

# Measuring Linkages among Household Complexity, Race/Ethnicity, and the Undercount of Young Children in U.S. Decennial Censuses\*

Laurie Schwede, Independent Consultant; Eric B. Jensen, U.S. Census Bureau; and Deborah Griffin, Independent Consultant

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## INTRODUCTION

The 2010 Census age cohort with the highest estimated net undercount rate of 4.6% was young children aged 0-4. Prior research shows that household structure is related to census undercount. We use an alternative approach to analyze household structure and this undercount. First, we classify 2010 Census households based on different types of relationships in the household, using a new *complex household typology* with a wider variety of household types with young children. Then we use 2000 and 2010 Census data to map notable growth of complex households with young children, showing wide variation by race and Hispanic origin. We analyze households that responded positively to a census child undercount probe and document household types in which children were then added to the census to identify three major complex household types at higher risk of young child undercount. We suggest targeting these complex household types for outreach, follow up and evaluation in the 2020 Census to improve coverage.

## DATA AND THE COMPLEX HOUSEHOLD TYPOLOGY

We use the complex households typology and data from the 1) 2000 Census, 2) 2010 Census, and 3) 2010 Census Coverage Followup (CFU) on undercount probe responses and young child census adds.

### Definition of complex household:

Households with persons in relationships other than, or in addition to 1) one married couple with or without their own biological or adopted child; 2) one parent with own biological or adopted child, and 3) one-person households.

### The 2010 Census Question on Relationship to Householder

2. How is this person related to Person 1? Mark  ONE box.

<input type="checkbox"/> Husband or wife	<input type="checkbox"/> Parent-in-law
<input type="checkbox"/> Biological son or daughter	<input type="checkbox"/> Son-in-law or daughter-in-law
<input type="checkbox"/> Adopted son or daughter	<input type="checkbox"/> Other relative
<input type="checkbox"/> Stepson or stepdaughter	<input type="checkbox"/> Roomer or boarder
<input type="checkbox"/> Brother or sister	<input type="checkbox"/> Housemate or roommate
<input type="checkbox"/> Father or mother	<input type="checkbox"/> Unmarried partner
<input type="checkbox"/> Grandchild	<input type="checkbox"/> Other nonrelative

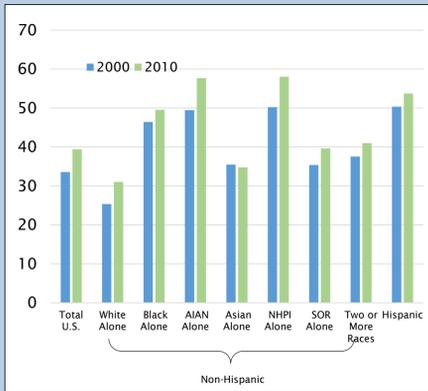
Complex Household Type	Description of Complex Household with Child Type
Blended family with young child	Households with a stepchild
Multi-generation with young child	Households with father, mother, or parent-in-law of the householder (ascending) and child; or child and grandchild of householder; or father, mother, or parent-in-law of the householder, child, and grandchild
Skip generation with young child	Household with grandchild of the householder but no child or child-in-law
Laterally extended with child	Households with siblings of the householder (includes young child)
Other relative with young child	Households with other relatives of the householder (grandparent, aunt/uncle, niece/nephew, cousin, grandniece, great grandchild, etc.)
Family household with nonrelative (young child included)	Family households with nonrelative (unmarried partner, roomer/boarder, housemate, other nonrelative, at least one who is 0-4)
Complex nonfamily with child	Households of two or more, none of whom is related to the householder
Other combinations	Complex structures that do not fall into the other categories

\*See "Investigating the 2010 Undercount of Young Children - Analysis of Complex Households" <https://www.census.gov/programs-surveys/decennial-census/2020-census/planning-management/final-analysis/2020-report-2010-undercount-children-complex-households.html>

## COMPLEX HOUSEHOLDS WITH YOUNG CHILDREN INCREASED

As shown in Figure 1, the proportion of all households with young children that were complex increased from 34% in 2000 to 39% in 2010, with substantial variations by race and Hispanic origin. Figure 2 shows growth to nearly 40% in 2010 of children aged 0 to 4 who were living in a complex household—a higher percentage than any other age group. Increases over 2000 are seen across race and Hispanic origin groups and vary widely. The Figure 3 and 4 maps display notable increases in county-level rates between 2000 to 2010.

