

# Many Young Children of Color are Clustered in Census Tracts Where 2020 Census Self-Response Rates are Likely to be Problematic<sup>1</sup>

By

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## Introduction

The best data on the quality of 2020 Census count of young children will not be available until the fall of 2022. That is when the Census Bureau is likely to release 2020 Census counts for the population ages 0 to 4 that can be compared to the Census Bureau's Demographic Analysis estimates to calculate net undercounts or overcounts of young children.<sup>2</sup> However, self-response rates are important predictors of census accuracy and data exists now to look at how young children are distributed across census tracts based on the tract self-response rates. Specifically, low-self response rates are associated with higher net undercount and omissions rates in the census (O'Hare 2020). Thus, groups over-represented in low self-response tracts are likely to be undercounted in the Census.

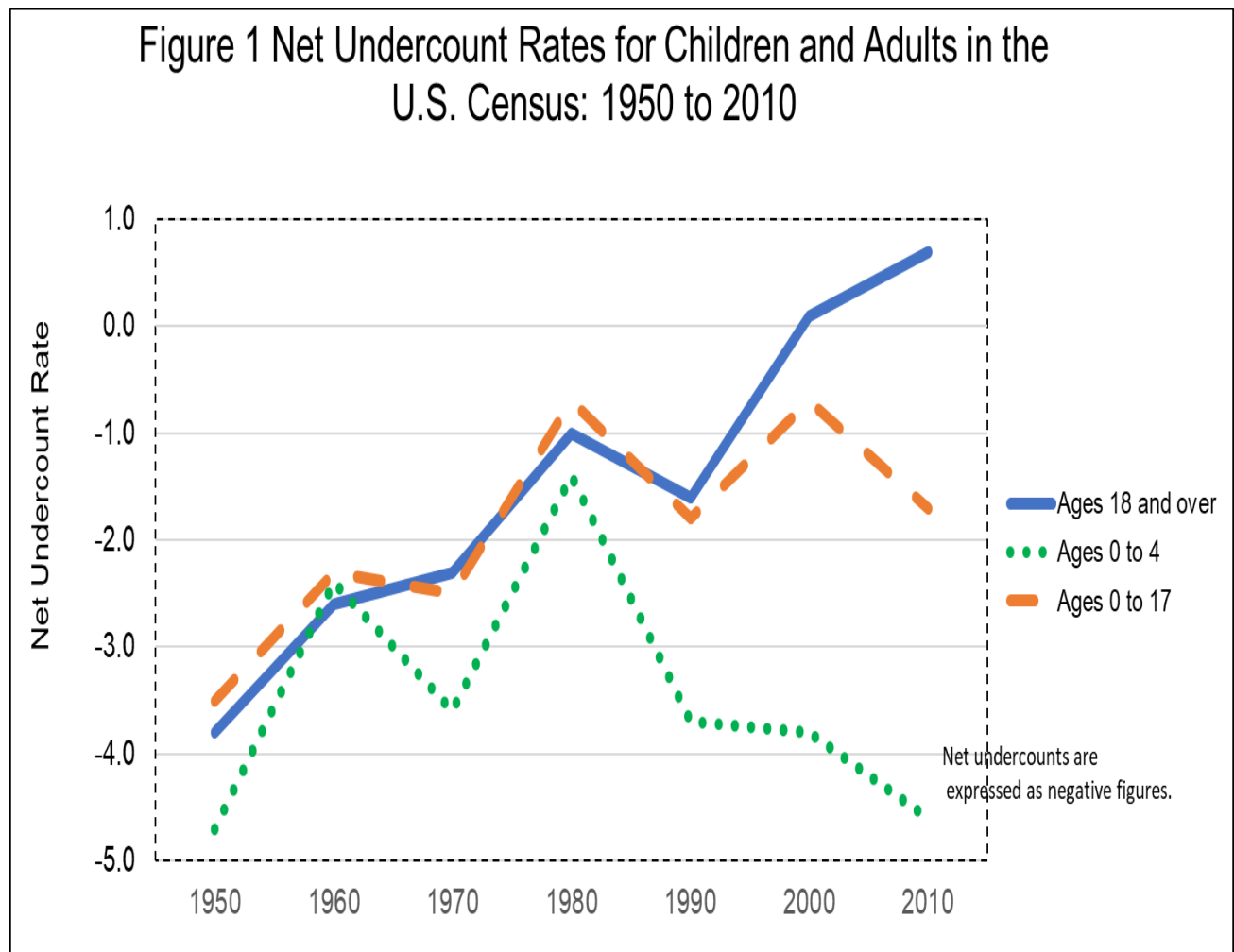
Young children are the focus of this analysis because young children have had high net undercounts in several recent U.S. Decennial Censuses. In the 2010 Census, there was a net undercount of 4.6 percent for young children compared to a very small net overcount for the total population. Figure 1 shows there has been a relatively high net undercount of young children in each census since 1950. Moreover, the gap

