

Quality of the
Decennial Census
for Asian American
and Native Hawaiian
and Pacific Islander
Communities

— — — — —
An Expanded
Approach



ASIAN AMERICANS
**ADVANCING
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About AAJC

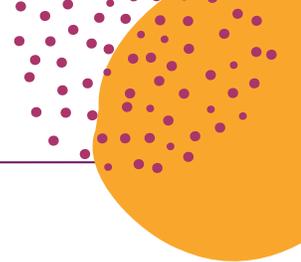
Advancing Justice | AAJC is a national 501(c)(3) nonprofit founded in 1991 in Washington, D.C. Advancing Justice | AAJC's mission is to advance the civil and human rights of Asian Americans and to build and promote a fair and equitable society for all. Through our census work, Advancing Justice | AAJC has served as a member of numerous advisory committees to the Census Bureau since 2000, including most recently the National Advisory Committee on Racial, Ethnic, and Other Populations.

In addition, Advancing Justice | AAJC currently co-chairs the Leadership Conference on Civil and Human Rights' Census Task Force. Advancing Justice | AAJC has conducted national, state, and local outreach and educational projects focused on the Asian American, Native Hawaiian, and Pacific Islander communities for Census 2000, Census 2010, and Census 2020 and has also litigated issues surrounding Census 2020.



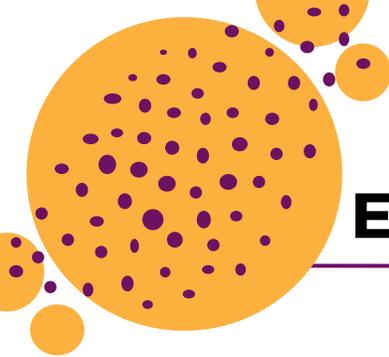
About Demographic Analytics Advisors

Demographic Analytics Advisors is a demographic, data science, and analytics consulting firm serving non-profit and public sector clients throughout the United States. We believe in the deep importance of public data sources, especially the decennial census, and spend much of our time thinking about and working on issues of census quality and usability. When we are not thinking about or working on these issues, we are putting public data sources to work for our state and local government clients to help them better serve their constituents. For further information, please see our website: <https://www.demoadvisors.com/>



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Executive Summary

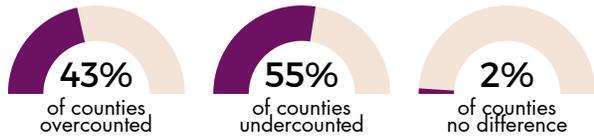
The census is the foundation of our democracy. The U.S. Constitution mandates census data collection to apportion seats in the U.S. House of Representatives and to redraw district lines at all levels of government. The government also uses census data to distribute federal and state funding. Despite the central importance an accurate decennial census plays in our democracy, the census lacks data on census coverage for Asian American and Native Hawaiian and Pacific Islander (NHPI) communities at geographies below the national level.

While Asian American and NHPI communities were overcounted nationally, some states had undercounts in both 2010 and 2020. This is a problem because, despite a reported national overcount of these communities in 2020, some Asian American and NHPI communities were still undercounted at lower levels of geography. Moreover, these overcounts and undercounts were not evenly distributed geographically, as shown in Figure i, or in terms of age, as seen in Figures ii and iii.

While both Asian American and NHPI communities were overcounted in the 2010 and 2020 Censuses, most counties were actually undercounted. This tells us that the counties with reported estimated overcounts had substantially larger overcounts of Asian American or NHPI communities than counties that were undercounted. For small communities, including the NHPI community, no single method can currently provide reliable measures of coverage. Further work is required to create more stable estimates of coverage for this group.

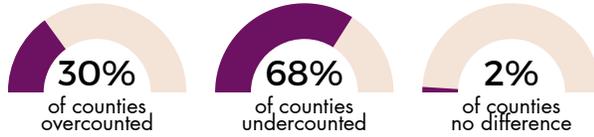
Figure i

2000 Census Accuracy: AANHPI Alone

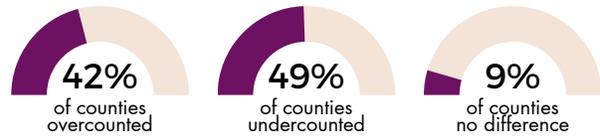


Asian Americans and NHPs were overcounted or had net coverage that was not statistically different from zero in the 2000, 2010, and 2020 Censuses at the national level. However, in each decade more counties were actually undercounted than overcounted.

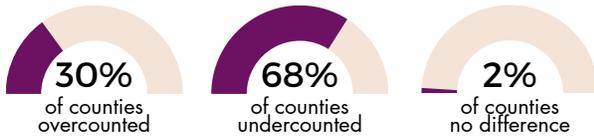
2010 Census Accuracy: Asian Alone



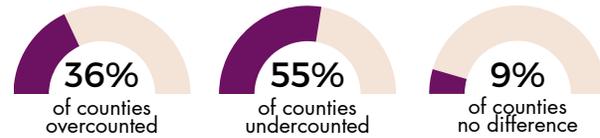
2010 Census Accuracy: NHPI Alone



2020 Census Accuracy: Asian Alone



2020 Census Accuracy: NHPI Alone

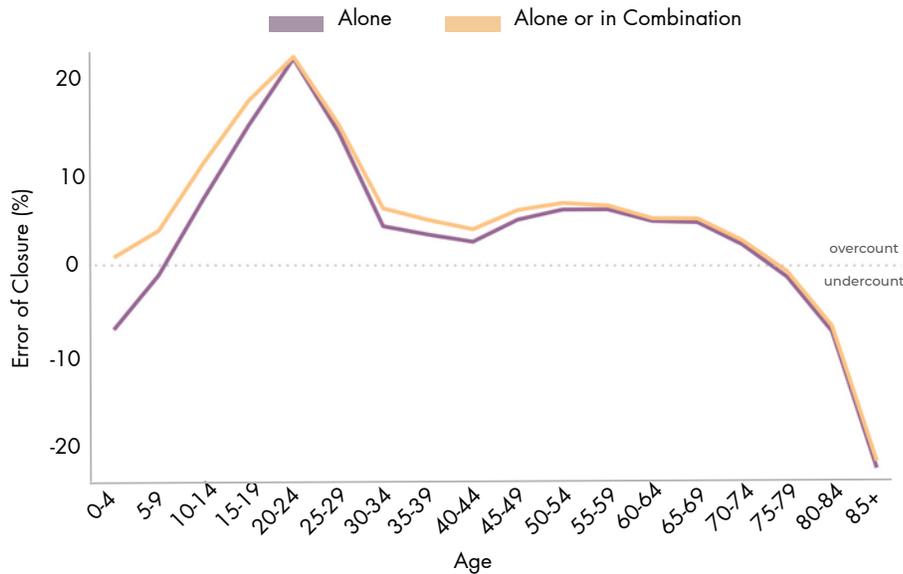


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2000, 2010, and 2020.

Figure ii

Coverage by Age Group, 2010

Asian American, Alone and Alone or in Combination Populations



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2000, 2010, and 2020.

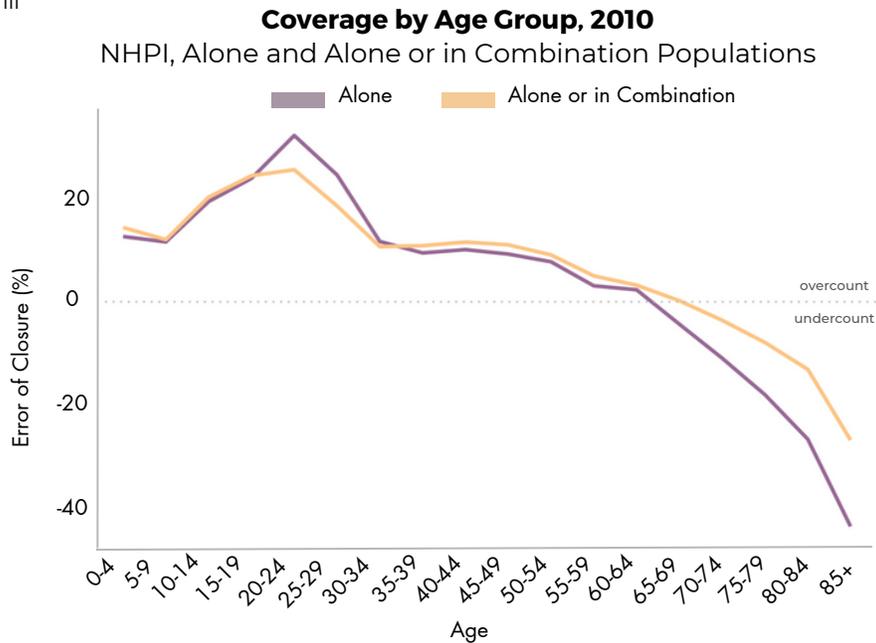
Asian American coverage differs significantly by age. Undercounts exist for the youngest (ages 0–4) and oldest (ages 75 and over), while young adults and working age adults are persistently overcounted.

Alone or Alone in Combination?

To capture the growing biracial and multiracial population, people can check more than one of the available races when filling out the Census.

The Census Bureau describes this as either “Race Alone” or “Race Alone or in Combination.” Whenever we use Race Alone, we mean those who only marked the specific race category. When we say Race Alone or in Combination, we mean anyone who marked that specific race category, regardless of what other races they may have also selected.

Figure iii



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2000, 2010, and 2020.

NHPI coverage differs significantly by age. The oldest (ages 65 and above) are undercounted, while all other ages are persistently overcounted. This is significant because, unlike other race groups, there is not an undercount of young NHPI children.

Key Findings

1. Census Coverage for Asian Americans and NHPIs: Despite a national overcount of Asian Americans and NHPIs, some Asian Americans and NHPIs were still undercounted.

The national overcount of Asian Americans and NHPIs masked important variation in Asian American and NHPI coverage. Significant overcounts in some places concealed undercounts in others. When Asian American and NHPI communities are undercounted, they not only lose political representation, they also miss out on valuable resources that would have otherwise been directed towards their communities.

2. Response Rates and Geography: Not all Asian American and NHPI communities respond to the census at the same rate; instead, response rates vary geographically.

While Asian American and NHPI communities were overcounted *nationally*, some *states* had undercounts in both 2010 and 2020. Some states in the Mountain West and in the South showed potential

undercounts for Asian Americans, while states on the coasts, in the Upper Midwest, and in the Southwest generally showed estimated overcounts for the same group. Similarly, many states with high NHPI populations followed the national pattern with estimated overcounts in both 2010 and 2020. However, there were potential NHPI undercounts in some states in the Upper Midwest, the Northeast, and the South. If we dig down to the county level, we even saw some counties with large NHPI communities, such as Los Angeles and Hawaii counties, showing estimated undercounts in 2020. These unexpected differences could be due to many factors, including the fact that populations in these areas tend to be more mobile, more likely to be renters, and in some cases have a higher proportion of non-citizens.

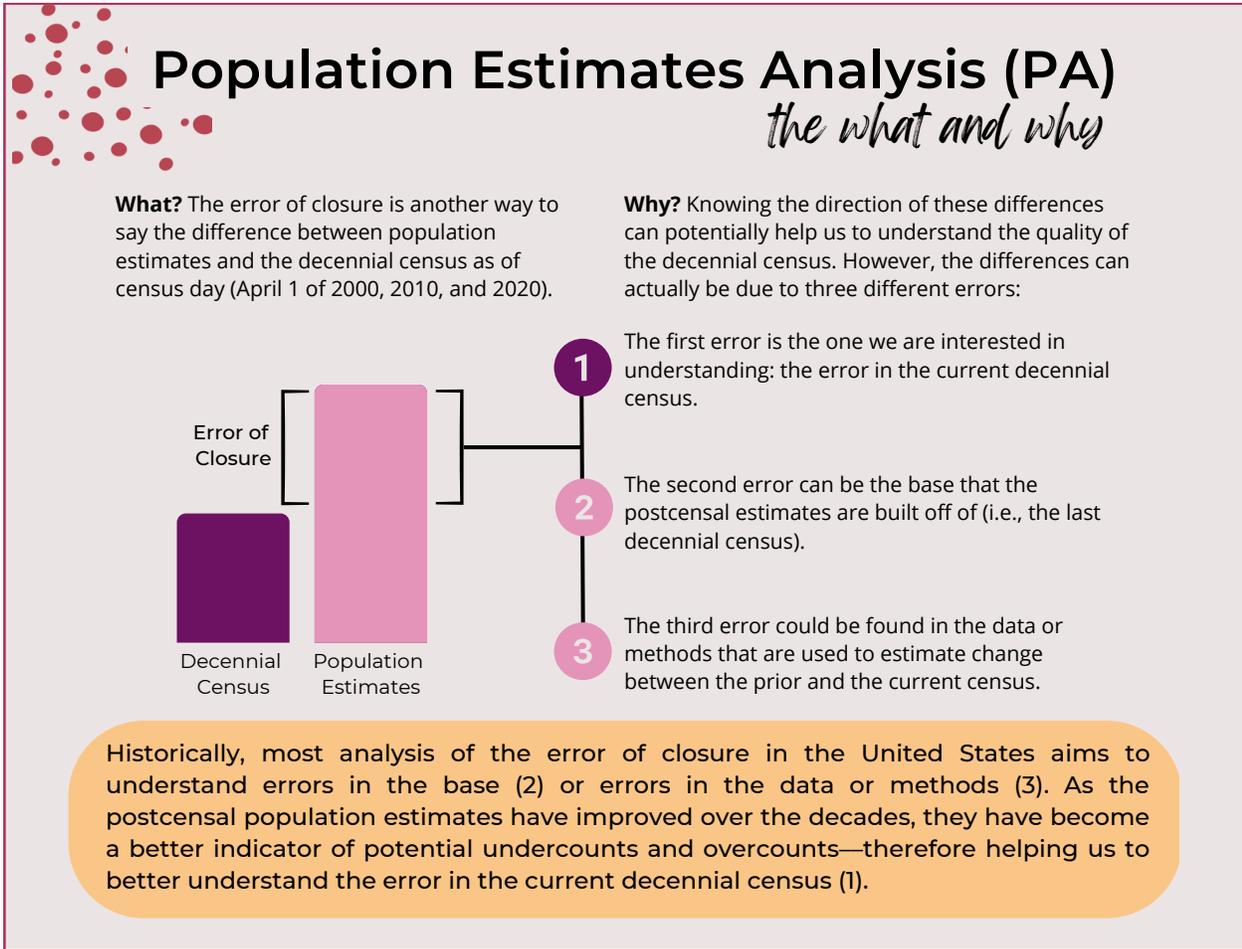
3. Coverage Errors and Age: Net coverage errors do vary by age for Asian Americans and NHPIs.

The undercount of young children common in other racial and ethnic groups also exists among Asian Americans, though it is not evenly distributed throughout the country. In contrast, NHPI young children are not undercounted. Additional research should be conducted to determine why.

How We Measure the Accuracy of Asian American and NHPI Census Counts

We uncover Asian American and NHPI undercounts by utilizing a methodology that compares postcensal population estimates—the official population number for the United States in every year that does not have a decennial census—to decennial census data. We call this approach Population Estimates Analysis (PA) (See Figure iv). This allows us to identify the geographic distribution of potential overcounts and undercounts for Asian American and NHPI communities, illustrated by Figure iv. In so doing, we build upon traditional measures of census quality such as Demographic Analysis (DA) and Post-Enumeration Surveys (PES). DA, long touted as the only truly independent measure of decennial census quality, fails to provide any data on Asian American and NHPI communities. The PES, which retroactively surveys the population to determine who correctly responded (or did not respond)

Figure iv



to the decennial census, only provides coverage for the Asian American and NHPI communities at the national level.

PA helps address the challenges of applying traditional census quality measures to Asian American and NHPI communities. Figure v compares the strengths, limitations, and impact of traditional measures of census quality and our approach, PA. Though data precision prevents us from making claims about exact overcounts and undercounts for Asian Americans or NHPIs in the United States at the county level, we can show differential patterns throughout the country. Therefore, we strongly caution against making decisions based on national level numbers and recommend changes to Census Bureau research and planning, implementation, and review of census coverage measurement to improve census accuracy.

Understanding Census Quality

Demographic Analysis (DA)

- Near-complete independence from decennial census
- Uses high quality administrative data sources

Strengths

- Lack of coverage below the national level
- Lack of coverage of most race groups
- Can only look at net coverage

Limitations

- No additional information about Asian American and NHPI communities

Impact

Post-Enumeration Survey (PES)

- Relatively independent from the decennial census
- More granular look at census coverage by state and demographic characteristics
- Helps identify gross coverage

Strengths

- Potential for correlated errors and bias
- Only as good as the frame and execution of the sample survey
- Lacks estimates of coverage by race and ethnicity at the subnational level

Limitations

- Some additional information about Asian American and NHPI communities
- Shows relatively good net undercount and overcount numbers for Asian American community, along with NHPI community (though the margins of error for NHPI are quite high)
- Though net numbers are near zero, still significant duplications and omissions that require further understanding and study

Impact

Population Estimates Analysis (PA): Our Approach

- Identify potential undercounts and overcounts at the county level by race, and for all race groups by age
- Strong for identifying patterns that will signal areas for future research

Strengths

- Higher error than DA
- Unknown if error comes from the current census, prior census, or components of change

Limitations

- Coverage for the Asian American and NHPI communities varies throughout the country
- Differences for the NHPI community are large, showing the difficulties of coverage analysis for smaller racial groups, requiring more investment
- Coverage for the Asian American and NHPI communities varies by age, and likely subgroup (though this is harder to support with available data– see case studies)

Impact

Why Assessing the Accuracy of the Census Count Matters

Asian American and NHPI communities' decennial census data quality matters. Beyond ensuring accurate political representation for the next decade, understanding the differential coverage of these groups allows for better planning and outreach for the next decennial census.

It also facilitates a better awareness of the internal variation in coverage within Asian American and NHPI communities. Asian American and NHPI communities have been among the fastest growing over the last several decades. Often viewed as a monolith, Asian Americans and NHPs are highly diverse, including several dozen detailed subgroups that can differ dramatically across key social and economic indicators. The Asian American population is a majority immigrant community, while one in six Pacific Islanders are foreign-born and, depending on their country of birth, may hold different types of immigration statuses. Native Hawaiians and many Pacific Islanders born in Hawaii, Guam, or the Commonwealth of the Northern Mariana Islands are U.S. citizens. Through a better understanding about census coverage of and within Asian American and NHPI communities, the decennial census can offer insight into the specific needs and concerns of different racial groups while simultaneously enhancing planning and outreach for future censuses.

Detailed information on regional and subgroup variation in coverage further ensures that the Census Bureau, advocacy partners, and local government partners can accurately budget for and spend funds on achieving fair and accurate counts for both communities. Finally, identifying this coverage allows us to better assess potential deficiencies in previous census' representation for Asian Americans and NHPs, which in turn will allow us to track trends in coverage and identify potential causes of inaccuracies.

The reasons why some communities have overcounts and others have undercounts is beyond the scope of this report. However, areas with larger potential undercounts tend to have smaller Asian American or NHPI communities—and they tend to be newer, emerging communities in these states. Further investigation can help uncover why different communities experience undercounts or overcounts.

Key Takeaway

The Census Bureau continues to miss Asian Americans and NHPs in the decennial census. While these missing numbers have been offset by duplicate responses at the national level, assessing census accuracy by race at lower geographic levels illustrates that those missed and those overcounted are often coming from different neighborhoods. As a result, those most likely to be missed continue to lose out on their fair share of resources and political representation. As planning for the 2030 Census moves forward, it is imperative that policymakers, the Census Bureau, and other interested parties recognize that Asian Americans and NHPs continue to risk being missed in the census and other surveys. Thus, they must plan for a more accurate count by making policy decisions and outreach plans that mitigate the risk of overcounts and undercounts of Asian Americans and NHPs. The following recommendations provide a roadmap toward that end goal.

Recommendations

The Census Bureau and other stakeholders can take steps to mitigate the risk of overcounts and undercounts. These broadly applicable recommendations apply to and extend beyond Asian Americans and NHPs. Our chronologically organized recommendations offer suggestions for improvements before, during, and after the fielding of a census.

1. Census Coverage for Asian Americans and NHPs: Despite a national overcount of Asian Americans and NHPs, some Asian Americans and NHPs were still undercounted.

- Research how Asian American and NHP communities can be incorporated into DA. Can we use available data sources to build a DA for the Asian American and NHP communities?
- Develop a more robust plan for the PES in 2030 by incorporating input from stakeholder communities well in advance of launching the PES. This plan should include an increased budget to provide subnational estimates of coverage for race groups, at least above a reasonable population threshold.

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- Focus on a larger set of potential census quality measures, and maintain transparency in how the Census Bureau measures quality. This should include, at a minimum, a discussion of how our approach, PA, can be incorporated into analyses of census coverage.

2. Implementing the Census: Applying Research Findings to the 2030 Census

- Continue and enhance the promotion of Get Out the Count (GOTC) strategies for different subgroups. No group is a monolith, and a one-size-fits-all approach to census outreach will result in further inaccuracies and wasted resources.
- Continue to enhance operations and the targeted use of administrative data. While administrative data should be used in responsible and cost-effective ways, the Census Bureau should take a people-first approach and attempt to secure a response directly from the household. Generally, administrative records should be a last resort. Administrative data should lower the cost of the census for those that are easily counted in administrative records (and most likely in the census), while ensuring that the funding “saved” goes to efforts to enumerate those who are hardest to count by increasing outreach and Nonresponse Followup.

3. After Fielding the Census: Executing Best Practices in Post-Fielding Activities to Improve the Mechanics of the Count

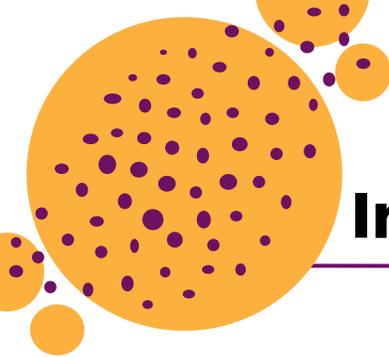
- Continue to develop best practices for processing and resolving omissions and duplications. Along with its ongoing focus on addressing omissions, the Census Bureau should research how to better address and correct duplications or other erroneous enumerations that lead to overcounts.
- The Census Bureau should research and implement corrections for differential undercounts by race at the lowest level of geography possible. The Census Bureau has shown willingness to take on this tough problem through improvements to the population estimates base by using DA results by age. But much more should be done.

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- The Census Bureau should formally and publicly debrief and discuss plans for how to address these issues with all relevant stakeholders. This would include, but not be limited to, the Census National Advisory Committee and Census Scientific Advisory Committee.
 - The Census Bureau should increase investment in partnering with academics and other researchers to determine the causes of overcounts and undercounts, particularly as they impact different racial and ethnic groups. More investment is needed to understand the specific barriers to participation for differential racial and ethnic groups, as well as the subgroups within.



For more information, and our citations, please see our full report:
<https://www.advancingjustice-aajc.org/publication/quality-decennial-census-asian-american-and-native-hawaiian-and-pacific-islander>





Introduction

Knowing the quality of the decennial census for Asian American and NHPI communities is of paramount importance. The decennial census is our once-in-a-decade chance to accurately count the entire population living in the United States, regardless of their citizenship status, housing, or lack thereof. The census ensures correct political representation for the next decade¹ and the disbursement of \$1.5 trillion of federal funding annually.² Learning about the differential coverage of Asian Americans and NHPs—when compared to other racial and ethnic groups—allows for better planning and outreach for the next decennial census.³ It also improves our understanding of the internal variation in coverage within Asian American and NHPI communities. Detailed information on regional variation in coverage further ensures that the Census Bureau and their advocacy and local government partners can properly budget for and spend funds on achieving the best overall count for Asian Americans and NHPs. Finally, analyzing census coverage allows us to better assess potential deficiencies in previous censuses' representation for Asian Americans and NHPs, which in turn will allow us to track trends in coverage and identify potential causes of inaccuracies.

Explaining Components of Coverage and Implications

Coverage: The goal of the decennial census is “to count everyone once, only once, and in the right place.”⁴

Census coverage is the effectiveness or accuracy of a census.

Net Coverage (Undercount or Overcount): Duplicates and omissions are two sides of the coverage equation. If duplicates outnumber omissions, a net overcount exists. If omissions outnumber duplicates, a net undercount occurs. The net undercount or overcount doesn't reveal anything about the number of duplications or omissions. Rather, it indicates how out of balance these figures are. A net undercount of zero does not necessarily mean there was an accurate count. Instead, it could mean that there were an equal number of people counted multiple times as there were people missed.

This report discusses net coverage. Certain methods of measuring the accuracy of the decennial census allow us to understand the more detailed components of this net coverage measure.

Asian American and NHPI communities have been among the fastest growing over the last several decades.⁵ Asian Americans grew 38.6% and NHPIs by 29.5% between 2010 and 2020, and by 46% and 40% respectively between 2000 and 2010.⁶ Asian Americans and NHPIs are often viewed as monolithic groups. Too often, no distinction is made between Asian Americans and NHPIs. Others recognize the difference between these groups but fail to distinguish between different Asian American or NHPI subgroups. In reality, Asian Americans and NHPIs are highly diverse, including more than 25 subgroups for Asian Americans and more than 25 subgroups for NHPIs⁷ that can differ dramatically across key social and economic indicators.⁸

Components of Coverage

Correct Enumerations: People who the decennial census counted once, only once, in the right place. Correct enumerations—as well as other components of coverage—can only be estimated from the Post-Enumeration Survey (PES).

Erroneous Enumerations (Other): In addition to duplicates, people who were born after Census Day or died before Census Day (April 1 of the year of the decennial census) are also considered erroneous enumerations. Foreign tourists are sometimes enumerated accidentally and are considered other erroneous enumerations. While not exhaustive, these examples provide some of the reasons why a person should not have been counted.

Whole Person Imputations: If the Census Bureau does not receive a response with enough characteristics of a person or the number of people in a household, they will use a statistical technique to make an educated guess about the number of people in a household and their characteristics. These imputations mostly occur when a household member or a proxy respondent (i.e., someone outside the household such as a neighbor) provided a household count without additional information on the household members.

Erroneous Enumerations (Duplicates):

Sometimes people are counted more than once in a census. The Census Bureau has a process for discerning which records are duplicates and which of the two duplicates should be counted, but it is not perfect. The Census Bureau has very high standards for dropping a duplicate response, and many of their procedures for doing so require costly follow up with households.⁹ For example, a college student might be counted both at their college dorm and at home with their parents.

Omissions: Despite the Census Bureau's best efforts, some people are still not counted in the decennial census. Omissions include people who are not captured in self-response, Nonresponse Followup, or imputation.

Ensuring that analyses are provided separately for Asian American and NHPi communities whenever possible is critical to understanding the specific needs and concerns of different racial groups. For example, the Asian American population is a majority immigrant community, with approximately two-thirds of Asian Americans born outside of the United States. According to our 2019 report, “The Asian American immigrant population grew four times as fast as the total population between 2010 and 2017.”¹⁰ Moreover, historian Erika Lee notes, “Asian American history begins long before the United States was even a country.”¹¹ Despite this fact, Asian Americans were largely barred from immigrating to the U.S. for many years, starting with the Chinese Exclusion Act of 1882 and the National Origins Act of 1924. This lasted until the Immigration and Nationality Act of 1965 abolished the immigration system based on national origin quotas, which heavily favored immigration from Northern and Western Europe. Since then, people from Asia and other parts of the world could immigrate to the United States. The family-based immigration system, combined with waves of Asian refugees who would later sponsor relatives, has resulted in the tremendous growth of Asian American communities.

While Native Hawaiians and many Pacific Islanders born in Hawai‘i, Guam, or the Commonwealth of the Northern Mariana Islands are U.S. citizens, one in six Pacific Islanders are foreign-born. Depending on their country of birth, they may hold different types of immigration statuses. For example, some Pacific Islanders are considered U.S. nationals because they come from U.S. territories. Others are considered Compact of Free Association migrants.¹² Still others are considered foreign nationals from countries without an association with the United States who must apply for legal permanent resident (LPR) status to move to the United States.¹³

These nuances matter. For example, both Asian American and NHPi communities would have concerns with attempts to add a citizenship question to the decennial census. But different subgroups would have different concerns. Thus, messaging and outreach would need to be tailored to address specific concerns and to encourage full participation in the decennial census.

Key Findings

1. Census Coverage for Asian Americans and NHPis: Despite a national overcount of Asian Americans and NHPis, some Asian Americans and NHPis were still undercounted.

The national overcount of Asian Americans and NHPs masked important variation in Asian American and NHP coverage. Significant overcounts in some places concealed undercounts in others. When Asian American and NHP communities are undercounted, they not only lose political representation, they also miss out on valuable resources that would have otherwise been directed towards their communities.

2. Response Rates and Geography: Not all Asian American and NHP communities respond to the census at the same rate. Instead, response rates vary geographically.

While Asian American and NHP communities were overcounted *nationally*, some *states* had undercounts in both 2010 and 2020. Some states in the Mountain West and in the South showed potential undercounts for Asian Americans, while states on the coasts, in the Upper Midwest, and in the Southwest generally showed estimated overcounts for the same group. Similarly, many states with high NHP populations followed the national pattern with estimated overcounts in both 2010 and 2020. However, there were potential NHP undercounts in some states in the Upper Midwest, the Northeast, and the South. If we dig down to the county level, we even saw some counties with large NHP communities, such as Los Angeles and Hawaii counties, showing estimated undercounts in 2020.¹⁴

Geography (and by extension characteristics such as race, income, language, and education) can serve as a proxy for more nebulous concepts like social cohesion and community ties. This may have an impact on census quality because when a person's neighbors, friends, and community members respond to the census, it is more likely that they too will respond. Therefore, we can examine regional differentials in census response rates to better understand how we might improve the count for future censuses.

3. Coverage Errors and Age: Net coverage errors do vary by age for Asian Americans and NHPs.

The undercount of young children common in other racial and ethnic groups also exists among Asian Americans, though it is not evenly distributed throughout the country. In contrast, NHP young children are not undercounted. Additional research should be conducted to determine why.

Age is a very predictive indicator of response to a decennial census, similar to race and ethnicity. Assessing undercounts matters because government

organizations, nonprofits, and private industry all use data by age. Examples include: public health indicators, school enrollment forecasts, and numerous program participation rates for government and non-government programs.

How We Measure the Accuracy of Asian American and NHPI Census Counts

Traditional measures of decennial census quality, namely DA and the PES, only give advocates, researchers, and policymakers a glimpse into census coverage of Asian American and NHPI communities.¹⁵ DA, long touted as the only truly independent measure of decennial census quality, is silent on coverage for Asian American and NHPI communities.¹⁶ The PES, which retroactively surveys the population to determine who correctly responded (or did not respond) to the decennial census, only provides national coverage for the Asian American and NHPI communities.¹⁷ Therefore, we lack subnational data on census coverage for Asian American and NHPI communities.

PA compares the postcensal population estimates with the decennial census.¹⁸ The postcensal population estimates are the official population numbers for the United States in every year that does not have a decennial census.¹⁹ The Census Bureau builds these estimates using the most recent census and administrative data sources to estimate how the population has changed since the last census.

There is historical precedent for employing this method. The United States uses the decennial census as a baseline against which population estimates are evaluated; any differences are considered flaws in the estimates and used to improve those estimates in the future.²⁰ However, the difference between the estimates and the decennial census (the error of closure) is not only due to errors in the estimates, it is also influenced by errors in the decennial census. In fact, in Canada, analysis of the error of closure assumes that the errors occurred in the census, not the estimates, and corrections are made in the census based on these analyses.²¹ We suggest that looking at the potential for census errors using the error of closure compensates for the deficiencies of only assuming error in the estimates.²² Both approaches are partially correct: Differences between the estimates and the decennial census are probably caused by errors in both data sources. The error of closure (the difference between the census and the estimates) implies potential undercounts and overcounts in the decennial census while recognizing that these differences could also be caused by errors in the estimates.

Why the 2000, 2010, and 2020 Censuses?

Every decennial census is different—the technologies and methodologies that the Census Bureau uses to enumerate the population can change dramatically,²³ and our understanding of how to measure census quality also evolves between censuses.²⁴ We chose to compare these three decennial censuses because we want to understand both recent historical trends as well as impacts specific to the 2020 Census.²⁵ In addition, changes to race reporting in the 2000 Census make it difficult to compare data from earlier decades.²⁶

Declining trust in public sector institutions, decreases in overall response rate to all surveys and enumerations, and the increasing costs of engaging the public to respond were problems before and during the 2020 Census.²⁷ There were also one-time events that impacted the count, including the politicization of the decennial census through the attempted addition of a last-minute, untested citizenship question on the decennial form.²⁸ The unprecedented COVID-19 pandemic also impacted the count through delays, and significantly changed some operational processes.²⁹

Though our national analysis corroborates the PES in some decades and departs from it in others, there are regional differences in potential net undercounts and overcounts every decade. Our methodology, PA, allows us to examine net overcounts and undercounts at the county level. We gain insight into where counts were more accurate, where larger or smaller overcounts and undercounts occurred, and examine the impact of age on overcounts and undercounts. We dive into several case studies for both Asian American and NHPI communities to illustrate how regional differences in these areas may drive undercounts and overcounts. These case studies provide insight into regional variations in subgroup, citizenship status, and English language ability.

While our method provides valuable insight into census quality for the Asian American and NHPI communities, it has limitations. We can provide some evidence, but we are not able to definitively prove that an area had an undercount or overcount for the Asian American or NHPI populations. We also are not able to provide evidence of the socioeconomic or demographic drivers of undercounts if the data are not available in the decennial census or population estimates. In terms of census quality, our method and sources do not allow for conclusions about subgroup identity, socioeconomic status, citizenship status, housing arrangements, or other factors. This report's case studies delve deeper into some of these questions. However, further research is clearly warranted. In sum, we cannot explain why undercounts or overcounts occur, but we can show when and where they happen.

Much more research is needed to further our understanding of decennial census coverage. For example, in small communities, including the NHPI community in many areas throughout the country, no single current method can provide reliable measures of coverage. Further work is required to create more stable estimates of coverage for this and other relatively small communities.

Roadmap for the Report

We organize this paper into three parts. First, we outline the traditional methods of census quality, DA and the PES, and explain their strengths and limitations with respect to Asian American and NHPI communities. We also introduce our methodology, PA, and explain how it addresses the limitations of other methods. In the second part of the paper, we use PA to analyze the quality of the census for Asian American and NHPI communities, including four case studies for each group. Finally, in the third part, we provide recommendations for the 2030 Census.

