

# The Number of Young Hispanic Children in the Census Bureau’s Population Estimates Program Blended Base Compared to the 2020 Census Count

By

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## Executive Summary

In the past few decades, the Census Bureau has produced yearly population estimates for states and counties including data for young Hispanic children (ages birth to 4). The Census Bureau released 2020 Decennial Census data for young Hispanic children on May 25, 2023, which allows us to compare the number of young Hispanic children from the population estimates and the Census. Comparisons are made for the nation, states, and counties.

The Census develops post-census estimates by starting with a population base, adding births, subtracting deaths, and adjusting for net migration each year every decade. In the past, the Decennial Census counts have provided the estimates base, but the 2020 Census detailed data needed for the base was not available in time to use with the 2021 and 2022 population estimates. Thus, the Census Bureau developed a new PEP (Population Estimates Program) methodology called the “blended base.”

The base used for the post-2020 population estimates will affect state and county estimates for the next decade and the population estimates are closely linked to federal funding for states and localities. Consequently, the base used by the Census Bureau will have huge fiscal implications for states and counties throughout the 2020s. The

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differences between the 2020 Census counts and the PEP blended base are likely to have different implications for different populations. This study examines the implications for the young Hispanic child population.

This descriptive report focuses on comparing the PEP blended base estimates to the 2020 Census counts in the number and the national share of young Hispanic children. It is difficult to establish whether the Census count or the PEP blended base provides a more accurate reflection of the true number of young Hispanic children in states and counties. Nevertheless, it is important to highlight that the Hispanic/Latino population had a statistically significant undercount rate of 4.99% in the 2020 Census (U.S. Census Bureau, 2022), and young Hispanic children have been historically undercounted at a high rate. Thus, it is critical to describe which data source provides a larger number and/or a larger national share of young Hispanic children for states and counties, as it might help U.S. Census stakeholders discern options moving forward.

This report also includes comparisons of the child population in Puerto Rico and its municipios (county equivalents). The Census Bureau does not develop population estimates for other U.S. territories like the U.S. Virgin Islands or Guam, therefore the analyses shown in this report cannot be developed for these geographies.

We use two key measures in this study. The first measure is the number of young Hispanic children in each state or county, and the second measure is the share or percentage of the total U.S. young Hispanic child population in each state or county. We call this second measure “national share.” It is important to examine both the raw numbers and the share of the national population because the implications may not be the same for both measures. Just because the number of young Hispanic children in a

state or county was higher in the PEP blended base compared to the Census, it does not necessarily mean it was a larger share of the national population because the total child population in the PEP blended base was different from the total child population in the Census count.

Data examined here show there are important differences between PEP blended base estimates and the 2020 Decennial Census counts for young Hispanic children at national, state, and county levels. In terms of absolute numbers, the PEP blended base provided a much larger number of young Hispanic children than the 2020 Census count nationally. At the national level, the number of young Hispanic children from the PEP blended base for April 1, 2020, was 5,014,881 compared to 4,635,698 in the 2020 Census count. In other words, the number of young Hispanic children in the PEP blended base was 379,183 higher than the count in the 2020 Decennial Census. That amounts to a difference of 7.6 percent.

In examining states, we find most young Hispanic children lived in a state where the PEP blended base was larger than the Census count.<sup>3</sup> The PEP blended base estimates were larger than the 2020 Census counts in 41 states, and 95 percent of all young Hispanic children in the country lived in one of those states according to the PEP blended base. There were only 10 states where the Census counts were larger than the PEP blended base, and about 5 percent of all young Hispanic children in the U.S. lived in one of those 10 states.

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<sup>3</sup> In this paper the District of Columbia is treated as a state and a county

However, in terms of the national share of young Hispanic children in a state, the results are somewhat different. There were 32 states where the national share based on the Census count was larger than the PEP blended base estimate, and 57 percent of the national young Hispanic child population lived in one of those states. In 19 states, the PEP blended base national share was larger than the Census count and 43 percent of all young Hispanic children lived in these states.

At the county level, there were 1,881 counties where the PEP blended base provided a larger number of young Hispanic children than the 2020 Census count, and 87 percent of the national young Hispanic child population lived in those counties. The 2020 Census count was larger than the PEP blended base in 1,191 counties which were home to 13 percent of the nation's young Hispanic children.

When national shares for counties were examined, we found that the 2020 Census counts were larger than the PEP blended base in 806 counties, and 43 percent of all young Hispanic children lived there. On the other hand, there were 513 counties where the PEP blended base produced a higher national share than the Census, and 51 percent of all young Hispanic children lived in those counties. There was no difference by national share in 1,824 counties, but only 5 percent of young Hispanic children lived in those counties.

Differences between the PEP blended base and the 2020 Census for Puerto Rican young children were small. In Puerto Rico, most children - 99.2 percent – counted in the Census 2020 were Hispanic. The Census count of young children in Puerto Rico was 115,106 compared to 114,886 young children in the PEP blended

base. The Census count was larger than the PEP blended based in 50 out of 78 municipios (county equivalents).

The findings suggest that assessing the impact of the PEP blended base on the young Hispanic child population will be complicated. Results differ depending on whether one examines the nation, states, or counties and whether one focuses on absolute numbers of young Hispanic children or the share of the national young Hispanic child population in a state or county. All these perspectives are important.

The Census Bureau must decide in the next year or so about the methodology for the PEP estimates for the remainder of the decade. The Census Bureau might decide to revert to the 2020 Census counts for the base, continue with the current blended base as is, or decide on a third alternative.

This paper provides descriptive information for researchers, data analysts, and child advocates on the potential impact of the Census Bureau's new blended base methodology for the young Hispanic child population.

# The Number of Young Hispanic Children in The Census Bureau's Population Estimates Program Blended Base Compared to the 2020 Census Count

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## Introduction

Since the 1970s, the Census Bureau has produced yearly population estimates for states and counties for the decade following each Decennial Census.<sup>4</sup> However, data for young Hispanic children has only been included in county-level estimates, since 2000.<sup>5</sup> The 2020 estimates allow us to identify the number of young Hispanic children for states and counties compared to the 2020 Census. In this paper, we define the young Hispanic child population as those under the age of 5. This study expands on two recent studies - a study by O'Hare and Aneja (2022) that focused on the difference between the blended base and the Census count for all children (ages 0 to 17) and another study by Quiros et al. (2023) that focused on differences between the PEP blended base and the 2020 Census Count for Hispanic children ages 0 to 17. This study illustrates the impact of the switch to the PEP blended base had on young Hispanic children at the national, state, and county level when compared to the 2020 Census.