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<sup>2</sup> Data from the Post Enumeration Survey is likely to be available sooner, but correlation bias in the PES makes net undercount estimates for young children inaccurate.

between the net undercount rates for young children and for adults (ages 18 and older) as well as the gap between all children (ages 0 to 17) and young children (ages 0 to 4) have been growing since 1980.



This report focuses on the distribution of young children living in two kinds of census tracts which are likely to be problematic. First, young children living in low self-response census tracts are examined. Second, young children living in tracts where the self-response rate decreased by 10 percentage points or more between 2010 and

2020 are analyzed. The data offer empirical evidence about what to expect when the data on young children are released for the 2020 Census.

Tract-level response rates used for the study are the final tract-level self-response rates issued by the Census Bureau in January 2021 (U.S. Census Bureau 2021). Data on race, Hispanic Origin status, and poverty status are taken from the Census Bureau's 2015-2019 American Community Survey (ACS) tract-level estimates and merged with the file showing self-response rates. For the ACS data at the census tract level, the data combining by race and age are only available in the "race-alone" configuration so that is what is used here. Rather than repeat "race alone" with every mention of a race group readers should assume figures for races are for "race alone." There were 1,040 tracts in Update/Leave areas or with household population of 100 or less which were not included in the analysis.

#### Young Children Living in Low Self-Response Census Tracts.

In the final tract-level self-response rates provided by the Census Bureau (2021) for the 2020 Census, there were 16,633 census tracts with self-response rates below 55.6 percent. These are the bottom 20 percent of the distribution of tract self-response rates and are labeled low self-response tracts in this study. In the overall population, about 51 million people, or 16 percent of the nation's population, lived in low self-response tracts. Groups concentrated in these kinds of tracts are in jeopardy of having high net undercount rates in the 2020 Census.

Table 1 shows 16 percent of young children lived in low self-response tracts which is about the same as the overall population. However, Table 1 indicates there

are big differences by the race, Hispanic Origin, and poverty status of young children in terms of the likelihood of living in a low self-response tract. Non-Hispanic White and Asian young children were under-represented in low self-response tracts, while Black, American Indian/Alaskan Natives, Native Hawaiian/Pacific Islanders, and Hispanics were over-represented in low self-response tracts.

Table 1 Distribution of Young Children (ages 0 to 4) in Low Self-Response* Census Tracts by Race, Hispanic Origin Status, and Poverty Status			
	All Young Children	Young Children in Low Self-Response Tracts	
	Number (in 1000s)	Number (in 1000s)	Percent of Total
All Young Children	19,752	3,259	16%
Non-Hispanic White Alone	9,800	1,046	11%
Black Alone	2,740	826	30%
American Indian/Alaskan Native Alone	184	81	44%
Asian Alone	917	71	8%
Native Hawaiian/Other Pacific Islander Alone	42	8	19%
Hispanic	5,105	1,121	22%
Population with income "in past 12 months" below poverty level	3,944	1,194	30%
Percentages may not add to 100% because the most of race categories include people who reported Hispanic origin.			
Tracts in Update/Leave areas and tracts with household population of 100 or less were not included in the analysis (1,040 tracts).			
* Low Self-Response Census Tract are those where the self-response rates in the 2020 Census was in the lowest quintile (below 55.6%) There were 16,633 such tracts in the 2020 Census			
Source: Analysis of Census Bureau data by Steven Romalewski (City University of New York Graduate Center; affiliation provided for reference).			