Key Takeaways

The Census Bureau continues to miss Asian Americans and NHPIs in the decennial census. While these missing numbers have been offset by duplicate responses at the national level, assessing census accuracy by race at lower geographic levels illustrates that those missed and those overcounted are often coming from different neighborhoods. As a result, those most likely to be missed continue to lose out on their fair share of resources and political representation. As planning for the 2030 Census moves forward, it is imperative that policymakers, the Census Bureau, advocacy groups, and other interested parties recognize that Asian Americans and NHPIs continue to risk being missed in the census and other surveys. Thus, they must plan for a more accurate count by making policy decisions and outreach plans that mitigate the risk of overcounts and undercounts of Asian Americans and NHPIs. This includes, but is not limited to, encouraging higher response rates and improving future measures of census quality. Through this research, we seek to strengthen the census and the foundational role it plays in our democracy.



NOTES

¹ <https://www.census.gov/programs-surveys/decennial-census/about/why.html>

² <https://gwipp.gwu.edu/sites/g/files/zaxdzs2181/f/downloads/Counting%20for%20Dollars%202020%20Brief%207A%20-%20Comprehensive%20Accounting.pdf>

³ An example of how these differential undercount data have been used to improve decennial census operations is through creating a better understanding of the undercount of young children. E.g., https://www.census.gov/newsroom/blogs/director/2018/07/improving_our_count.html.

⁴ <https://www.census.gov/programs-surveys/decennial-census/about/why.html>

⁵ <https://www.pewresearch.org/fact-tank/2021/04/09/asian-americans-are-the-fastest-growing-racial-or-ethnic-group-in-the-u-s/>

⁶ Data based on authors' calculations from the 2000, 2010, and 2020 Censuses.

⁷ <https://www2.census.gov/programs-surveys/decennial/2010/technical-documentation/complete-tech-docs/summary-file/sf2.pdf>, pgs. F44- F46.

⁸ <https://www.advancingjustice-aajc.org/report/community-contrasts-asian-americans-united-states;>
<https://www.advancingjustice-aajc.org/report/community-contrasts-aanhpi-south;>
<https://www.advancingjustice-aajc.org/report/community-contrasts-aanhpi-west;>
https://www.advancingjustice-aajc.org/sites/default/files/2016-09/A%20Community%20of%20Contrasts_Northeast.pdf;
https://www.advancingjustice-aajc.org/sites/default/files/2019-07/1153_AAJC_Immigration_Final_0.pdf;
https://archive.advancingjustice-la.org/sites/default/files/A_Community_Of_Contrasts_NHPI_CA_2014.pdf;
<https://archive.advancingjustice-la.org/what-we-do/policy-and-research/demographic-research/community-contrasts-native-hawaiians-and-pacific#:~:text=the%20United%20States-,A%20Community%20of%20Contrasts%3A%20Native%20Hawaiians%20and%20Pacific%20Islanders%20in,used%20in%20data%20collection%20;> and;
https://www.advancingjustice-chicago.org/wp-content/uploads/2015/08/Community_of_Contrasts_Midwest_2012.pdf

⁹ See the following for a discussion of the effectiveness of de-duplication in the 2010 Census: <https://www2.census.gov/programs-surveys/decennial/2010/program-management/5-review/cpex/2010-cpex-244.pdf>.

¹⁰ <https://www.advancingjustice-aajc.org/inside-the-numbers-report-2019>

¹¹ Erika Lee, *The Making of Asian America: A History*. New York: Simon & Schuster, 2015, p. 3.

¹² These are freely associated states that signed an agreement with the United States to allow a military presence in their countries in exchange for a variety of benefits, including allowing residents to live and work in the United States without applying for citizenship. See "Native Hawaiians & Pacific Islanders in the United States: A Community of Contrasts," 2014, p. 21. Accessed at: https://archive.advancingjustice-la.org/sites/default/files/A_Community_of_Contrasts_NHPI_US_2014.pdf.

¹³ Ibid.

¹⁴ These unexpected differences could be due to many factors; but the populations in these areas tend to be more mobile, more likely to be renters, and in some cases have a higher proportion of non-citizens.

¹⁵ See O'Hare, William P. *Differential Undercounts in the U.S. Census Who Is Missed?* 1st ed. 2019. Cham: Springer Nature, 2019, accessed at <https://link.springer.com/book/10.1007/978-3-030-10973-8>. For an understanding of what is and isn't available for Asian Americans, see https://link.springer.com/chapter/10.1007/978-3-030-10973-8_9. For NHPIs, see: https://link.springer.com/chapter/10.1007/978-3-030-10973-8_11.

NOTES

¹⁶ For the most recent Demographic Analysis coverage, see: <https://www.census.gov/data/tables/2020/demo/popest/2020-demographic-analysis-tables.html>.

¹⁷ For the most recent PES results, see: <https://www.census.gov/programs-surveys/decennial-census/about/coverage-measurement/pes.html>.

¹⁸ Another way to approach our research would be to look at how self-response differed throughout the country and to extrapolate what that means for the Asian American and NHPI response rates in those areas. However, this would raise similar issues that we see in DA. Self-response rates are only available for the total population, so we would need to make some large logical leaps (such as assuming that areas with high proportions of Asian American or NHPI respondents are indicative of all Asian Americans or NHPis) to try and understand the impact of Asian American or NHPI response on those overall rates.

¹⁹ I.e., in every year that does not end in zero.

²⁰ See, for example, the 2010 Estimates Evaluation: <https://www.census.gov/content/dam/Census/library/working-papers/2013/demo/POP-twps0100.pdf>.

²¹ <https://www150.statcan.gc.ca/n1/pub/91-214-x/2021001/section02-eng.htm>

²² We make comparisons without assuming one of the data sources is inherently better than the other, and approach the problem with a focus on potential errors in the decennial census. This counterbalances the extensive work the Census Bureau has done with the assumption that the population estimates are where error exists.

²³ <https://www.census.gov/library/stories/2020/05/four-ways-new-technology-is-revolutionizing-the-2020-census.html#:~:text=Now%20it%20relies%20much%20more%20on%20technology%20%E2%80%93,systems%20in%20our%20%E2%80%98system%20of%20systems%2C%E2%80%99%E2%80%9D%20Colosi%20said>

²⁴ See, for example, the changes from post-stratification to logistic regression in the Post-Enumeration Survey between 2000 and 2010: <https://www2.census.gov/programs-surveys/decennial/coverage-measurement/pes/estimation-methods-net-coverage-estimation.pdf>.

²⁵ The 2020 Census had multiple concerning issues, including, but not limited to, political interference and the COVID-19 pandemic. It was truly impressive that a decennial census was even completed, but concerns about the quality of the decennial census were, and are still, a major issue. See, for example: <https://www.pewresearch.org/fact-tank/2020/12/14/how-accurate-will-the-2020-u-s-census-be-well-know-more-soon/#:~:text=A%20good%20sign%20is%20that%20the%202020%20census,a%20neighbor%20or%20other%20%E2%80%9Cproxy%2C%E2%80%9D%20in%20census%20jargon; and https://thehill.com/opinion/congress-blog/3642800-safeguarding-the-census-bureau-from-politicization/>.

²⁶ <https://www.federalregister.gov/documents/1997/10/30/97-28653/revisions-to-the-standards-for-the-classification-of-federal-data-on-race-and-ethnicity>

²⁷ <https://hdr.mitpress.mit.edu/pub/1g1cbvkv/release/8>; and <https://www2.census.gov/programs-surveys/decennial/2020/program-management/planning-docs/2020-cost-estimate1.pdf>

²⁸ This action led to multiple parties writing to Commerce Secretary Ross about the potential implications of this addition on the undercounts of immigrant communities. These groups included six former directors of the Census Bureau, multiple academic and practitioner communities, groups of mayors, and advocacy organizations. For AAJC's fact sheet on the citizenship question, see:

<https://www.advancingjustice-aaajc.org/sites/default/files/2018-04/AAJC%20Factsheet%20on%20Citizenship%20Question%20and%20Census%20REVISED%20April%202018.pdf>.

²⁹ <https://www.gao.gov/products/gao-21-206r>

Measures of Census Quality

DA and the PES are the two widely accepted ways to measure census quality, but they are limited in their ability to explain the demographic and geographic variability of census quality.

Demographic Analysis (DA)

Methodologically, DA is one of the strongest measures of decennial census quality because it uses high-quality data sources and because of the near-independence of these measures from the decennial census.³¹ Near independence means that DA does not rely on the census count or census counting process for its population estimate.³² Some form of DA has been undertaken since the 1940 Census, and its findings have been used to generally improve decennial census overtime.³³

Figure 1

Net Over and Undercounts based on Demographic Analysis
U.S. Total Population: 1970-2020



Source: United States Census Bureau, Demographic Analysis, 1970-2020.

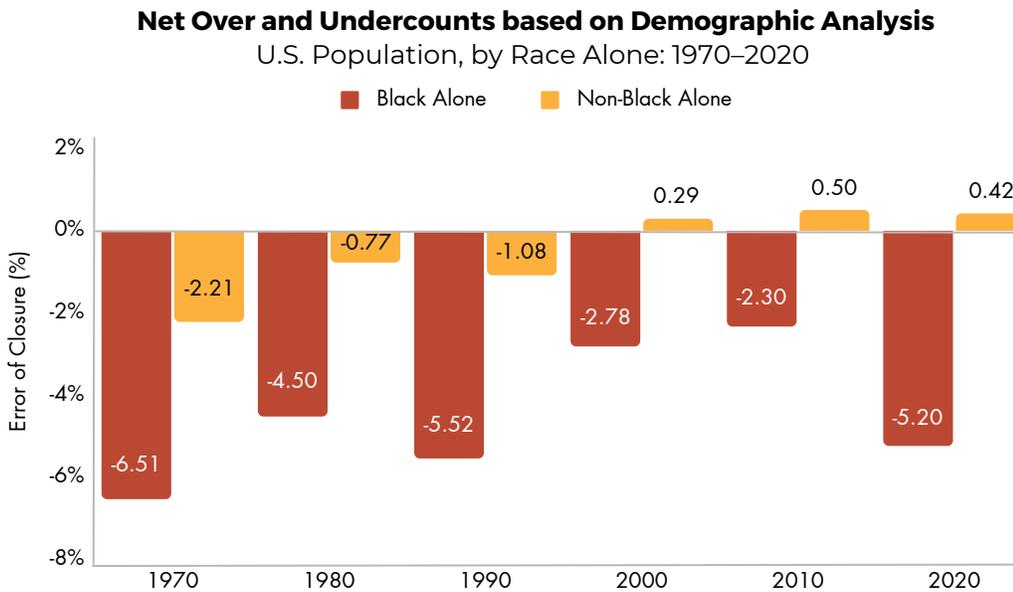
Figure 1 shows the net undercount or overcount for each decennial census since 1970. Here, the bar's deviation from zero indicates census quality—the further the distance between the bar and zero, the worse the decennial census was. We see that the overall trend is one of improvement. Since 1970, the net undercount has shrunk by at least two percentage points.

Calculating DA

The Census Bureau calculates DA nationally using highly reliable administrative data sources about the population. Specifically, DA uses birth, death, and Medicare records as well as estimates of net international migration to calculate population changes. Birth and death records, especially after 1945, are a complete picture of changes in the national native-born population, and Medicare records allow the Census Bureau to capture changes in the population that are not covered by birth records for individuals born before 1945. Finally, DA includes an estimate of net international migration over the period using American Community Survey data and foreign census data. This allows the Bureau to estimate the number of foreign-born immigrants in the United States as well as the net movement of American expats living overseas.³⁰

DA also provides some insight into data on coverage by race and data on coverage by age.

Figure 2



Source: United States Census Bureau, Demographic Analysis, 1970–2020.

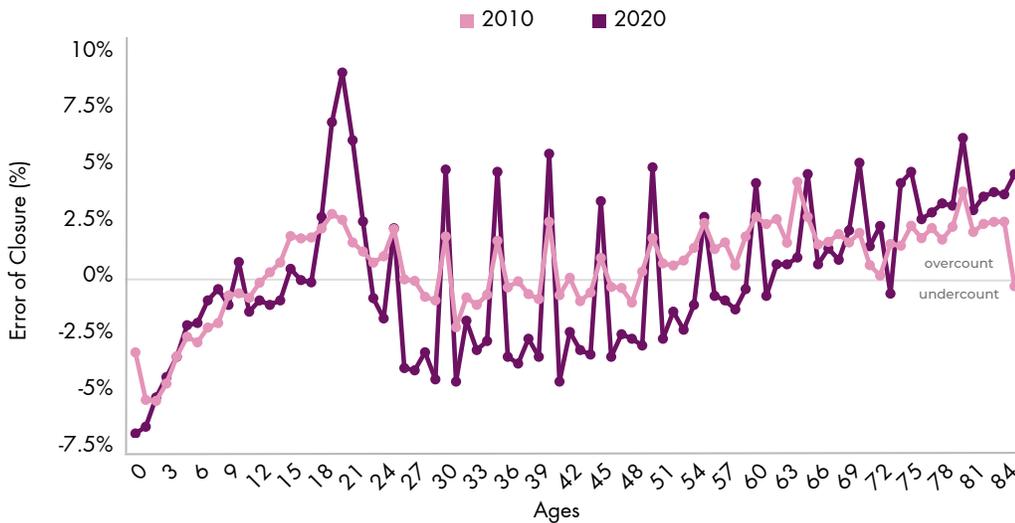
Figure 2 shows coverage by DA race groups for each decennial census since 1970. The undercount for the Black population has persisted over the decades, while the non-Black coverage has changed from an undercount to a small overcount.

Data are provided for only two race groups³⁴ in DA: Black and non-Black (or all other races).³⁵ The data used to create DA cannot be disaggregated for racial groups other than Black and non-Black because definitions of race have changed over time.³⁶ Even from these limited race groups, trends emerge. The net coverage for each group is different: The Black population has a significantly larger undercount³⁷ than the rest of the population.³⁸ We do not know where Asian Americans or NHPs would fall in these undercount or overcount statistics because they are part of the larger non-Black group. Our approach will disentangle these differences in undercounts or overcounts for Asian Americans and NHPs.

DA also reveals differences in coverage by age: The youngest children are persistently undercounted in the decennial census.³⁹ This observation holds true for every decennial census in the United States and in many other countries as well.⁴⁰ The reasons for this phenomenon are varied, but multiple research projects have shown the culprits are some combination of complex household situations, missed households, and multiple missing members of households.⁴¹

Figure 3

Net Over and Undercounts based on Demographic Analysis U.S. Population, by Single Year of Age: 2010–2020



Source: United States Census Bureau, Demographic Analysis, 2010–2020.

Figure 3 shows the net coverage by age from DA for the 2010 and 2020 Censuses. The undercount of young children persists, while overcounts occur in both censuses for ages 18–22. Age heaping explains the spikes in the chart.

In 2020, age heaping—the tendency of people, especially when reporting age for others, to round to the nearest 5 or 0—was a bigger problem than in 2010.⁴² However, the systematic undercount of young children is a persistent problem throughout the last two decades (at least). Older children, the college-aged or young adult population (ages 19–24), and older adults (such as those aged 65 and above) are generally overcounted.

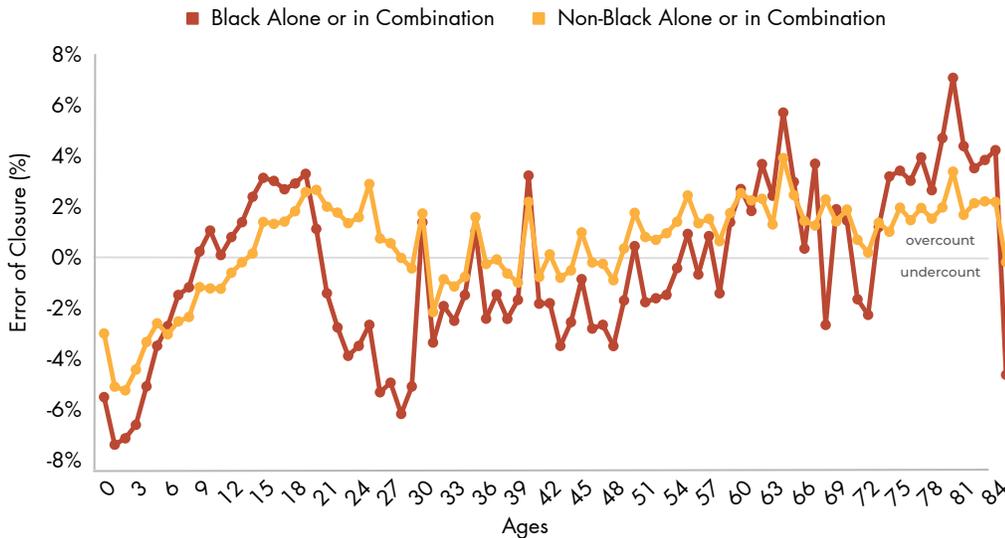
But what is the relationship between age and race for census response rates? Figure 4 shows the net coverage based on DA for the Black Alone or in Combination group as well as the non-Black Alone or in Combination groups available from the 2010 DA. The undercount of young children is even more pronounced in the Black population than the non-Black population.⁴³ Moreover, unlike the non-Black population, Black young adults and college students are undercounted.

Alone or Alone in Combination?

To capture the growing biracial and multiracial population, people can check more than one of the available races when filling out the Census. The Census Bureau describes this as either “Race Alone” or “Race Alone or in Combination.” Whenever we use Race Alone, we mean those who only marked the specific race category. When we say Race Alone or in Combination, we mean anyone who marked that specific race category, regardless of what other races they may have also selected.

Figure 4

Net Over and Undercounts based on Demographic Analysis U.S. Population, by Age and Race: 2010



Source: United States Census Bureau, Demographic Analysis, 2010–2020.

Figure 4 shows net coverage by DA race groups for the 2010 Census. Two things stand out: First, the undercount of young children exists for both race groups, but it is worse for the Black population. Second, while young adults are overcounted for the non-Black population, they are actually significantly undercounted for the Black population.

Although the undercount of young children persists across groups, it is worse for the Black population. Some studies looking at early data from 2020 suggest the undercount for the young Black and Hispanic populations may have gotten worse since 2010.⁴⁴ Unfortunately, we are not sure what this means for Asian Americans and NHPIs because DA does not provide data on these populations. However, our method helps to disentangle this data.

Demographic Analysis and the Asian American and NHPI Communities

DA provides no additional information about Asian American and NHPI communities. Because DA only provides information for the Black and non-Black populations, we cannot learn about the differential coverage of our populations of interest from these data.

DA

Strengths

The strength of DA lies in two areas: (1) near-complete independence from the decennial census, and (2) the use of administrative data sources that are known to be very high quality for counts and (some) demographic characteristics.⁴⁵ Because DA uses birth, death, Medicare records, and estimates of net international migration to build out the population by age, sex, and limited race groups, it is almost entirely independent from the decennial census. It does not suffer from potential correlation bias and errors with the decennial census that the PES might.⁴⁶ The data that DA are built upon are of very high quality and completion. This means that any measures of net coverage based on DA are also of very high quality.

Limitations

While DA is a solid measure of decennial census quality at the national level for select race and ethnicity groups and for age and sex,⁴⁷ its limitations include:

1. Lack of coverage at lower levels of geography: Because of the data sources used and the difficulties of trying to measure domestic migration over the course of peoples' lives, DA is only available at the national level.
2. Lack of coverage of most race and ethnic groups: Because of the lack of consistent historical data for all race and ethnic groups, DA is only available for the Black and non-Black populations as well as a subset of the Hispanic and non-Hispanic populations (ages 0–29 in 2020 and ages 0–19 in 2010).⁴⁸
3. Net coverage: While other methods like the PES examine both net coverage as well as its constituent components (duplicates and omissions), DA only provides net overcounts or undercounts. This means that duplicates and omissions may cancel themselves out, thereby obscuring the accuracy of the count.

Each of these limitations, especially regarding race, hampers efforts to better understand coverage of Asian American and NHPI communities.

DA

Follow-up Questions

The strengths and limitations of DA raise new questions. Do Asian American and NHPI communities suffer the same undercount of young children that we see in the broader population? Do we still see potential double counting of older children and college-aged young adults? Is it possible to create at least a subset of Asian American and/or NHPI estimates for DA?

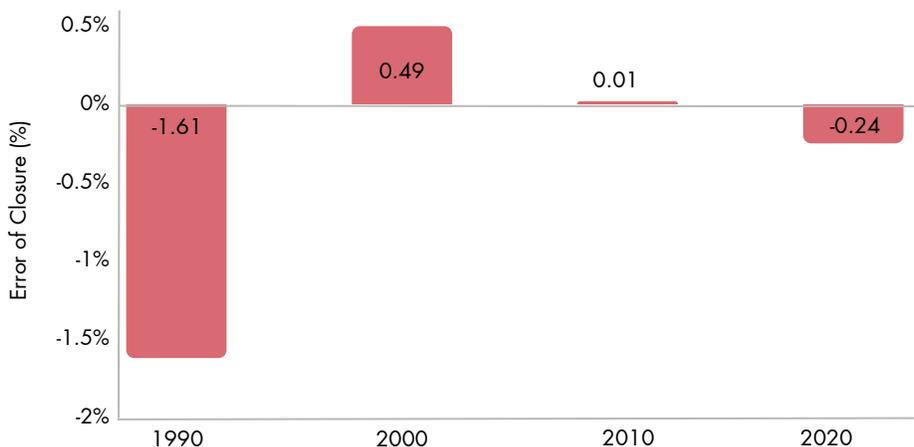
Post-Enumeration Survey (PES)

The Post-Enumeration Survey (PES) is another widely accepted measure of decennial census quality. The PES re-interviews a subset of the population using a different source for addresses than was used in the decennial census to see if it successfully counted people “once, only once, and in the right place.”⁵⁴ That is, the PES creates a full list of addresses within the blocks that they sample using different sourcing and methodology than the decennial census. This ensures that housing units, and therefore people, were not missed in decennial census operations.

Similar to DA, the PES reveals that the overall net overcount or undercount has decreased over time. We can also examine the components of the overall net undercount because the PES measures each of these components instead of just net coverage. The 1990 undercount of over 1.5% turned into an overcount in 2000 of nearly 0.5%. In 2010 we had nearly zero net coverage error before seeing an undercount of approximately 0.2% in 2020.⁵⁵

Figure 5

Net Coverage Error from the Post-Enumeration Survey U.S. Population: 1990-2020



Source: United States Census Bureau, PostEnumeration Survey, 1990-2020.

Figure 5 illustrates the net coverage for the total population from the PES since the 1990 Census. The PES showed general improvement over time, as the absolute value of the net coverage error decreased through 2010. In 2020, there was an increase in coverage error.

Post-Enumeration Survey Methodology

The Census Bureau conducts the PES—a survey of the population—to better understand coverage in the decennial census. In 2020, the Bureau went back and re-enumerated households in 10,000 blocks in the US,⁴⁹ which is a small fraction of the 5.8 million populated blocks in the United States.⁵⁰ The PES uses dual-system estimation (DSE)—a process by which researchers at the Census Bureau use two different samples (a population, or P, sample and an enumeration, or E, sample) to estimate the net coverage error and the components of census coverage for each decennial census.⁵¹ To oversimplify, Bureau researchers compare these two samples with one another to identify those who were correctly, or incorrectly, enumerated in the decennial census.⁵² A PES has been undertaken in every decennial census since 1950, and since 1980 the PES has been undertaken using DSE.⁵³

Thirteen states either had a statistically significant overcount or undercount in 2020 (i.e., had a count that was statistically different from zero). Most of the undercounted states were in the South, including Texas, Arkansas, Mississippi, Tennessee and Florida. The geographic outlier was Illinois. States with overcounts included New York, Minnesota, Massachusetts, New Hampshire, Delaware, and Utah. Many of these states are in the Northeast or Upper Midwest, areas with a history of either net zero coverage error or slight overcounts.

The national-level data by race serve as a benchmark for PA comparisons for the Asian American and NHPI race groups at the county and state levels. Different race groups have different historical patterns in coverage. For instance, the Black population has been undercounted in the past, while the white population has traditionally been overcounted.⁵⁶ These differences impact political representation and access to resources. There was a net overcount of Asian Americans in 2000, in 2010 the coverage error was not statistically different from zero, and in 2020 there was a net overcount. For the NHPI community there was a net undercount in 2000 and 2010, but a net overcount in 2020; however, none of these estimates were statistically different from zero.

Figure 7

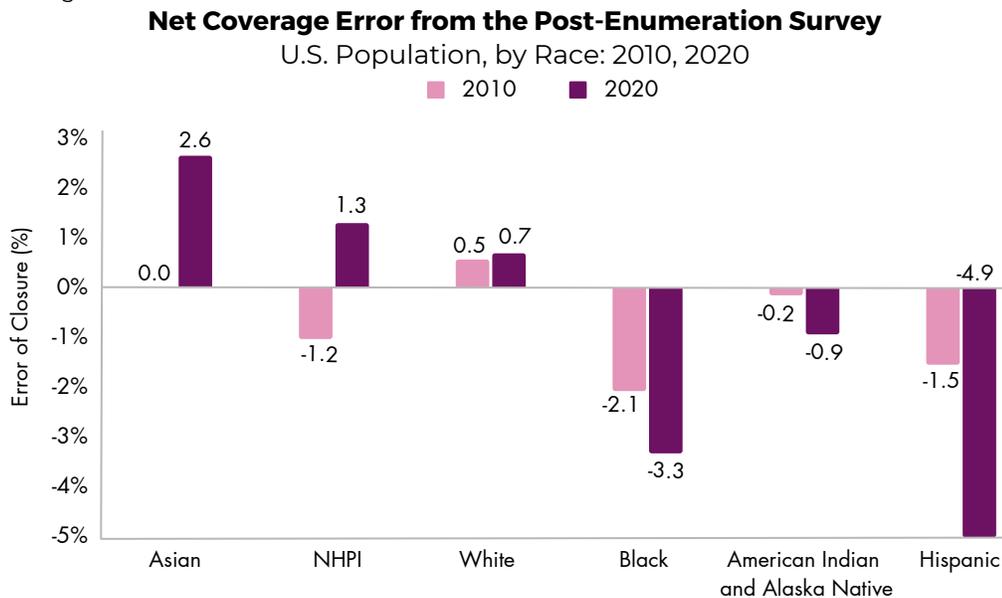


Figure 7 shows the net coverage by race / ethnicity for the past 2 censuses.

Source: United States Census Bureau, Post-Enumeration Survey, 2010-2020.

The 2020 PES faced some unique challenges. Due to COVID-19, the 2020 PES was severely behind schedule.⁵⁷ Further, much like the decennial census and other surveys that the Census Bureau conducts, response rates are declining. Because of these issues, we believe the 2020 PES may not be as accurate as prior PESs.⁵⁸

Comparing the 2020 Census to other measures of census quality, such as DA and comparing population estimates and the decennial census, are therefore all the more important.

PES

Strengths

The PES complements DA. Specifically, it provides a more granular look at census coverage down to the state level. In prior decades, it even provided coverage for large sub-state areas such as cities and counties with populations over 100,000.⁵⁹ It includes demographic characteristics, such as race and housing tenure, that are not available in DA. Further, the PES provides net coverage and components of coverage estimates, the latter of which is not available in DA. Put another way, through the PES, we can differentiate the overall net overcount from the undercount by studying the potential mitigating impacts of duplicates canceling out omissions.

Limitations

The PES is a survey that uses a similar methodology to the decennial census. The methodologies and collection methods are similar enough that the PES is more likely to count or miss similar types of people, meaning it could replicate the same errors, such as omissions, as the decennial census. Thus, we may not see all errors in the data. Second, the PES is only as good as its frame and the execution of the sample survey.⁶⁰ This is especially significant given the badly delayed PES in 2020 where there was more time between when people would have answered the decennial census and the PES—likely decreasing respondents' ability to recall their answers.⁶¹

Finally, while the PES provides estimates of coverage at lower levels of geography and estimates of coverage by race and ethnicity, it does not offer coverage estimates by race and ethnicity at lower levels of geography. This can mask the variation in responses for different racial and ethnic groups throughout the country.

PES

Follow-up Questions

The strengths and limitations of the PES raise new questions about how to improve decennial census coverage generally and for Asian American and NHPI communities specifically. Do these communities follow the same geographic patterns of duplications and erroneous enumerations as the total population? Or are the patterns for these communities markedly different? That is, do we actually see areas in the United States where Asian American and NHPI communities are significantly undercounted or overcounted, even though at the national level they are not? And what might account for these differences?

Post-Enumeration Surveys and the Asian American and NHPI Communities

Unlike DA, the PES can give us some detail about the quality of the decennial census for Asian American and NHPI communities.

Figure 8

Net Coverage Error from the Post-Enumeration Survey Asian American Community, U.S. Population: 1990-2020

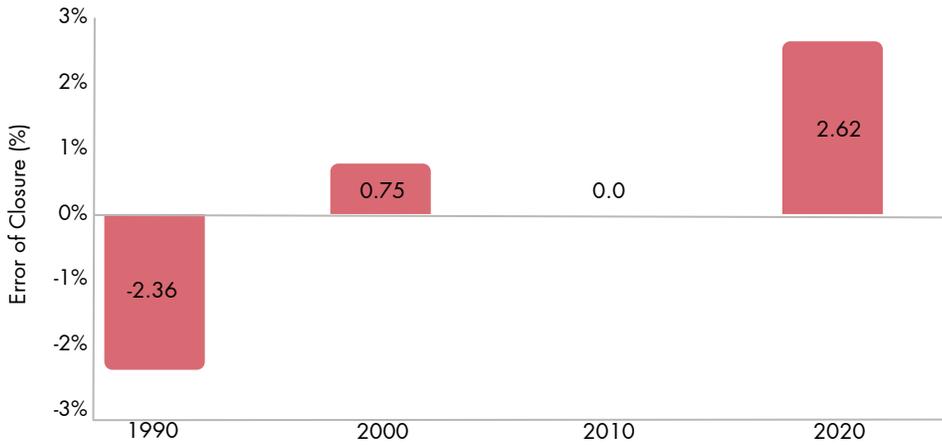


Figure 8 shows the net coverage error for the Asian American community from 1990 to 2020. There has been a shift away from an undercount towards an overcount, and generally decreasing net coverage errors up until 2010.

Source: United States Census Bureau, Post-Enumeration Survey, 1990-2020. Note: For 1990, Asian and NHPI was still a combined category and therefore had the same estimated error.

The Asian American community was undercounted in the 1990 Census and overcounted in the 2020 Census, while the counts in 2000 and 2010 were not statistically different from zero.⁶² However, improvements can be made on both the undercount in 1990 and the overcount in 2020.

Figure 9

Net Coverage Error from the Post-Enumeration Survey NHPI Community, U.S. Population: 1990-2020



Source: United States Census Bureau, Post-Enumeration Survey, 1990-2020.

NHPIs follow similar trends. In 1990, NHPIs were undercounted.⁶³ In 2000 and 2010, the PES estimates are relatively large compared to other race groups, but they are not statistically different from zero. Likewise in 2020, though the NHPI community appears to have been overcounted in the PES, this count is not statistically different from zero. The small size of the population and the resulting small sample sizes for the PES means that these relatively large PES estimates for NHPIs are not statistically different from zero because the margins of error are so large. This *could* denote that the NHPI count is correct; however, it could also signify that there is a significant undercount. *We simply cannot know whether the count is correct or if there's a significant undercount given the current large margins of error, based on small sample sizes, of the PES for this group.*

The PES also provides data for the components of net coverage error: Erroneous Enumerations, Whole Person Imputations, and Omissions.⁶⁴ We examine the components of coverage for Asian Americans and NHPIs in both 2010 and 2020.

Figure 10

Components of Coverage from the Post-Enumeration Survey

Asian American Community, U.S. Population: 2010, 2020

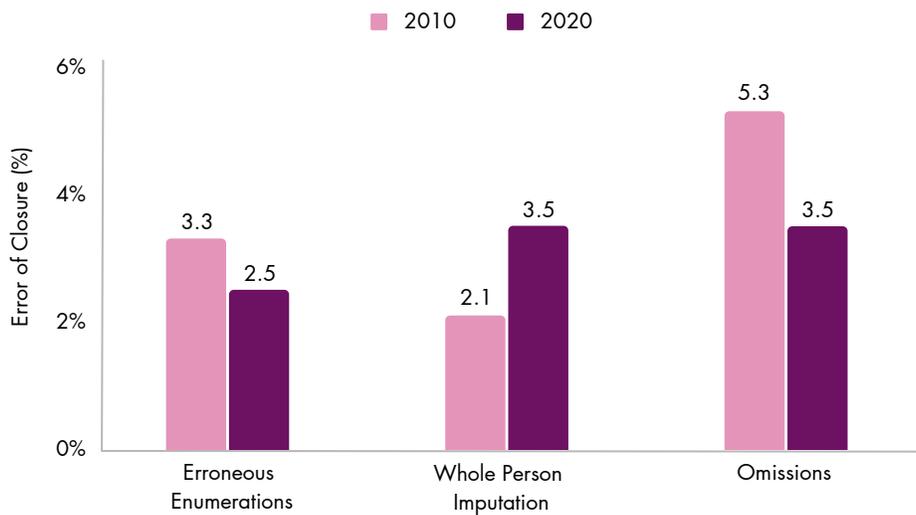


Figure 10 shows components of coverage from the PES for the 2010 and 2020 Censuses. While net coverage error was near zero in 2010 and there was a more than 2% overcount in 2020, there were actually higher erroneous enumerations and omissions in 2010 than there were in 2020.

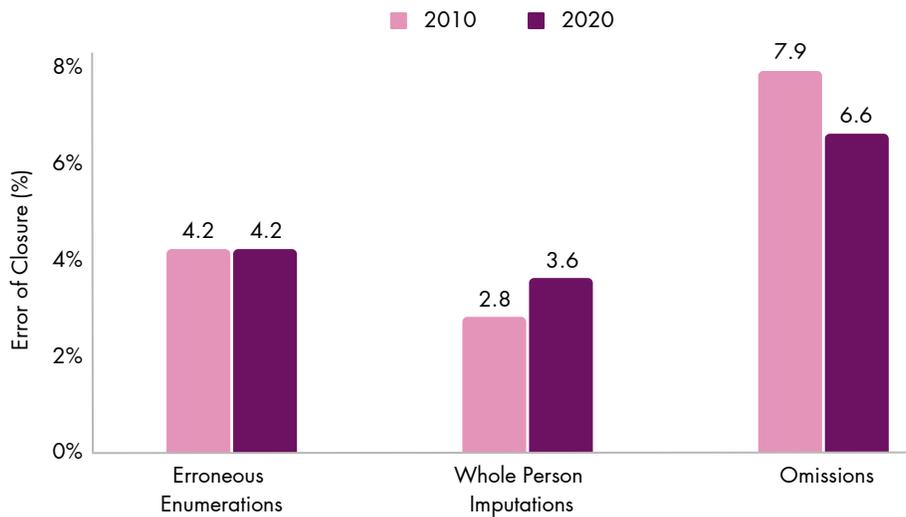
Source: United States Census Bureau, Post-Enumeration Survey, 2010-2020.

