.05	32.47
AIAN alone	AIAN alone	1.25	0.12	98.00	0.06	0.02	0.55
AIAN alone	Asian alone	3.47	0.17	28.66	25.95	0.04	41.72
AIAN alone	NHPI alone	2.17	0.65	33.26	0.54	24.35	39.02
AIAN alone	Two or More	5.54	1.34	43.57	0.64	0.12	48.79

AIAN = American Indian and Alaska Native
NHPI = Native Hawaiian and Other Pacific Islander
Source: U.S. Census Bureau, Population Division, Census 2000

Table 7. Projected Births in Selected Race Groups by Parental Race Combination: 2022 and 2044
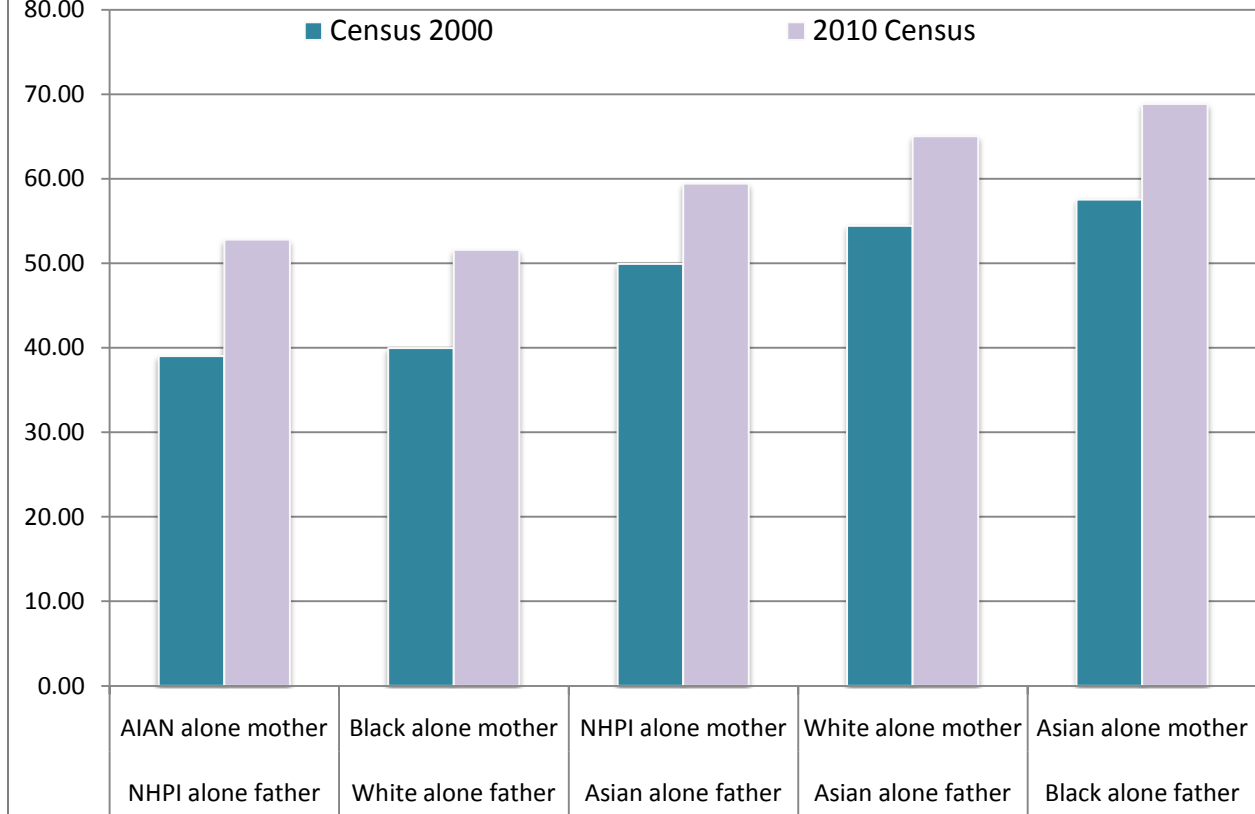
Race of parent		Race of child (number of total children)					
Mother	Father	White alone	Black alone	AIAN alone	Asian alone	NHPI alone	Two or More
2022							
AIAN alone	White alone	4,133	13	5,956	8	2	2,204
AIAN alone	Black alone	16	418	281	2	1	345
AIAN alone	AIAN alone	264	25	20,745	13	3	117
AIAN alone	Asian alone	7	0	59	53	0	86
AIAN alone	NHPI alone	2	1	26	0	19	30
AIAN alone	Two or More	39	10	310	5	1	347
2044							
AIAN alone	White alone	4,631	15	6,673	9	2	2,469
AIAN alone	Black alone	18	468	315	2	1	387
AIAN alone	AIAN alone	296	28	23,244	15	4	131
AIAN alone	Asian alone	8	0	66	60	0	96
AIAN alone	NHPI alone	2	1	29	0	21	34
AIAN alone	Two or More	44	11	347	5	1	388

AIAN = American Indian and Alaska Native
NHPI = Native Hawaiian and Other Pacific Islander
Source: U.S. Census Bureau, Population Division, Census 2000 and 2008 National Population Projections

Figure 1. Percent of Multi-Race Children Ages 0-17 by Data Source and Select Parental Race Combination

AIAN = American Indian and Alaska Native
NHPI = Native Hawaiian and Other Pacific Islander
Source: U.S. Census Bureau, Population Division, Census 2000 and Census 2010