Among young children in poverty, 30 percent were living in low self-response tracts which is almost twice the rate of all young children. Another way of looking at the poverty data is noting that young children in poverty were about 20 percent of all young children, but they were 36 percent of young children in low self-response tracts.

In some cases, the gap was between groups was very large. For example, only 11 percent of Non-Hispanic White young children were in low self-response tracts compared to 44 percent of American Indian/Alaskan Native young children. The percent of young Black and Hispanic children living in low self-response tracts (30 percent) is nearly three times the share of Non-Hispanic White young children (11 percent).

Table 2 shows the states ranked by the percent of young children living in low self-response tracts. The states vary from a high of 36 percent in West Virginia to a low of 4 percent in Iowa and Minnesota. In other words, young children in West Virginia were nine times as likely to live in a low self-response tract as young children in Iowa or Minnesota.

Table 2. States Ranked by Percent of Young Children (ages 0 to 4) Living in Tracts with a Low Self-Response Rate* in the 2020 census				
Rank**	State Name	State Total	Numeric Distribution  Tracts where the self-response rate in the 2020 Census was in the lowest quintile (55.6% or less) (16,633 tracts)	Percent of State Total  Tracts where the self-response rate in the 2020 Census was in the lowest quintile (55.6% or less) (16,633 tracts)
1	West Virginia	369,439	134,445	36%
2	New Mexico	488,477	170,133	35%
3	Oklahoma	956,964	308,114	32%
4	District of Columbia	123,930	37,175	30%
5	Wyoming	136,373	38,668	28%
6	Rhode Island	207,345	56,832	27%
7	Montana	228,384	62,359	27%
8	Mississippi	713,504	194,390	27%
9	Arkansas	704,273	191,533	27%
10	Hawaii	304,639	82,844	27%
11	Louisiana	1,103,362	294,455	27%
12	Texas	7,338,466	1,915,332	26%
13	South Carolina	1,102,502	278,741	25%
14	Maine	252,496	62,202	25%
15	Alaska	184,392	44,512	24%
16	Georgia	2,505,235	600,717	24%
17	Vermont	116,653	26,092	22%
18	Arizona	1,635,330	349,135	21%
19	New York	4,108,493	825,092	20%
20	North Dakota	175,746	34,018	19%
21	North Carolina	2,296,616	431,180	19%
22	Alabama	1,096,379	197,729	18%
23	South Dakota	214,108	37,954	18%
24	Florida	4,182,457	736,773	18%
25	Missouri	1,381,616	241,513	17%
26	Nevada	681,043	105,301	15%
27	Pennsylvania	2,662,381	385,715	14%
28	New Jersey	1,961,521	273,628	14%
29	Connecticut	743,835	102,072	14%
30	Tennessee	1,504,923	204,457	14%
31	Massachusetts	1,371,260	174,449	13%
32	Kansas	711,067	87,647	12%
33	Kentucky	1,009,310	123,889	12%
34	Illinois	2,891,534	330,860	11%
35	New Hampshire	259,965	27,938	11%
36	Michigan	2,177,875	229,412	11%
37	Ohio	2,605,010	263,410	10%
38	Indiana	1,572,492	150,293	10%
39	Wisconsin	1,280,900	118,591	9%
40	Delaware	203,684	18,640	9%
41	Idaho	441,143	38,578	9%
42	California	9,022,149	777,008	9%
43	Colorado	1,261,005	95,318	8%
44	Oregon	867,941	65,596	8%
45	Maryland	1,341,677	99,309	7%
46	Virginia	1,865,698	138,016	7%
47	Washington	1,643,552	120,427	7%
48	Nebraska	474,107	34,659	7%
49	Utah	923,585	61,250	7%
50	Minnesota	1,295,855	53,824	4%
51	Iowa	728,735	28,665	4%
	Total	73,059,987	11,326,445	16%
Tracts in Update/Leave areas and tracts with household population of 100 or less were not included in the analysis (1,040 tracts).				
* Low-response Census Tract are those where the self-response rates in the 2020 Census was in the lowest quintile (below 55.6%) There were 16,633 such tracts in the 2020 Census				
**Ranking is based on unrounded figures.				
Source: Analysis of Census Bureau data by Steven Romalewski (City University of New York Graduate Center; affiliation provided for reference).				