For Asian Americans, the net coverage in 2010 was not statistically different from zero, while there was an overcount in 2020. But there were actually more omissions and erroneous enumerations in 2010 compared to 2020, and there were significantly more whole person imputations in 2020 versus 2010.⁶⁵ Thus, there were more “mistakes” or miscounts for Asian Americans in 2010 than in 2020. However, more of these mistakes canceled each other out in 2010 than in 2020. This made the net coverage of the Asian American population look better overall, even though there were actually more omissions and erroneous enumerations in 2010.

Figure 11

Components of Coverage from the Post-Enumeration Survey

NHPI Community, U.S. Population: 2010, 2020



Source: United States Census Bureau, Post-Enumeration Survey, 2010-2020.

Figure 11 shows components of coverage from the PES for the 2010 and 2020 Censuses for the NHPI community. Erroneous enumerations stayed relatively constant while omissions declined and whole person imputations increased from 2010 to 2020.

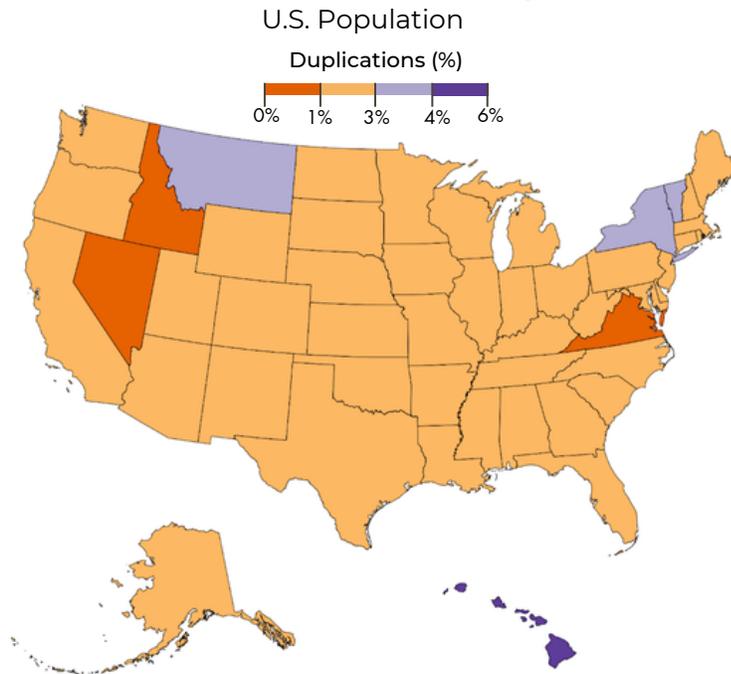
For NHPs, erroneous enumerations did not change significantly between 2010 and 2020. Omissions decreased slightly and whole person imputations increased slightly. This likely means that fewer people were missed in 2020 than in 2010, and that more of those missed were probably imputed into a correct status.

The PES at the State Level for the Total Population

For the total population, omissions and erroneous enumerations are not evenly distributed throughout the United States. Data by race and by state does not exist for the PES, precluding analysis of the distribution of omissions and erroneous enumerations for Asian American and NHPI communities. It is highly unlikely that these erroneous enumerations and omissions would be the same for each state, much less each county.

Hawaii, Montana, New York, and Vermont have higher duplication rates while Nevada, Idaho, and Virginia have lower rates (see Map 2). The reasons behind these variations are unknown, but some possibilities include greater seasonal or second home populations, a greater proportion of college students, or a greater number of people who move often.⁶⁶

Map 2

2020 Erroneous Enumerations (Duplications)

Map 2 shows erroneous enumerations by state for the total population in 2020.

Source: United States Census Bureau, Post-Enumeration Survey, 2020.

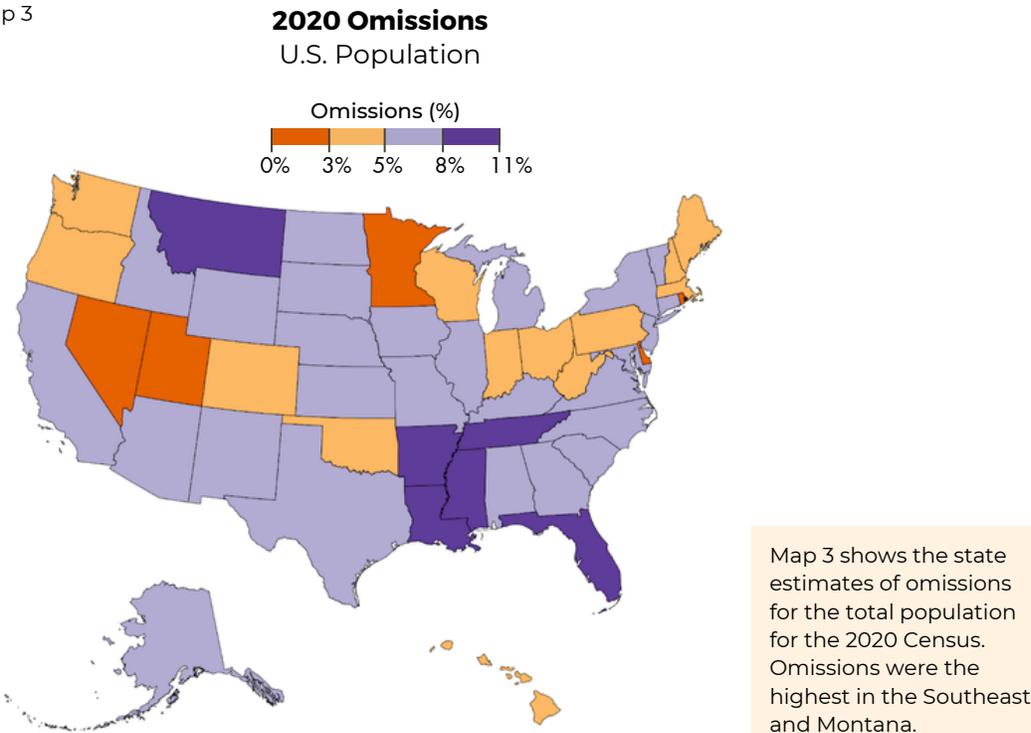
Other Sources to Understand the Quality of the Decennial Census

Other sources can augment existing measures of decennial census quality. Academics and nonprofit organizations conduct census quality analysis (both during and after the collection of decennial census data) to identify potential areas of concern or future improvement.⁶⁷ For example, after the 2020 Census, the National Academy of Sciences worked inside the Census Bureau to get access to operational metrics, allowing them to better assess the quality of the decennial census.⁶⁸

But what exactly is an operational metric? Operational metrics are data the Census Bureau collected and used during the fielding of the census to make sure that the count was as complete as possible.⁶⁹ They include the number of households who self-respond in a census tract or the percentage of households in a census tract who utilized proxy responses during Nonresponse Followup. When the Census Bureau releases these data to the public, we can more effectively evaluate the accuracy and reliability of the final census results.

Assessing these operational metrics reveal geographies where the census count may have been of higher or lower quality. These analyses indicate whether the 2020 Census was generally fit for use. However, operational metrics are unlikely to help evaluate the quality of the decennial census for Asian American and NHPI communities because these data are not reported by demographic detail.

Map 3



Source: United States Census Bureau, Post-Enumeration Survey, 2020.

There are strong similarities between the map for omissions (Map 3) and the overall net coverage map (Map 1) for the entire population; Arkansas, Mississippi, Texas, and Florida, all had a high percentage of omissions and undercounts. Overall, there are larger numbers of omissions in the South, especially in the Southeast, and fewer omissions in the Northeast, Upper Midwest, Northwest and parts of the Mountain West. We suspect that the differing rates of omission could be explained partially by Get Out the Count (GOTC) efforts. Factors that impact GOTC efforts might include: the proportion of hard to count communities relative to the investment, who made the investment, and to whom they were made.⁷⁰

For Asian American and NHPI communities, there is near zero net coverage error at the national level because duplications and omissions largely cancel each other out. However, for the NHPI community, sample sizes are too small to make conclusions about whether the non-statistically significant findings are real, or if they are due to the large margins of error in these measurements. Furthermore, the absence of state-level data by race prohibits us from capturing information from the current PES below the national level.

Importance of self-response rates for Asian Americans and NHPs in the census

Self-responses are considered the highest quality data in a census because they are a household's submission of their own census form.⁷¹ Additionally, “past research [has shown] that the lower the self-response rate is, the higher the risk of a net undercount for a given subpopulation group.”⁷² For these reasons, securing the highest level of self-response during a census is a critical goal—even though self-response is not an official measure of census quality.

Self-response rates are not evenly spread across different communities and many variables can influence the ability of particular groups to self-respond. Because self-response rates are available down to the Census Tract but not by race, ethnicity, or any other demographic characteristics, it makes them harder to interpret for different populations. More research is needed to deepen our understanding not only of a community's self-response rates, but also the variables that negatively impact the self-response rates. This will inform future outreach efforts to ensure effective targeting and increased self-response.

A New Approach—Population Estimates Analysis (PA): Comparing Population Estimates and the Decennial Census

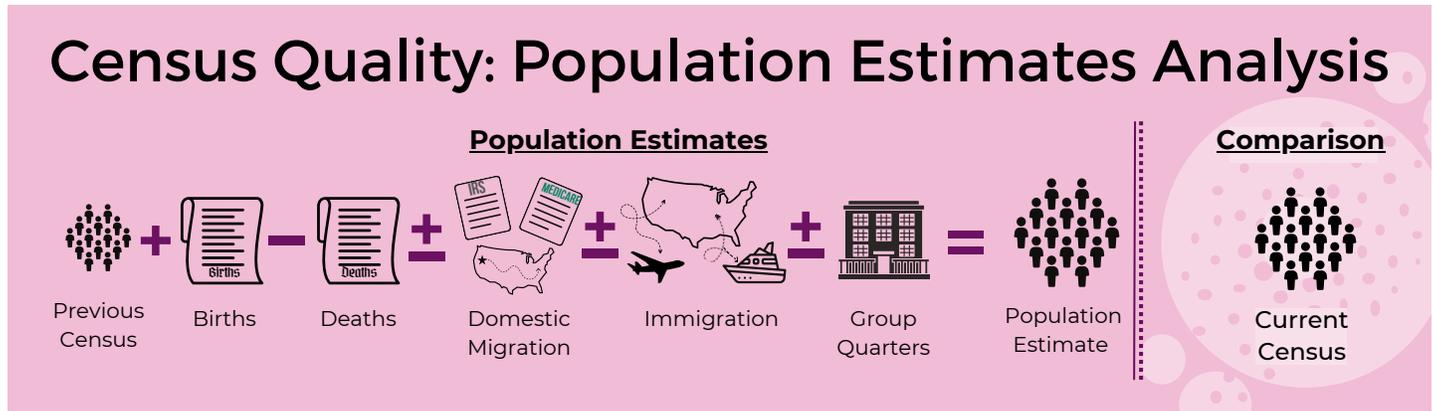
While DA and PES can help identify some strengths and weaknesses of a census, they cannot tell us much about Asian American and NHPI communities. Our alternative, PA, reveals potential undercounts and overcounts at lower levels of geography in the decennial census for Asian American and NHPI communities. By comparing the decennial census to postcensal population estimates released by the Census Bureau, we capture potential undercounts or overcounts for Asian American and NHPI communities.

The Postcensal Population Estimates

The Census Bureau's postcensal population estimates are the official population numbers for the United States in every year not ending in zero. To calculate this value, the Census Bureau starts with the most recent decennial census and then adds or subtracts population based on information from several administrative record sources. From this, they develop an estimate of the population in a given year.⁷³

Population estimates are used, directly and indirectly, to distribute state and federal funding and as weights for all population-based surveys.⁷⁴ Policymakers, academics, state and local governments, advocacy groups, businesses, and many others use population estimates, even if only through their indirect impact on the American Community Survey.⁷⁵ Figure 12 outlines how population estimates are created and details our approach—comparing the population estimates directly to the decennial census.

Figure 12



One of the strengths of PA is that many of the same data sources used in DA are also employed in the population estimates. However, there are two significant differences between DA and the postcensal population estimates. First, DA is based on a time series of administrative data going back to 1945. In contrast, the population estimates (the basis for PA) use the last decennial census as the starting point for its calculations. From there, administrative data from that date forward are applied to measure the change in the population. Second, DA is only available at the national level. Because DA is only at the national level, it does not address domestic migration—one of the hardest components to correctly estimate—in the same way that the population estimates do.

To capture the potential undercounts and overcounts of Asian American and NHPI communities, we focus on the *error of closure*.⁷⁶ The error of closure is the difference between the population estimates and the decennial census as of census day (April 1 of 2000, 2010, and 2020). Specifically, we subtract the population estimates value from the decennial census to get a raw potential undercount or overcount. For this calculation, we use the evaluation estimates series produced by the Census Bureau. These data start with the prior decennial census and provide an estimate for every year between that date and the current census. They also provide an estimate for the current decennial census date, which is what we use for PA.

A note on race...

Defining, classifying, and calculating race has changed over time.⁷⁷ Here, we focus on a number of topics that have distinct impacts on the decennial census and on other products such as the population estimates.

Current race and ethnicity questions: When filling out the decennial census, people can check and write in any of the race categories on the following form, or any combination thereof (Question 9). Separately, each person also fills out Question 8 about Hispanic origin.

The ability to select more than one race when filling out the census: Beginning with the 2000 Census, people could check more than one of the available races.⁷⁸ This improvement allowed the decennial census to capture the growing biracial and multiracial population, but it also created complications.⁷⁹ For instance, the Asian American community could refer to only those individuals who selected an Asian checkbox, or it could capture people who selected an Asian checkbox along with other races. The Census Bureau describes this as either “Race Alone” or “Race Alone or in Combination.” Whenever we use Race Alone, we mean those who only marked the specific race category. When we say Race Alone or in Combination, we mean anyone who marked that specific race category, regardless of what other races they may have also selected.

The ability to report "Some Other Race" (SOR): In 2000, for the first time, people were allowed to select SOR, either alone or in combination with other races.⁸⁰ This impacts our analysis because for both DA and the PES, SOR is not reported.⁸¹ Instead, the Census Bureau must create a modified race file that recodes everyone who responded SOR into one of the five race categories (or combinations thereof). These modified race data are often released around the same time that detailed data are released from the decennial census. However, since many data products for the 2020 Census have been delayed, we created our own modified race file (see Appendix 1 for a discussion on methodology for this file).⁸² Throughout the report, we will discuss only our modified race file, not the raw decennial census data that include SOR.

Changes in race categories: Another change made in 2000 was the ability to select Asian American or NHPI as separate race groups. This was the result of the requirements set out in the revised 1997 Office of Management and Budget (OMB) standards on race and ethnicity.⁸³ Before 2000, this was a combined group that the Census Bureau called “Asian or Pacific Islander” (API).⁸⁴ Our 2000 analysis compared the groups in a combined form because the postcensal population estimates available for April 1, 2000 are based off of the 1990 Census. Therefore, they only include data on these two communities combined. All analyses of the 2010 and 2020 censuses split the groups into their own categories.

Changes in internal Census Bureau processes to code race and ethnicity: For each decennial census, the Census Bureau makes rules about how to code each respondent’s answer to the race question on the census form.⁸⁵ In 2020, for the first time, the Census Bureau added an option to write in origin or race information below the checkbox for all races. They created new rules to facilitate more inclusive determinations of intended race based on those write-ins, and accepted more characters than they have in the past for those write-ins.⁸⁶ As a result, in the 2020 Census, more people reported being multiracial. This is noteworthy because the 2020 postcensal population estimates, which are based on the 2010 census, were coded another way. There may be a lower representation of “in combination” race reporting compared to the 2020 Census because the Census Bureau asked the race question differently in 2010. While there is not yet a way to see the overall impact of this change on race reporting, multiple race reporting did increase significantly in 2020.⁸⁷

Person 1

5. Please provide information for each person living here. If there is someone living here who pays the rent or owns this residence, start by listing him or her as Person 1. If the owner or the person who pays the rent does not live here, start by listing any adult living here as Person 1.

What is Person 1's name? Print name below.

First Name MI

Last Name(s)

6. What is Person 1's sex? Mark ONE box.

Male Female

7. What is Person 1's age and what is Person 1's date of birth? For babies less than 1 year old, do not write the age in months. Write 0 as the age.

Print numbers in boxes.

Age on April 1, 2020 Month Day Year of birth

years

→ **NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.**

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

No, not of Hispanic, Latino, or Spanish origin

Yes, Mexican, Mexican Am., Chicano

Yes, Puerto Rican

Yes, Cuban

Yes, another Hispanic, Latino, or Spanish origin – Print, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc. ↴

9. What is Person 1's race?

Mark one or more boxes **AND** print origins.

White – Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc. ↴

Black or African Am. – Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc. ↴

American Indian or Alaska Native – Print name of enrolled or principal tribe(s), for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow (Inupiat Traditional Government, Nome Eskimo Community, etc. ↴

<input type="checkbox"/> Chinese	<input type="checkbox"/> Vietnamese	<input type="checkbox"/> Native Hawaiian
<input type="checkbox"/> Filipino	<input type="checkbox"/> Korean	<input type="checkbox"/> Samoan
<input type="checkbox"/> Asian Indian	<input type="checkbox"/> Japanese	<input type="checkbox"/> Chamorro
<input type="checkbox"/> Other Asian – Print, for example, Pakistani, Cambodian, Hmong, etc. ↴	<input type="checkbox"/> Other Pacific Islander – Print, for example, Tongan, Fijian, Marshallese, etc. ↴	

Some other race – Print race or origin. ↴

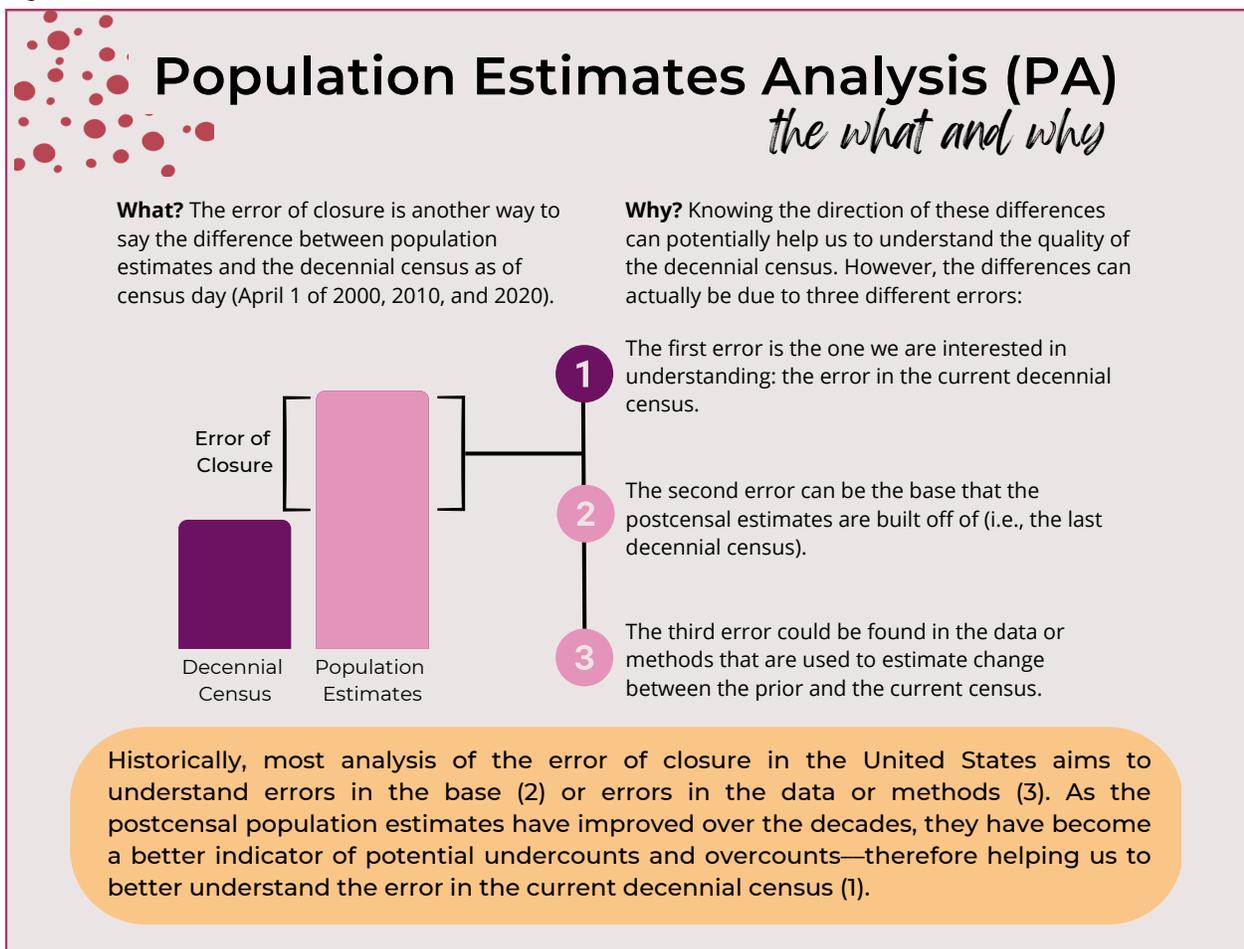
→ If more people were counted in Question 1 on the front page, continue with Person 2 on the next page.

Like the DA and the PES, using the postcensal population estimate through PA to evaluate coverage for Asian American and NHPI communities has strengths and limitations.

The Strengths and Limitations of PA

Generally, when comparing two different data sets to ascertain the quality of one of the data sources, it is important to pinpoint the source of error and identify how much we can say about the quality of the data source. This is the case for PA (see Figure 13), as well as for DA or the PES. For PA, since we use the *Error of Closure* as a measure of potential net coverage error, error can come from one of three potential places.

Figure 13



Specifically the errors are: (1) the error in the current decennial census, which is where we want to focus. The second and third errors are errors in the population estimates that are being compared to the decennial census. These errors come from (2) the base that the postcensal estimates are built upon (i.e., the last decennial census) or (3) mistakes in the components of change that the postcensal estimates are built on (i.e., the births, deaths, and migration estimates between the last census and the current census). Historically, most analyses that looked at the error of closure have focused on errors (2) and (3).⁸⁸ However, errors from (1) exist. As the postcensal population estimates have improved, they have become superior (but still flawed) indicators of potential census undercounts and overcounts. Errors in the population estimates and errors in the decennial census may still contribute to the error of closure. Despite these potential coverage issues, PA pushes the field forward to better measure coverage for all groups.

A strength of PA is that it produces potential undercounts and overcounts down to the county level by race. This overcomes one of the main limitations of DA and the PES. However, PA also has limitations. Estimating the population at these lower levels of geography by race, as well as the use of domestic migration, increases opportunities for error. Because the source of the error (either the decennial census or population estimates) is unknown, we discuss potential overcounts and undercounts using PA, focusing on trends rather than specific measures. This issue becomes more pronounced for smaller groups. Therefore, we urge further caution when discussing NHPI results.

Figure 14 summarizes the key pros, cons, and impacts of each approach for measuring census quality discussed in this paper.

Figure 14

Understanding Census Quality

Demographic Analysis (DA)

- Near-complete independence from decennial census
- Uses high quality administrative data sources

Strengths

- Lack of coverage below the national level
- Lack of coverage of most race groups
- Can only look at net coverage

Limitations

- No additional information about Asian American and NHPI communities

Impact

Post-Enumeration Survey (PES)

- Relatively independent from the decennial census
- More granular look at census coverage by state and demographic characteristics
- Helps identify gross coverage

Strengths

- Potential for correlated errors and bias
- Only as good as the frame and execution of the sample survey
- Lacks estimates of coverage by race and ethnicity at the subnational level

Limitations

- Some additional information about Asian American and NHPI communities
- Shows relatively good net undercount and overcount numbers for Asian American community, along with NHPI community (though the margins of error for NHPI are quite high)
- Though net numbers are near zero, still significant duplications and omissions that require further understanding and study

Impact

Population Estimates Analysis (PA): Our Approach

- Identify potential undercounts and overcounts at the county level by race, and for all race groups by age
- Strong for identifying patterns that will signal areas for future research

Strengths

- Higher error than DA
- Unknown if error comes from the current census, prior census, or components of change

Limitations

- Coverage for the Asian American and NHPI communities varies throughout the country
- Differences for the NHPI community are large, showing the difficulties of coverage analysis for smaller racial groups, requiring more investment
- Coverage for the Asian American and NHPI communities varies by age, and likely subgroup (though this is harder to support with available data— see case studies)

Impact

NOTES

³⁰ https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020da_methodology.pdf

³¹ See, O'Hare, 2019: <https://link.springer.com/book/10.1007/978-3-030-10973-8>.

³² One could argue that the Demographic Analysis is indirectly influenced by the decennial census counts because of their use of the American Community Survey to estimate net international migration. However, the Census Bureau has undertaken several sensitivity analyses to ensure there is limited impact of this codependence.

³³ That doesn't mean the road has always been linear. In fact, we see that the 1990 Census had a larger undercount than in 1980, and 2020 has a larger undercount than 2010's overcount.

³⁴ See, for example: https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020da_methodology.pdf.

³⁵ Though not pictured here, for 2010 and 2020 we can look at a subset of Hispanic and non-Hispanic for ages 0–29 in 2020 and ages 0–19 in 2010.

³⁶ It is technically possible to define DA for the white population because of the historical availability of data with “white” as a defined race, but the Census Bureau does not currently do this.

³⁷ See, for example: https://link.springer.com/chapter/10.1007/978-3-030-10973-8_8.

³⁸ We also see in the analysis of the Hispanic population that, for the ages 0–29 at least, they are undercounted more when compared to the non-Hispanic population of the same age group.

³⁹ Numerous papers exist on this topic. For one of the more recent, see: <https://www.census.gov/library/stories/2022/03/despite-efforts-census-undercount-of-young-children-persists.html>; and <https://2hj858.a2cdn1.secureserver.net/wp-content/uploads/2022/03/CAK-Report-on-Release-of-PES-and-DA-data-March-10-2022-FINAL-3-10-2022.pdf>.

⁴⁰ See O'Hare, 2017: <https://content.iospress.com/download/statistical-journal-of-the-iaos/sji1008?id=statistical-journal-of-the-iaos%2Fsji1008>.

⁴¹ <https://www2.census.gov/programs-surveys/decennial/2020/program-management/final-analysis-reports/2020-report-2010-undercount-children-summary-recent-research.pdf>

⁴² For a discussion on age heaping in the 2020 Census, see: <https://www.census.gov/library/stories/2022/03/who-was-undercounted-overcounted-in-2020-census.html>.

⁴³ This is also the case for the Hispanic population.

⁴⁴ We will not know the impact on young children by race for DA in 2020 until the Census Bureau releases single year of age by race/ethnicity data for the 2020 Census as well as a modified race file from the 2020 Census. Both of these releases should happen sometime in 2023: <https://www2.census.gov/programs-surveys/decennial/2020/program-management/DHC%20Timeline>. See also: <https://www.documentcloud.org/documents/21097003-constance-citro-preliminary-assessment-of-aspect-of-2020-census-quality-via-demographic-analysis-oct-16-2021-version> (Slide 10 and p. 9 of the report).

⁴⁵ See Footnote 31.

⁴⁶ See, for example: <https://www2.census.gov/about/partners/cac/sac/meetings/2021-03/discussant-post-enumeration-survey-update.pdf> for a discussion of how DA is used to adjust the PES to deal with correlation bias.

⁴⁷ For coverage of the limitations of DA, see O'Hare 2019: https://link.springer.com/chapter/10.1007/978-3-030-10973-8_3.

⁴⁸ Hispanic and non-Hispanic analyses were done for ages 0–29 in 2020 and ages 0–19 in 2010.

⁴⁹ The PES has two samples, so for these 10,000 blocks the sample was approximately 160,000 households in one sample and an overlapping 180,000 households in the other.

NOTES

⁵⁰ <https://georgetown.app.box.com/s/0b4upgbombi0s8jfl7pvibykb8v4nf7in>

⁵¹ The P sample is a sample of households where the PES is undertaken completely separately from the decennial census. The E sample is a universe of households enumerated in the same areas as the P sample during decennial census operations.

⁵² For further discussion of the 2020 PES, see the series of papers by the Census Bureau released under “Reports”: <https://www.census.gov/programs-surveys/decennial-census/about/coverage-measurement/pes.html>.

⁵³ <https://www2.census.gov/programs-surveys/decennial/coverage-measurement/pes/estimation-methods-net-coverage-estimation.pdf>

⁵⁴ <https://www.census.gov/programs-surveys/decennial-census/about/why.html>

⁵⁵ We use the PES data for 1990 forward (instead of 1970 forward like DA) because of ease of data availability.

⁵⁶ See O’Hare, 2019 for coverage by different race groups in the PES: <https://link.springer.com/book/10.1007/978-3-030-10973-8>.

⁵⁷ <https://www.federalregister.gov/documents/2020/07/13/2020-14977/notice-of-correction-2020-census-post-enumeration-survey-initial-and-final-housing-unit-follow-up#:~:text=The%20U.S.%20Census%20Bureau%20is%20issuing%20this%20notice,17%2C%202019%20%28Vol.%2084%2C%20No.%2074%2C%20pp.%2016000-16002%29>

⁵⁸ For a more in depth discussion of the potential issues in the 2020 PES, leading to our assessment that it may have more accuracy issues than prior PESs, see: <https://www.gao.gov/products/gao-22-105324>.

⁵⁹ In 2020 these sub-state data were not released by the Census Bureau, though they have not published a reasoning behind this decision. See https://www.census.gov/newsroom/pdf/20120512_ccm_newsconf_slides.pdf p. 28.

⁶⁰ The frame, or sampling frame, is the list of addresses from which the Census Bureau pulls its samples of homes to survey.

⁶¹ The PES asks basically the same questions as the decennial census, including using the same reference date.

⁶² In 1990, NHPI and Asian American data were still collected in one combined race group, leading to the same net undercount for both groups.

⁶³ In 1990, NHPI and Asian American data were still collected in one combined race group, leading to the same net undercount for both groups.

⁶⁴ Here we have collapsed Erroneous Enumerations (Duplicates) and Erroneous Enumerations (Other) for ease of interpretation.

⁶⁵ There were also significantly more whole person imputations in 2020 versus 2010.

⁶⁶ https://www.census.gov/newsroom/blogs/random-samplings/2021/04/how_we_unduplicated.html

⁶⁷ See, for example: <https://www.censushardtocountmaps2020.us/> and <https://mccourt.georgetown.edu/ccat/>.

⁶⁸ <https://nap.nationalacademies.org/catalog/26529/understanding-the-quality-of-the-2020-census-interim-report>

⁶⁹ <https://www.census.gov/newsroom/press-releases/2022/2020-census-operational-quality-metrics.html>

⁷⁰ Trying to draw causal inferences on the impact of GOTC efforts is a tough business. However, a few groups have done great work to try and look at these impacts, including: <https://funderscommittee.org/2020censusnationalevaluation/> and <https://www.gcir.org/sites/default/files/resources/CA%20Census%20Statewide%20Funders%27%20Initiative%20Evaluation%20Report.pdf>.

NOTES

⁷¹ See, <https://www.census.gov/newsroom/blogs/random-samplings/2021/04/examining-operational-metrics.html>;
<https://www.census.gov/newsroom/blogs/random-samplings/2021/05/2020-census-operational-quality-metrics-release-2.html>;
[https://rss.onlinelibrary.wiley.com/doi/full/10.1111/j.1740-9713.2020.01356.x#:~:text=Self%2Dresponse%20is%20the%20gold%20standard%20of%20data%20collection%20in,data%20and%20the%20overall%20count](https://rss.onlinelibrary.wiley.com/doi/full/10.1111/j.1740-9713.2020.01356.x#:~:text=Self%2Dresponse%20is%20the%20gold%20standard%20of%20data%20collection%20in,data%20and%20the%20overall%20count;);
<https://www.nyc.gov/assets/planning/download/pdf/planning-level/nyc-population/census2020/importance-self-response.pdf>;
<https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/plan/self-response.html>.

⁷² <https://www.urban.org/sites/default/files/publication/103306/risk-factors-affecting-the-fairness-and-accuracy-of-the-2020-census-rob-santos.pdf>

⁷³ This population is as of July 1 of the year the Census Bureau is estimating.

⁷⁴ See, for example:
https://gwipp.gwu.edu/sites/g/files/zaxdzs2181/f/downloads/Counting%20for%20Dollars%202020%2008-22-17_0.pdf.

⁷⁵ For information on the impact of the estimates on the ACS, see: https://www2.census.gov/programs-surveys/acs/methodology/design_and_methodology/2022/acs_design_methodology_ch11_2022.pdf.

⁷⁶ According to the Census Bureau, error of closure is “the difference between the April 1 postcensal estimate and April 1 census count for the end of the decade.” See: <https://www.census.gov/programs-surveys/popest/guidance.html>.

⁷⁷ Scholarship on U.S. census history that discusses racial formation includes Anderson, Margo J. *The American Census: a Social History*. Second edition. New Haven: Yale University Press, 2015; Bouk, Dan. *Democracy's Data: the Hidden Stories in the U.S. Census and How to Read Them*. First edition. New York: MCD, 2022; Hochschild, Jennifer L., and Brenna Marea Powell. “Racial Reorganization and the United States Census 1850–1930: Mulattoes, Half-Breeds, Mixed Parentage, Hindoos, and the Mexican Race.” *Studies in American Political Development* 22, no. 1 (2008): 59–96; Mora, G. Cristina. *Making Hispanics: How Activists, Bureaucrats, and Media Constructed a New American*. Chicago: The University of Chicago Press, 2014; Nobles, Melissa. *Shades of Citizenship: Race and the Census in Modern Politics*. Stanford, CA: Stanford University Press, 2000; Prewitt, Kenneth. *What Is “Your” Race?: The Census and Our Flawed Efforts to Classify Americans*. Princeton, NJ: Princeton University Press, 2013; “The Census Counts, the Census Classifies,” in Foner, Nancy, and George M. Fredrickson, eds.. *Not Just Black and White: Historical and Contemporary Perspectives on Immigration, Race, and Ethnicity in the United States*. New York: Russell Sage Foundation, 2004; Schor, Paul. *Counting Americans: How the US Census Classified the Nation*. New York, NY: Oxford University Press, 2017; Thompson, Debra. *The Schematic State: Race, Transnationalism, and the Politics of the Census*. Cambridge, United Kingdom: Cambridge University Press, 2016.