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<sup>4</sup> Access the main Population Estimates website of the Census Bureau here: <https://www.census.gov/programs-surveys/popest.html>

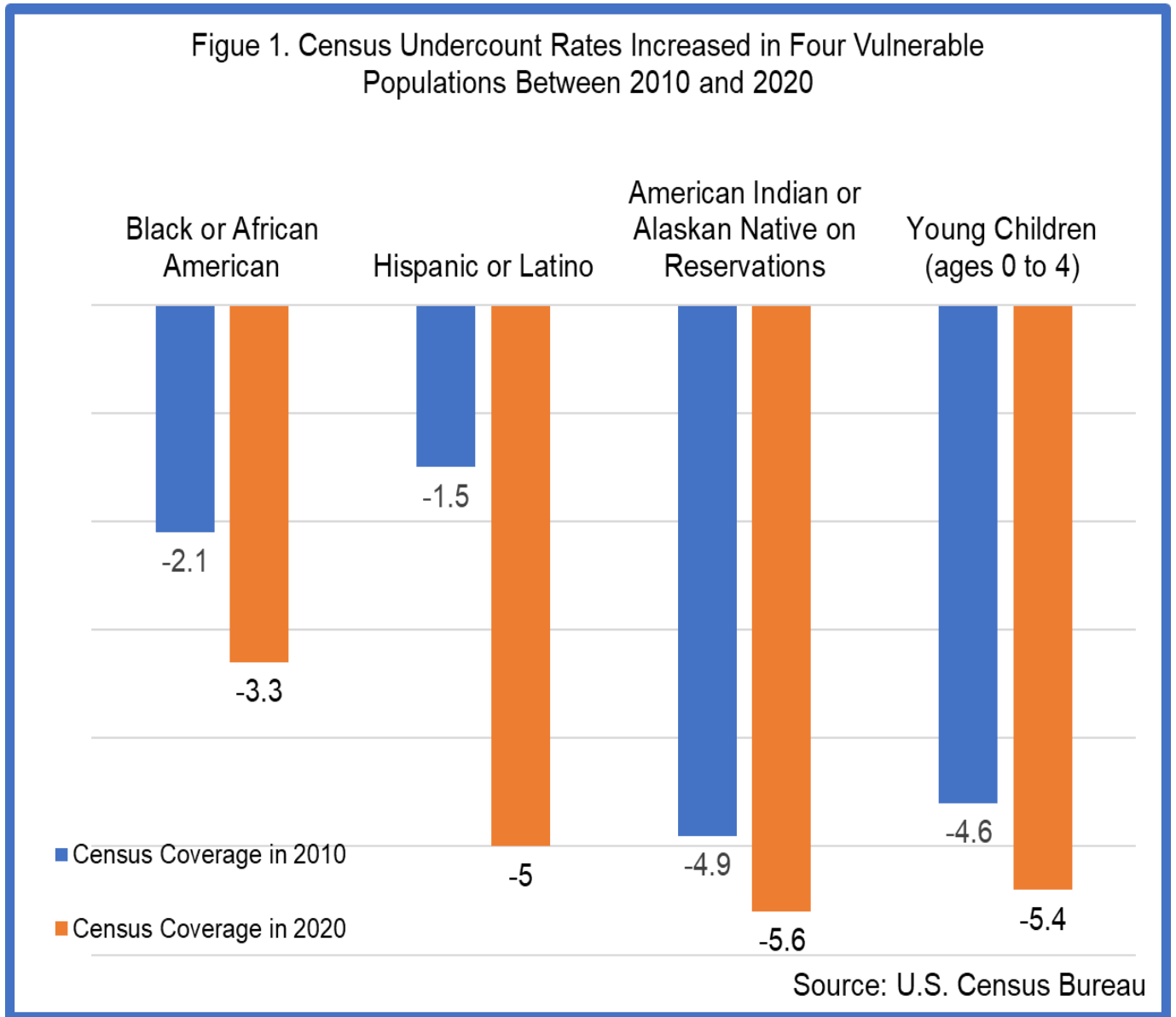
<sup>5</sup> The Census Bureau has produced estimates and projections of the Hispanic Origin population since 1986 as part of their P25 report series (See P25-995, P25-1040, and P25-1045 reports available here: <https://www.census.gov/library/publications/1980/demo/p25-1980s.html>). However, the full combination of age, sex, race, and Hispanic Origin characteristics at the county level was first published in 2000 for the years 1990-1999. For more information on Census estimates with file descriptions go here: [https://www2.census.gov/programs-surveys/popest/FTP2\\_Key.xlsx](https://www2.census.gov/programs-surveys/popest/FTP2_Key.xlsx)

The estimation method used by the Census Bureau starts with a population base and then adds or subtracts the estimated yearly incremental change based on births, deaths, and net migration to that base year by year over the decade following the Census. For example, the Census Bureau produced estimates for July 1, 2011, using a base population from April 1, 2010, and the demographic change between April 1, 2010, and July 1, 2011.

In the past, the Decennial Census counts have provided the estimates base, but the 2020 Census detailed data needed for the base were not available in time to use with the 2021 and 2022 population estimates. Thus, the Census Bureau developed a new PEP (Population Estimates Program) methodology. We use the term PEP blended base to refer to estimates and shares produced using this methodology. Data from the 2020 Decennial Census is referred to as Census counts.

The move from the Decennial Census counts to PEP blended base was based largely on the fact that the detailed 2020 Census data needed for the base were not available in time to use for the 2021 and 2022 Vintage estimates. However, concerns about the quality of the 2020 Census were also an issue. The quality of the 2020 Census is suspect because several vulnerable populations had higher net undercounts in the 2020 Census than in the 2010 Census, based on the Census Bureau's Demographic Analysis and Post-Enumeration Survey, as shown in Figure 1 below. The decreasing quality of the Census between 2010 and 2020 may have encouraged a new approach to post-census population estimates (Khubba et al., 2022; U.S. Census Bureau, 2022). According to one report from the Census Bureau (Hartley and Velkoff,

2022), “there are questions about the quality of the 2020 Census results.” Some features of the blended base were designed to correct for Census undercounts.



A Census Bureau report (Bolender & Jensen, 2022) showed the PEP blended base seems to correct the high net undercount of young children in the 2020 Census and may have a positive impact on data for older children (ages 10-14) at the national



level. A report by O'Hare (2022) provides more granular documentation for the differences between the PEP blended base and the 2020 Census for specific age groups of U.S. children at a national level but no data for Hispanic children were provided in that study.

We call the children in this study Hispanic rather than Latino for two reasons. First, most Hispanics (61 percent) prefer the term Hispanic to describe the Hispanic or Latino population in the United States, and another 29 percent prefer the term Latino, but only 4 percent prefer the term Latinx (Noe-Bustamante et al., 2020). Second, Hispanic is the term used most often by the Census Bureau, and the term Hispanic is consistent with most of the literature cited for this paper. Nevertheless, we acknowledge that the labels Latino or Latinx are sometimes preferred by researchers.

#### Why Focus on Young Hispanic Children?

We focus on young Hispanic children for three reasons. First, young Hispanic children make up a large share of the U.S. child population. Over a quarter (25.9 percent) of the nation's total young child population are young Hispanics (Lopez et al., 2017). Second, young Hispanic children are becoming a larger share of the total young child population over time – by 2060 over 30 percent of children ages 0-17 is projected to be of Hispanic origin (Vespa et al., 2020).

Third, the young Hispanic population was undercounted at a higher rate in the 2020 Census compared to the total U.S. young population. According to the U.S.

Census National Demographic Analysis (DA)<sup>6</sup>, the net undercount of the Hispanic population ages 0 to 4 in the 2020 Census was 8.6 percent. In contrast, the net undercount of U.S. of young children of any race and ethnicity of the same age was 5.4 percent (U.S. Census 2020). For comparison, the net undercount for the U.S. total population was 0.35 percent (Jensen & Kennel, 2022). Importantly, the net undercount of young Hispanic children in the Census is not only high it is increasing - the undercount in the 2010 Census was 7.5 percent (O'Hare 2015).

The high net undercount of young Hispanics in the 2020 Census is not surprising given the anti-immigrant rhetoric and action in the years leading up to the 2020 Census. In particular, the attempt by the Secretary of Commerce (over the objections of the Census Bureau) to add a question on citizenship to the 2020 Census at the last-minute elevated fears in immigrant communities of participating in the 2020 Census. Litigation on the issue revealed that the attempt to add a question on citizenship was motivated by a belief that it would suppress census participation among immigrants, including Hispanics (Topaz, 2019). Between 2010 and 2020 the net undercount for all Hispanics more than tripled

#### PEP blended base in the Population Estimates Program (PEP)

The Census Bureau has produced yearly postcensal population estimates for states and counties for the past several decades. The postcensal estimates have many uses (Bolender & Jensen, 2022; U.S. Census Bureau, 2021a) including:

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<sup>6</sup> The Census Bureau Demographic Analysis evaluates the quality of the census, and it is the most accurate source of data for young children, in part because the DA estimates are largely based on birth certificate data, which is very reliable.