Figure 1: Percentage of Total Households with a Young Child that are Complex by Race and Hispanic Origin\* of Householder: 2000 and 2010



Source: 2010 Census, special tabulation. AIAN is American Indian and Alaska Native, NHPI is Native Hawaiian and Pacific Islander, SOR is Some Other Race, and Two or More refers to persons who marked more than one race. Note that all Hispanics are only in the "Hispanic" category.

Figure 3: Young Children in Complex Households in 2000

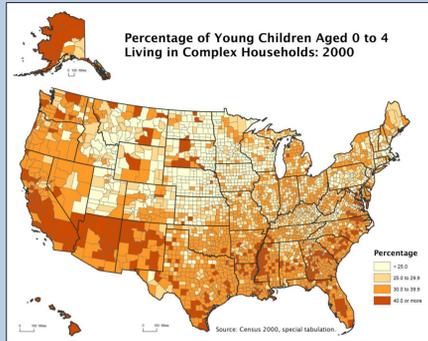


Figure 2: Percentage of Young Children Living in Complex Households by Race and Hispanic Origin: 2000 and 2010

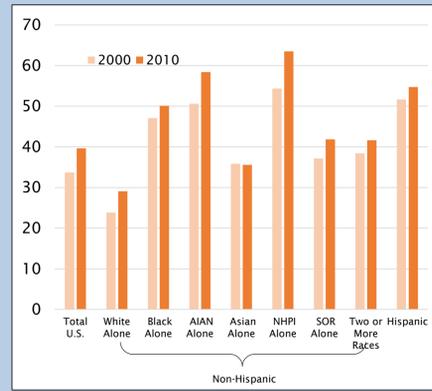
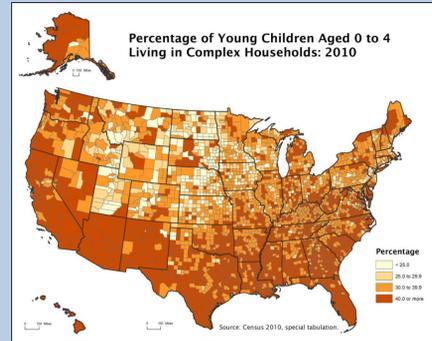


Figure 4: Young Children in Complex Households in 2010



## CENSUS COVERAGE FOLLOWUP (CFU)

The 2010 Census included a Coverage Followup telephone operation (CFU) to improve accuracy of persons on the census roster. Households were eligible for CFU for several reasons, such as checking one or more undercount probes, being large, or having a discrepant respondent-provided count and number of listed persons. CFU added 55,000 young children to the census.

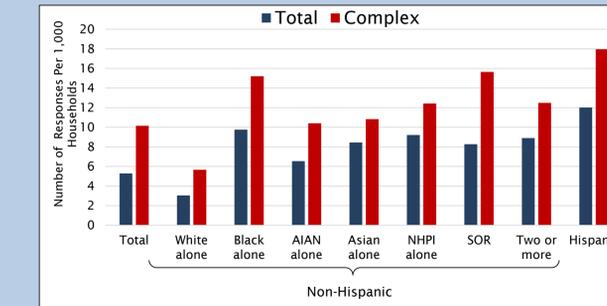
### 2010 Census (Mailout) Form Undercount Question Probes

2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1? Mark  all that apply.