⁷⁸ <https://www.federalregister.gov/documents/1997/10/30/97-28653/revisions-to-the-standards-for-the-classification-of-federal-data-on-race-and-ethnicity>

⁷⁹ E.g., <https://www.pewresearch.org/social-trends/2015/06/11/chapter-1-race-and-multiracial-americans-in-the-u-s-census/>;
<https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html>; and
[https://www.census.gov/newsroom/stories/multiracial-heritage-week.html#:~:text=The%202020%20Census%20shows%20the,Other%20Race%20\(1%20million\)](https://www.census.gov/newsroom/stories/multiracial-heritage-week.html#:~:text=The%202020%20Census%20shows%20the,Other%20Race%20(1%20million).).

⁸⁰ <https://www.federalregister.gov/documents/1997/10/30/97-28653/revisions-to-the-standards-for-the-classification-of-federal-data-on-race-and-ethnicity>;
<https://www.theatlantic.com/politics/archive/2016/08/the-rise-of-the-others/497690/>

NOTES

⁸¹ In the 2010 Census, in producing the Modified Age, Race, and Sex (MARS) File, the Census Bureau recoded over 485,000 people who were "Some Other Race Alone" to "Asian," and nearly 135,000 to "NHPI." See <https://www.census.gov/data/datasets/2010/demo/popest/modified-race-data-2010.html> for more details.

⁸² Delays in releasing these data for the 2020 Census occurred because of the COVID-19 pandemic, the politicization of the 2020 Census, and issues with the Census Bureau implementing the new Disclosure Avoidance System for the 2020 Census.

⁸³ <https://www.federalregister.gov/documents/1997/10/30/97-28653/revisions-to-the-standards-for-the-classification-of-federal-data-on-race-and-ethnicity>

⁸⁴ We use the term AANHPI when we talk about these two groups combined.

⁸⁵ For more information on these changes, see: <https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html>; <https://www2.census.gov/about/cic/Coding%20Operations%20of%20Race%20and%20Ethnicity.pdf>.

⁸⁶ The write-ins character capture went from 30 characters in 2010 to 200 characters in 2020. Further, the Census Bureau coded up to six race or ethnicity responses versus two in 2010 from these write-ins. For further examples see: <https://www.census.gov/newsroom/blogs/random-samplings/2021/08/improvements-to-2020-census-race-hispanic-origin-question-designs.html>.

⁸⁷ Two things will be required to make these comparisons: First, we need a final modified race file for the 2020 Census. Second, the Census Bureau needs to conduct research to show what the data would look like if they had not made their changes.

⁸⁸ See, for example: <https://www.census.gov/content/dam/Census/library/working-papers/2013/demo/POP-twps0100.pdf>.



Analysis: The Quality of Census Counts for Asian American and NHPI Communities

Our analysis compares data from the decennial census with postcensal population estimates for the 2000, 2010, and 2020 Censuses to provide us with better, more granular information about the accuracy of our communities' census counts. Because Asian Americans and NHPs are not a monolith, we disaggregate census quality data for Asian Americans and NHPs where such data are available.⁸⁹

Analysis: The Quality of the 2000 Census for Asian American and NHPI Communities

For the first time in 2000, the census split the race category “Asian and Pacific Islander” into “Asian” and “Native Hawaiian and Other Pacific Islander.” Respondents were also allowed to check multiple races on their census form. Because of these changes, we start our PA analysis with the 2000 Census. However, because the 2000 population estimates are built off the 1990 Census, these race categories are still combined into one group in the 2000 population estimates. Therefore, we compare the postcensal population estimates to those who responded Asian and/or Pacific Islander Alone in the 2000 Census by creating an AANHPI group.

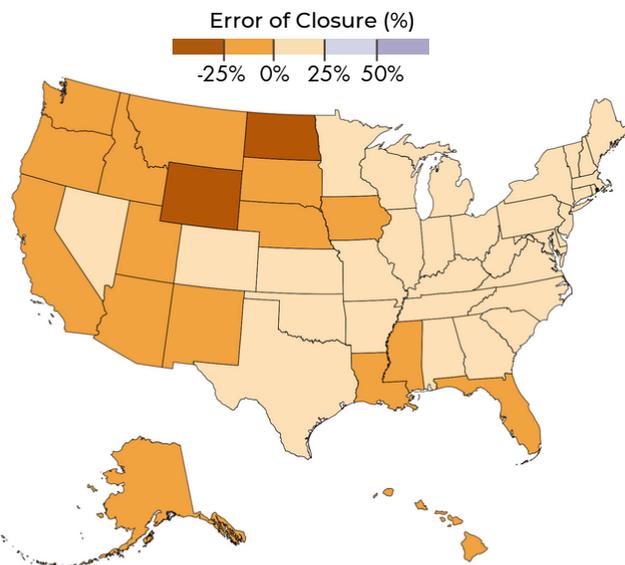
At the national level, the 2000 Census came in 1.27% below PA estimates for the API Alone race group, potentially resulting in a slight undercount. However, the same census came in 14.31% above PA estimates for the API Alone or in Combination race group—a relatively large overcount. This difference in coverage is not surprising given that we are comparing different things. The population estimates we are using for this analysis are based on a system that only allows respondents to choose one race. If someone views themselves as only one race, either Asian American or NHPI, this is not an issue. However, if someone views themselves as having multiple races, but was forced to only choose one, it is inevitable that some of these people would have chosen a race other than Asian American or NHPI. We would expect the population estimates to capture more than the Asian American Alone or NHPI Alone respondents in the 2000 Census because some people who were multiple races in 2000 would have marked only AANHPI in 1990. Likewise, we would not expect the population estimates to

capture all of the Alone or in Combination respondents in the 2000 Census. This is because some of the people who marked Asian American or NHPI as one of their multiple races may not have selected Asian American or NHPI if they were only allowed to choose one race.

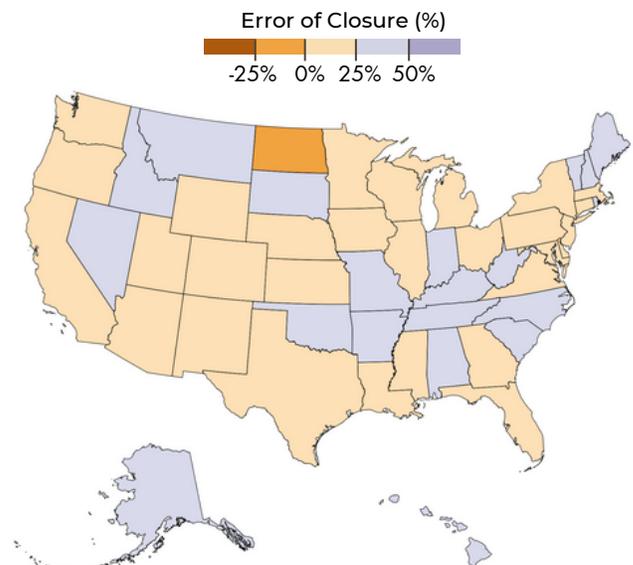
These differences between Alone and Alone or in Combination were not spread evenly by state.

State-level variation exists with respect to potential overcounts and undercounts for Asian Americans and NHPIs.⁹⁰ The AANHPI Alone population has more undercounts in the West than in the East (see Map 4), but the difference between East and West disappears when we look at AANHPI Alone or in Combination (see Map 5).⁹¹

Map 4
Percent Difference between 2000 Census Race and Population Estimates, by State
 AANHPI, Alone Population



Map 5
Percent Difference between 2000 Census Race and Population Estimates, by State
 AANHPI, Alone or in Combination Population



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2000. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for API (Alone) was less than census results.

Map 4 illustrates the percent differences for the AANHPI Alone group between the 2000 Census and the 2000 Population Estimates for the AANHPI Alone community per state. Map 5 shows the same information for the AANHPI Alone or in Combination per state.

What do the relationships between race and net coverage error look like at the county level? While PA revealed a slight potential undercount for the AANHPI Alone community nationally in the 2000 Census, the AANHPI community was not necessarily undercounted everywhere.

Figure 15

2000 Census Accuracy: AANHPI Alone

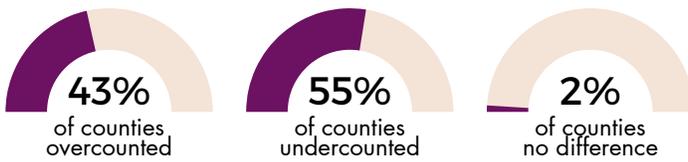


Figure 15 is a gauge chart that shows the percentage of counties that either had a potential overcount, undercount, or no difference for the AANHPI Alone population in our comparison of the population estimates and the 2000 Census.

Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010 and 2020.

Indeed, overcounts existed in 43% of counties. **It is probable that the low overall net coverage error for both the Asian American and NHPI communities in the 2000 Census was not evenly distributed geographically.** Instead, overcounts in some places likely canceled out undercounts in others, leading to a national count that appeared accurate.

Figure 16

Percent Difference between 2000 Census Race and Population Estimates of Counties: AANHPI Alone

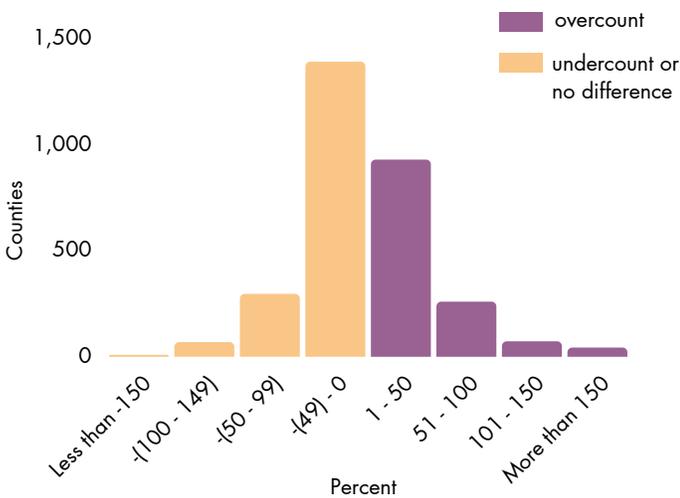
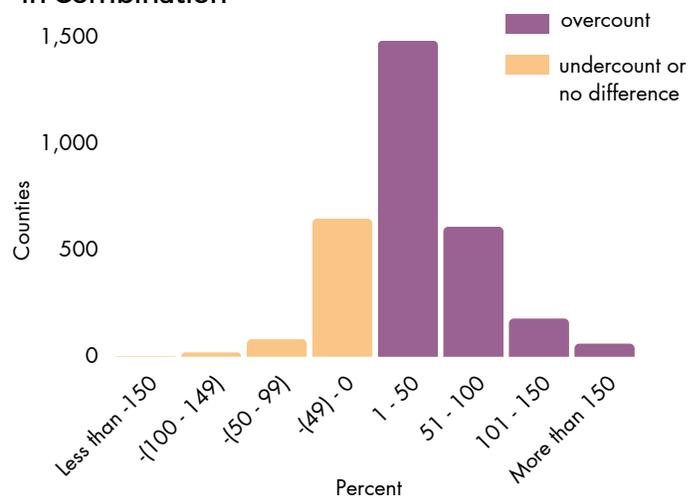


Figure 17

Percent Difference between 2000 Census Race and Population Estimates of Counties: AANHPI Alone or in Combination



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2000.

Figures 16 and 17 show how many counties had a potential overcount or undercount for the AANHPI Alone (Figure 16) or AANHPI Alone or in Combination (Figure 17) populations. They also illustrate the size of the undercount or overcount. For example, Figure 17 shows that over 500 counties had a potential overcount of over 50%, and dozens had potential overcounts over 100%. In the context of a potential national undercount of just over 1%, it is probable that the low overall net coverage error for both the Asian American and NHPI communities in the 2000 Census was not evenly distributed geographically.

Analysis: The Quality of the Census for the Asian American Community for the 2010 and 2020 Censuses

We can compare population estimates and the decennial census for the Asian American and NHPI communities separately for the 2010 and 2020 Censuses.⁹² We focus first on the Asian American community, comparing the Asian Alone category and the Asian Alone or in Combination category.

Table 1 **National Net Coverage Error by Race Category: PA Method**

	2010		2020
	Non-Hispanic Population	Total Population	Non-Hispanic Population
Asian Alone	4.6%	5.6%	2.5%
Asian Alone or in Combination	6.1%	7.6%	4.3%

Table 1 shows the potential national-level net coverage error using PA for each of these categories in both the 2010 and 2020 Censuses. PA shows an overcount in both 2020 and 2010. Two thousand and ten includes the total population and the non-Hispanic population. However, for 2020 we only show the non-Hispanic population as the data needed to recode SOR are not yet available for the total population.

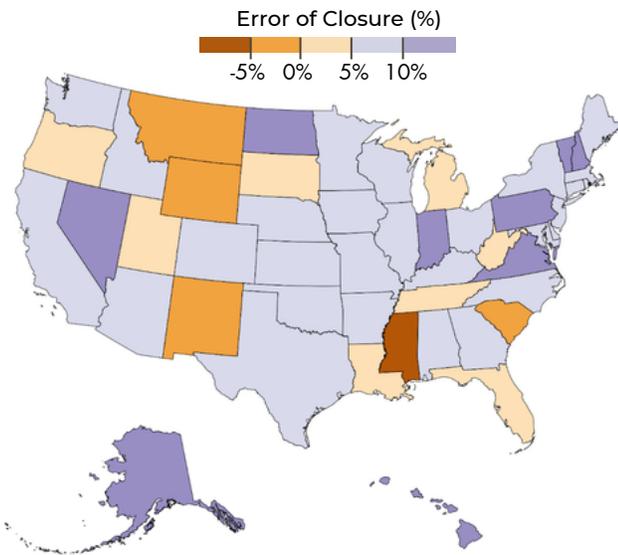
These findings should not be surprising given that the PES showed a net overcount in 2020 and net coverage in 2010 that was not significantly different from zero for the Asian American community. PA comes to basically the same conclusions, but with a larger estimated overcount in 2010 than the PES. PA provides additional insight into overcounts and undercounts at lower levels of geography.

PA by Lower Geographies

Potential overcounts in both 2010 and 2020 are not evenly distributed throughout the country. For example, in 2020 undercounts of the Asian American population in some of the interior Mountain West states are canceled out by estimated overcounts in the West Coast, East Coast, and the South. The state-level PES in 2020 showed net undercounts for the total population (all races) for several southern states (including Florida, Tennessee, Mississippi, Arkansas, and Texas). However, PA shows potential net overcounts for Asian Americans in all of these states in 2020, and in all but Mississippi and South Carolina in 2010.

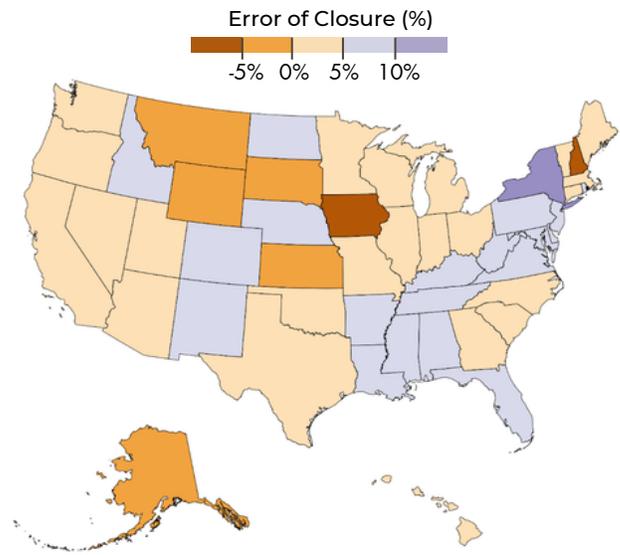
Map 6

Percent Difference between 2010 Census Race and Population Estimates, by State
Asian American, Alone Population



Map 7

Percent Difference between 2020 Census Race and Population Estimates, by State
Asian American, Alone Population



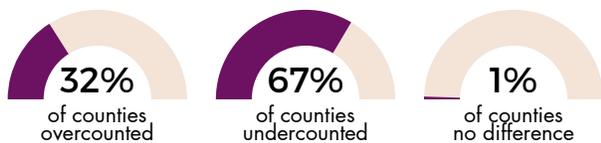
Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010 and 2020. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for API (Alone) was less than census results.

Maps 6 and 7 show the state-level measures of potential overcounts and undercounts for the 2010 and 2020 Censuses using PA. We focus here on the Asian Alone or in Combination population as the more inclusive grouping. The trends are similar to the Asian Alone population.

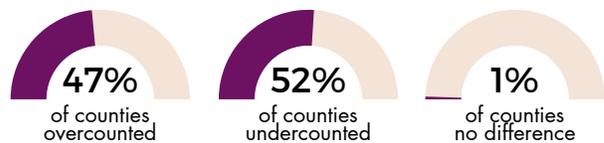
Geographic patterns emerge in the above maps, and PA also shows counties with potential undercounts or overcounts. Though PA suggests a national overcount in both 2010 and 2020, not all counties followed the same pattern. Indeed, in both decennial censuses more than half of the counties were actually undercounted. This indicates that the population in these potentially overcounted counties was (much) larger than the potentially undercounted ones.

Figure 18

2010 Census Accuracy:
Asian Alone or In Combination



2020 Census Accuracy:
Asian Alone or In Combination



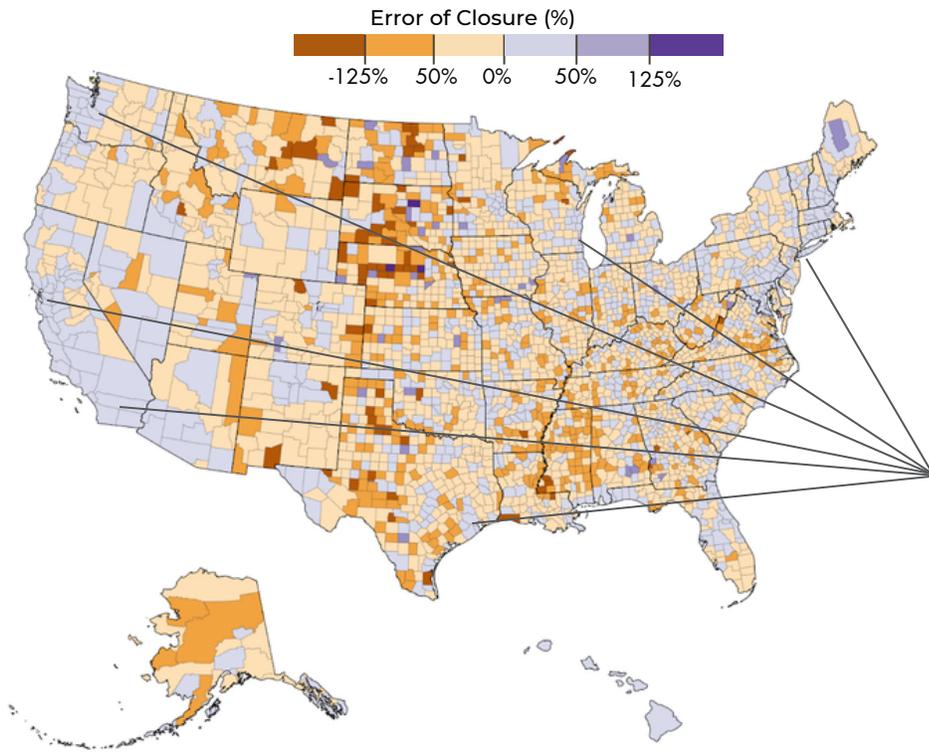
Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010 and 2020.

Figure 18 shows that for the Asian population in both 2010 and 2020, while PA estimates an overcount at the national level, more than half of the counties in both decades actually experienced undercounts.

Mapping these counties and their potential undercounts and overcounts reveals even more. In Map 8 we have a 2010 Census map of the potential undercounts and overcounts for the Asian American community. PA revealed that in 2010, more than 5% of the population had been overcounted nationally, even though most counties still had undercounts. This is shown in the graphic. Studying where the overcounts happened matters because of the importance of a correct count for the distribution of resources and political power; Southern California, the Bay Area in California, the counties surrounding the Puget Sound in Washington, the Houston area in Texas, the Chicago area in Illinois, and other highly populated areas all saw potential overcounts in 2010.

Map 8

Percent Difference between 2010 Census Race and Population Estimates, by County
Asian American, Alone or in Combination Population

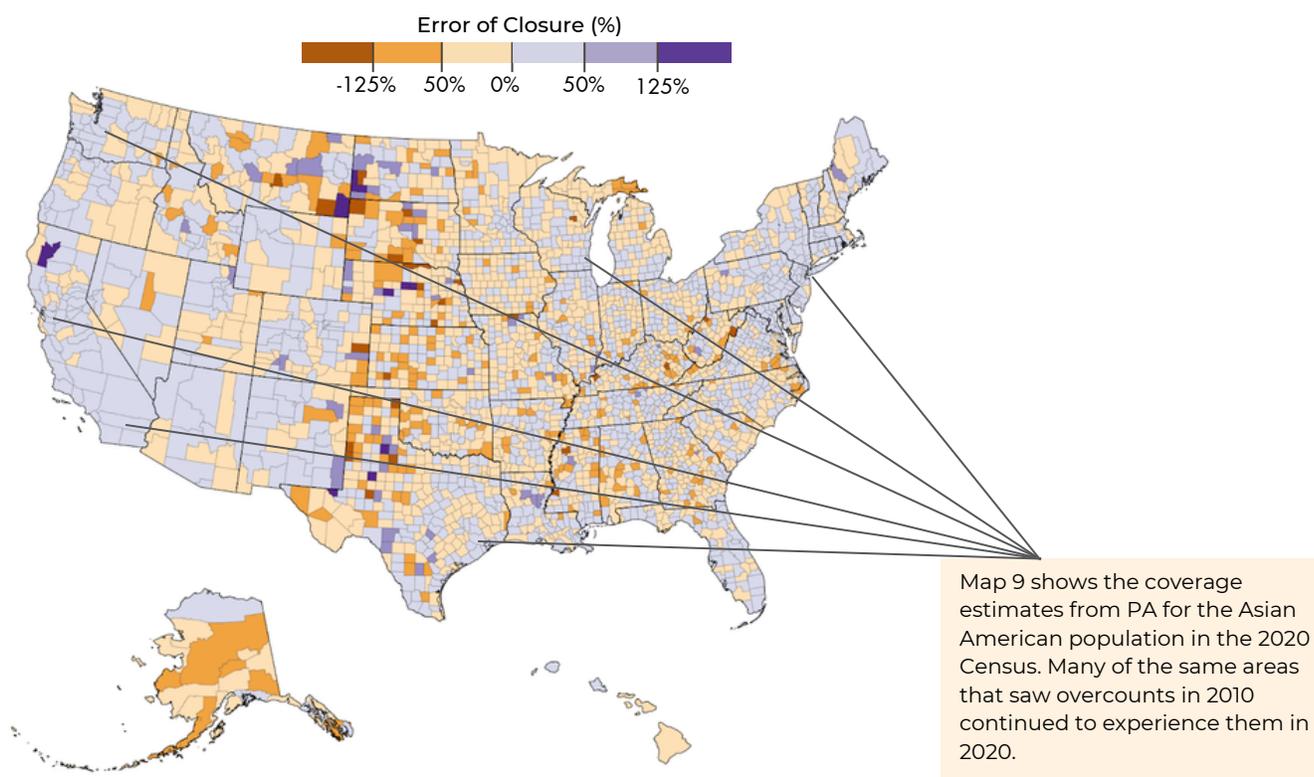


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for Asian Americans (Alone or in Combination) was less than the census results.

In 2020, many of these same places—including areas such as Southern California, the Bay Area, the counties surrounding the Puget Sound in Washington, the Houston area in Texas, the Chicago area in Illinois, and the New York City area—continued to have estimated net overcounts for Asian Americans. Similar to the 2010 Census, estimated undercounts tended to cluster in more rural areas in the Midwest, South, and Mountain West.

Map 9

Percent Difference between 2020 Census Race and Population Estimates, by County
Asian American, Alone or in Combination Population



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for Asian Americans (Alone or in Combination) was less than the census results.

PA by age group

By using PA, we also reveal how overcounts and undercounts are distributed unequally across the population. One of the key findings from DA is that young children tend to be undercounted in the decennial census.⁹³ However, because of the lack of data on the Asian American community in DA, we are not able to determine if this finding applies to them.⁹⁴ Our analysis suggests that it does. Since the population estimates data are available at the county level by race and by 5-year age groups, we can report net coverage by age and by race using PA.

For both the youngest children (ages 0–4) and the older population (ages 75 and above), the Asian American Alone group appears undercounted in 2010. For the Asian American Alone or in Combination group, there is a slight potential overcount for the youngest children, while the older ages remain undercounted. Older children and young adults have a much higher probability of an overcount for both the Asian American Alone as well as the Alone or in Combination group. The undercount of young children generally persisted for the total population in 2020, and it will be interesting to see if this holds for the Asian American Alone or the Asian American Alone or in Combination community as well once the Bureau makes the data available.⁹⁵

Figure 19

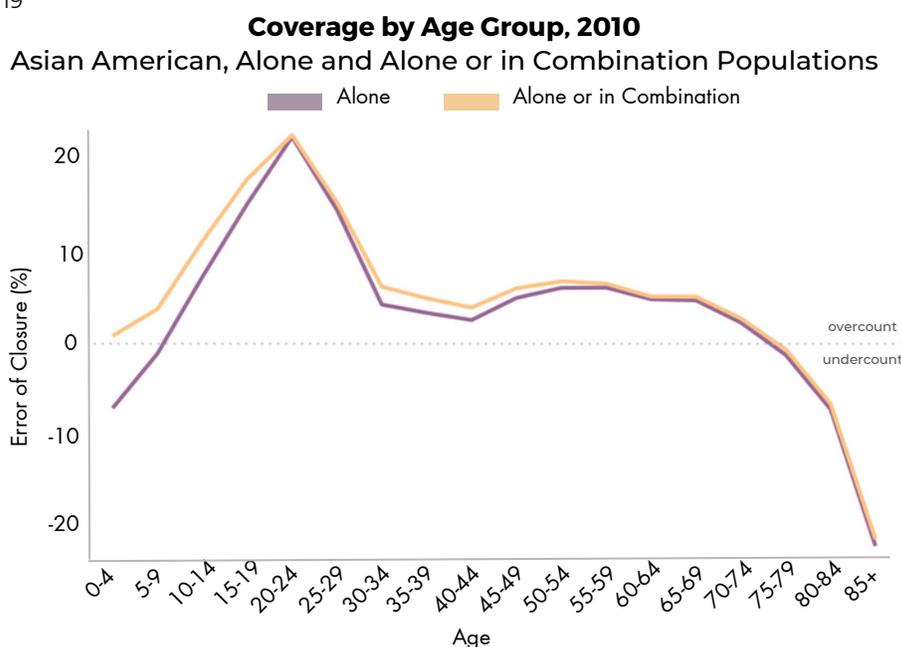


Figure 19 shows the age distribution of net coverage for the Asian American (both Alone as well as Alone or in Combination) population in the 2010 Census. The youngest children were undercounted for the Alone population, but not the Alone or in combination group. For both groups the young adult population was overcounted, and those 75 and above were undercounted.

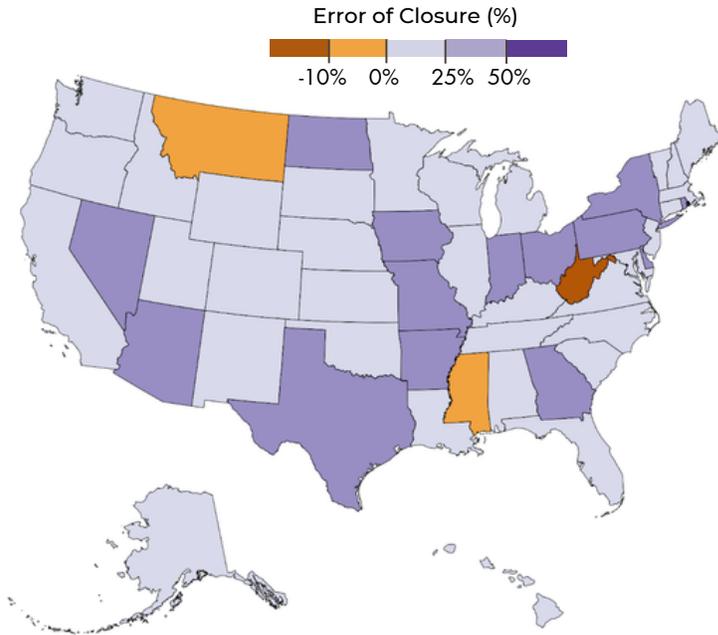
Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

In 2010 throughout the country, a general overcount existed for the Asian American Alone population ages 20–24. However, a few states (Montana, Oklahoma, Mississippi, and West Virginia) undercounted Asian Americans Alone in the population ages 20–24. These states with smaller Asian American populations might have had undercounts because they lack the community connections that states with larger Asian American populations have, and therefore may not benefit from community-based census outreach.⁹⁶

Map 10

Percent Difference between 2010 Census Race and Population Estimates, by State

Asian American, Alone or in Combination Population: Ages 20–24



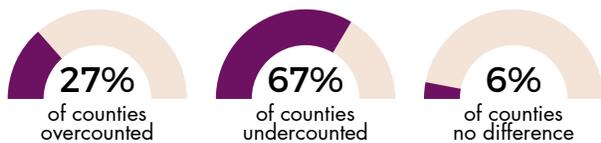
Map 10 shows the coverage estimates from PA for the Asian American population ages 20–24. Here we see that although this group experiences high overcounts at the national level, some states still experience undercounts (West Virginia, Montana, and Mississippi).

Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for Asian Americans (Alone or in Combination) was less than the census results.

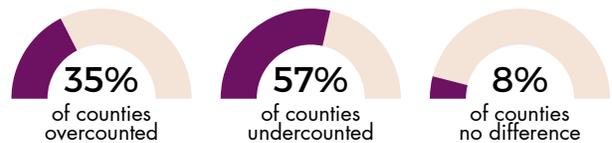
At the county level in 2010, the Asian Alone or in Combination group had a slight overcount for the population between the ages of 0–4 and a larger overcount for the population between the ages of 20–24. Although both of these groups had potential overcounts in our analysis, the majority of counties were undercounted; more urban, larger population counties generally were overcounted, while smaller, more rural counties had undercounts.

Figure 20

2010 Census Accuracy: Asian Alone or in Combination, Ages 0–4



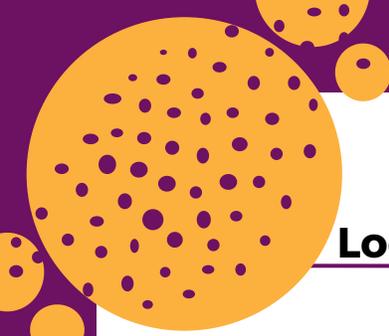
2010 Census Accuracy: Asian Alone or in Combination, Ages 20–24



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

Figure 20 shows the percentage of counties that were undercounted or overcounted by select age groups for the 2010 Census. While the population ages 0–4 had a slight overcount at the national level, most counties were actually undercounted. Likewise, the population ages 20–24 had a large overcount at the national level, but most counties were actually undercounted for this group.





Local Snapshots: Asian American Case Studies

Case studies allow us to examine the quality of the decennial census count for the Asian American community at a more detailed scale. Asian Americans comprise just over 7% of the population of the United States, but they are not distributed evenly geographically. We selected four locations with sizable or distinctive Asian American communities. Our first case study, Los Angeles County, California has one of the largest populations of Asian Americans in the United States. Second, King County, Washington has seen rapid growth of the Asian American population. Our third case study, Houston, is distinctive not only for its growth, but also given the large Vietnamese and Asian Indian populations. Finally, we examine the five counties that make up New York City (NYC). We chose NYC given the long history of Asian Americans in the city and the significant Bangladeshi concentration here.

Common Findings: Census Coverage and Self-Response

Throughout the report we discuss how the recent net overcounts for the Asian American population do not mean that the Asian American population was overcounted everywhere. Our case studies reinforce this conclusion. In some of our local snapshots we find undercounts for the Asian American community, while in others we find overcounts. These coverage errors changed over time—in fact, before 2000 the Asian American population was undercounted. Put another way, in one decennial census an area may have experienced a net overcount, while in another they experienced a net undercount.

Below, we outline the key findings and avenues for future research across all of our case studies before analyzing each case study individually.

Key Findings

At the national level, the census appears to have overcounted Asian Americans. States with large Asian American populations—including California and New York—were especially likely to have overcounts. *But Asian Americans were not overcounted everywhere.* For example, our case studies show undercounts for both Los Angeles County and King County, Washington (for the Asian Alone population only in 2020).

Future research should focus on improving our understanding of these coverage issues by attending to which data source is causing the error, as well as why it is occurring.

Impact of Age on Census Accuracy

Comparing our case studies to the national average reveals where specific age groups don't follow national patterns.

The Asian American Alone population experienced a noticeable national undercount of young children ages 0–4 (Alone or in Combination did not experience a national undercount for these ages). **All our case studies also show an undercount of young children for the Asian Alone population, and most of the case studies show an undercount for young children for the Asian Alone or in Combination population.** This shows how persistent the undercount of young children is.

We also find that **for older children and young adults (ages 10–29), there is a larger average overcount than in any other age group.** This is the case in nearly all of our case studies, and holds for both the Alone and the Alone or in Combination population. **Adults (ages 30–64) are closest to net zero coverage error on average.** Again, these findings generally hold for our case studies, with some interesting exceptions. King County in Washington and some of NYC's counties show interesting patterns for some ages within this span. **Ages 65 and above have net undercounts on average.** Some of our case studies follow this pattern, while others do not.

More research is needed to better understand these age patterns. Are there differences based on how much is spent on outreach? Is outreach more effective when it's done by members of the impacted group, and does the timing of the outreach matter? Perhaps there are differences in the subgroups that make up each of these age cohorts in these different geographic locations. Additional research is needed to answer these questions.