- Allocation of federal funds,
- Controls for Census Bureau surveys,
- Community development,
- Aid to business planning,
- Denominators for statistical rates,
- Enforcing government regulations,
- Academic and business research, and
- Program planning in the public and private sectors.

Perhaps the most important use is the distribution of federal funds through funding formulas. A recent Census Bureau report found Census Bureau data are used in 353 programs that distributed \$2.8 trillion to states and localities in Fiscal Year 2021 (U.S. Census Bureau 2023a) According to the Census Bureau (2023b), “Data from the U.S. Census Bureau inform how trillions of dollars in federal funds are distributed each year, underscoring the value of Census Bureau data and the importance of participating in surveys and the census.” In an earlier study, Reamer (2019) found two-thirds of such programs use sub-state data to direct dollars to places, so the accuracy of substate data is vital (Reamer, 2019). The population estimates are one of the most widely used data sources in these funding formulas. Census data are also used by states to distribute state funds to substate geographic units (O’Hare, 2020).

The population estimates are not only used in some funding formulas, but they are also used as control totals of the American Community Survey (ACS) and other surveys. Thus, the PEP population estimates indirectly influence any funding formula that uses ACS data.

The connection between Census Bureau data and funding to states and localities for most funding formulas is very complicated and beyond the scope of this study. A recent description of Title 1 of the Elementary and Secondary Education Act funding illuminates this complexity (Gordon and Reber 2023). It is worth noting that each federal program has its own funding allocation formula, so changes in population might increase funds to a particular state or locality for some programs and decrease them for others.

### Estimation Methodology

As stated earlier, the annual population estimates start with the base, add births, subtract deaths based on birth and death certificate data. Then the estimates are adjusted for migration between states and counties based on changes of address in U.S. Internal Revenue Service tax records and Medicare records. International migration is also included in the estimates. State estimates are adjusted to make sure they sum to the national estimate and county estimates are adjusted to make sure they sum to the state estimates.

The population base used for post-census population estimates in the past has been the Decennial Census count. However, the Census Bureau is using a new method commonly called the “PEP blended base” for the 2021 and 2022 estimates, and possibly for the remainder of the decade. The PEP blended base involves combining data from three different sources (U.S. Census Bureau, 2021a, 2021b). The PEP blended base uses:

- the 2020 Census total population counts for states and counties blended with
- age and sex characteristics distribution from the middle series of the national Demographic Analysis estimates and
- the race and Hispanic Origin characteristics distribution from the Vintage 2020 Population Estimates.

Because the yearly estimates are a product of the base population and the yearly incremental changes, should there be an undercount or overcount in the base for any demographic group or given location, there is likely to be an undercount or overcount in the yearly estimates for those groups or locations for the decade in which the base is used. Thus, differences in the PEP blended base compared to the Census counts have important implications. The switch from the use of the Decennial Census base to the PEP blended base could have different impacts on different populations. This paper examines how this change impacts young Hispanic children.

We believe the two measurements that matter most in terms of assessing the comparison between the PEP blended base estimates and the Census counts for young Hispanic children are the number of young Hispanic children in a state or county and the share or percentage of all young Hispanic children in the nation that are in each state or county. To be clear, the Vintage 2021 population estimates used here include blended base data for April 1, 2020, which are compared to the 2020 Census results in

this study.<sup>7</sup> We compared the number of young Hispanic children in the PEP blended base to the number of young Hispanic children in the 2020 Census count in terms of the absolute number of young Hispanic children, as well as the national shares of all young Hispanic children in the country as of April 1, 2020.<sup>8</sup>

## Results

Nationwide, the PEP blended base produced a larger number of young Hispanic children than the 2020 Census count. We calculated the difference as the Census count minus the PEP blended base - a negative difference means the PEP blended base was larger than the Census, and this approach is used consistently in all tables in this paper.

Table 1 shows that at the national level, the number of young Hispanic children for April 1, 2020, from the PEP blended base was 5,014,881 compared to 4,635,698 in the Census count. In other words, the PEP blended base count was 379,183 higher than the count in the 2020 Decennial Census for young Hispanic children. That amounts to a difference of 7.6 percent.

At the national level, the Census Bureau estimates from Demographic Analysis are thought to be the most accurate, particularly for young children. In that context it is noteworthy that the blended base estimate (5,014,881) - is very similar to the DA middle

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<sup>7</sup> The term vintage is used by the Census Bureau to identify the year of population estimates. Each vintage includes a base estimate for the April 1<sup>st</sup> census date, the population estimate for July 1<sup>st</sup> of the census year, and the mid-year population estimate for all subsequent years until the most recent. So, the vintage 2021 population estimates include three sets of estimates: April 1<sup>st</sup>, 2020, July 1<sup>st</sup>, 2020, and July 1<sup>st</sup>, 2021.

<sup>8</sup> When the Vintage 2022 estimates come out for states and counties by age, the base populations are likely to be slightly different than the ones used here, but not enough to make a difference in our conclusions.

series estimates (5,072,000) (U.S. Census Bureau 2020). This suggests the PEP blended base estimate for the nation is more accurate than the 2020 Census count.

Table 1 also shows that young Hispanic children account for 25.9 percent of the total U.S. young child population according to the PEP blended base. In contrast, using the 2020 Census count, young Hispanic children account for 25.2 percent of the total U.S. young child population. In addition, the difference between the PEP blended base estimate of all young children and the 2020 census count for all young children was 992,316, which means that young Hispanic children (379,183) account for 38 percent of that difference.

Table 1. Comparison of the Number of Young Hispanic Children (Ages 0-4) Between the April 1, 2020, Population Estimate Program (PEP) Blended Base and the 2020 U.S. Census				
Characteristic	U.S. Census	PEP Blended Base	Numeric Difference* (CENSUS-PEP)	Percent Difference ((CENSUS-PEP)/PEP)*100
U.S. Young Hispanic children	4,635,698	5,014,881	-379,183	-7.6
Total U.S. Young Child Population	18,400,235	19,392,551	-992,316	-5.1
Percent of all U.S. children who are Hispanic	25.2	25.9	-	-
Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at <a href="https://www.census.gov/data">census.data.gov</a>				
*Negative numbers mean PEP is larger than Census.				

Importantly, the gap between the 2020 Census count and the 2020 PEP blended base for young Hispanic children is not spread evenly across the country, as we describe in the sections below.

### Data for States

Table 2 shows the states ranked by the numeric difference between the 2020 Census count of young Hispanic children and the number of young Hispanic children in

the PEP blended base. We calculated differences as the Census count minus the PEP blended base.

State differences ranged from -94,837 young Hispanic children in Texas to 3,613 in Indiana. In four states (Texas, California, New York, and Florida) the PEP blended base estimated more than 25,000 additional young Hispanic children than the Census counts. In four states (Arizona, New Jersey, Pennsylvania, and North Carolina) the PEP blended base was 10,000 to 25,000 higher than the Census count. These undercount numbers are large enough to have an impact on the state total population. The undercount of young Hispanic children may have a fiscal impact on these states, as some federal programs such as Medical Assistance Program (Medicaid, children only) and the Children Health Insurance Program (CHIP) use the decennial census counts in the formula used to estimate payments and reimbursements from each state government (Murphey et al., 2019). There were only two states (Indiana and Michigan) where the Census count was at least 1,000 larger than the PEP blended base.