Young Children in Tracts that Experienced a Large Decrease in Self-Response Rates Between 2010 and 2020

Based on the final self-response rates provided by the Census Bureau for the 2020 Census, there were 8,027 census tracts where the self-response rates declined by 10 percentage points or more between the 2010 and 2020 Censuses. These tracts comprise about 10 percent of all tracts. The population in these tracts is around 25.8 million which is 8 percent of the total nation's population in the 2020 Census. Groups concentrated in these kinds of tracts are in jeopardy of having higher net undercount rates in 2020 than in 2010.

Table 3 shows the likelihood of a young child being in a census tract with a large decrease in the self-response rate is about the same as the overall population (i.e., around 8 percent). However, Table 3 indicates there are big differences by the race, Hispanic Origin, and poverty status of young children in terms of the likelihood of living in a tract which experienced a large decrease in their self-response rate between 2010 and 2020.

Non-Hispanic White and Asian young children were under-represented in tracts that experienced a decrease of ten percentage points or more in their self-response rate between 2010 and 2020, while Black, American Indian/Alaskan Natives, Native Hawaiian/Other Pacific Islanders, and Hispanic young children are over-represented in these kinds of tracts.

In some cases, the gap was between groups was quite large. For example, only 7 percent of Non-Hispanic White young children are in tracts where the self-

response rate decreased by 10 percentage points or more compared to 13 percent of American Indian/Alaskan Natives.

Another way of looking at the data in Table 3 shows American Indian/Alaskan Native young children and Hispanic young children are twice as likely as Non-Hispanic White young children to be living census tracts that experienced a large decline in their self-response rate between 2010 and 2020. About 13 percent of American Indian/Alaskan Native young children and 11 percent Hispanic young children in in these tracts compared to 6 percent of Non-Hispanic White young children. Young Black children are also over-represented in these kinds of tracts.

Table 3. Distribution of Young Children (ages 0 to 4) in Census Tracts Where the Self-Response Rate Decreased by 10 Percentages Points or More Between 2010 and 2020, by Race, Hispanic Origin, and Poverty Status			
	All Young Children	Young Children (ages 0 to 4) Living in Tracts Where Self-Response Rates Decreased By 10 Percentage Points of more between 2010 and 2020	
	Number (in 1000s)	Number (in 1,000s)	Percent
<i>Total Population</i>	19,752	1,578	8%
White Alone Non-Hispanic	9,800	617	6%
Black Alone	2,740	270	10%
American Indian/Alaskan Native Alone	184	23	13%
Asian Alone	917	33	4%
Native Hawaiian/Other Pacific Islander Alone	42	3	6%
Hispanic	5,105	582	11%
Population with income "in past 12 months" below poverty level	3,944	504	13%
Percentages may not add to 100% because Census many race categories include people who reported Hispanic Origin.			
Tracts in Update/Leave areas and tracts with household population of 100 or less were not included in the analysis (1,040 tracts).			
Source: Analysis of Census Bureau data by Steven Romalewski (City University of New York Graduate Center; affiliation provided for reference).			



Among young children in poverty, 13 percent were living in tracts which experienced a large decline in self-response rates which is substantially higher than the 8 percent for all young children.

Table 4 shows the states ranked by the percent of young children living in Census tracts where the self-response rate decreased by 10 percentage points or more between 2010 and 2020. Rates in the states vary from a high of 25 percent in West Virginia to a low of 1 percent in Connecticut.