Self-Response: Impact of Contextual Variables

Contextual variables—including citizenship status, housing tenure, and English language ability—are thought to impact self-response rates. Self-response provides valuable insight into where people are, and are not, responding to the census. Researchers have hypothesized that self-response rates correlate with overall census accuracy even though self-response rates are not technically a direct measure of decennial census accuracy.⁹⁷

Our case studies are limited in what we can say about the relationship between census quality and self-response generally. Places like Los Angeles County, which had lower response rates in areas with larger Asian American populations, experienced an undercount in 2020. King County, Washington also experienced an undercount in 2020 despite having higher self-response rates (both overall and in areas with larger Asian

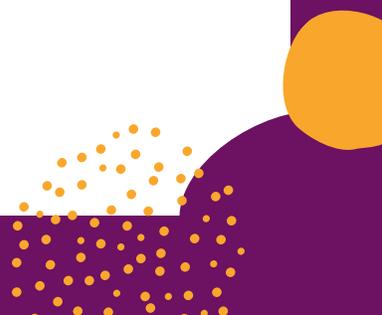
American populations) than the national average. Places like New York City, which had many areas of low self-response rates, experienced overcounts in 2020. In sum, some of our case studies suggest a relationship between self-response rates and census quality, while others do not.

Regardless of any correlation, **self-response is important because it is the highest quality response type—thus, knowing self-response rates is a critical first step in planning on how to best improve self-response in our communities.** We find some evidence of the potential impact of citizenship status, housing tenure, and English language ability on self-response, but none are supported all the time.

In general, census tracts with large, non-citizen Asian American populations tend to experience lower self-response than other census tracts.

More research is needed to better understand how self-response impacts overall census quality for the Asian American population, which also requires the Census Bureau to begin providing measures of self-response by race. Additional research can help show the extent to which self-response impacts overall census quality, and if it does so differentially by race, ethnicity, age, or sex. Moreover, while housing tenure and English language ability do seem to have some impact on self-response, more data are needed to better define the relationship between these factors and self-response.⁹⁸ Experts should study what other contextual variables impact self-response rates.

In order to undertake this research, more geographically granular measures of census quality are sorely needed.⁹⁹ For instance, being able to examine how self-response correlates with net coverage error at the county or city level can tell us a lot more than the state or national levels. Lastly, researchers should study why factors such as housing tenure, citizenship, and English language ability impact self-response and whether other variables may also affect self-response rates in Asian American communities.



Los Angeles County, California



Asian Americans make up approximately 15% of the 10 million people who live in the incredibly diverse and geographically large Los Angeles County¹⁰⁰—where the percentage in the county is more than double the percentage of the Asian American population in the United States overall.¹⁰¹ The graphics below provide data on Los Angeles County, comparing Los Angeles’s Asian American community to the rest of the nation.

Based on PA, Los Angeles County had a potential overcount in 2010, but then flipped to a potential undercount in 2020 for the Asian Alone population.

LOS ANGELES COUNTY ASIAN POPULATION

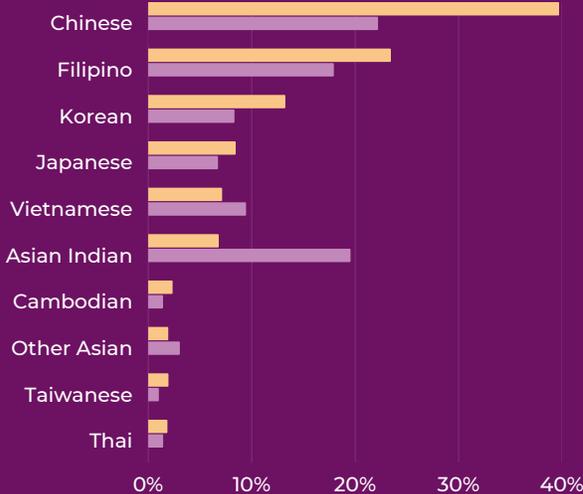
Asian Alone

Asian Alone or in Combination

Year	Asian Alone	Asian Alone or in Combination
2000	12.3% (1,173,799)	13.2% (1,258,275)
2010	14.2% (1,393,578)	15.6% (1,535,944)
2020	14.9% (1,489,041)	16.4% (1,639,661)

TOP 10 ASIAN SUBGROUPS Alone or in Combination 2020

■ Los Angeles County ■ United States



Source: American Community Survey (ACS) 2020

	Coverage	Asian Alone	Asian Alone or in Combination
2000*	Population Estimates	1,285,291	1,285,291
	Census Population	1,207,397	1,311,755
	Net Coverage (%)	6.3% undercount	2.0% overcount
2010	Population Estimates	1,327,782	1,433,295
	Census Population	1,393,578	1,311,755
	Net Coverage (%)	4.8% overcount	6.9% overcount
2020	Population Estimates	1,495,320	1,630,180
	Census Population	1,489,041	1,639,661
	Net Coverage (%)	0.4% undercount	0.6% overcount

HOUSING TENURE AND ENGLISH LANGUAGE ABILITY

Asian Alone 2020		Los Angeles County	California	United States
Housing Tenure	Homeowners	54%	60%	60%
	Renters	46%	40%	40%
Native Born	Overall	35%	38%	35%
	LEP** (ages 5+)	7%	7%	7%
Foreign Born	Overall	65%	62%	65%
	LEP** (ages 5+)	53%	47%	43%
	Naturalized Citizen	66%	65%	59%
	Non-Citizen	34%	35%	41%

**LEP (Limited English Proficiency): those who speak English "less than very well"

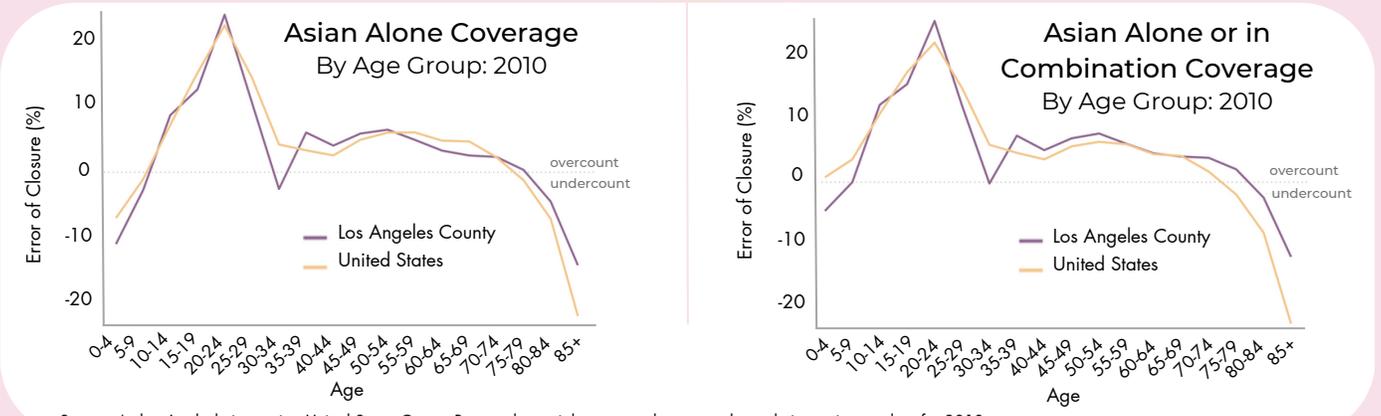
Source: ACS 2020

*For the data from 2000, the estimated population numbers come from the 1990 population estimates—before the census offered the option to select multiple races. For the first time in 2000, the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.



IMPACT OF AGE ON CENSUS ACCURACY

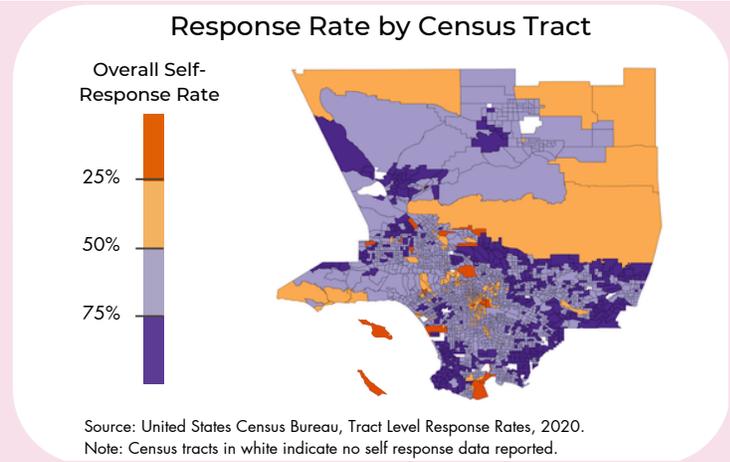
- The undercount of young children is higher for the Asian American Alone group in Los Angeles County than in the United States as a whole. While national data shows a slight overcount for young children in the Asian American Alone or in Combination group, there is an undercount of them in Los Angeles County.
- The error of closure is very close to zero in Los Angeles County for ages 30–34, while a significant Asian American overcount occurs for the same group for the United States as a whole.
- The undercount of the older population in Los Angeles County is smaller than it is in the country as a whole.



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

SELF-RESPONSE RATES

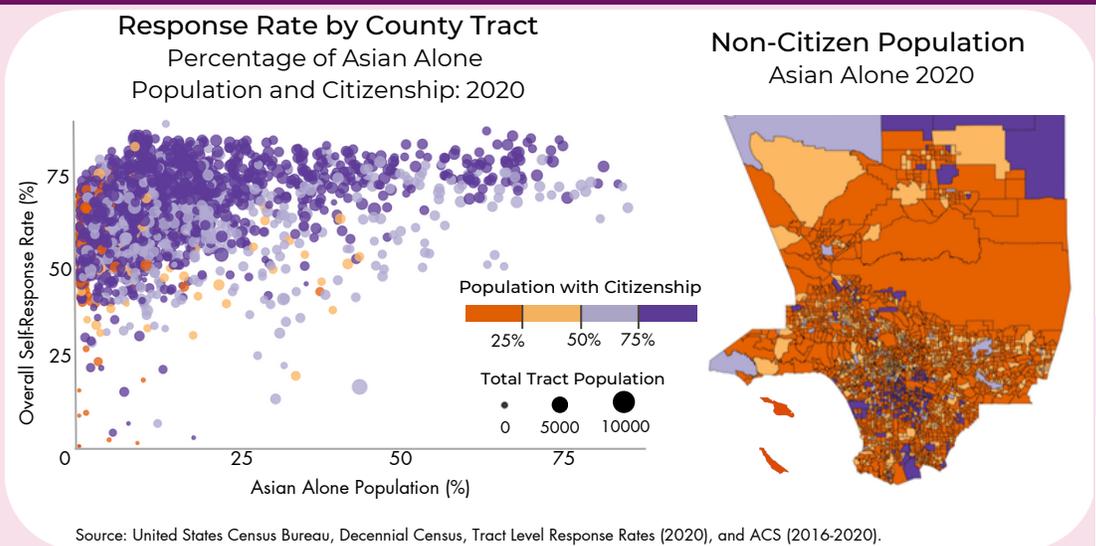
- Areas with relatively large Asian American populations in the 2020 Census had relatively high response rates. This measure reveals why the Asian American count should be relatively good in Los Angeles County.
- When a tract has an Asian American population of 50% or more, we consistently see self-response rates over 50%, with most near 75%.



Source: United States Census Bureau, Tract Level Response Rates, 2020. Note: Census tracts in white indicate no self response data reported.

CITIZENSHIP

- Some evidence suggests that citizenship status may have impacted response rates. Census tracts with a lower level of response among the Asian American population tended to have more non-citizens.



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

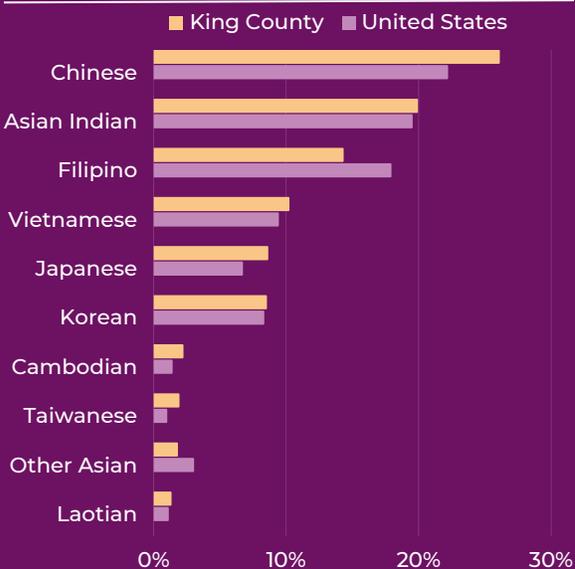
King County, Washington



KING COUNTY ASIAN POPULATION

	Asian Alone	Asian Alone or in Combination
2000	11.0% (191,741)	12.6% (218,242)
2010	14.8% (286,648)	17.3% (333,338)
2020	20.0% (453,230)	23.3% (527,853)

TOP 10 ASIAN SUBGROUPS Alone or in Combination 2020



Source: ACS 2020

A relatively large Asian American community lives in King County—the largest county in Washington State that includes Seattle and several of its suburbs. According to the 2020 Census, Asian Americans are 23.3% of the population of the county—where more than 2,269,675 people (or 29.5% of Washington State’s population) reside.

Because the Asian American community in King County is similar to the national Asian American community on most measures (including ethnicity, renter/owner proportions, and English language ability), we expect similar net coverage patterns to national averages. While there are some differences in the distribution of coverage by age, like the national average, King County showed an estimated overcount in both the 2010 and 2020 Censuses.

Based on PA, King County had a potential overcount in 2010, but then flipped to a potential undercount in 2020 for the Asian Alone Population.

	Coverage	Asian Alone	Asian Alone or in Combination
2000*	Population Estimates	189,340	189,340
	Census Population	201,237	234,030
	Net Coverage (%)	6.1% overcount	21.1% overcount
2010	Population Estimates	276,018	312,682
	Census Population	286,648	333,338
	Net Coverage (%)	3.8% overcount	6.4% overcount
2020	Population Estimates	457,740	519,071
	Census Population	453,230	527,853
	Net Coverage (%)	1.0% undercount	1.7% overcount

HOUSING TENURE AND ENGLISH LANGUAGE ABILITY

Asian Alone 2020		King County	Washington	United States
Housing Tenure	Homeowners	58%	62%	60%
	Renters	42%	38%	40%
Native Born	Overall	33%	34%	35%
	LEP** (ages 5+)	6%	6%	7%
Foreign Born	Overall	67%	66%	65%
	LEP** (ages 5+)	40%	41%	43%
	Naturalized Citizen	50%	54%	59%
	Non-Citizen	50%	46%	41%

**LEP (Limited English Proficiency): those who speak English “less than very well”

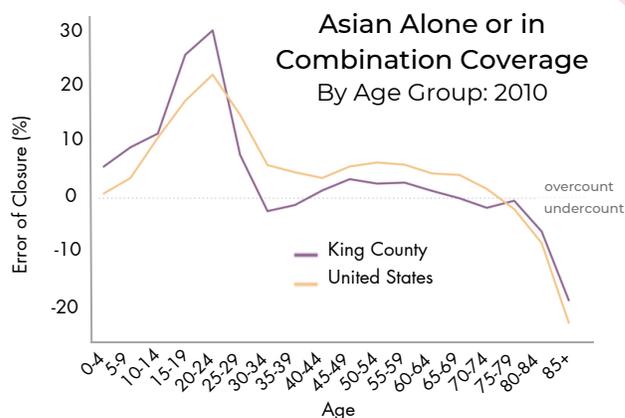
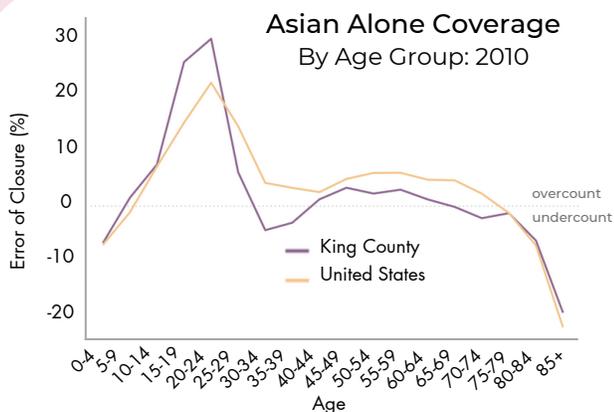
Source: ACS 2020

*For the data from 2000, the estimated population numbers come from the 1990 population estimates—before the census offered the option to select multiple races. For the first time in 2000, the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.



IMPACT OF AGE ON CENSUS ACCURACY

- King County and the United States as a whole have almost identical undercount rates for the young (ages 0–4) Asian American Alone population.
- There is a significant overcount that is much larger than the national average for the young (ages 0–4) Asian Alone or in Combination population. One potential reason for this could include people reporting race differently between birth certificates and the decennial census.¹⁰² Specifically, they might only report one race (not Asian) on birth certificates while reporting multiple races (including Asian) on the decennial census. These children could be duplicates in the decennial census or miscounted for other reasons.

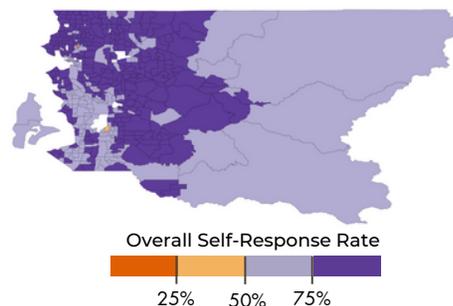


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

SELF-RESPONSE RATES

- Few tracts overall have response rates below 50%.
- There is not a strong pattern between response rates and the percentage of a tract population that is Asian American. While some areas with a relatively large proportion of Asian Americans have very high response rates, others have low response rates relative to the King County average of 77%. There are relatively lower rates in the eastern part of King County, in southern King County, and up into downtown Seattle.

Response Rate by Census Tract

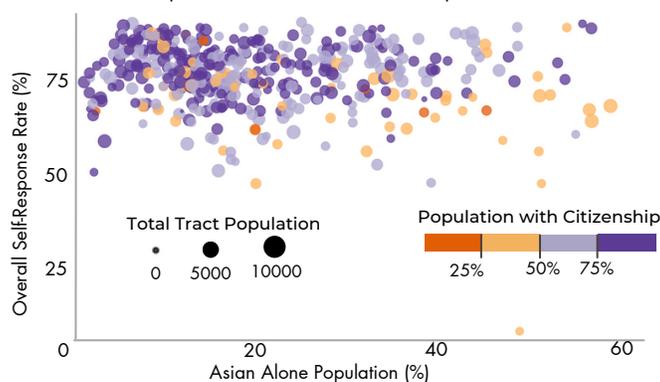


Source: United States Census Bureau, Tract Level Response Rates, 2020. Note: Census tracts in white indicate no self response data reported.

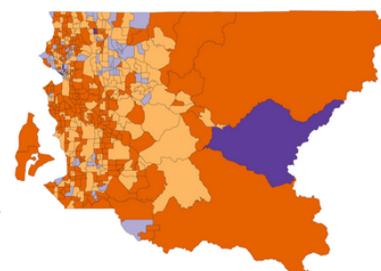
CITIZENSHIP

- Census tracts that have a higher proportion of Asian Americans and have a higher percentage of non-citizen Asian Americans tend to self-respond at lower rates than places with more Asian Americans that are citizens.

Response Rate by County Tract Percentage of Asian Alone Population and Citizenship: 2020



Non-Citizen Population Asian Alone 2020



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

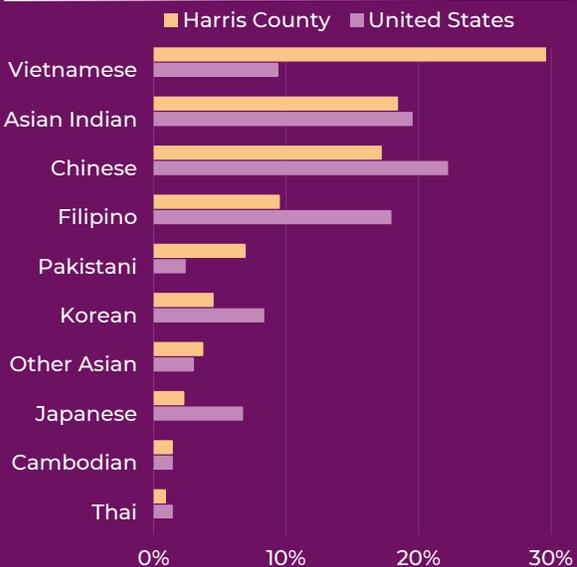
Harris County, Texas



HARRIS COUNTY ASIAN POPULATION

	Asian Alone	Asian Alone or in Combination
2000	5.3% (181,356)	5.7% (194,941)
2010	6.4% (261,637)	7.0% (285,796)
2020	7.4% (348,281)	8.1% (382,276)

TOP 10 ASIAN SUBGROUPS Alone or in Combination 2020



Source: ACS 2020

Harris County is noteworthy because the Asian American population has increased significantly in the county over the past 20 years. Made up of Houston, Texas and several of its suburbs, it is home to over 4.7 million people—just over 16% of the population of the state of Texas. Of these 4.7 million people, 7.4% are Asian American. The subgroups that make up the Asian American population differ from the national averages. The largest group in the Asian American community in Harris County is Vietnamese, followed by Asian Indian and then Chinese.¹⁰³

Based on PA, Harris County had a potential overcount in both the 2010 and 2020 Censuses.

	Coverage	Asian Alone	Asian Alone or in Combination
2000*	Population Estimates	200,590	200,590
	Census Population	184,808	200,666
	Net Coverage (%)	8.2% undercount	0.04% overcount
2010	Population Estimates	241,117	264,882
	Census Population	261,637	285,796
	Net Coverage (%)	8.2% overcount	7.6% overcount
2020	Population Estimates	342,302	371,482
	Census Population	348,281	382,276
	Net Coverage (%)	1.7% overcount	2.9% overcount

HOUSING TENURE AND ENGLISH LANGUAGE ABILITY

Asian Alone 2020		Harris County	Texas	United States
Housing Tenure	Homeowners	62%	64%	60%
	Renters	38%	36%	40%
Native Born	Overall	31%	32%	35%
	LEP** (ages 5+)	8%	7%	7%
Foreign Born	Overall	69%	68%	65%
	LEP** (ages 5+)	47%	40%	43%
	Naturalized Citizen	59%	55%	59%
	Non-Citizen	41%	45%	41%

**LEP (Limited English Proficiency): those who speak English "less than very well"

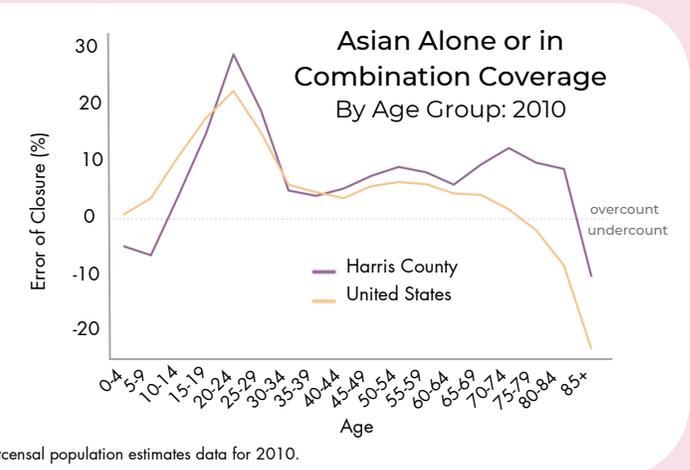
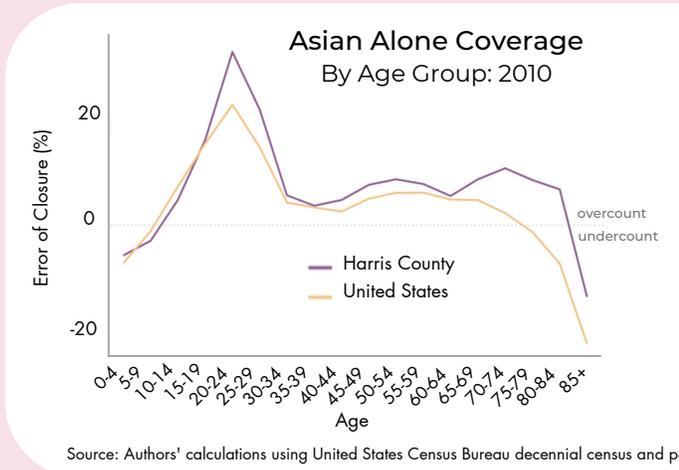
Source: ACS 2020

*For the data from 2000, the estimated population numbers come from the 1990 population estimates—before the census offered the option to select multiple races. For the first time in 2000, the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.



IMPACT OF AGE ON CENSUS ACCURACY

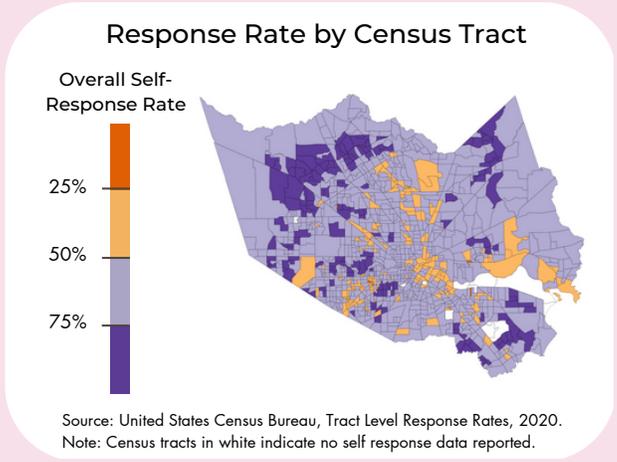
- The estimated coverage error by age for the Asian Alone population in Harris County is similar to the national average.
- The estimated overcount is higher for the young adult population (ages 15–29), and the undercount for the oldest population (ages 85 and above) isn't quite as large.
- For the Asian Alone or in Combination population, the pattern compared to the national average is similar for all groups except the youngest (ages 0–4). In Harris County there is an estimated undercount, compared to a slight overcount at the national level. This means that in the 2010 Census, fewer children were identified as Asian (Alone or in Combination) than in birth records.



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

SELF-RESPONSE RATES

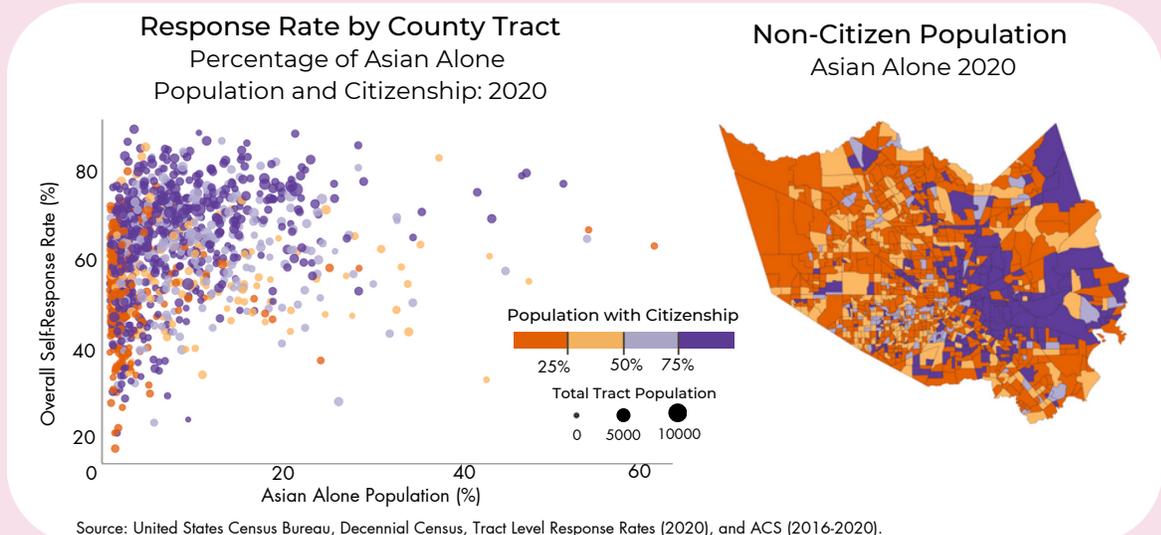
- Areas with higher proportions of Asian Americans generally have higher response rates, with a few exceptions.
- Low and high response rates are not distributed evenly across the county.
- Many of the lower response rates are clustered around downtown, in part of northern Harris County, and sprinkled in a few areas in both the east and west.



Source: United States Census Bureau, Tract Level Response Rates, 2020. Note: Census tracts in white indicate no self response data reported.

CITIZENSHIP

- There is a clear correlation between citizenship and response rates for Asian Americans in Harris County.



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

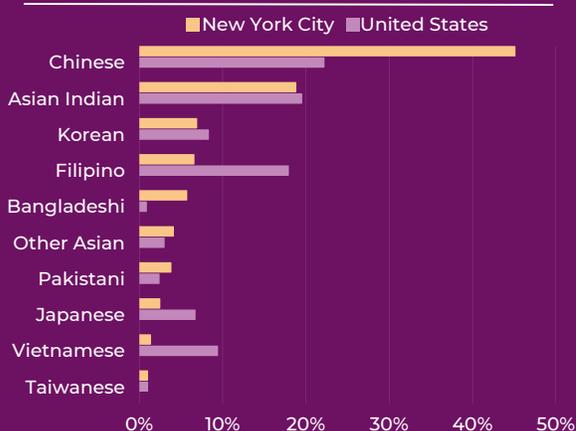
New York City, New York



NEW YORK CITY ASIAN POPULATION

	Asian Alone	Asian Alone or in Combination
2000	10.5% (838,074)	11.1% (891,718)
2010	13.3% (1,086,296)	14.3% (1,167,545)
2020	16.1% (1,420,318)	17.4% (1,531,522)

TOP 10 ASIAN SUBGROUPS Alone or in Combination 2020



Asian Alone 2020		New York City	United States
Housing Tenure	Home-owners	43%	60%
	Renters	57%	40%

Source: ACS 2020

The Asian American population has grown significantly in New York City throughout the last 20 years, and now makes up over 16% of the population of the largest and one of the most diverse cities in the United States.¹⁰⁴ In 2020, the city had over 8 million people spread throughout its five counties (boroughs): New York (Manhattan), Kings (Brooklyn), Bronx (Bronx), Richmond (Staten Island), and Queens (Queens). Chinese and Asian Indian are the largest Asian ethnicities in the city. And while Bangladeshis are not in the top ten Asian subgroups in the United States, they are the fifth largest group in New York City—signaling that this is one of the largest Bangladeshi concentrations in the U.S. The graphics below provide information on the boroughs and counties, the city as a whole, the state, and the nation.

Since New York City is made up of five counties, there are more citizenship and English language ability data to analyze. Overall, Brooklyn, Manhattan, and Queens have the largest Asian American populations. Brooklyn and Manhattan have slightly more non-citizens than the national average, but Queens has a much larger share of the Asian American non-citizen population. Further, in all of the boroughs other than Manhattan, both the foreign-born and native-born populations are less likely to speak English very well (LEP) than the national average.

Based on PA, New York City had a potential overcount in both the 2010 and 2020 Censuses. This was the case in most of the five counties (or boroughs) that make up New York City as well (see the table below for exceptions).

Coverage: New York City		Asian Alone	Asian Alone or in Combination
2000*	Population Estimates	763,272	763,272
	Census Population	849,755	913,923
	Net Coverage (%)	10.7% overcount	18.0% overcount
2010	Population Estimates	1,042,963	1,109,827
	Census Population	1,086,296	1,167,545
	Net Coverage (%)	4.1% overcount	5.1% overcount
2020	Population Estimates	1,241,591	1,322,328
	Census Population	1,420,318	1,531,522
	Net Coverage (%)	13.4% overcount	14.7% overcount

Asian Alone 2020		New York City	United States
Native Born	Overall	30%	35%
	LEP (ages 5+)	12%	7%
Foreign Born	Overall	70%	65%
	LEP (ages 5+)	59%	43%
	Naturalized Citizen	57%	59%
	Non-Citizen	43%	41%

Source: ACS 2020

*For the data from 2000, the estimated population numbers come from the 1990 population estimates—before the census offered the option to select multiple races. For the first time in 2000, the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.