Table 2. U.S. States Ranked by Numeric Difference Between April 1, 2020 Population Estimate Program (PEP) Blended Base Estimates and 2020 U.S. Census Counts for Young Hispanic Children (ages 0 to 4)

Rank	State	U.S. Census	PEP Blended Base	Numeric Difference* (CENSUS - PEP)	Percent Difference ((CENSUS-PEP)/PEP)*100
1	Texas	867,837	962,674	-94,837	-9.9
2	California	1,076,144	1,162,875	-86,731	-7.5
3	New York	255,638	293,925	-38,287	-13.0
4	Florida	327,168	352,736	-25,568	-7.2
5	Arizona	171,801	190,817	-19,016	-10.0
6	New Jersey	143,601	157,395	-13,794	-8.8
7	Pennsylvania	89,735	100,998	-11,263	-11.2
8	North Carolina	97,823	108,028	-10,205	-9.4
9	New Mexico	67,884	76,525	-8,641	-11.3
10	Massachusetts	68,472	76,551	-8,079	-10.6
11	Washington	94,721	102,237	-7,516	-7.4
12	Colorado	97,267	103,916	-6,649	-6.4
13	Hawaii	12,986	19,101	-6,115	-32.0
14	Georgia	93,683	99,213	-5,530	-5.6
15	Maryland	63,212	68,704	-5,492	-8.0
16	Nevada	69,825	74,952	-5,127	-6.8
17	Connecticut	47,869	50,953	-3,084	-6.1
18	Oklahoma	46,336	49,274	-2,938	-6.0
19	Virginia	76,886	79,647	-2,761	-3.5
20	Rhode Island	14,482	16,984	-2,502	-14.7
21	Nebraska	23,811	26,114	-2,303	-8.8
22	Wisconsin	40,811	43,091	-2,280	-5.3
23	Illinois	171,561	173,753	-2,192	-1.3
24	District Of Columbia	5,318	7,418	-2,100	-28.3
25	Utah	45,284	47,020	-1,736	-3.7
26	Oregon	49,239	50,687	-1,448	-2.9
27	South Dakota	4,329	5,488	-1,159	-21.1
28	South Carolina	30,624	31,721	-1,097	-3.5
29	Delaware	9,172	10,223	-1,051	-10.3
30	Alaska	4,743	5,736	-993	-17.3
31	Alabama	25,421	26,382	-961	-3.6
32	Mississippi	9,476	10,370	-894	-8.6
33	North Dakota	3,842	4,678	-836	-17.9
34	Iowa	21,418	22,160	-742	-3.3
35	Tennessee	45,611	46,302	-691	-1.5
36	Montana	4,182	4,757	-575	-12.1
37	Wyoming	5,337	5,761	-424	-7.4
38	Louisiana	26,811	27,234	-423	-1.6
39	Idaho	22,232	22,532	-300	-1.3
40	Kentucky	19,680	19,826	-146	-0.7
41	Missouri	27,460	27,567	-107	-0.4
42	Arkansas	24,555	24,457	98	0.4
43	West Virginia	2,907	2,764	143	5.2
44	Maine	2,274	2,108	166	7.9
45	New Hampshire	5,137	4,944	193	3.9
46	Vermont	1,168	936	232	24.8
47	Minnesota	32,428	32,046	382	1.2
48	Kansas	35,875	35,464	411	1.2
49	Ohio	49,579	49,164	415	0.8
50	Michigan	50,239	48,482	1,757	3.6
51	Indiana	51,804	48,191	3,613	7.5
	U.S. Total	4,635,698	5,014,881	-379,183	-7.6

Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at census.data.gov

\* Negative numbers mean PEP is larger than Census.

Table 3 provides a summary of the state-level data shown in Table 2. In 41 states the PEP blended base estimate was larger than the Census count, and 95 percent of young Hispanic children lived in those states based on the PEP blended base data. For 10 states, the Census count was larger than the PEP blended base estimates, and 5 percent of young Hispanic children live in those states. PEP blended base higher estimations in most states likely reflects the high net undercount of young Hispanic children in the 2020 Census.

Table 3. Distribution of U.S. States by Difference Between the 2020 U.S. Census Count and April 1, 2020 Population Estimate Program (PEP) Blended Base Estimates of the Young Hispanic Child Population (age 0 to 4)				
Comparison	Number of States	Percent of States	Hispanic Child Population based on PEP	Percent of Hispanic Child Population
Census Count is Larger than PEP Blended Base Estimate	10	20	248,556	5
PEP Blended Base Estimate is Larger than the Census Count	41	80	4,766,325	95
Total	51	100	5,014,881	100
Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at <a href="https://census.data.gov">census.data.gov</a>				
Note: Estimates include D.C. as a state.				

Table 4 shows U.S. states ranked by the percentage difference between the number of young Hispanic children in the 2020 Census and the number in the PEP blended base. A negative number in the difference column indicates the PEP blended base was larger than the Census Count. The percentage difference among the states ranged from -32.0 percent in Hawaii to 24.8 percent in Vermont.

Table 4. U.S. States Ranked by Percent Difference Between April 1, 2020 Population Estimate Program (PEP) Blended Base Estimates and 2020 U.S. Census Counts for Young Hispanic Children (Ages 0 to 4)

Rank	State	U.S. Census	PEP Blended Base	Numeric Difference (CENSUS - PEP)	Percent Difference ((CENSUS-PEP)/PEP)*100
1	Hawaii	12,986	19,101	-6,115	-32.0
2	District Of Columbia	5,318	7,418	-2,100	-28.3
3	South Dakota	4,329	5,488	-1,159	-21.1
4	North Dakota	3,842	4,678	-836	-17.9
5	Alaska	4,743	5,736	-993	-17.3
6	Rhode Island	14,482	16,984	-2,502	-14.7
7	New York	255,638	293,925	-38,287	-13.0
8	Montana	4,182	4,757	-575	-12.1
9	New Mexico	67,884	76,525	-8,641	-11.3
10	Pennsylvania	89,735	100,998	-11,263	-11.2
11	Massachusetts	68,472	76,551	-8,079	-10.6
12	Delaware	9,172	10,223	-1,051	-10.3
13	Arizona	171,801	190,817	-19,016	-10.0
14	Texas	867,837	962,674	-94,837	-9.9
15	North Carolina	97,823	108,028	-10,205	-9.4
16	Nebraska	23,811	26,114	-2,303	-8.8
17	New Jersey	143,601	157,395	-13,794	-8.8
18	Mississippi	9,476	10,370	-894	-8.6
19	Maryland	63,212	68,704	-5,492	-8.0
20	California	1,076,144	1,162,875	-86,731	-7.5
21	Wyoming	5,337	5,761	-424	-7.4
22	Washington	94,721	102,237	-7,516	-7.4
23	Florida	327,168	352,736	-25,568	-7.2
24	Nevada	69,825	74,952	-5,127	-6.8
25	Colorado	97,267	103,916	-6,649	-6.4
26	Connecticut	47,869	50,953	-3,084	-6.1
27	Oklahoma	46,336	49,274	-2,938	-6.0
28	Georgia	93,683	99,213	-5,530	-5.6
29	Wisconsin	40,811	43,091	-2,280	-5.3
30	Utah	45,284	47,020	-1,736	-3.7
31	Alabama	25,421	26,382	-961	-3.6
32	Virginia	76,886	79,647	-2,761	-3.5
33	South Carolina	30,624	31,721	-1,097	-3.5
34	Iowa	21,418	22,160	-742	-3.3
35	Oregon	49,239	50,687	-1,448	-2.9
36	Louisiana	26,811	27,234	-423	-1.6
37	Tennessee	45,611	46,302	-691	-1.5
38	Idaho	22,232	22,532	-300	-1.3
39	Illinois	171,561	173,753	-2,192	-1.3
40	Kentucky	19,680	19,826	-146	-0.7
41	Missouri	27,460	27,567	-107	-0.4
42	Arkansas	24,555	24,457	98	0.4
43	Ohio	49,579	49,164	415	0.8
44	Kansas	35,875	35,464	411	1.2
45	Minnesota	32,428	32,046	382	1.2
46	Michigan	50,239	48,482	1,757	3.6
47	New Hampshire	5,137	4,944	193	3.9
48	West Virginia	2,907	2,764	143	5.2
49	Indiana	51,804	48,191	3,613	7.5
50	Maine	2,274	2,108	166	7.9
51	Vermont	1,168	936	232	24.8

Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at [census.data.gov](https://census.data.gov)

Notes: Negative numbers mean PEP is larger than Census. Rankings are based on unrounded data.

