

## **Assigning Race and Ethnicity to Birth Records Using a CPS-Based Kid-Link Method**

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Birth certificates in the United States include the race and Hispanic origin of the mother and father, but not the child. This creates challenges for demographic estimation and research. In 2010, the U.S. Census Bureau developed the Kid-Link method to assign race and Hispanic origin to birth records. Census data for biological children are linked with data from their potential parents to create distributions of race and ethnicity. The distributions are combined with information on the birth certificates to assign race and Hispanic origin to aggregated birth records. The method assumes that the spouse and unmarried partner of the householder are the biological parent of the child. Further, it excludes subfamilies where neither parent is the householder. Using data from the Current Population Survey, we test the assumptions about biological parentage. We also incorporate family types that do not include the householder when assigning race and ethnicity to birth records.

### *Extended abstract*

Vital birth records are an important input into the Demographic Analysis (DA) estimates, which are used to measure net coverage error in the decennial census. The U.S. Census Bureau also uses vital birth records to develop the official Population Estimates and Population Projections. Birth certificates in the United States include the race and Hispanic origin of the mother and father, but not the child. This creates significant challenges for demographic research on the racial and ethnic composition of births in the United States. Historically, there have been two main approaches to assigning race and ethnicity to birth records. The Father's Rule assigns the father's information from the birth certificate to the child, while the Mother's Rule uses only the information from the mother. Currently, the National Center for Health Statistics uses the Mother's Rule to assign characteristics to births (Martin et al. 2018). The Census Bureau has used both approaches to develop race detail for the DA estimates.

For the 2010 DA, the U.S. Census Bureau developed the Kid-Link method to assign race and Hispanic origin to birth records (Guarneri and Dick 2012). With this method, Census 2000 data for biological children of the householder were linked with data from the spouse or unmarried partner of the householder to create distributions of race and ethnicity reporting in the census. The distributions were then used to assign race and Hispanic origin to aggregated birth records. Because the census data only identifies the relationships of people in the household to the householder, the Kid-Link method assumes that the spouse and unmarried partner of the

householder are the biological parent of the child.<sup>1</sup> Further, it excludes subfamilies where a parent is not the householder.

Given the increasing prevalence of multi-partner fertility, step parenting, and “doubling up” of households, the Kid-Link method may use data from people that are not biological parents of the child or miss additional child-parent relationships that do not include the householder (Guzzo 2014; Pilkauskas, Garfinkel, and McLanahan 2014). This is especially problematic when assigning race and ethnicity to birth records because family diversity and household complexity in the United States vary greatly by race and Hispanic origin (Schwede et al. 2017). The Current Population Survey (CPS) has questions that can identify if the parent of a child aged 0 to 17 is living in the household and specifies what type of parent they are (biological, step, or adopted). This includes parents that are not the householder or reference person. However, a similar Kid-Link method has not been developed using CPS data.

In this paper, we use data from the CPS to test key assumptions of the Kid-Link method and expand the number of household types used to assign race and ethnicity to birth records. Specifically, we test the assumptions that the spouse and unmarried partner of the householder are the biological parent of the child. Next, we identify additional biological child-parent groupings (e.g. subfamilies) that do not include the household reference person. We also develop race and Hispanic origin distributions using CPS data and compare them to Kid-Link distributions from census data to assess the impact of our revisions on the overall Kid-Link method. Finally, we discuss the implications of this research for the 2020 Demographic Analysis.

### *Data and Methods*

The data for this analysis come from the 2010 Census and the 2010, 2011, and 2012 Annual Social and Economic Supplement (ASEC) of the CPS. The CPS is a monthly telephone survey of approximately 60,000 households in the United States. The main purpose of the CPS is to collect data on employment; however, the survey also includes the demographic, social, and economic characteristics of respondent households. The ASEC sample is approximately 99,000 households because it includes the March CPS base survey plus some additional subsamples. To

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<sup>1</sup> The decennial census data uses the term householder, while the CPS uses the term reference person. In this paper, we use the two terms interchangeably.

increase sample size, especially for small race groups, we pool three years of ASEC files while excluding overlapping households.<sup>2</sup>

The CPS data include more information about parents and subfamilies than the decennial census data. The census questionnaire asks the respondent to identify the relationship of each member of the household only to the householder. The Kid-link method uses data on children 0 to 17 who are the biological child of the householder. The CPS data include specific variables that indicate whether the mother and father of the child also lives in the household, these are referred to as the parental pointers. An additional question asks if they are the biological, step, or adopted parent. These variables identify biological parents and subfamilies in ways that the previous relationship structure in the CPS, which was similar to relationship data in the census, could not (Kennedy and Fitch 2012).

Using the parental pointers in the CPS, we test the assumptions in the Kid-Link method that the spouse of the householder is the biological parent of the child. We also test the assumption that the unmarried partner of the householder is the biological parent of the child. Specifically, we analyze differences in the percentage of children that are the biological child of householder and spouse or unmarried partner by age, race, and Hispanic Origin of the child. We also analyze patterns of children that are not listed as the biological child of the householder, but are still living with a biological parent (subfamily) by age, race, and Hispanic origin. Finally, we use the pooled CPS data to develop distributions of reported race and ethnicity of the child and parents, which we compare to the distributions produced using the Kid-Link method on data from the 2010 Census.

### *Preliminary Results*

Our preliminary results show that there is considerable variation by age, race, and Hispanic origin in how often the spouse of the householder is the biological parent of the child (Table 1). There is even greater variation in how often the unmarried partner of the householder is the biological parent of the child. These preliminary results indicate that the U.S. Census

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<sup>2</sup> The CPS has a rotating sample where households are in sample for 16 months. They are interviewed for four consecutive months, then are taken out of the sample for eight months, then interviewed again for four consecutive months.

Bureau may want to explore improvements to the method used to assign race and ethnicity to birth records in the 2020 DA estimates.

#### References:

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Table 1. Percentage of Children that are the Biological Child of Householder and Spouse or Unmarried Partner by Age, Race, and Hispanic Origin

<b>Age</b>	<b>Total</b>	<b>Non-Hispanic White Alone</b>	<b>Non-Hispanic Black Alone</b>	<b>Non-Hispanic AIAN Alone</b>	<b>Non-Hispanic Asian Alone</b>	<b>Non-Hispanic NHPI Alone</b>	<b>Non-Hispanic Two or more</b>	<b>Hispanic</b>
<i>Spouse of the Householder</i>								
<b>0-4</b>	96.5	96.9	93.6	92.0	96.7	100.0	93.0	96.7
<b>5-9</b>	91.4	91.8	86.0	86.6	94.1	96.1	87.6	91.8
<b>10-17</b>	84.7	85.9	74.4	84.1	92.1	87.8	69.4	85.1
<i>Unmarried Partner of Householder</i>								
<b>0-4</b>	72.5	68.2	76.6	76.2	56.8	52.6	76.0	76.0
<b>5-9</b>	45.0	36.8	40.8	47.1	66.7	100.0	52.5	55.3
<b>10-17</b>	28.3	22.5	29.6	53.7	14.4	0.0	48.8	37.4

Note: This table uses publically released data.

Source: Current Population Survey, 2010 Annual Social and Economic Supplement.