County-Level Demographics

PA Analysis, Housing Tenure and English Language Ability

Bronx

Population: 1,472,654

Coverage: Bronx County		Asian Alone	Asian Alone or in Combination	Housing Tenure	Homeowners	Renters	Asian Alone 2020	
2000*	Population Estimates	50,917	50,917		Native Born	39%		61%
	Census Population	49,546	56,367	Overall		LEP (ages 5+)		
	Net Coverage (%)	2.7% undercount	10.2% overcount	32%		13%		
2010	Population Estimates	57,172	62,161	Foreign Born	Overall	LEP (ages 5+)	Naturalized Citizen	Non-Citizen
	Census Population	57,062	64,994					
	Net Coverage (%)	0.2% undercount	4.5% overcount					
2020	Population Estimates	58,226	61,887					
	Census Population	72,154	69,090					
	Net Coverage (%)	21.4% overcount	24.4% overcount					

Source: ACS 2020

Brooklyn

Population: 2,736,074

Coverage: Kings County		Asian Alone	Asian Alone or in Combination	Housing Tenure	Homeowners	Renters	Asian Alone 2020	
2000*	Population Estimates	160,917	160,917		Native Born	43%		57%
	Census Population	199,289	215,724	Overall		LEP (ages 5+)		
	Net Coverage (%)	21.3% overcount	29.1% overcount	33%		15%		
2010	Population Estimates	259,819	278,559	Foreign Born	Overall	LEP	Naturalized Citizen	Non-Citizen
	Census Population	269,251	289,764					
	Net Coverage (%)	3.6% overcount	3.9% overcount					
2020	Population Estimates	322,772	348,255					
	Census Population	378,683	419,208					
	Net Coverage (%)	16.0% overcount	18.5% overcount					

Source: ACS 2020



Manhattan

Population: 1,694,251

		Housing Tenure		Coverage: New York County		Asian Alone	Asian Alone or in Combination
		Homeowners	Renters				
		24%	76%	2000*	Population Estimates	169,637	169,637
					Census Population	151,033	162,381
		LEP (ages 5+)			Net Coverage (%)	11.6% undercount	4.4% undercount
		Overall	LEP (ages 5+)				
		34%	6%	2010	Population Estimates	184,390	195,662
					Census Population	184,345	203,376
		LEP (ages 5+)			Net Coverage (%)	0.02% undercount	3.9% overcount
Foreign Born	Overall	LEP (ages 5+)	Naturalized Citizen	Non-Citizen			
	66%	46%	50%	50%			
				2020	Population Estimates	204,630	222,556
					Census Population	222,265	250,582
					Net Coverage (%)	8.3% overcount	11.9% overcount

Source: ACS 2020

Asian Alone 2020

Queens

Population: 2,405,464

		Coverage: Queens County		Asian Alone	Asian Alone or in Combination			Housing Tenure	
								Homeowners	Renters
2000*	Population Estimates			352,004	352,004			51%	49%
	Census Population			423,599	450,922			LEP (ages 5+)	
	Net Coverage (%)			18.6% overcount	24.6% overcount			Overall	28%
2010	Population Estimates			504,976	533,589			LEP (ages 5+)	
	Census Population			539,400	570,085			Overall	72%
	Net Coverage (%)			6.6% overcount	6.6% overcount			LEP (ages 5+)	60%
2020	Population Estimates			601,159	631,117			Naturalized Citizen	57%
	Census Population			687,936	719,333			Non-Citizen	43%
	Net Coverage (%)			13.5% overcount	13.1% overcount				

Source: ACS 2020

Asian Alone 2020

Staten Island

Population: 495,747

		Housing Tenure		Coverage: Richmond County		Asian Alone	Asian Alone or in Combination
		Homeowners	Renters				
		80%	20%	2000*	Population Estimates	29,797	29,797
					Census Population	26,288	28,529
		LEP (ages 5+)			Net Coverage (%)	12.5% undercount	4.4% undercount
		Overall	LEP (ages 5+)				
		32%	12%	2010	Population Estimates	36,606	39,856
					Census Population	36,238	39,326
		LEP (ages 5+)			Net Coverage (%)	1.0% undercount	1.3% undercount
Foreign Born	Overall	LEP (ages 5+)	Naturalized Citizen	Non-Citizen			
	68%	54%	67%	33%			
				2020	Population Estimates	54,804	58,513
					Census Population	59,280	63,309
					Net Coverage (%)	7.9% overcount	7.9% overcount

Source: ACS 2020

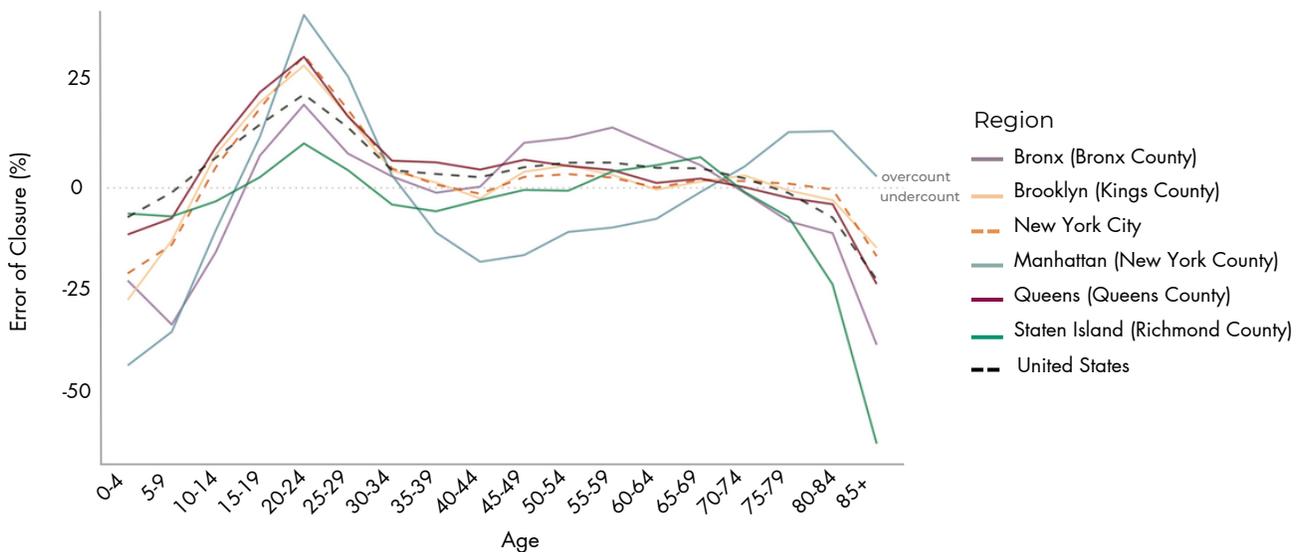
Asian Alone 2020



IMPACT OF AGE ON CENSUS ACCURACY

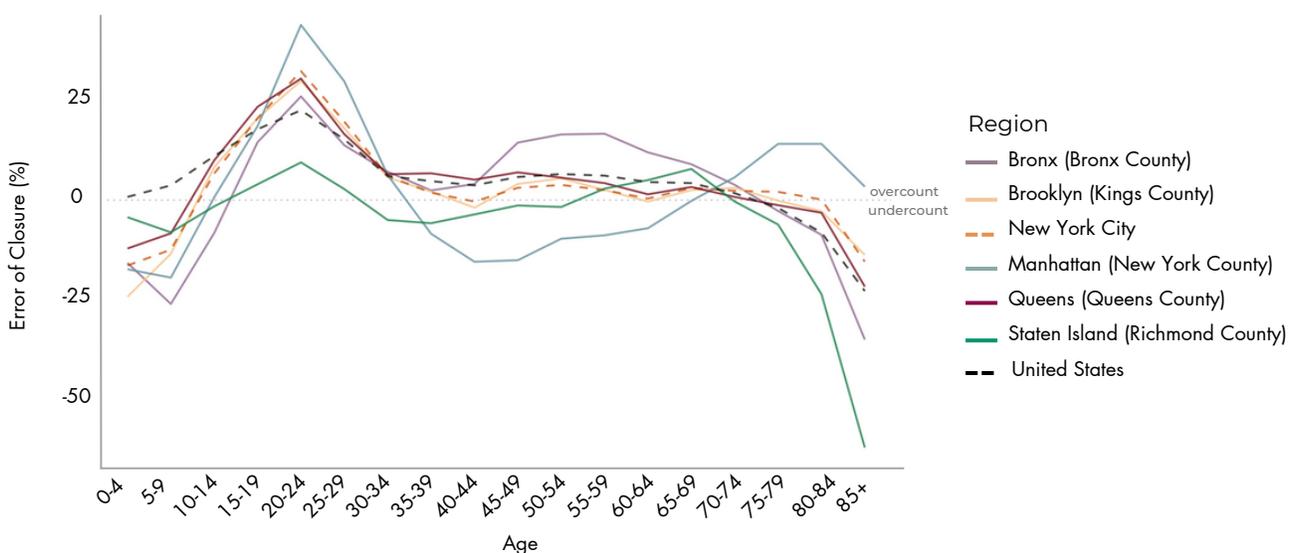
- All counties show an estimated undercount of young (ages 0–4) Asian American children (both for the Alone as well as the Alone or in Combination population). In the United States nationally, there is not an undercount among the Asian American Alone or in Combination population ages 0–4.
- For Richmond County (Staten Island), there is a much larger undercount for young children (ages 0–9) than for the rest of the boroughs or the United States as a whole. New York City (Manhattan) has a much larger estimated overcount for the young adult population than the other boroughs or the United States nationally.

Asian Alone Coverage by Age Group: 2010



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

Asian Alone or in Combination Coverage by Age Group: 2010



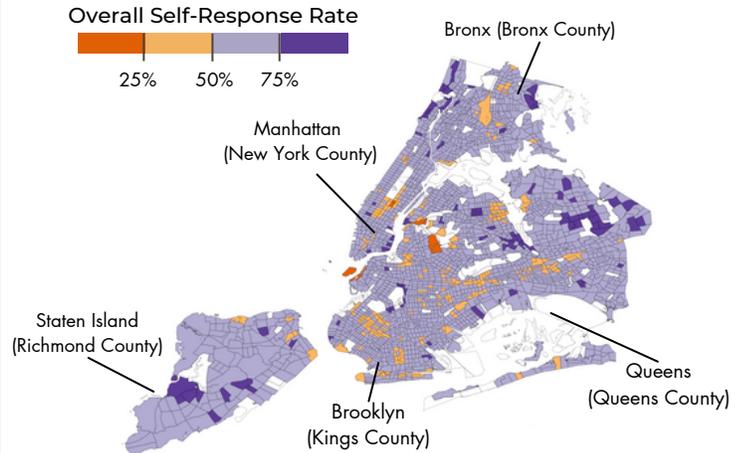
Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

SELF-RESPONSE RATES

• The overall variability of response rates by tract is fairly high in New York City overall. Tracts with more Asian Americans also vary in their response rates.

- The relationship between the proportion of Asian Americans in a tract and self-response seems to be non-linear. That is, in tracts where 50–60% of the population is Asian American, the response rate tends to be very high. There are declines in self-response in tracts where more than 70% of the population is Asian American.
- Clusters of low self-response rates exist in each of the boroughs, and tend to cluster more in Queens, the Bronx, and Brooklyn.

Response Rate by Census Tract: 2020

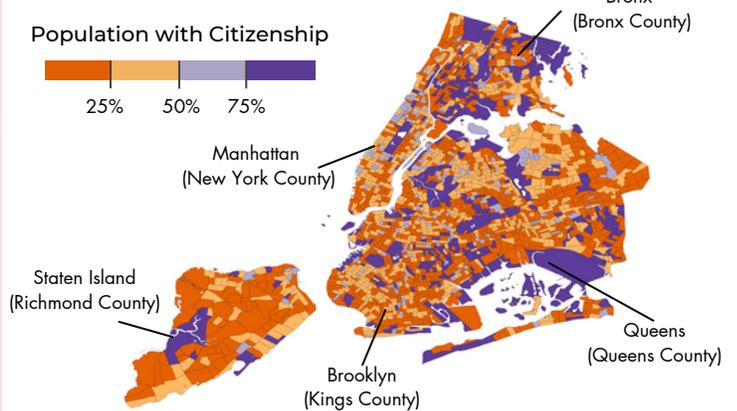


Source: United States Census Bureau, Tract Level Response Rates, 2020.
Note: Census tracts in white indicate no self response data reported.

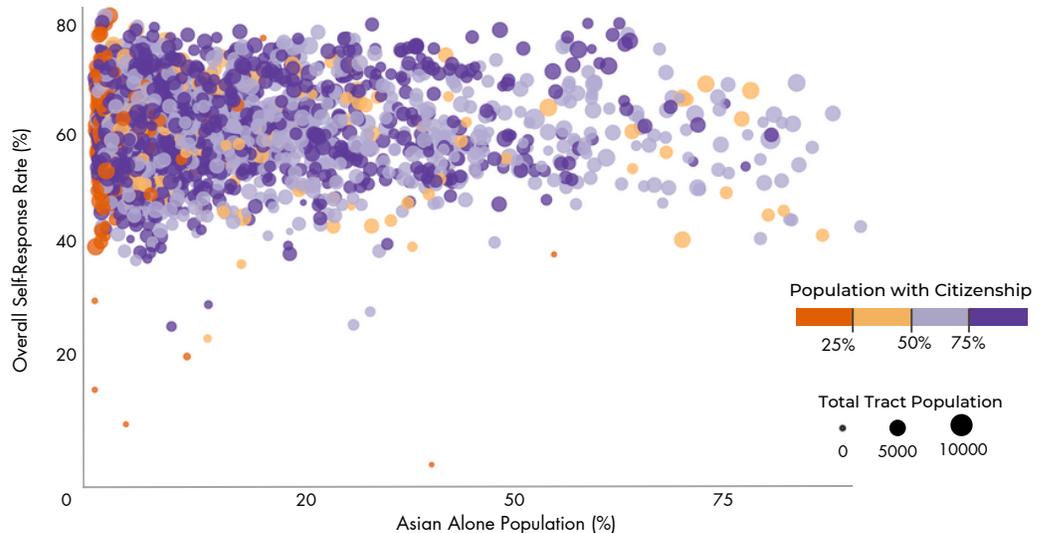
CITIZENSHIP

- The Asian American non-citizen community is not evenly distributed throughout New York City.
- Some of the areas with relatively high non-citizen populations are also areas with relatively low self-response rates.
- There is evidence of citizenship impacting Asian American response rates. We can see that in tracts with lower response rates with Asian Americans that the population tends to be a higher proportion of non-citizens.

Non-Citizen Asian Alone Population
By Census Tract: 2020



Response Rate by Census Tract
Percentage of Asian Alone Population and Citizenship State: 2020



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

Analysis: The Quality of the Census for the NHPI Community in the 2010 and 2020 Censuses

According to the 2020 Census, the NHPI community comprises approximately 0.48% of the total United States population. The NHPI community does not have a statistically significant undercount or overcount according to the PES. But this lack of a statistically significant finding may be due to the small sample size of the population, which leads to large margins of error.

Table 2 **National Net Coverage Error by Race Category: PA Method**

	2010		2020
	Non-Hispanic Population	Total Population	Non-Hispanic Population
NHPI Alone	8.3%	13.4%	4.7%
NHPI Alone or in Combination	8.7%	13.7%	6.9%

Table 2 shows the estimated net coverage for NHPI Alone and NHPI Alone or in Combination for the 2010 and 2020 Censuses using PA. For 2010, we separated out the total NHPI population from the non-Hispanic NHPI community so that we can make comparisons to 2020. Due to current data limitations, we are only able to provide data for the non-Hispanic NHPI community in 2020, for which we could create a modified race file.

PA estimates an overcount for the NHPI population in the 2010 and 2020 decennial censuses. In 2010, this estimated overcount was larger for the total NHPI (i.e., both Hispanic and non-Hispanic) population than for the non-Hispanic NHPI population. The remainder of the analysis examines the total population for 2010 and the non-Hispanic population for 2020 (where possible) to provide comparisons between these groups.¹⁰⁵ Given the size of the NHPI population that reports more than one race, we will focus on the NHPI Alone or in Combination group instead of NHPI Alone.

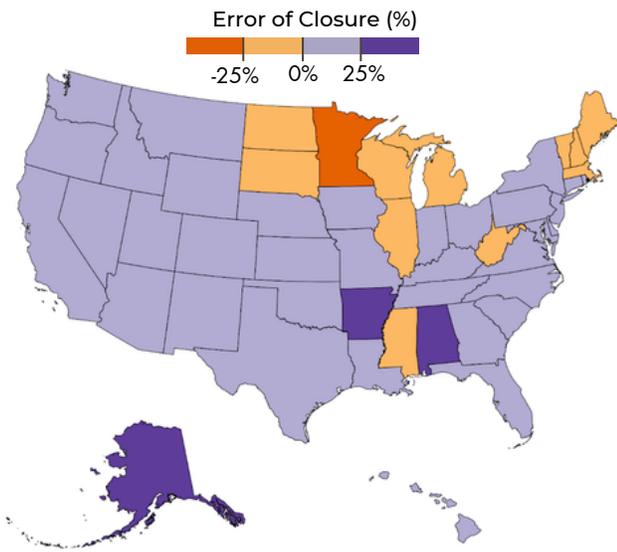
PA by Lower Geographies

For most states in 2010, PA estimates an overcount existed for the NHPI community. A few states, mostly in the Upper Midwest and Northeast, do not follow this pattern. These are areas that show an undercount for the NHPI population but where the total population generally sees overcounts or counts that are not statistically different from zero: North Dakota, South Dakota, Minnesota, Wisconsin, Michigan, Illinois, Maine, Vermont, New Hampshire, Massachusetts, West Virginia, and Mississippi.

In 2020 the patterns were not terribly different. Potential undercounts are only present in a handful of states, mostly in the Upper Midwest, the Northeast, and the South: Michigan, Massachusetts, Connecticut, Rhode Island, Delaware, Maryland, Georgia, and Florida (the actual states with potential undercounts did change in some cases from 2010).

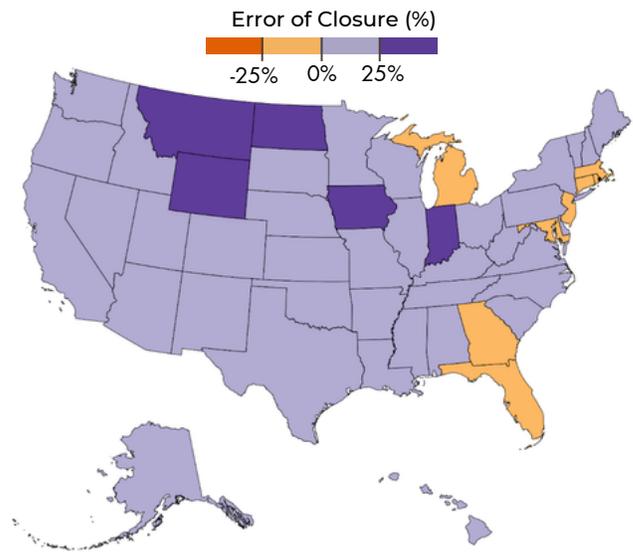
Map 11

Percent Difference between 2010 Census Race and Population Estimates, by State
 NHPI, Alone or in Combination Population



Map 12

Percent Difference between 2020 Census Race and Population Estimates, by State
 NHPI, Alone or in Combination Population



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010 and 2020. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for NHPI Americans (Alone or in Combination) was less than the census results.

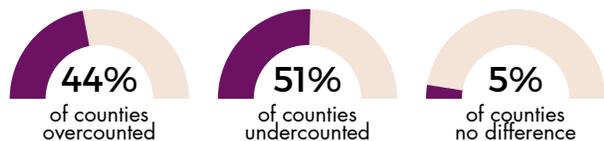
Map 11 shows the state-level variation of the decennial census count quality for NHPis in the 2010 Census. Map 12 shows the state-level variation of the decennial census count quality for NHPis in the 2020 Census.

At the state level, the places with the largest NHPI communities have estimated overcounts, just as we see nationally. The pattern is more complicated for counties. Examining the percentage of counties that had estimated overcounts and undercounts in both 2010 and 2020 reveals that over 50% of counties in 2010 and nearly 40% of counties in 2020 were undercounted for the NHPI Alone or in Combination group. In comparison, nationally there were estimated overcounts for both decades for NHPis, and for the vast majority of states there were overcounts.

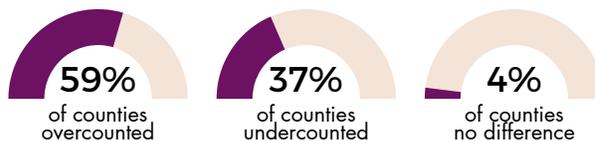
Since there is a national overcount, it is likely that most of these undercounts occur in places with smaller NHPI communities. Differences in coverage are not spread evenly across the country. County-level data corroborates this conclusion. Because of the pronounced differences in census coverage for NHPis between counties, national numbers are likely hiding variation.

Figure 21

**2010 Census Accuracy:
NHPI Alone or In Combination**



**2020 Census Accuracy:
NHPI Alone or In Combination**



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010 and 2020.

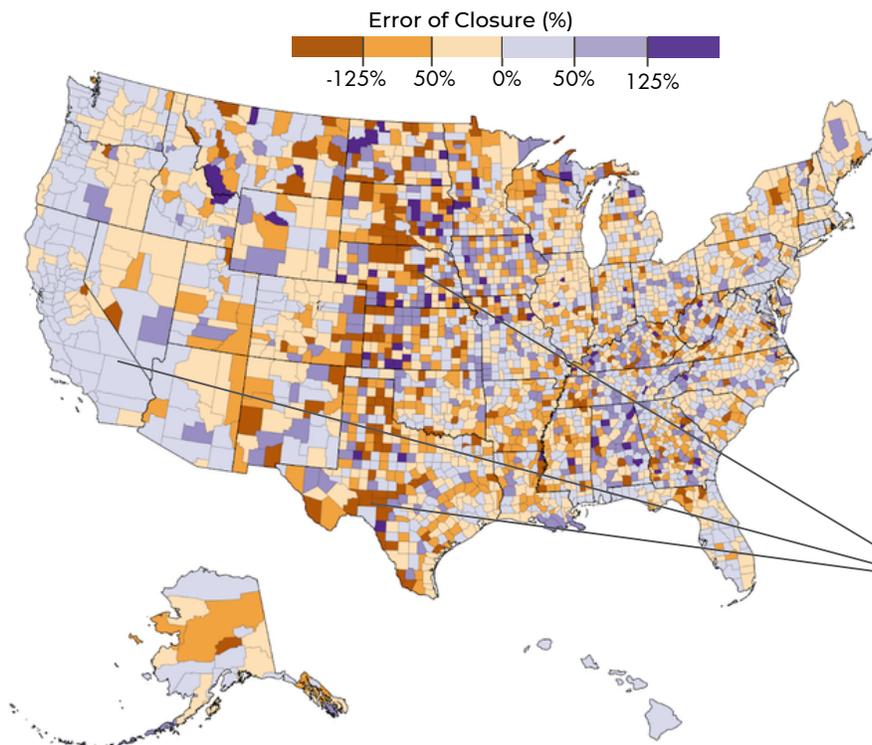
Figure 21 shows the percentage of counties that were undercounted or overcounted in both 2010 and 2020 for the NHPI community. Here we see that even though PA estimates an overcount in both decades, a significant number of counties experience undercounts.

Mapping the estimated undercounts and overcounts illustrates where, and begins to hint at why, this variation occurs.

Map 13

**Percent Difference between 2010 Census Race and
Population Estimates, by County**

NHPI, Alone or in Combination Population



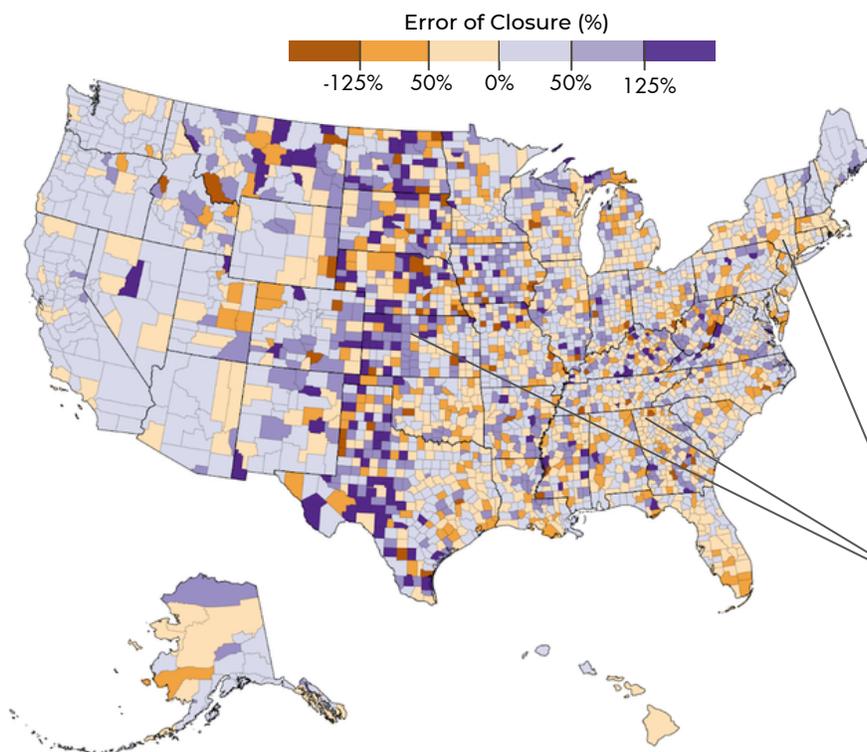
The 2010 Census NHPI Alone or in Combination estimated coverage error shows overcounts and undercounts spread relatively randomly in most of the country. But some patterns emerge: There is a higher percentage of undercounts through the Midwest and central Texas. On the other hand, most of the West Coast shows estimated overcounts for the NHPI Alone or in Combination population.

Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for NHPI Americans (Alone or in Combination) was less than the census results.

How does this compare to the 2020 Census estimated coverage of the NHPI Alone or in Combination population? Some of the coverage patterns look similar, while others are completely different. For example, the West Coast is still generally a bastion of estimated overcounts. However, a few key counties—such as Los Angeles County in California—turned from estimated overcounts in 2010 to estimated undercounts in 2020. The Midwestern undercounts in 2010 are now mostly overcounts. Since the NHPI population in most counties is very small, this could be partially explained by very small population changes, but the pattern is still quite stark.

Map 14

Percent Difference between 2020 Census Race and Population Estimates, by County
 NHPI, Alone or in Combination Population



The 2020 Census NHPI Alone or in Combination estimated coverage error shows overcounts and undercounts spread relatively randomly in most of the country. Some of the patterns we saw in 2010 are different in 2020. The Midwest is estimated to have more overcounts while the Southeast and Northeast continue their trends of having more counties with undercounts.

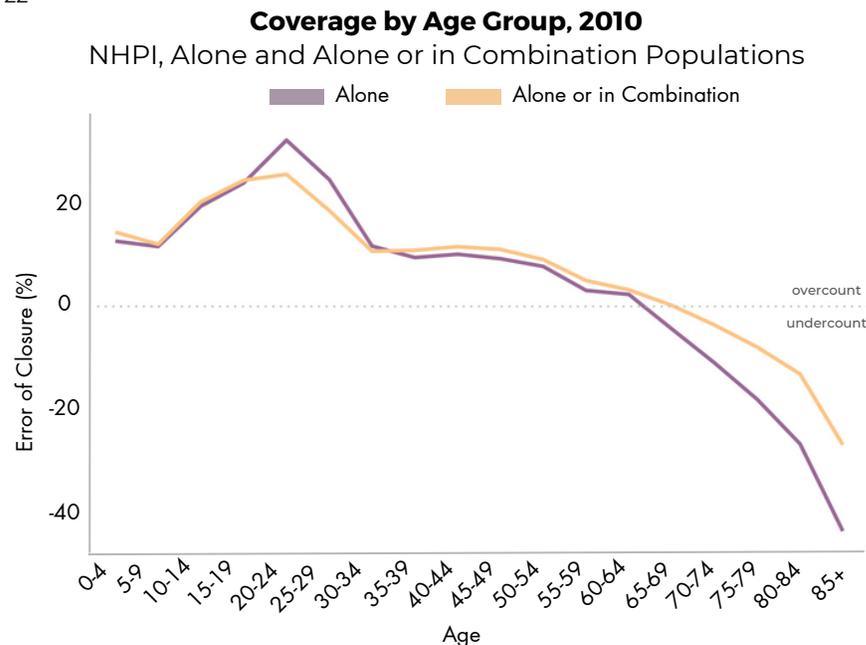
Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for NHPI Americans (Alone or in Combination) was less than the census results.

PA by age group

Similar to the overall population, differences in coverage by age exist within the NHPI community.¹⁰⁶ The overall overcount of the NHPI population in 2010 holds for most age groups, except for ages 65 and above.

Unlike the overall population, a potential net undercount of the youngest children does not appear to exist for NHPIs. There is an overcount of these ages, though it is not as large as the overcount for older children and young adults. This is an unexpected finding. Perhaps the NHPI community is more likely to report their young children in the decennial census, or birth records for the NHPI community may be more likely to misreport race.¹⁰⁷ The highest overcounts by age are those of older children and younger adults. This aligns with the pattern seen in the overall population.

Figure 22



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

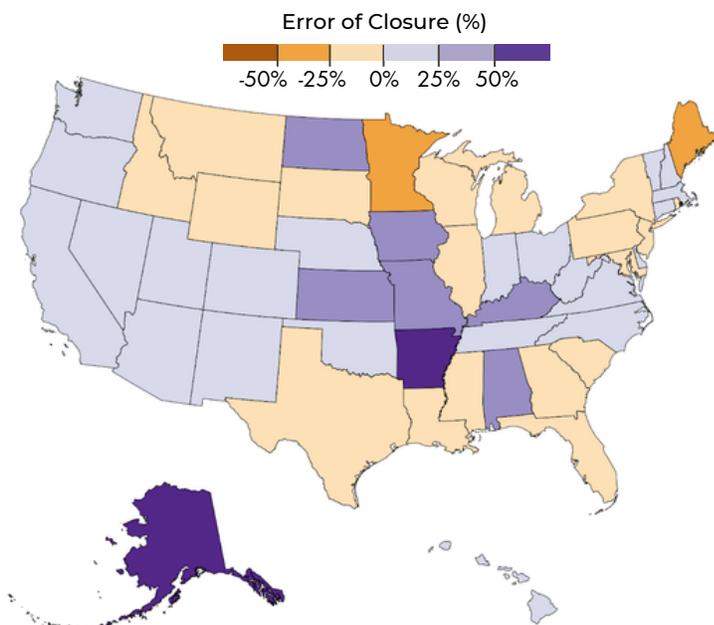
Age distributions of overcounts and undercounts for NHPIs vary geographically. Examining the youngest children, young adults, and the older populations by state reveals that the youngest children and young adults are not overcounted everywhere, and the population ages 65 and above is not undercounted everywhere. While the youngest children (those ages 0–4) are overcounted at the national level and in most states with large NHPI populations, they are often undercounted in other states.¹⁰⁸

Similar patterns emerge for ages 20–24 and ages 0–4. The majority of states with large NHPI populations show an overcount, while multiple states with smaller NHPI populations show undercounts.

Map 15

Percent Difference between 2010 Census Race and Population Estimates, by State

NHPI, Alone or in Combination Population: Ages 0–4



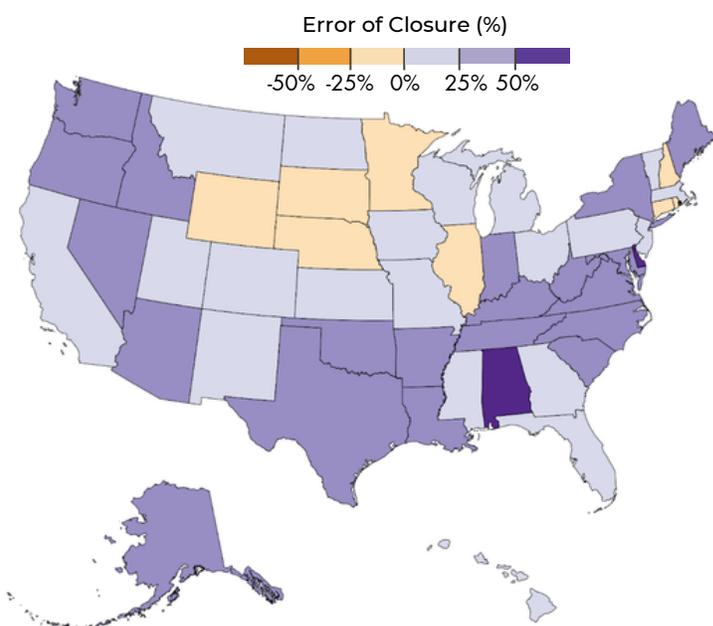
Map 15 shows the state-level coverage for PA for ages 0–4 for the NHPI community in 2010. Though the NHPI community does not experience a net undercount at the national level for this age group, many states do.

Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for NHPIs (Alone or in Combination) was less than the census results.

Map 16

Percent Difference between 2010 Census Race and Population Estimates, by State

NHPI, Alone or in Combination Population: Ages 20–24



Map 16 shows the state-level coverage for PA for ages 20–24 for the NHPI community in 2010. Though the NHPI community did not experience a net undercount at the national level for this age group, many states did (though fewer than did for ages 0–4).

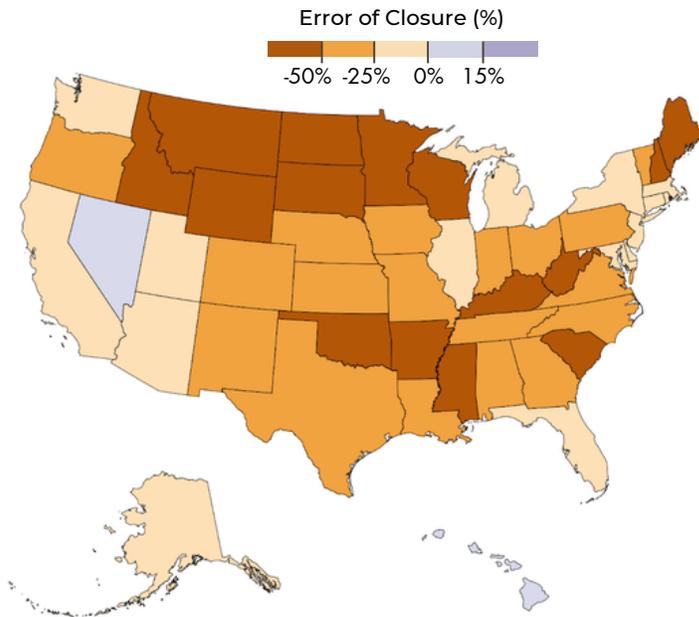
Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for NHPIs (Alone or in Combination) was less than the census results.

Finally, while NHPIs ages 65 and above are undercounted nationally, they are overcounted in Hawaii—where the NHPI population is the largest (Nevada also has an overcount).

Map 17

Percent Difference between 2010 Census Race and Population Estimates, by State

NHPI, Alone or in Combination Population: Ages 65 and Above



Map 17 shows the state-level coverage for PA for ages 65 and above for the NHPI community in 2010. This age group experiences high undercounts at the national level. With the exception of Hawaii and Nevada, all other states had undercounts.

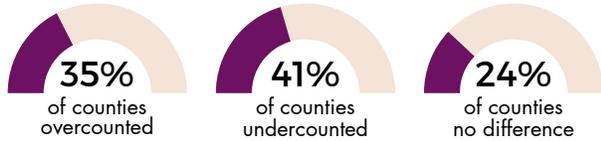
Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010. Note: An error of closure value less than 0% indicates a potential undercount, i.e. the population estimate for NHPIs (Alone or in Combination) was less than the census results.

Estimated undercounts and overcounts for different age groups also vary at the county level. Some counties had no difference between the estimates and the decennial census due to the small NHPI populations (or even complete lack of population). Even though ages 0–4 and ages 20–24 tend to be overcounted, they are not overcounted in all counties. There were more counties with undercounts than overcounts for both ages 0–4 and ages 20–24. Therefore, overcounts for those age groups occur in places with larger NHPI populations.

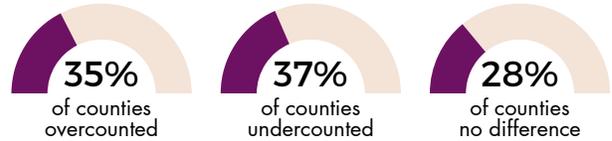
The NHPI community ages 65 and above is undercounted nationally, but there are a few counties that are overcounted for this group. Further research is needed on the inclusion of NHPI elders (ages 65 and above) in the decennial census, their potential overestimation in the population estimates, or both.