## Examination of National Shares for States

There is another way of looking at the PEP blended base and Census counts for April 1, 2020. One can look at the share of the national young Hispanic child population in each state and county based on the PEP blended base and the Census counts. We call this measure the national share.

In some cases, the raw number of young Hispanic children may be most important, but in other cases, the share of the national child population in a state or county may be more important. A larger number of young Hispanic children from a given data source does not necessarily mean a larger share of the national population because the total number of young Hispanic children is different in the PEP blended base and the Census counts.

Shares are expressed as a percentage of the national child population. Many of the percentages were small, which means that the differences between the PEP blended base and the 2020 Census count were very small. The differences were examined using three decimal places. However, it is important to note that small shifts in percentages can produce significant changes in the amount of dollars allocated because the dollars allocated using this method are very large. For example, one tenth of one percent of one billion dollars is a million dollars.

Table 5 shows states ranked by the percentage point difference between the PEP blended base and the Census counts in terms of the share of the national young children population in each state. A negative sign in the difference column means the PEP blended base national share was larger than the Census count. The differences

ranged from -0.476 in Texas to 0.236 percent in Illinois. Most of the differences are small, but we need to emphasize that these small percentages will be multiplied by billions of dollars, so small percentages can translate into big dollars.

Table 5. U.S. States Ranked by Percent Difference in National Shares Between April 1, 2020 Population Estimate Program (PEP) Blended Base Estimates and U.S. Census Count for Young Hispanic Children (Ages 0 to 4)

Rank	State	U.S. Census		PEP Blended Base		Percentage Point Difference of National Shares (CENSUS-PEP)
		Number of Hispanic Children	Share of U.S. Hispanic Children	Number of Hispanic Children	Share of U.S. Hispanic Children	
1	Texas	867,837	18.72	962,674	19.20	-0.476
2	New York	255,638	5.51	293,925	5.86	-0.347
3	Hawaii	12,986	0.28	19,101	0.38	-0.101
4	Arizona	171,801	3.71	190,817	3.81	-0.099
5	Pennsylvania	89,735	1.94	100,998	2.01	-0.078
6	New Mexico	67,884	1.46	76,525	1.53	-0.062
7	Massachusetts	68,472	1.48	76,551	1.53	-0.049
8	North Carolina	97,823	2.11	108,028	2.15	-0.044
9	New Jersey	143,601	3.10	157,395	3.14	-0.041
10	District Of Columbia	5,318	0.11	7,418	0.15	-0.033
11	Rhode Island	14,482	0.31	16,984	0.34	-0.026
12	South Dakota	4,329	0.09	5,488	0.11	-0.016
13	Alaska	4,743	0.10	5,736	0.11	-0.012
14	North Dakota	3,842	0.08	4,678	0.09	-0.010
15	Nebraska	23,811	0.51	26,114	0.52	-0.007
16	Maryland	63,212	1.36	68,704	1.37	-0.006
17	Delaware	9,172	0.20	10,223	0.20	-0.006
18	Montana	4,182	0.09	4,757	0.09	-0.005
19	Mississippi	9,476	0.20	10,370	0.21	-0.002
20	Wyoming	5,337	0.12	5,761	0.11	0.000
21	Washington	94,721	2.04	102,237	2.04	0.005
22	Vermont	1,168	0.03	936	0.02	0.007
23	Maine	2,274	0.05	2,108	0.04	0.007
24	West Virginia	2,907	0.06	2,764	0.06	0.008
25	Nevada	69,825	1.51	74,952	1.49	0.012
26	New Hampshire	5,137	0.11	4,944	0.10	0.012
27	Connecticut	47,869	1.03	50,953	1.02	0.017
28	Oklahoma	46,336	1.00	49,274	0.98	0.017
29	Iowa	21,418	0.46	22,160	0.44	0.020
30	Wisconsin	40,811	0.88	43,091	0.86	0.021
31	Alabama	25,421	0.55	26,382	0.53	0.022
32	Florida	327,168	7.06	352,736	7.03	0.024
33	California	1,076,144	23.21	1,162,875	23.19	0.026
34	Colorado	97,267	2.10	103,916	2.07	0.026
35	South Carolina	30,624	0.66	31,721	0.63	0.028
36	Kentucky	19,680	0.42	19,826	0.40	0.029
37	Idaho	22,232	0.48	22,532	0.45	0.030
38	Louisiana	26,811	0.58	27,234	0.54	0.035
39	Utah	45,284	0.98	47,020	0.94	0.039
40	Arkansas	24,555	0.53	24,457	0.49	0.042
41	Georgia	93,683	2.02	99,213	1.98	0.043
42	Missouri	27,460	0.59	27,567	0.55	0.043
43	Oregon	49,239	1.06	50,687	1.01	0.051
44	Minnesota	32,428	0.70	32,046	0.64	0.061
45	Tennessee	45,611	0.98	46,302	0.92	0.061
46	Kansas	35,875	0.77	35,464	0.71	0.067
47	Virginia	76,886	1.66	79,647	1.59	0.070
48	Ohio	49,579	1.07	49,164	0.98	0.089
49	Michigan	50,239	1.08	48,482	0.97	0.117
50	Indiana	51,804	1.12	48,191	0.96	0.157
51	Illinois	171,561	3.70	173,753	3.46	0.236
	U.S. Total	4,635,698	-	5,014,881	-	-

Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at [census.data.gov](https://www.census.gov/data/tables/2020/census/p12.html)

Notes: Negative numbers mean PEP is larger than Census. Rankings are based on unrounded data.

Table 6 provides a summary of the data in Table 5. For 32 states, the share of all U.S. young Hispanic children was higher using the Census counts compared to the PEP blended base, and 57 percent of all young Hispanic children lived in those states. There were 19 states where the share of all U.S. young Hispanic children was higher using the PEP blended base and 43 percent of young Hispanic children lived in those states.

Table 6. Distribution of U.S. States by Difference in National Shares of the Young Hispanic Child Population (as 0 to 4) Between 2020 U.S. Census Count and April 1, 2020 Population Estimate Program (PEP) Blended Base				
Comparison	Number of States	Percent of States	Hispanic Child Population Based on PEP	Percent of Hispanic Child Population
Census Count is Larger than PEP Blended Base Estimate	32	63	2,868,395	57
PEP Blended Base Estimates is Larger than Census Count	19	37	2,146,486	43
Total	51	100	5,014,881	100
Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at <a href="https://census.data.gov">census.data.gov</a>				
Note: Analysis was carried out to three decimal places.				

### Data for Counties

This section focuses on counties using a similar approach to the one used in the previous section. Table 7 shows the distribution of counties by whether the PEP blended base or the 2020 Census count of young Hispanic children is larger. Like we did before, we calculated differences as the Census count minus the PEP blended base.