- Children, such as newborn babies or foster children
- Relatives, such as adult children, cousins, or in-laws
- Nonrelatives, such as roommates or live-in baby sitters
- People staying here temporarily
- No additional people

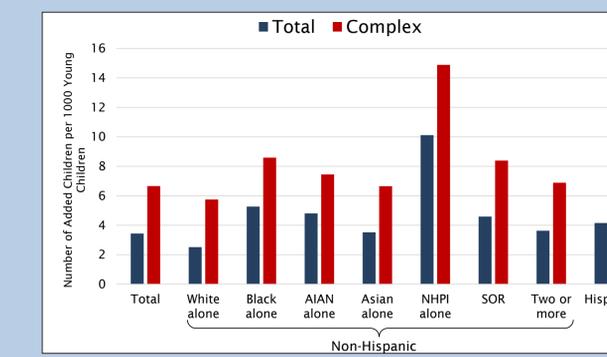
We analyze households with 1) a positive response to a child undercount probe and 2) a young child added to a household by CFU. As shown in Figures 5 and 6, we found consistently higher numbers of positive responses and added young children across race and Hispanic origin groups when the household was complex.

Figure 5: Number of CFU Positive Responses to the Child Undercount Probes by Household Type, Race, and Hispanic Origin



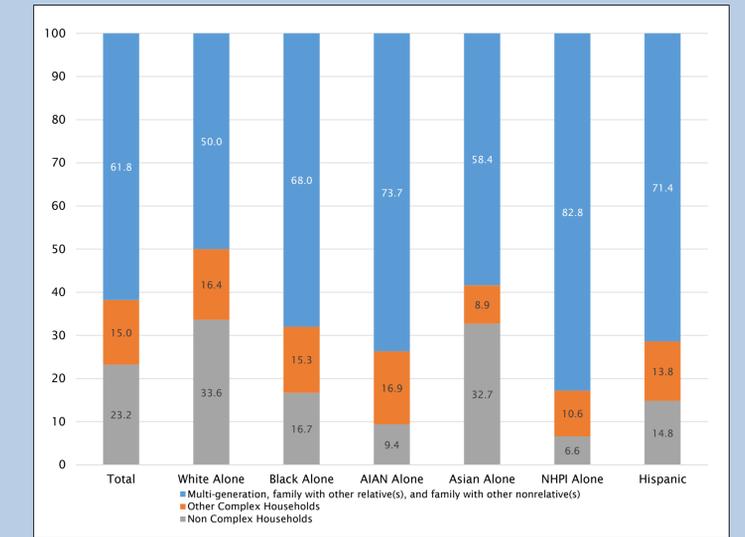
Source: U.S. Census Bureau, special tabulation.

Figure 6: Number of CFU Added Young Children by Household Type, Race, and Hispanic Origin



Source: U.S. Census Bureau, special tabulation.

Figure 7: Distribution of 2010 Coverage Followup Adds for Young Children by Race and Hispanic Origin and Selected Household Types



Overall, just three types of complex households accounted for more than half of all CFU young child adds to the 2010 Census: households with nonrelatives (26%), multigeneration households (21%) and family households with other relatives (15%). These same complex households types accounted for at least half of young child adds within each of the race and Hispanic groups.

## CONCLUSIONS

We find that applying the complex household typology to the child undercount is enlightening, showing notable intercensal increases in both the numbers of complex households with young children and in the numbers of young children in such households, overall and within race/ethnic groups. With CFU data, we show that complex households across race and Hispanic groups were more likely to have responded to a child undercount probe and to have young children added to the 2010 Census. We note wide variations by race and Hispanic origin.

Three types of complex households—those with at least one nonrelative, one "other relative," or more than 2 generations—accounted for the majority of 2010 CFU young child adds overall and for at least half within the race and Hispanic groups. This suggests that mapping and targeting these specific complex household types in the 2020 Census for outreach, follow up, and evaluation could be efficient and cost-effective in reducing the young child undercount.

This poster is released to inform interested parties of ongoing research and to encourage discussion. Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.