Table 4. States Ranked by Percent of Young Children Living in Census Tracts Where the Self-Response Rate Decreased by 10 Percentages Points or More Between 2010 and 2020				
Rank*	State	State Total	Number in Tracts that Decreased by 10 percentage points or more	Percent in Tracts that Decreased by 10 percentage points or more
1	West Virginia	97,540	24,462	25%
2	South Carolina	290,931	67,495	23%
3	North Dakota	53,215	9,694	18%
4	Texas	1,999,805	359,192	18%
5	Arkansas	189,636	33,869	18%
6	Montana	61,035	10,313	17%
7	Oklahoma	261,316	40,150	15%
8	Wyoming	36,541	5,518	15%
9	Mississippi	186,647	26,748	14%
10	Missouri	371,570	53,129	14%
11	New Mexico	126,150	15,986	13%
12	Louisiana	307,435	37,515	12%
13	Georgia	656,677	77,286	12%
14	North Carolina	605,125	65,614	11%
15	Hawaii	88,842	8,443	10%
16	Alaska	53,237	4,970	9%
17	Tennessee	406,438	34,631	9%
18	Pennsylvania	706,563	60,020	8%
19	South Dakota	60,399	4,842	8%
20	Kansas	191,113	14,274	7%
21	California	2,451,528	171,035	7%
22	Florida	1,128,214	71,420	6%
23	Alabama	293,187	17,399	6%
24	Rhode Island	54,672	3,200	6%
25	New York	1,154,201	66,418	6%
26	Nebraska	131,473	7,431	6%
27	Massachusetts	361,016	19,429	5%
28	Idaho	114,361	6,100	5%
29	New Jersey	519,524	27,137	5%
30	Arizona	433,968	22,298	5%
31	Maryland	364,868	18,635	5%
32	Iowa	196,427	9,563	5%
33	Vermont	29,568	1,383	5%
34	Virginia	508,399	22,669	4%
35	District of Columbia	45,040	1,987	4%
36	Maine	64,035	2,668	4%
37	Oregon	230,557	9,427	4%
38	Utah	250,885	9,985	4%
39	Ohio	694,711	25,180	4%
40	Kentucky	274,592	9,676	4%
41	Indiana	418,685	14,193	3%
42	Illinois	767,193	25,560	3%
43	Nevada	183,534	6,052	3%
44	Colorado	334,032	9,993	3%
45	Wisconsin	333,184	9,502	3%
46	Delaware	54,830	1,333	2%
47	Minnesota	351,664	8,241	2%
48	New Hampshire	63,843	1,441	2%
49	Washington	454,364	10,253	2%
50	Michigan	571,094	12,540	2%
51	Connecticut	183,808	2,041	1%
	Total	18,915,230	1,539,294	8%
Tracts in Update/Leave areas and tracts with household population of 100 or less were not included in the analysis (1,040 tracts).				
* Low-response Census Tract are those where the self-response rates in the 2020 Census was in the lowest quintile (below 55.6%) There were 16,633 such tracts in the 2020 Census				
**Ranking is based on unrounded figures.				
Source: Analysis of Census Bureau data by Steven Romalewski (City University of New York Graduate Center; affiliation provided for reference).				

## Summary

The analysis in this report shows that there are large differences among groups of young children in terms of the likelihood of living in the kind of Census tracts that may compromise being counted in the 2020 Census. Thus, there are likely to be Important differences in the quality of 2020 Census data for those groups of young children.

In the 2010 Census, the net undercount rates for Black and Hispanic young children were roughly twice that of non-Hispanic young White children (O'Hare 2015). The analysis presented here suggests that those differentials are likely to be seen again in the 2020 Census because young Black and Hispanic children are over-represented in the kinds of census tracts where self-response rates are low and/or declining. In addition, young American Indian/Alaskan Native children as well as Native Hawaiian/Other Pacific Islanders are over-represented in census tracts with problematic self-response rates.

The analysis also shows young children in poverty are over-represented in low-response tracts and tracts that experienced a large decline in self-response rates between 2010 and 2020.

The analysis also shows some states are more likely to experience higher net undercounts of young children in the 2020 Census. For example, West Virginia had the highest percent of young children living in low-response tracts and the highest rate of young children living in tracts that experienced a large decline in self-response rates between 2010 and 2020. Evidence from the 2010 Census shows considerable variation in the net undercount rates for young children across the states (O'Hare 2014). The

level of state variations in share of young children living in problematic census tracts suggests there will be similar cross-state variation in the net undercount of young children in the 2020 census.

The result of this study is consistent with previous evidence (O'Hare 2021) showing young children of color (other than Asian young children) are likely to have higher net undercounts than others in the 2020 Census and may well see increased net undercount rates in 2020 compared to 2010.

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