According to our analysis, there were 1,881 counties where the PEP blended base was larger than the Census, and 87 percent of young Hispanic children lived in those counties. In contrast, there were 1,191 counties where the Census count was larger than the PEP blended base, but only 13 percent of young Hispanic children lived in those counties. Finally, there were 50 counties where there was no difference

between the two sources of data. Importantly, for over half of U.S. counties - 1,603 - (figure not shown) - the PEP blended base estimate of young Hispanic children was at least 5 percent higher than the Census count.

Map 1 shows the county-level percent differences between the 2020 U.S. Census counts and the PEP blended base estimates for young Hispanic children (ages 0-4). The counties where the PEP blended base estimates are at least 5 percent larger than the Census count are shown in dark green. The counties where the Census count was at least 5 percent larger than the PEP blended base estimates are shown in reddish purple. This map shows that the counties where the PEP blended base was larger than the Census count can be found in every region of the country, but they are more prevalent in some regions than in others. These counties are concentrated in the Southwest (particularly along the U.S./ Mexican border) and in much of the Southern Black Belt from the Carolinas to Texas.

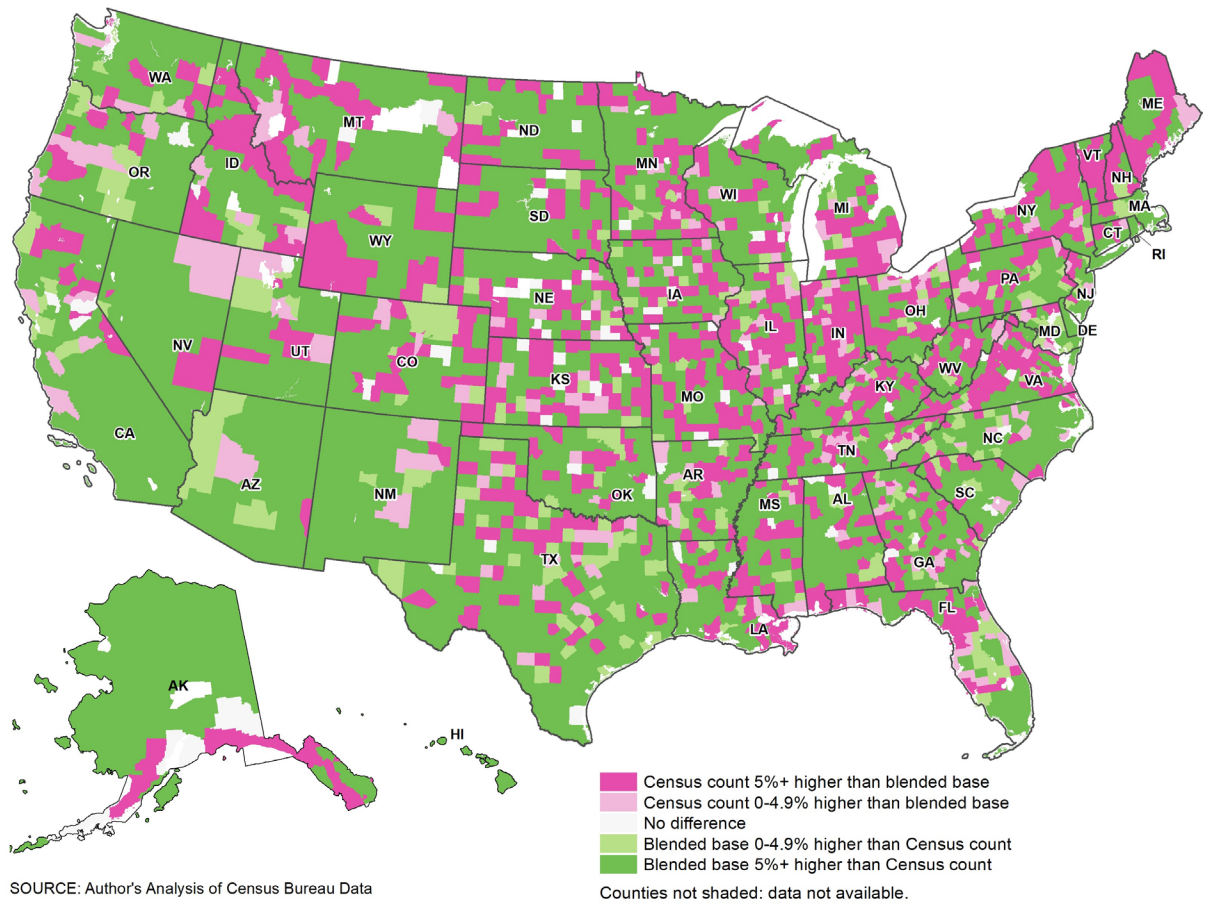
Table 7. Distribution of Counties by Difference in the Number of Young Hispanic Children (Ages 0 to 4) Between 2020 U.S. Census Count and April 1, 2020 April 1, 2020 Population Estimate Program (PEP) Blended Base				
Comparison	Number of Counties	Percent of Counties	Hispanic Child Population Based on PEP	Percent of Hispanic Child Population
Census Count is Larger than PEP Blended Base Estimate	1,191	38	635,200	13
No Difference	50	2	1,754	rounds to zero
PEP Blended Base Estimate is Larger than Census Count	1,881	60	4,377,927	87
Total	3,122	100	5,014,881	100
Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at <a href="https://www.census.gov/data">census.data.gov</a>				
Notes: Analysis was carried out to three decimal places. Twenty-one counties were not included because there were zero children living there according to PEP Blended Base.				

Counties where the Census count was at least 5 percent larger than the PEP blended base are spread over the counties but most are found in the Midwest (from the Great lakes states over to the Dakotas, Nebraska, and Kansas), New England, and



the Eastern coast of Gulf of Mexico. Moreover, there were fewer counties (978, figure not shown) where the Census count of young Hispanic children was at least 5 percent higher than the PEP blended base.

**Map 1. County-Level Percent Differences between the 2020 Census Counts and the 2020 Census PEP Blended Base Estimates for Young Hispanic Children (Ages 0 to 4)**



These geographic patterns are consistent with the patterns described by the U.S Census about the overall quality of the 2020 Census across the country. Several states

in the Northeast had statistically significant census overcounts (for the total population) and several in the South had statistically significant census net undercounts based on the Census Bureau's Post-Enumeration Survey analysis (U.S. Census Bureau 2022b).

Table 8 shows the 26 counties where the PEP blended base estimated at least 3,000 more young Hispanic children than the Census count. It is not surprising these are all large counties. Collectively, these 26 counties accounted for more than half - 55 percent - of the difference between the national PEP blended base estimates and the Census counts for young Hispanic children. The 26 counties had a difference of 208,018 while the overall nationwide difference was 379,183. Additionally, these counties are clustered in just a few states - 7 in Texas, 6 in California, 5 in New York, 2 each in Florida and Arizona, and 1 each in Pennsylvania, Nevada, Hawaii, and Illinois.