Figure 23

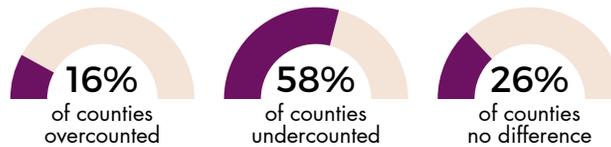
**2010 Census Accuracy:
NHPI Alone or in Combination, Ages 0–4**



**2010 Census Accuracy:
NHPI Alone or in Combination, Ages 20–24**



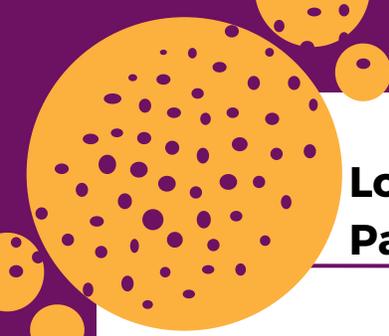
**2010 Census Accuracy:
NHPI Alone or in Combination, Ages 65 and Above**



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

Figure 23 shows the proportion of counties that experience undercounts and overcounts for three different age groups according to PA. Even though ages 0–4 and ages 20–24 are both overcounted at the national level, a significant number of counties still have undercounts. The 65 and above population is undercounted significantly at the national level, and only 16% of counties experienced an overcount of this group.





Local Snapshots: Native Hawaiian and Pacific Islander Case Studies

Case studies allow us to examine the quality of the decennial census count for the NHPI community at a more detailed scale. NHPs comprise about 0.48% of the population of the United States, but they are not distributed evenly geographically. We selected four locations with sizable or distinctive NHPI communities and because of the diversity of their NHPI origins.¹⁰⁹ Our first case study, Hawaii, has the largest population of NHPs in the United States, and we analyze census coverage for both the state and its five counties. Second, Los Angeles County, California has another large NHPI community. Our third case study, the NHPI community in Northwestern Arkansas, is almost entirely Marshallese and constitutes the largest Marshallese population in the United States. Finally, within the state of Utah, there are large Tongan and Samoan populations in Utah and Salt Lake Counties.

Below, we outline the key findings and avenues for future research across all of our case studies before analyzing each case study individually.

Key Findings

At the national and the state level, the census appears to have overcounted NHPs. States with large NHPI populations—including Hawaii and California—were especially likely to have overcounts. **But NHPs were not overcounted everywhere.** For example, our case studies show undercounts for both Los Angeles County and Hawaii County (for the NHPI Alone or in Combination population only).

Moreover, these coverage errors change over time. Before 2000, the NHPI population was undercounted. Put another way, in one decennial census an area may have experienced a net overcount. In another decennial census, the same area experienced a net undercount. Future research should focus on improving our understanding of these coverage issues by attending to which data source is causing the error, as well as why it is occurring.

Impact of Age on Census Accuracy

Comparing our case studies to the national average reveals where specific age groups don't follow national patterns.

There was not a national undercount of young children among NHPs in 2020. This is surprising since other racial groups had national undercounts of young children. **Our case studies showed overcounts of young children. Some case studies had larger overcounts, while others were closer to net zero coverage error.**

Our analysis shows that older NHPI children and young adults (ages 10–29) have the largest average overcount at the national level for any age group. **Our case studies also show an overcount for NHPs between the ages of 10–29.** Unlike the national average, in our case studies, NHPI children and young adults are not always the largest overcount.

Nationally, NHPI adults (ages 30–64) are closest to net zero coverage error on average, and the existing overcount slowly converges towards zero with increases in age. **In our case studies, we also see adults ages 30–64 closest to net zero coverage error, with some interesting exceptions: Many adults ages 25–64 are undercounted in Los Angeles County.** Finally, **undercounts were common for NHPs ages 65 and above nationally and in our case studies aside from Los Angeles County, where a large overcount occurred.**

More research is needed to better understand these age patterns. Are there differences based on how much is spent on outreach? Is outreach more effective when it's done by members of the impacted group, and does the timing of the outreach matter? Perhaps there are differences in the subgroups that make up each of these age cohorts in these different geographic locations. Additional research is needed to answer these questions.

Self-Response: Impact of Contextual Variables

Contextual variables—including citizenship status, housing tenure, and English language ability—are thought to impact self-response rates. Self-response provides valuable insight into where people are, and are not, responding to the census. Researchers have hypothesized that self-response rates correlate with overall census accuracy even though self-response rates are not technically a direct measure of decennial census accuracy.¹¹⁰

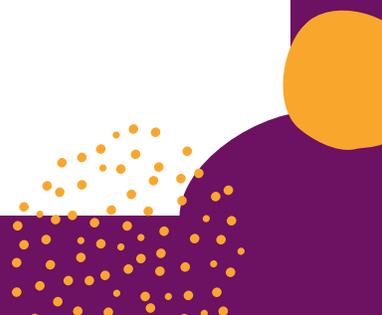
Our case studies are limited in what we can say about the relationship between census accuracy and self-response generally. Los Angeles County experienced an undercount in 2020. But tracts there do not have many NHPs, and thus we cannot make arguments about the impact of NHPI response rates on census quality. On the other hand, we were able to make more definitive claims about Hawaii because tracts there had a higher concentration of NHPs; here, we saw similar overcounts and response rates (compared to the national average overcount and average national response rate).

Regardless of any correlation, **self-response is important because it is the highest quality response type—thus, knowing self-response rates is a critical first step in planning on how to best improve self-response in our communities.** We find some evidence of the potential impact of citizenship status, housing tenure, and English language ability on self-response, but none are supported all the time.

In general, census tracts with large NHPI populations that have more non-citizens experience lower self-response. The relationship between citizenship and self-response is especially nuanced for NHPIs. According to the 2014 report, *A Community of Contrasts: Native Hawaiians and Pacific Islanders in the United States*, “While Native Hawaiians and many Pacific Islanders born in Hawai‘i, Guam, or the Commonwealth of the Northern Mariana Islands are U.S. citizens, some Pacific Islanders are foreign-born and, depending on their country of birth, may hold different types of immigration statuses.”¹¹¹ Therefore, our analysis of the impact of citizenship on self-response will only apply to certain NHPI groups, while not being applicable to others.

More research is needed to better understand how self-response impacts overall census quality for the NHPI population, which also requires the Census Bureau to begin providing measures of self-response by race. Additional research can help show the extent to which self-response impacts overall census quality, and if it does so differentially by race, ethnicity, age, or sex. Moreover, while housing tenure and English language ability do seem to have some impact on self-response, more data are needed to better define the relationship between these factors and self-response.¹¹² Experts should study what other contextual variables impact self-response rates.

In order to undertake this research, more geographically granular measures of census quality are sorely needed.¹¹³ For instance, being able to examine how self-response correlates with net coverage error at the county or city level can tell us a lot more than the state or national levels. Lastly, researchers should study why factors such as housing tenure, citizenship, and English language ability impact self-response and whether other variables may also affect self-response rates in NHPI communities.



Hawaii

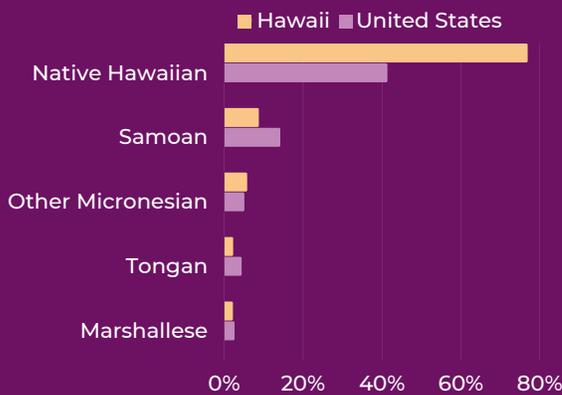


HAWAII NHPI POPULATION

	NHPI Alone	NHPI Alone or in Combination
2000	9.6% (115,964)	23.4% (283,430)
2010	10.2% (138,292)	26.4% (358,951)
2020	10.3% (149,949)	23.7% (345,220)

TOP 5 NHPI SUBGROUPS

Alone or in Combination 2020



Source: American Community Survey (ACS) 2020

NHPI Alone 2020		Hawaii	United States
Housing Tenure	Home-owners	45%	42%
	Renters	55%	58%

Source: ACS 2020

Hawaii is home to the largest NHPI community in the United States.¹¹⁴ The NHPI community has kept almost exact pace with the population growth of Hawaii from 2000 to 2020. The NHPI Alone or in Combination population made up nearly a quarter of the population of Hawaii in 2000 and continued to do so in 2020. Most of this population is Native Hawaiian, as approximately half of all Native Hawaiians who live in the United States live in Hawaii. The majority of the NHPI community who is foreign-born lives in Honolulu County and comprises the largest group of NHPis who do not speak English very well (commonly referred to as Limited English Proficient or LEP).

Based on PA, Hawaii had a potential overcount in 2010 and 2020 for both the NHPI Alone as well as the NHPI Alone or in Combination populations. This held true in almost every county in Hawaii. The only exception is the NHPI Alone or in Combination population in the 2020 Census for Hawaii County.

Coverage: Hawaii		NHPI Alone	NHPI Alone or in Combination
2000*	Population Estimates	768,660	768,660
	Census Population	626,808	988,415
	Net Coverage (%)	20.3% undercount	25.0% overcount
2010	Population Estimates	120,469	289,888
	Census Population	138,292	358,951
	Net Coverage (%)	13.8% overcount	21.3% overcount
2020	Population Estimates	136,357	329,764
	Census Population	149,949	345,220
	Net Coverage (%)	9.5% overcount	4.6% overcount

NHPI Alone 2020

		Hawaii	United States
Native Born	Overall	83%	76%
	LEP (ages 5+)	5%	5%
Foreign Born	Overall	17%	24%
	LEP (ages 5+)	50%	36%
	Naturalized Citizen	21%	41%
	Non-Citizen	79%	59%

Source: ACS 2020

*For the data from 2000, the estimated population numbers come from the 1990 population estimates—before the census offered the option to select multiple races. For the first time in 2000, the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.



County-Level Demographics

PA Analysis, Housing Tenure and English Language Ability

Hawaii County

Population: 200,629

Coverage: Hawaii County		NHPI Alone	NHPI Alone or in Combination	Housing Tenure	Homeowners	Renters	NHPI Alone 2020		
2000*	Population Estimates	85,521	85,521		Native Born	42%		58%	
	Census Population	57,506	117,331	Overall		LEP (ages 5+)			
	Net Coverage (%)	39.1% undercount	31.5% overcount	87%		6%			
2010	Population Estimates	20,807	53,163	Foreign Born	Overall	LEP (ages 5+)	Naturalized Citizen		
	Census Population	22,930	63,146					10%	90%
	Net Coverage (%)	9.7% overcount	17.2% overcount						
2020	Population Estimates	24,195	59,892	13%	48%	10%	90%		
	Census Population	26,362	59,152						
	Net Coverage (%)	8.6% overcount	1.2% undercount						

Source: ACS 2020

Hawaii County was one of the largest counties with an estimated undercount in the 2020 Census and was the only county with more NHPI homeowners than renters. This is surprising because homeownership is generally positively correlated with census response rates;¹¹⁵ therefore, we would not have expected undercounts.

Honolulu County

Population: 1,016,508

Coverage: Honolulu County		NHPI Alone	NHPI Alone or in Combination	Housing Tenure	Homeowners	Renters	NHPI Alone 2020		
2000*	Population Estimates	571,953	571,953		Native Born	40%		60%	
	Census Population	487,688	730,492	Overall		LEP (ages 5+)			
	Net Coverage (%)	15.9% undercount	24.3% overcount	81%		5%			
2010	Population Estimates	78,051	185,158	Foreign Born	Overall	LEP (ages 5+)	Naturalized Citizen		
	Census Population	92,676	235,520					23%	77%
	Net Coverage (%)	17.1% overcount	23.9% overcount						
2020	Population Estimates	89,607	212,713	19%	53%	23%	77%		
	Census Population	97,596	228,009						
	Net Coverage (%)	8.5% overcount	6.9% overcount						

Source: ACS 2020



County-Level Demographics (continued)

PA Analysis, Housing Tenure and English Language Ability

Kauai County

Population: 73,298

Coverage: Kauai County		NHPI Alone	NHPI Alone or in Combination	Housing Tenure	Homeowners	Renters	NHPI Alone 2020				
2000*	Population Estimates	36,864	36,864		Native Born	56%		44%			
	Census Population	26,819	46,029	Overall		LEP (ages 5+)					
	Net Coverage (%)	31.6% undercount	22.1% overcount	90%		2%					
2010	Population Estimates	6,035	15,320	Foreign Born	Overall	LEP (ages 5+)	Naturalized Citizen				
	Census Population	6,178	17,497					10%	54%	20%	80%
	Net Coverage (%)	2.3% overcount	13.3% overcount								
2020	Population Estimates	6,109	16,213	Source: ACS 2020							
	Census Population	6,884	17,328								
	Net Coverage (%)	11.9% overcount	6.7% overcount								

Maui County

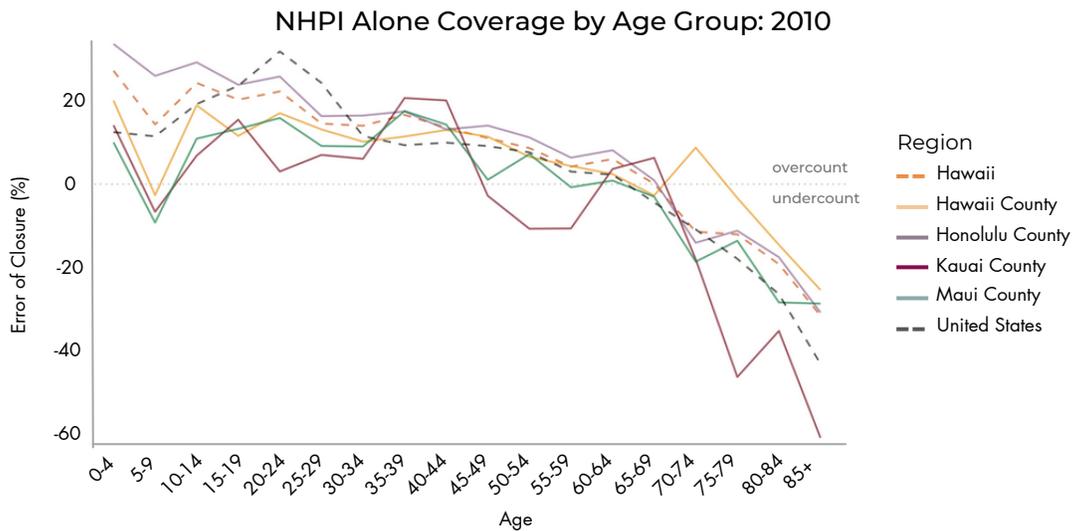
Population: 164,745

Coverage: Maui County		NHPI Alone	NHPI Alone or in Combination	Housing Tenure	Homeowners	Renters	NHPI Alone 2020				
2000*	Population Estimates	74,302	74,302		Native Born	47%		53%			
	Census Population	54,698	94,461	Overall		LEP (ages 5+)					
	Net Coverage (%)	30.4% undercount	23.9% overcount	86%		1%					
2010	Population Estimates	15,517	36,188	Foreign Born	Overall	LEP (ages 5+)	Naturalized Citizen				
	Census Population	16,464	42,734					14%	31%	18%	82%
	Net Coverage (%)	5.9% overcount	16.6% overcount								
2020	Population Estimates	16,404	40,902	Source: ACS 2020							
	Census Population	19,092	40,713								
	Net Coverage (%)	15.2% overcount	0.5% undercount								

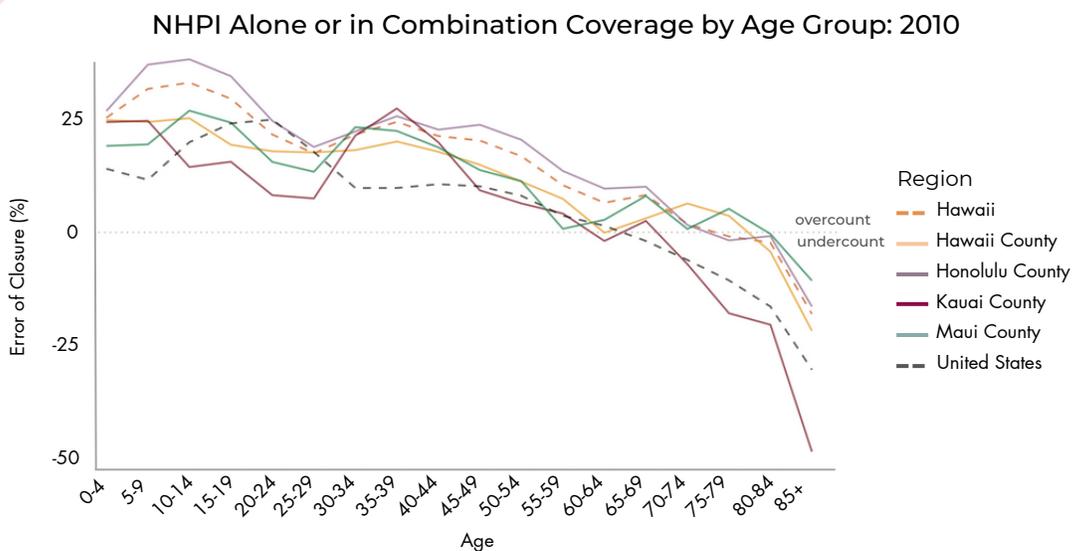
Note: In our analysis we do not include Kalawao County because of the small population size.

IMPACT OF AGE ON CENSUS ACCURACY

- In general, the data follow the national average with some exceptions:
 - Children ages 5–9 are undercounted in all Hawaiian counties except Honolulu.
 - The overcount for young adults is lower in Hawaii (approximately 20%) than it is nationally (approximately 30%).
 - Hawaii County seems to have smaller undercounts for the population ages 65 and above (from approximately a 10% overcount to approximately a 30% undercount), while Kauai tends to have larger undercounts for the population ages 65 and above (from an approximately 20% to 60% undercount) versus the state and national averages.
- For the NHPI Alone or in Combination population, coverage by age group is even closer to the national average.
 - The overcounts for the youngest (ages 0–9) as well as for those in their 30s are slightly higher than the national average (younger children were overcounted between 15–25% and those in their 30s were overcounted 20–25%). However, the shape of the age distribution is generally the same.



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

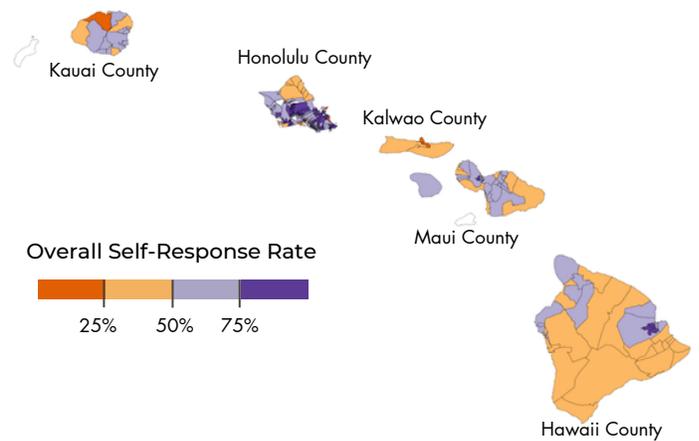


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

SELF-RESPONSE RATES

- There is not a strong correlation between the NHPI population and self-response rates by census tract throughout Hawaii.
- As the percentage of the NHPI population increases in a census tract, the response rate for that tract generally gets closer to the average response rate for the state. That is, the highest and lowest self-response rates seem to occur in places with relatively few NHPI residents.
- While we would expect lower rates in both rural and urban areas generally, some of the more rural areas show lower self-response rates, while more urban areas show higher self-response rates.¹¹⁶

Response Rate by Census Tract: 2020

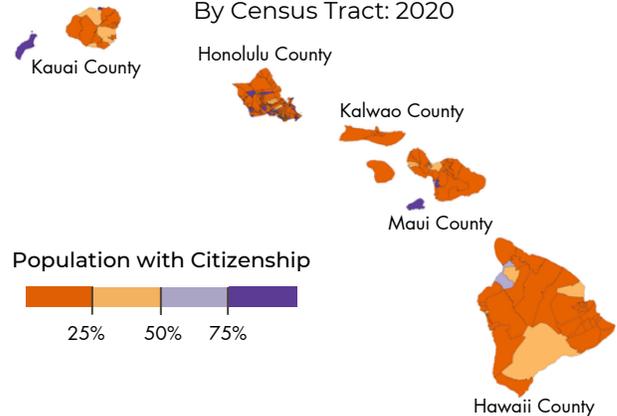


Source: United States Census Bureau, Tract Level Response Rates, 2020.
Note: Census tracts in white indicate no self response data reported.

CITIZENSHIP

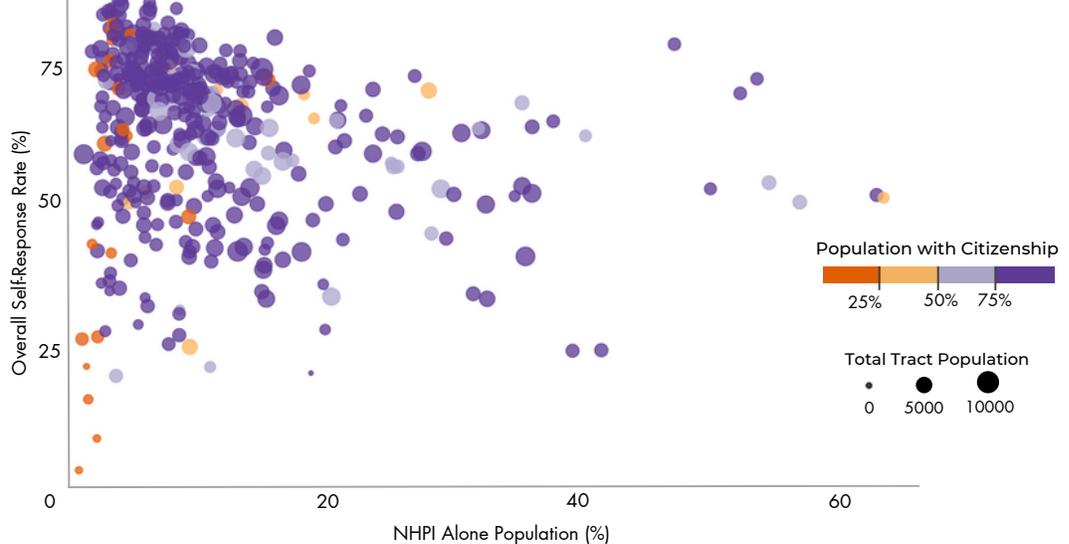
- Most NHPIs who are not citizens are located in Honolulu County.
- There are relatively few non-citizen NHPIs in the rest of the state.
- For census tracts with larger non-citizen NHPI populations, especially in Honolulu County, some have lower than average self-response rates. Others do have average to above average self-response rates.

Non-Citizen NHPI Alone Population
By Census Tract: 2020



Response Rate by Census Tract

Percentage of NHPI Alone Population and Citizenship State: 2020



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

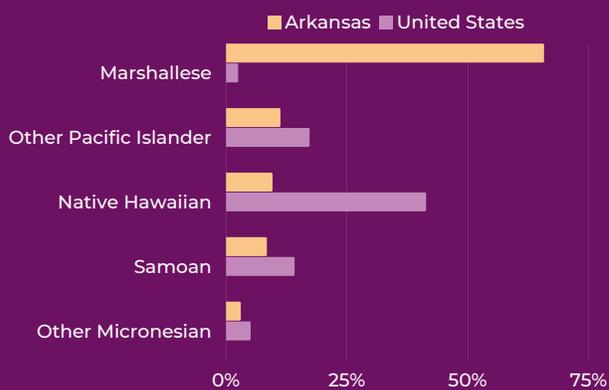
Arkansas



ARKANSAS NHPI POPULATION

	NHPI Alone	NHPI Alone or in Combination
2000	0.7% (1,930)	0.12% (3,223)
2010	0.23% (6,685)	0.29% (8,594)
2020	0.48% (14,461)	0.57% (17,252)

TOP 5 NHPI SUBGROUPS Alone or in Combination 2020



Source: ACS 2020

NHPI Alone 2020		Arkansas	United States
Housing Tenure	Home-owners	6%	42%
	Renters	94%	58%

Source: ACS 2020

Arkansas has a relatively large Marshallese population located in the northwestern part of the state. While the NHPI community is generally quite small in Arkansas, Marshallese make up a larger share of the NHPI population in those parts of the state.¹¹⁷ This small NHPI population is growing. In 2000, NHPIs were less than 0.15% of the total state population. By 2020, this increased by almost 8,700 people to make up nearly 0.6% of the population (for NHPI Alone or in Combination)—an approximately 300% increase.

A number of factors—including citizenship, English proficiency, and homeownership—may impact the overall census quality for the NHPI population in Arkansas. First, the NHPI community in Arkansas is approximately two-thirds foreign born, because most NHPIs in the state are foreign-born Marshallese. Nearly 90% of this foreign-born population are non-citizens, and over half are Limited English Proficiency (LEP)—potentially impacting decennial census response. Homeowners are more likely to respond to the census than renters, and only 6% of NHPIs in Arkansas own their homes (compared with 42% of NHPIs nationally). Thus, we suspect NHPIs in Arkansas would have lower response rates based on their low rates of homeownership.¹¹⁸ Overall, the NHPI population is still quite small in Arkansas, meaning it is hard to draw statistically significant conclusions based on analysis, but important questions are still raised for further research.

Based on PA, Arkansas had a potential overcount in the 2000, 2010, and 2020 Censuses for the NHPI population (both Alone and Alone or in Combination).

Coverage: Arkansas		NHPI Alone	NHPI Alone or in Combination
2000*	Population Estimates	19,878	19,878
	Census Population	22,764	28,774
	Net Coverage (%)	13.5% overcount	36.6% overcount
2010	Population Estimates	3,793	5,940
	Census Population	6,685	8,594
	Net Coverage (%)	55.2% overcount	36.5% overcount
2020	Population Estimates	11,532	13,755
	Census Population	14,461	17,252
	Net Coverage (%)	22.5% overcount	22.6% overcount

NHPI Alone 2020		Arkansas	United States
Native Born	Overall	37%	76%
	LEP (ages 5+)	11%	5%
Foreign Born	Overall	63%	24%
	LEP (ages 5+)	61%	36%
	Naturalized Citizen	11%	41%
	Non-Citizen	89%	59%

Source: ACS 2020

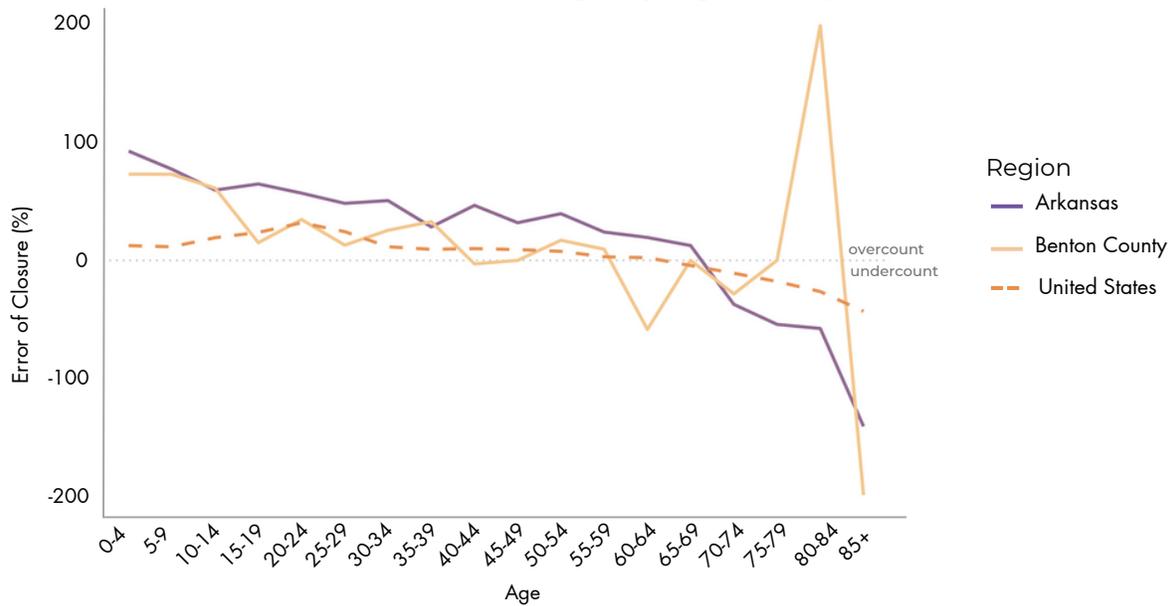
*For the data from 2000, the estimated population numbers come from the 1990 population estimates—before the census offered the option to select multiple races. For the first time in 2000, the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.



IMPACT OF AGE ON CENSUS ACCURACY

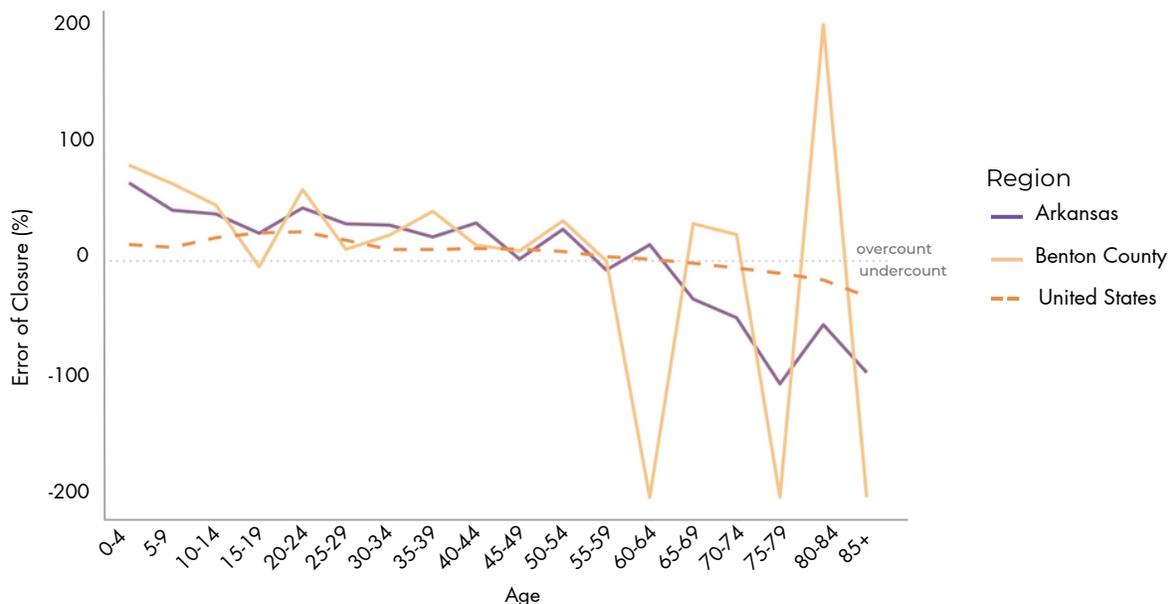
- In general, until about age 44, the NHPI population has a higher estimated overcount in Arkansas than NHPIs nationally.
- From ages 45–64, the NHPI population in Arkansas generally follows the national pattern.
- For those ages 65 and above, estimated undercounts in Arkansas are significantly higher than they are nationally. This data point is concerning for older (ages 65 and above) NHPIs in Arkansas because they are missed at much higher rates.¹¹⁹

NHPI Alone Coverage by Age Group: 2010



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

NHPI Alone or in Combination Coverage by Age Group: 2010



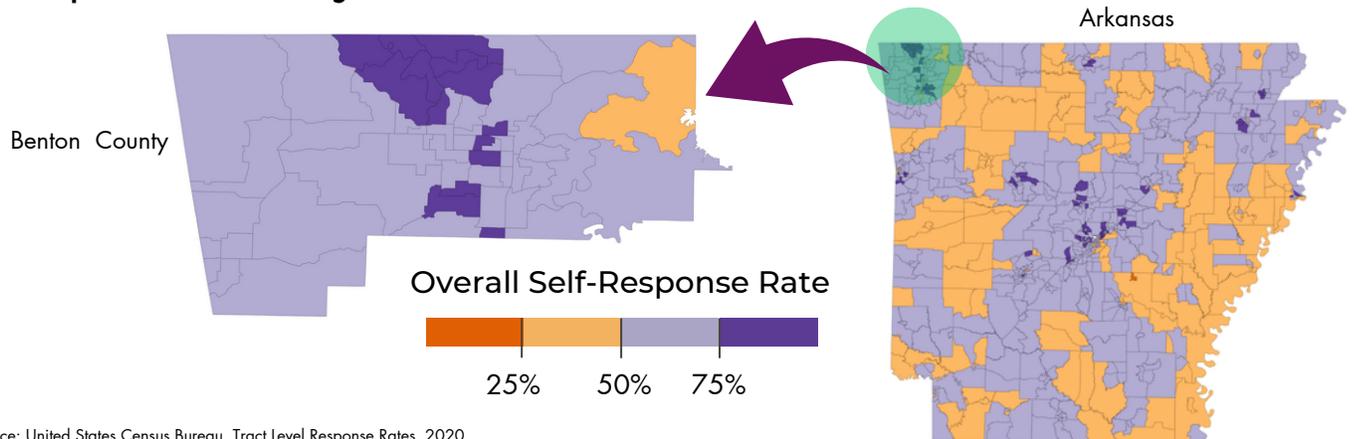
Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.



SELF-RESPONSE RATES

- While the NHPI population in Arkansas is small, over 20% of some census tracts are NHPI—a relatively large self-clustering.
- Tracts with more than 20% NHPIs have higher self-response rates (usually between 60-70%) than the national average.¹²⁰
- Benton County is a microcosm of this pattern. It has one census tract with an over 10% concentration of the NHPI population, which has over a 70% self-response rate.
- There are high response rates surrounding Little Rock and its suburbs, and in northwestern Arkansas where the Marshallese population is located.

Response Rate by Census Tract: 2020



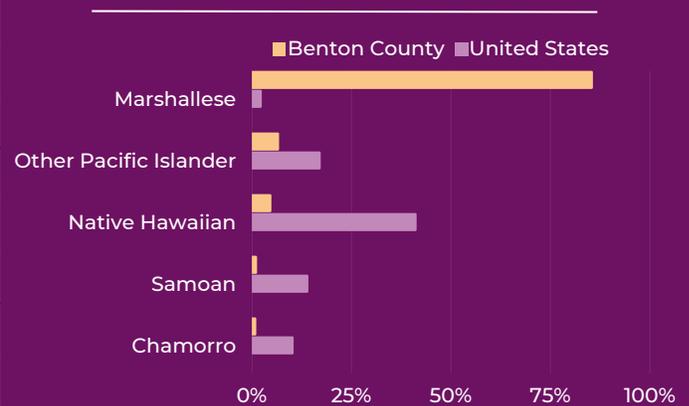
Source: United States Census Bureau, Tract Level Response Rates, 2020.
 Note: Census tracts in white indicate no self response data reported.

A Look at Benton County, Arkansas...