Rank	State	County	U.S. Census	PEP Blended Base	Numeric Difference (Census-PEP)	Percent Difference $\frac{((\text{CENSUS}-\text{PEP})/\text{PEP}) \times 100}{}$
1	California	Los Angeles County, California	290,340	318,041	-27,701	-8.7
2	Texas	Harris County, Texas	157,024	176,126	-19,102	-10.8
3	Florida	Miami-Dade County, Florida	77,985	92,280	-14,295	-15.5
4	Texas	Dallas County, Texas	82,684	94,673	-11,989	-12.7
5	Texas	Hidalgo County, Texas	58,925	70,154	-11,229	-16.0
6	California	San Diego County, California	76,156	87,274	-11,118	-12.7
7	New York	Bronx County, New York	50,555	61,287	-10,732	-17.5
8	Arizona	Maricopa County, Arizona	110,098	120,529	-10,431	-8.7
9	New York	Queens County, New York	37,878	46,171	-8,293	-18.0
10	Texas	Bexar County, Texas	83,969	92,167	-8,198	-8.9
11	Texas	El Paso County, Texas	44,546	51,706	-7,160	-13.8
12	California	San Bernardino County, California	86,201	92,250	-6,049	-6.6
13	Pennsylvania	Philadelphia County, Pennsylvania	18,509	24,342	-5,833	-24.0
14	New York	Kings County, New York	31,480	36,905	-5,425	-14.7
15	California	Orange County, California	70,698	75,830	-5,132	-6.8
16	Texas	Cameron County, Texas	25,704	30,613	-4,909	-16.0
17	California	Riverside County, California	87,962	92,670	-4,708	-5.1
18	New York	New York County, New York	18,702	23,353	-4,651	-19.9
19	Arizona	Pima County, Arizona	26,270	30,575	-4,305	-14.1
20	Texas	Webb County, Texas	18,386	22,552	-4,166	-18.5
21	Nevada	Clark County, Nevada	54,143	58,216	-4,073	-7.0
22	New York	Suffolk County, New York	24,563	28,552	-3,989	-14.0
23	California	Fresno County, California	44,165	47,953	-3,788	-7.9
24	Hawaii	Honolulu County, Hawaii	8,819	12,576	-3,757	-29.9
25	Illinois	Cook County, Illinois	93,867	97,496	-3,629	-3.7
26	Florida	Orange County, Florida	28,183	31,539	-3,356	-10.6
		<b>Total of 26 counties</b>	<b>1,707,812</b>	<b>1,915,830</b>	<b>-208,018</b>	<b>-342</b>

Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at [census.data.gov](https://www.census.gov/data.gov)

This analysis suggests these 26 large counties probably experience high net undercount rates for young children in the 2020 Census. The clustering of these counties may help focus outreach on this issue in the 2030 Census.

### County National Shares

Table 9 provides a summary of the distribution of county national shares of young Hispanic children for PEP blended base and Census counts. This analysis is like the previous section on states. To derive the estimates shown in Table 9, we calculated the percent each county made up of the total young Hispanic child population in each data series (PEP blended base and Census). We rounded percentages to 0.001. Then we compared which percent (the PEP blended base or the Census) was larger, and finally, we compared how many counties had smaller or larger shares of young Hispanic

children.

Table 9. Distribution of County National Shares of Young Hispanic Children (Ages 0 to 4) in the 2020 U.S. Census and April 1, 2020 Population Estimate Program (PEP) Blended Base				
Comparison	Number of Counties	Percent of Counties	Hispanic Child Population Based on PEP	Percent of Total Hispanic Child Population
Census Count is Larger than PEP Blended Base Estimate	806	26	2,165,863	43
PEP Blended Base Estimate is Larger than Census Count	513	16	2,578,172	51
No Difference	1,824	58	270,846	5
Total	3,143	100	5,014,881	100
Source: Vintage 2021 PEP Blended Base was supplied by the U.S. Census Bureau; 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H, available at <a href="https://www.census.gov/data.gov">census.data.gov</a>				
Note: Analysis was carried out to three decimal places.				

For most of the counties - 1,824 - there was no difference between the two data sources in the share of young Hispanic children. Most of these counties are small and only 5 percent of young Hispanic children live in them.

There were 806 counties where the Census count national share of young Hispanic children was larger than the PEP blended base, and 43 percent of young Hispanic children living those counties. In contrast, there were 513 counties where the county's national share of young Hispanic children was larger in the PEP blended base compared to the Census count, and 51 percent of young Hispanic children lived in these counties.

### Summary and Conclusions

The implications of using the number of young Hispanic children in the PEP blended base instead of the number counted in the 2020 Census for post-census estimates are complicated. Results differ depending on whether one is examining the nation, or looking at states or counties, and whether one is focused on absolute

numbers of young Hispanic children or the national share of the young Hispanic child population in a state or county. All these perspectives are important.

At the national level, the number of young Hispanic children counted in the PEP blended base is 379,183 larger than number in the Census count, and this amounts to a 7.6 percent difference. The higher number in the PEP blended base compared to the Census count is not surprising given the high net undercount of young Hispanic children in the 2020 Census. That the PEP blended base estimate for the Hispanic population ages 0 to 4 is very close to the DA estimate suggests a) that including DA estimates into the blended base estimation method helps correct for the high net undercount of young Hispanic children in the Census and b) that the blended base is more accurate than the Census at the national level. Absent other evidence, PEP blended base estimates are likely to be more accurate than the 2020 Census counts for states and counties.

At the state level, there were 41 states where the PEP blended based estimates were larger than the Census count, and 95 percent of young Hispanic children lived in those states. In contrast, the Census count is larger than the PEP blended base for 10 states, but less 5 percent of young Hispanic children lived in those 10 states.

Examining differences in the national shares of young Hispanic children by state offers a somewhat different story. The Census count of young Hispanic children yielded a larger share of the national child population than the PEP blended base in 32 states and 57 percent of the young Hispanic child population lived in those 32 states. On the other hand, the PEP blended base estimate of young Hispanic children yielded a larger share of the national child population than the Census count in 19 states and 43 percent of young Hispanic children lived in those states.

At the county level, there were 1,881 counties where the PEP blended base was larger than the Census count, and 87 percent of young Hispanic children lived in those counties. There were 1,191 counties where the Census count was larger than the PEP blended base estimates, but only 13 percent of young Hispanic children lived in those counties. While counties vary in terms of whether the PEP blended base or the Census count provides a larger number of young Hispanic children, it is clear most young Hispanic children lived in counties where the PEP blended base estimates were higher than the Census count for young Hispanic children.

In terms of county national shares, for most counties the differences between the PEP blended base and the Census were very small and not detected using three decimal places. There were 806 counties where the Census count national share was larger than the blended base and 43 percent of young Hispanic children lived there. There were 513 counties where the national share based on the blended base was larger than the census count and 51 percent of young Hispanic children lived in those counties.

In some cases, the blended base produced a larger number of young Hispanic children than the Census count, but a smaller national share. For instance, the PEP blended base produced a higher number of young Hispanic children in Cook County in Illinois, but a slightly smaller share of the national total compared to the U.S. Census count.

It is important to recognize that this descriptive analysis only focuses on one population: young Hispanic children. Further assessment of the PEP blended base may yield different results for other populations.

As mentioned earlier, one of the biggest issues that needs to be examined in the context of the PEP blended base is the impact of federal funding. Census Bureau data are used in 353 programs that distributed \$2.8 trillion to states and localities in Fiscal Year 2021 (U.S. Census Bureau 2023a). The connection between Census Bureau data and funding to states and localities is very complicated, and a detailed examination is beyond the scope of this study.

Furthermore, the population estimates are not only used directly in some funding formulas, but they are also used as control totals of the American Community Survey (ACS) and other surveys. Thus, the PEP population estimates indirectly influence any funding formula that uses the ACS data. It is worth noting that each federal program has its own funding allocation formula, so changes might increase funds to a particular state or locality for some programs and decrease them for others.

As stated previously, the 2020 Census counts could not be used as the base for the post-2020 Census population estimates because the detailed data needed from the 2020 Census were not available in time for use in the 2021 and 2022 PEP estimates. Most detailed data from the 2020 Census is now available so analysis of that data may affect the Census Bureau's position on use of the blended base.

The Census Bureau used the PEP blended base methodology for the 2021 and 2022 population estimates and probably for 2023. However, it is still unclear what

method will be used by the Census Bureau for the remainder of the decade. The Census Bureau has established a Base Evaluation and Research Team (BERT) to explore options for producing a base population including the feasibility of taking coverage measures from the DA and Post-Enumeration Survey (PES) into account in the development of the population estimates (Hartley, 2022).

The Census will have to decide if it wants to:

1) continue using the PEP blended base as is for the post-2020 Census population estimates,

2) begin using the 2020 Census counts as the base (and perhaps revise the estimates already produced), or

3) devise some other method for producing a population base.

We hope this analysis will help Census stakeholders and the Census Bureau discern the best option for going forward. This paper provides guidance for child advocates, researchers, and data analysts on the potential impact of the Census Bureau's new blended base methodology for the young Hispanic child population. Additionally, this research provides background regarding the decisions that will have to be made by the Census regarding what population base to use for future post-census estimates.



## Appendix A. The 2020 Young Child Population in Puerto Rico

In this Appendix, we discuss the 2020 Puerto Rico (P.R.) resident young child population (ages 0 to 4). Puerto Rico is a U.S. territory and by law (8 United States Code 1402) everyone born there is a U.S. citizen. Unfortunately, the Census Bureau only publishes estimates for Puerto Rico by sex and age, it does not include data by Hispanic Origin or race. However, based on the 2020 Census, nearly all of Puerto Rico’s young child population is of Hispanic Origin - there were 115,886 young children in Puerto Rico as counted by the 2020 Census, of which 99 percent (114,009) were young Hispanic children. So, comparing the P.R. PEP blended base estimates and P.R. 2020 Census count for all young children in the territory provides useful insights regarding young Hispanic children in Puerto Rico.

In Puerto Rico, the PEP blended base estimate for April 1, 2020, shows a smaller number of young children than the Census count. Table A1 shows that in the Commonwealth of Puerto Rico, the number of young children for April 1, 2020, from the PEP blended base was 114,886 compared to 115,106 in the Census. In other words, the PEP blended base was 220 young children smaller than the 2020 Decennial Census. This amounts to a difference of 0.2 percent.

Table A1. Comparison of the Number of Young Children (Ages 0-4) Between the April 1, 2020 Population Estimate Program (PEP) Base and the 2020 Census for Puerto Rico (P.R.)				
Characteristic	U.S. Census	PEP Blended Base	Numeric Difference (Census-PEP)	Percent Difference $\left(\frac{\text{Census}-\text{PEP}}{\text{PEP}}\right)*100$
Total P.R. Child Population	115,106	114,886	220	0.2
P.R. Hispanic children	114,009	NA	NA	NA
Percent of All P.R. children who are Hispanic	99.0	NA	NA	NA

Source: 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H; 2020 PEP from the Puerto Rico Vintage 2021 Population Estimates (PRC-EST2021-SYASEX).

Municipios are county equivalents and comprise the main geographic and legal subdivisions within Puerto Rico. In the 2020 Census, the percentage young Hispanic children made up of the total young child population across municipios was consistently high: between 94.1% and 100 percent. In other words, most young children in Puerto Rico across all municipios are Hispanic.

The gap between the 2020 Census count and the 2020 PEP blended base for young children is not spread evenly across municipios in Puerto Rico. Table A2 shows There were 50 municipios (64 percent of all municipios) where the Census count was larger than the PEP blended base estimate, and about 50 percent of young Puerto Rican children lived there. There were 28 municipios in which the PEP blended base estimates for all young children was larger than the Census count. These municipios made up 36 percent of all municipios in Puerto Rico. One in two children ages 0-4 lived in municipios in which the PEP blended base was larger than the Census count.

Characteristic	Number of Municipios	Percent of Municipios	Young Child Population based on PEP	Percent of Young Child Population
Census Count is Larger than the PEP Blended Base Estimate	50	64	57,721	50
PEP Blended Base Estimate is Larger than the Census Count	28	36	57,165	50
Total	78	100	114,886	100

Source: 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H; 2020 PEP from the Puerto Rico Vintage 2021 Population Estimates (PRC-EST2021-SYASEX).

There were only 2 municipios where the 2020 PEP blended base estimated at least 300 more young children than the Census (shown in Table A3): San Juan and Ponce. In San Juan, the census count was 5.6 percent lower than the PEP blended base and in Ponce the census count was 7.3 percent lower than the PEP blended base. These differences are much larger than for the whole territory (0.2 percent). The two

municipios in Table A3 are all quite large in population and they account for 15 percent of the total young child population in Puerto Rico, based on the Census. There were no municipios where the 2020 Census counted more than 300 young children compared to the PEP blended base.

Table A3. P.R. Municipios Ranked by Numerical Difference where the PEP Blended Base Estimate was at least 300 Young Children Larger than the 2020 Census Count in Puerto Rico					
Rank	Municipio	U.S. Census	PEP Blended Base	Numeric Difference (Census-PEP)	Percent Difference ((Census-PEP)/PEP)*100
1	San Juan	11,953	12,656	-703	-5.6
2	Ponce	4,906	5,295	-389	-7.3

Source: 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H; 2020 PEP from the Puerto Rico Vintage 2021 Population Estimates (PRC-EST2021-SYASEX).

Table A4 provides a summary of the analysis of P.R. shares of all young children using both data series. As noted in the full report, to get the estimates shown in Table A4, we calculated the percent each municipio made up of the total P.R. young child population in each data series (PEP blended base and Census). We rounded percentages to 0.001. Then we compared which percent (the PEP blended base or the Census) was larger, and finally, we compared how many municipios had smaller or larger shares of young children.

Overall, the differences are split between municipios with higher shares of young children using the Census counts compared with municipios with higher shares of young children using the PEP blended base, but most young children (55 percent) live in municipios where the PEP blended base share of young children was larger than the Census.

For 48 municipios, the share of all P.R. young children was higher using the Census counts compared to the PEP blended base, and 45 percent of all young children lived in those municipios. For example, the municipio of Bayamon accounted for 5.7 percent of the total P.R. young child population using the 2020 Census count. In contrast, the same municipio accounted for 5.8 percent of the total young child population when we used the PEP blended base.

There were 30 municipios where the share of all P.R. young children was higher using the PEP blended base and 55 percent of young children lived in those municipios. The municipio of San Juan accounted for 11.0 percent of the total young child population when we used the PEP blended base. In contrast, the same municipio accounted for 10.4 percent of the total P.R. young child population using the 2020 Census count.

Table A4. Distribution of P.R. Municipios by Difference in Commonwealth Shares of the Young Child Population (0-4) Between 2020 U.S. Census Count and April 1, 2020 Population Estimate Program (PEP) Blended Base				
Comparison	Number of Municipios	Percent of Municipios	P.R. Young Child Population Based on PEP	Percent of P.R. Young Child Population
Census Count is Larger than PEP Blended Base Estimate	48	62	52,244	45
PEP Blended Base Estimates is Larger than Census Count	30	38	62,642	55
Total	78	100	114,886	100
Source: 2020 Census data derived from U.S. Census Bureau, 2020 Decennial Census - Demographic and Housing Characteristics, Tables P12 and P12H; 2020 PEP from the Puerto Rico Vintage 2021 Population Estimates (PRC-EST2021-SYASEX).				
Note: Analysis was carried out to three decimal places.				

Like the full study reflected in this report, the implications of using the number of young children in the PEP blended base instead of the number counted in the 2020 Census are complicated in Puerto Rico. However, it is noteworthy that the U.S. mainland analysis found systematic differences between the PEP blended base and the

Census Count of young Hispanic children (the PEP blended base was usually higher), but the P.R. analysis found these two data sources more consistent to each other.

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