PA Coverage: Benton County		NHPI Alone	NHPI Alone or in Combination
2000*	Population Estimates	989	989
	Census Population	1,907	2,280
	Net Coverage (%)	63.4% overcount	79.0% overcount
2010	Population Estimates	544	685
	Census Population	775	1,004
	Net Coverage (%)	35.0% overcount	37.7% overcount
2020	Population Estimates	1,994	2,287
	Census Population	2,601	3,075
	Net Coverage (%)	26.4% overcount	29.4% overcount

TOP 5 NHPI SUBGROUPS

Alone or in Combination 2020



Source: ACS 2020

HOUSING TENURE AND ENGLISH LANGUAGE ABILITY

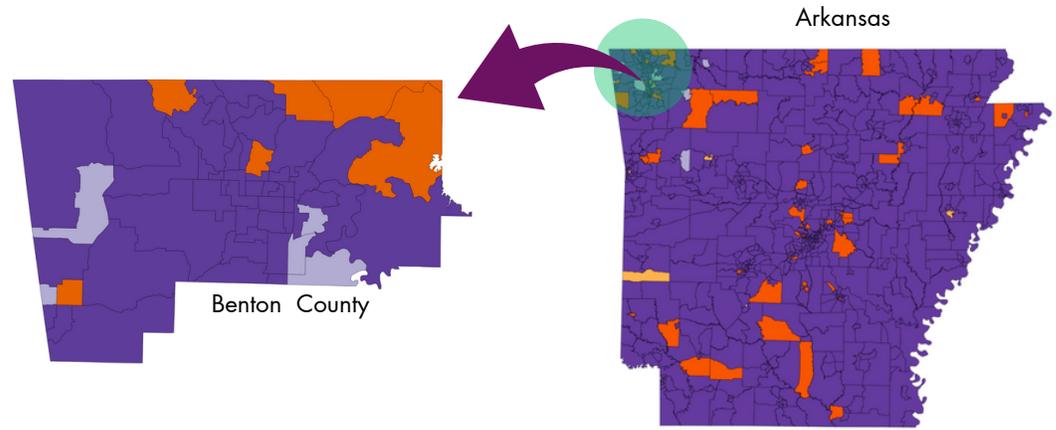
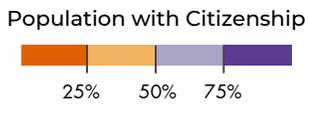
Housing Tenure	Homeowners		Renters	Native Born	Foreign Born		Overall	LEP (ages 5+)	Overall	LEP	Naturalized Citizen	Non-Citizen
	2%	98%			27%	18%						



CITIZENSHIP STATUS

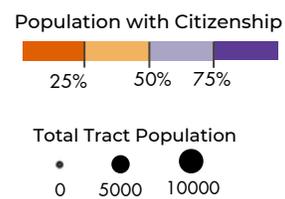
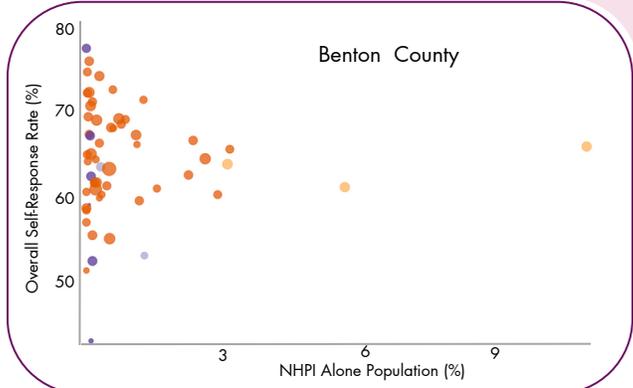
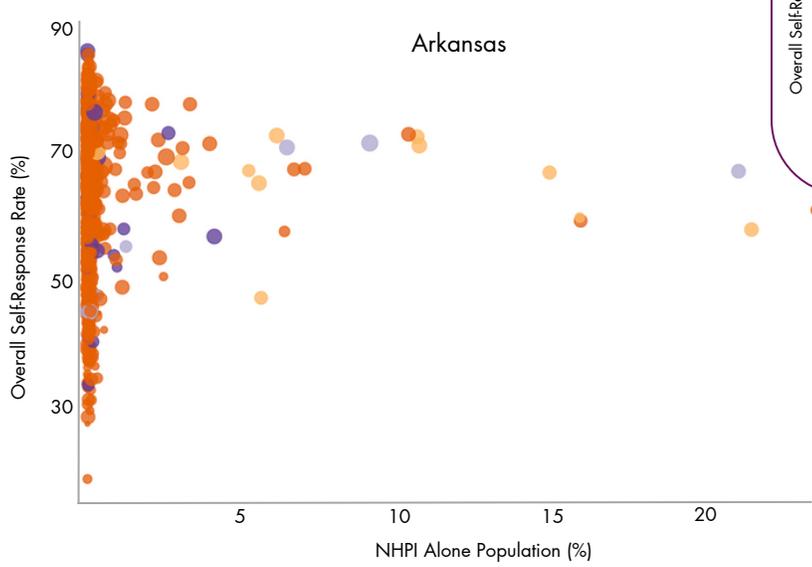
- Because of the limited data available, the impact of citizenship on self-response for the NHPI population in Arkansas is inconclusive.
- There is a grouping in northwest Arkansas of foreign-born, largely non-citizen NHPIs.
 - The Marshallese population is covered by the Compact of Free Association Migrants, which complicates the relationship between citizenship status and self response.¹²¹
- Examining census tracts with more than 10% NHPIs reveals that the lowest self-response rates tended to be in places that had a higher proportion of non-citizens. When we look at Benton County we see some areas with large proportions of non-citizens in the NHPI population. This is due to the aforementioned Marshallese population being the major NHPI group in this area, which drives the lower non-citizen rates.

Non-Citizen NHPI Alone Population By Census Tract: 2020



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

Response Rate by Census Tract Percentage of NHPI Alone Population and Citizenship State: 2020



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

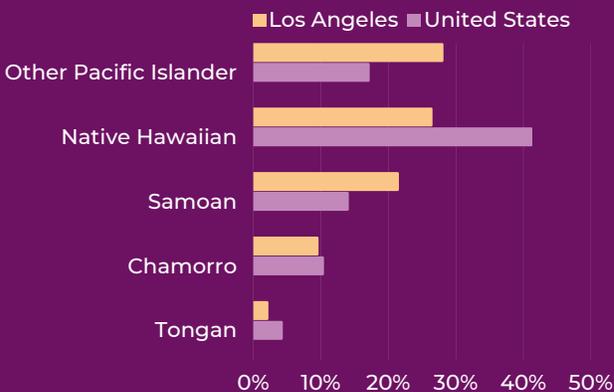
Los Angeles County, California



LOS ANGELES COUNTY NHPI POPULATION

	NHPI Alone	NHPI Alone or in Combination
2000	0.4% (33,598)	0.6% (53,480)
2010	0.4% (36,443)	0.6% (62,945)
2020	0.2% (21,327)	0.4% (44,206)

TOP 5 NHPI SUBGROUPS Alone or in Combination 2020



Source: ACS 2020

Outside of Hawaii, Los Angeles County has the largest population of NHPIs in the United States with 3.5% of the total NHPI population. This diverse and geographically large county with a population of over 10 million people¹²² has consistently had a population of about 0.6% NHPI Alone or in Combination over the last 20 years.¹²³ Other Pacific Islanders are the largest group of NHPIs in Los Angeles County, followed closely by Native Hawaiians and Samoans. Therefore, the NHPI population in Los Angeles County is slightly less likely to be foreign-born (approximately 25%) than the nation as a whole (approximately 30%). Further, the NHPI community in Los Angeles County is slightly less likely to own their home than the national average for the NHPI community. While we might expect a better census response rate given the number of NHPI citizens in Los Angeles County, this is mitigated by the high percentage of NHPI renters (because renters are less likely than homeowners to respond to the Census).

Based on PA, Los Angeles County had a potential overcount in 2010, but then flipped to a potential undercount in 2020 for the NHPI Alone Population.

Coverage: Los Angeles		NHPI Alone	NHPI Alone or in Combination
2000*	Population Estimates	1,285,291	1,285,291
	Census Population	1,207,397	1,311,755
	Net Coverage (%)	6.3% undercount	2.0% overcount
2010	Population Estimates	35,837	60,508
	Census Population	36,443	62,945
	Net Coverage (%)	1.7% overcount	4.0% overcount
2020	Population Estimates	21,923	44,220
	Census Population	21,327	44,206
	Net Coverage (%)	2.8% undercount	0.03% undercount

NHPI Alone 2020

		Los Angeles	California	United States
Housing Tenure	Homeowners	35%	45%	42%
	Renters	65%	55%	58%
Native Born	Overall	76%	71%	76%
	LEP** (ages 5+)	4%	5%	5%
Foreign Born	Overall	24%	29%	24%
	LEP** (ages 5+)	29%	29%	36%
	Naturalized Citizen	55%	60%	41%
	Non-Citizen	24%	40%	59%

**LEP (Limited English Proficiency): those who speak English "less than very well"

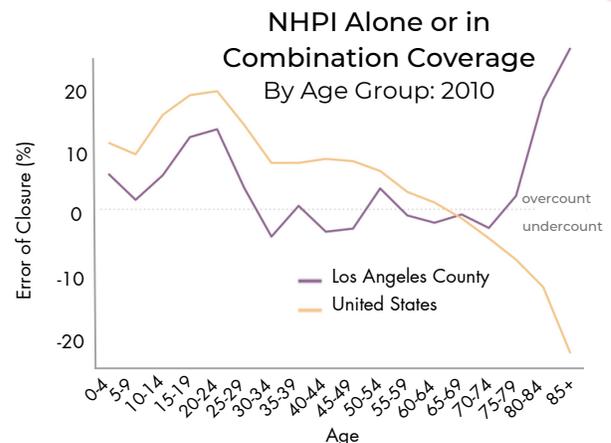
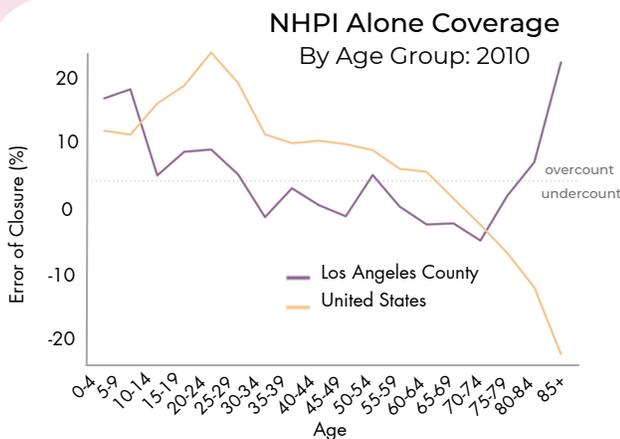
Source: ACS 2020

*For the data from 2000, the estimated population numbers come from the 1990 population estimates—before the census offered the option to select multiple races. For the first time in 2000, the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.



IMPACT OF AGE ON CENSUS ACCURACY

- Compared with the United States as a whole, the overcounts for NHPIs in LA County are smaller. In fact, some age groups actually turn into undercounts. Generally, up until about age 65, the patterns between age groups are similar to the national pattern (e.g., ages 15–24 have a higher overcount than ages 25–64).
- For ages 65 and above, the pattern for NHPIs in Los Angeles completely diverges from the national average. Instead of a substantial national undercount, there is a substantial estimated overcount in Los Angeles County.

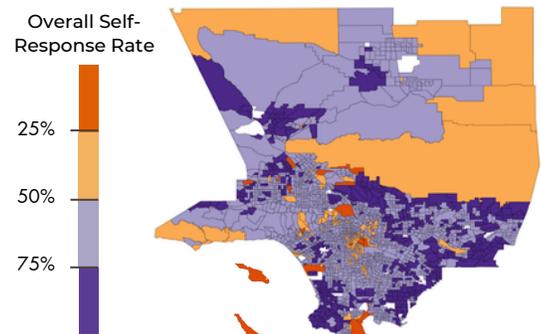


Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

SELF-RESPONSE RATES

- The largest tract level concentration of the NHPI community is under 4%.
- We cannot draw any conclusions about the relationship between the presence of the NHPI community and tract-level self-response rates because there are no tracts with very large NHPI communities.
- NHPIs in Los Angeles County seem to be relatively spread out throughout the county.

Response Rate by Census Tract

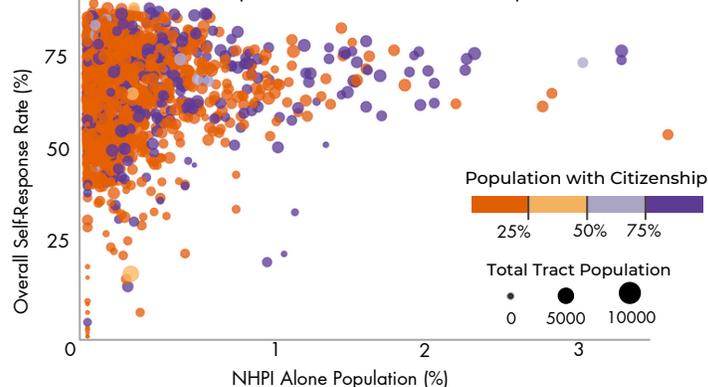


Source: United States Census Bureau, Tract Level Response Rates, 2020. Note: Census tracts in white indicate no self response data reported.

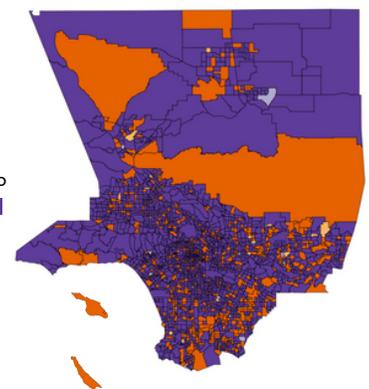
CITIZENSHIP

- We cannot draw any strong conclusions about the impact of citizenship for the NHPI community on tract-level self-response rates because there are no tracts with more than 4% NHPIs.

Response Rate by County Tract Percentage of NHPI Alone Population and Citizenship: 2020

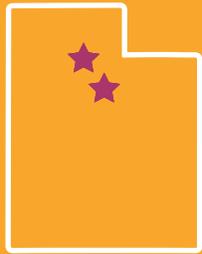


Non-Citizen Population NHPI Alone 2020



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).

Salt Lake and Utah Counties, Utah



SALT LAKE COUNTY NHPI POPULATION

	NHPI Alone	NHPI Alone or in Combination
2000	1.3% (11,699)	1.6% (14,404)
2010	1.6% (16,565)	2.1% (21,451)
2020	1.8% (21,314)	2.4% (28,610)

UTAH COUNTY NHPI POPULATION

	NHPI Alone	NHPI Alone or in Combination
2000	0.6% (2,203)	1.0% (3,630)
2010	0.8% (4,089)	1.5% (7,596)
2020	1.0% (6,652)	2.0% (13,138)

Source: ACS 2020

More than 3.27 million people live in Utah, and 1.7% of the state's population are NHPIs.¹²⁴ Salt Lake and Utah Counties are the two largest counties in Utah, making up just over 56% of the state's population. The state's largest cities, the state's largest universities, and the state's largest NHPI communities are in Salt Lake and Utah Counties.

The NHPI population has grown in Salt Lake and Utah Counties from just over 18,000 in 2000 to just below 42,000 in 2020. Most of this population is Samoan, Tongan, or Native Hawaiian. NHPIs' citizenship rates in these counties are similar to the national average for NHPIs. The NHPI community in Utah and Salt Lake Counties have higher English language abilities than the country as a whole. Finally, there are no discernable differences in home ownership between the NHPI community in Utah and Salt Lake Counties and the national average. Given these similarities, we would expect to see similar or slightly higher self-response rates than the national average, since English language ability is believed to be positively correlated with census response rates.

Based on PA, Salt Lake and Utah Counties had a potential overcount in both the 2010 and 2020 Censuses of NHPI Alone as well as Alone or in Combination.

Coverage: Salt Lake County		NHPI Alone	NHPI Alone or in Combination
2000*	Population Estimates	33,310	33,310
	Census Population	35,592	43,006
	Net Coverage (%)	6.6% overcount	25.4% overcount
2010	Population Estimates	14,136	18,337
	Census Population	16,564	21,451
	Net Coverage (%)	15.8% overcount	15.7% overcount
2020	Population Estimates	20,324	26,310
	Census Population	21,314	28,610
	Net Coverage (%)	4.8% overcount	8.4% overcount

Coverage: Utah County		NHPI Alone	NHPI Alone or in Combination
2000*	Population Estimates	7,343	7,343
	Census Population	6,290	9,490
	Net Coverage (%)	15.5% undercount	25.5% overcount
2010	Population Estimates	3,519	6,520
	Census Population	4,089	7,596
	Net Coverage (%)	15.0% overcount	15.3% overcount
2020	Population Estimates	6,053	11,214
	Census Population	6,652	13,138
	Net Coverage (%)	9.4% overcount	15.8% overcount

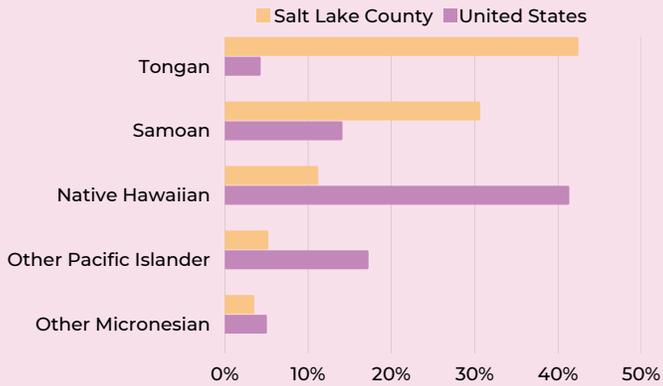
*For the data from 2000, the estimated population numbers come from the 1990 population estimates—before the census offered the option to select multiple races. For the first time in 2000, the census allowed respondents to select multiple races. Therefore, while we cannot differentiate between Alone and Alone or in Combination for the Population Estimates, we can make that differentiation for the census population.



County-Level Demographics

Salt Lake County

TOP 5 NHPI SUBGROUPS Alone or in Combination 2020



Source: ACS 2020

Housing Tenure	NHPI Alone 2020			
	Homeowners	Renters		
	45%	55%		
Native Born	Overall	LEP** (ages 5+)		
	69%	2%		
Foreign Born	Overall	LEP** (ages 5+)	Naturalized Citizen	Non-Citizen
	31%	23%	55%	45%

Source: ACS 2020

Utah County

NHPI Alone 2020

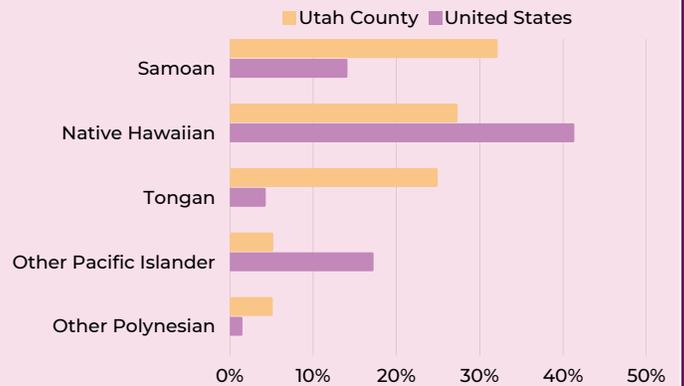
Housing Tenure	NHPI Alone 2020	
	Homeowners	Renters
	39%	61%

Native Born	Overall	LEP** (ages 5+)
	72%	2%

Foreign Born	Overall	LEP** (ages 5+)	Naturalized Citizen	Non-Citizen
	28%	24%	60%	40%

Source: ACS 2020

TOP 5 NHPI SUBGROUPS Alone or in Combination 2020



Source: ACS 2020

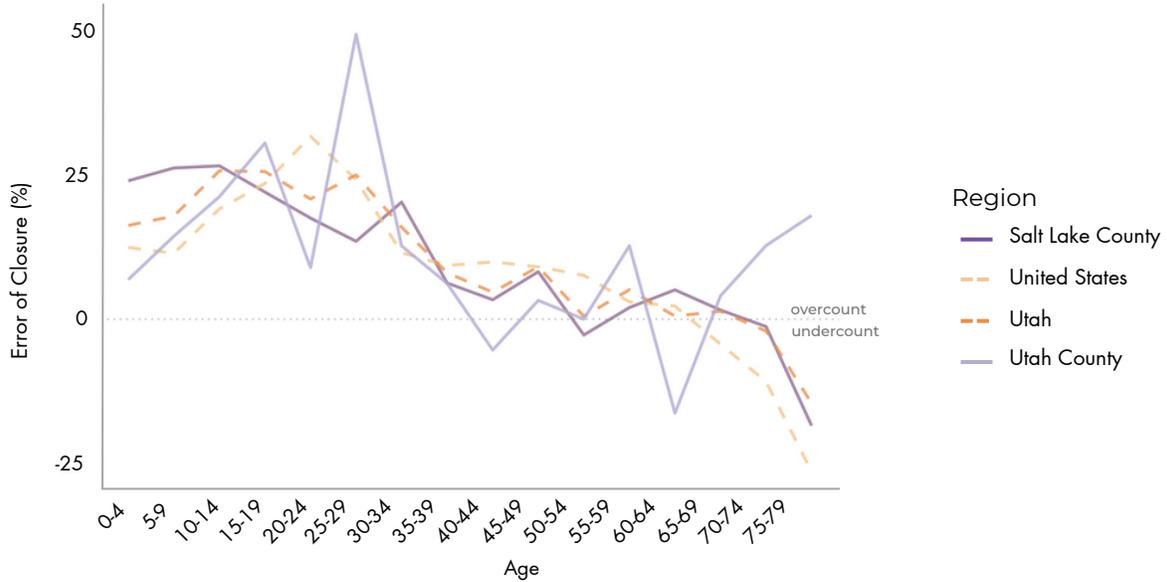
**LEP (Limited English Proficiency): those who speak English "less than very well"



IMPACT OF AGE ON CENSUS ACCURACY

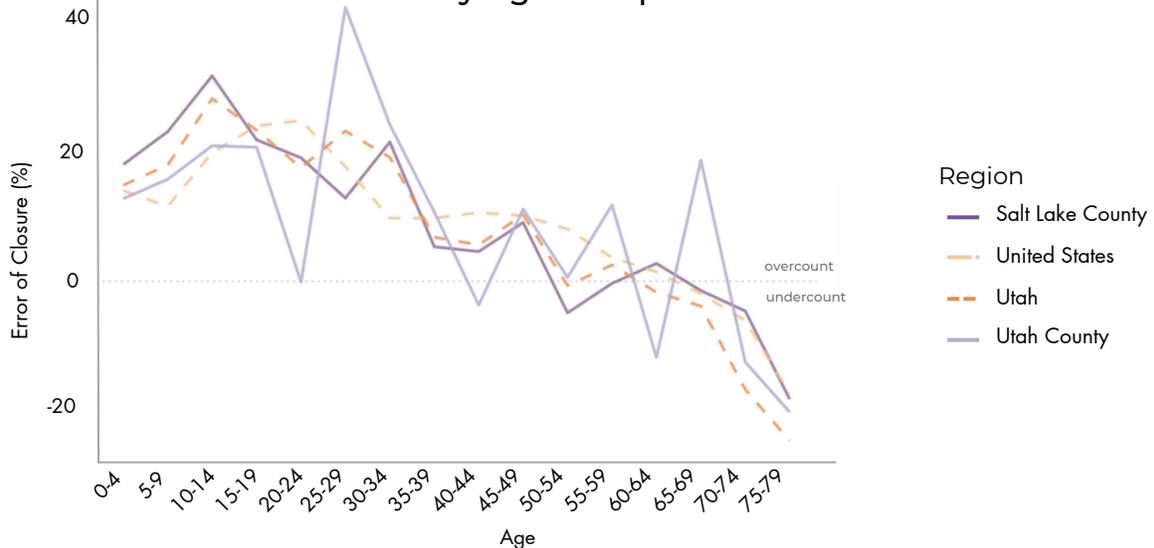
- In general, NHPIs in the state of Utah, Utah County, and Salt Lake County all show the same patterns for age distribution of undercounts and overcounts as the national average.
- For the NHPI Alone population ages 70 and above, there is a large estimated overcount in Utah County in 2010.¹²⁵

NHPI Alone Coverage by Age Group: 2010



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

NHPI Alone or in Combination Coverage by Age Group: 2010



Source: Authors' calculations using United States Census Bureau decennial census and postcensal population estimates data for 2010.

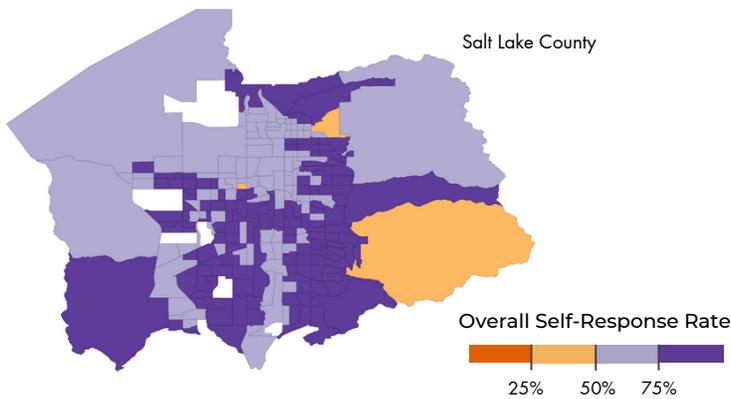


SELF-RESPONSE RATES

- In Salt Lake County, there are lower response rates in places where more NHPs live. This is noteworthy because we know that overall the NHPI community is estimated to be overcounted in Salt Lake County, meaning the role of Nonresponse Followup had to be substantial here.

- Relatively lower response rates flow up the I-15 corridor. The suburbs have higher response rates as well as in Salt Lake City moving up towards the University of Utah.¹²⁶
- The areas with higher response rates tend to be in wealthier areas of the city, while lower response rates are in less wealthy areas.
- There is not a large enough concentration of NHPs to use these self-response data for Utah County.

Response Rate by Census Tract: 2020

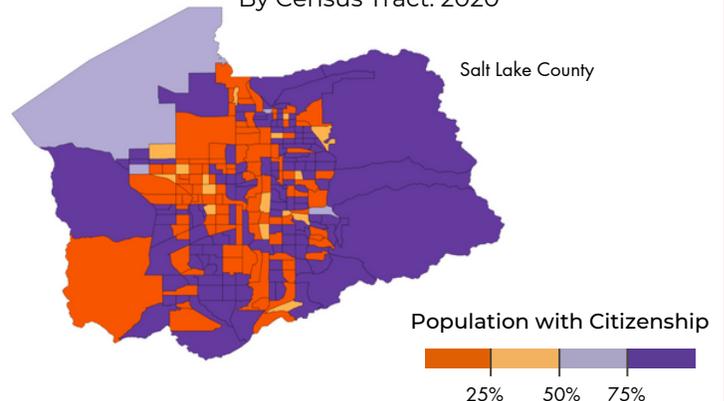


Source: United States Census Bureau, Tract Level Response Rates, 2020.
Note: Census tracts in white indicate no self response data reported.

CITIZENSHIP VARIABLE IMPACT

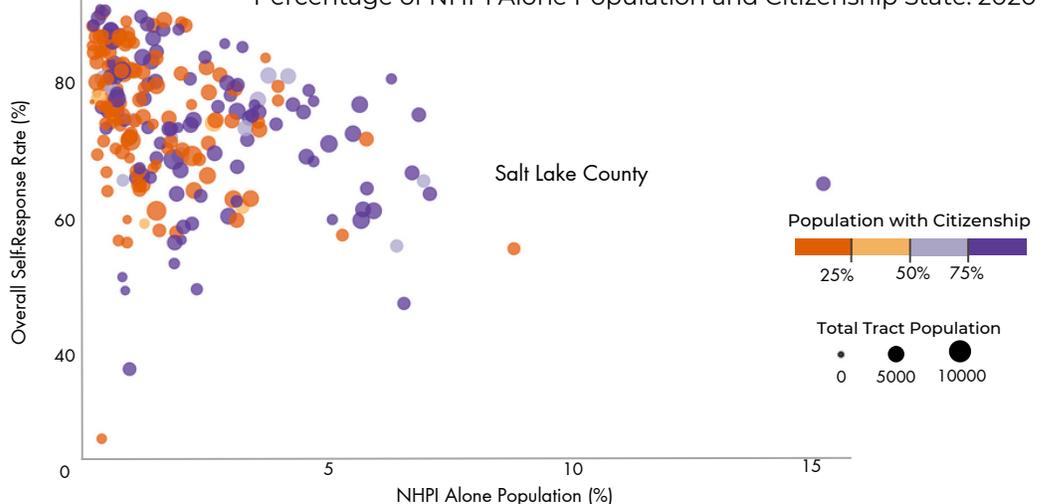
- Areas with relatively lower response rates also have a larger percentage of non-citizen NHPs.
- Places with larger NHPI populations in Salt Lake City tend to have lower response rates. However, more research would be needed to determine if this is directly impacted by NHPs' citizenship status given the small sample size of tracts with high proportions of NHPs.

Non-Citizen NHPI Alone Population
By Census Tract: 2020

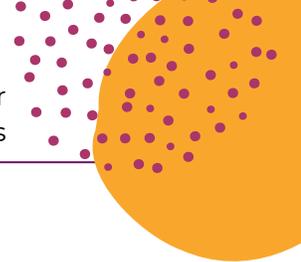


Response Rate by Census Tract

Percentage of NHPI Alone Population and Citizenship State: 2020



Source: United States Census Bureau, Decennial Census, Tract Level Response Rates (2020), and ACS (2016-2020).



NOTES

⁸⁹ While it would be an interesting addition to this report if we could look at census quality for the Pacific Island territories of the United States, this is not possible because annual population estimates are not created for these geographic areas.

⁹⁰ Some of the differences in these maps are inflated due to changes in racial categories between the population estimates (only single race reporting) and the 2000 Census (multiple race reporting).

⁹¹ This difference is likely due to different patterns in reporting Alone versus Alone or in Combination in each region. In places where more people reported Alone or in Combination—especially where they may not have chosen AANHPI as their race if only given one choice—we would expect larger differences in undercounts between these two measures.

⁹² The data needed to recode SOR are not yet available for the total population, so we were only able to look at the non-Hispanic Asian and NHPI communities for 2020. As further data from the 2020 Census become available, we will update this analysis to include the total population.

⁹³ See O'Hare, William P. *Differential Undercounts in the U.S. Census Who Is Missed?* 1st ed. 2019. Cham: Springer Nature, 2019, accessed at: https://link.springer.com/chapter/10.1007/978-3-030-10973-8_5.

⁹⁴ As we saw in the DA section above, the Black and Hispanic communities have higher undercounts for ages 0–4 than the population overall. It is unclear if the Asian American community would follow the trend of the Black and Hispanic population, the population as a whole, or some pattern of their own.

⁹⁵ Unfortunately, the data do not yet exist to make this comparison for 2020, though it will be available some time in 2023 when the demographic and housing characteristics file is released.

⁹⁶ For examples of community outreach that was funded, see: <https://funderscommittee.org/wp-content/uploads/2018/03/FCI-Key2020CensusFunderMilestones-Jan2019.pdf>; <https://funderscommittee.org/resource/2020-census-funder-toolkit/>; and <https://funderscommittee.org/resource/census-2020-state-landscape-scan/>.

⁹⁷ The reason self-response can't officially serve as a measure of decennial census accuracy is because the Census Bureau uses techniques such as Nonresponse Followup and imputation to improve the count, especially in areas with low self-response rates.

⁹⁸ Providing avenues for language support up front will help optimize self-response and remove potential cases from the Nonresponse Followup workload. For more information, see letter from Asian American, Native Hawaiian and Pacific Islander community-based organizations raising language support concerns is available at <https://www.advancingjustice-aaajc.org/sites/default/files/2018-10/AANHPI%20Census%20Language%20Support%20Program%20Letter%20October%202018%20Final.pdf>. See also senate letter raising concerns about language support program: <https://twitter.com/hansilowang/status/1075886626864357376>.

⁹⁹ For instance, being able to examine how self-response correlates with net coverage error at the county or city level can tell us a lot more than the state or national levels.

¹⁰⁰ According to the 2020 Census.

¹⁰¹ See, for example: Abelman, Nancy, and John Lie. *Blue Dreams: Korean Americans and the Los Angeles Riots*. Cambridge, Mass: Harvard University Press, 1995 and Kurashige, Scott. *The Shifting Grounds of Race: Black and Japanese Americans in the Making of Multiethnic Los Angeles*. Princeton, N.J: Princeton University Press, 2008.

¹⁰² Getting the race of a child from a birth certificate is not a straightforward task. One must use the race of the parents to try and estimate what the reported race of the child will be in a future census when reported by their parents or by themselves. For further information on this process, see the Kidlink Method section of https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020da_methodology.pdf, pgs. 4-6.

NOTES

¹⁰³ According to historian Roy Vu, Vietnamese refugees originally settled in Houston because the economy was strong, there was a low cost of living, the climate was similar to Vietnam, and they were close to the ocean and able to fish. See Rosie Nguyen, “ABC13 shares stories of Vietnamese refugees who made all-or-nothing escape and rebuilt their lives,” June 1, 2022, ABC13.com, accessed at <https://abc13.com/vietnamese-vietnam-war-refugees-immigrants/11913968/>.

For more information on Asian Americans in Houston, see Quraishi, Uzma. *Redefining the Immigrant South: Indian and Pakistani Immigration to Houston During the Cold War*. Chapel Hill: The University of North Carolina Press, 2021 and Vu, Roy, 'Natives of a Ghost Country: The Vietnamese in Houston and Their Construction of a Postwar Community', in Jigna Desai, and Khyati Y. Joshi (eds), *Asian Americans in Dixie: Race and Migration in the South* Urbana: University of Illinois Press, 2013.

¹⁰⁴ For a history of New York City's Chinatown, see Tchen, John Kuo Wei. *New York before Chinatown: Orientalism and the Shaping of American Culture, 1776-1882*. Baltimore: Johns Hopkins University Press, 1999. For more recent demographic changes, see <https://www.aafederation.org/aaf-our-work/research-2/>; <https://www.aafederation.org/aaf-our-work/census-center/geographic-profiles/>; <https://www.aafederation.org/research/state-of-change-asian-populations-transform-new-york/>.

¹⁰⁵ Because of the relatively large size of the Hispanic NHPI population, the total population comparison is the better one to make. However, given the current data limitations, we are not able to create this estimate for 2020. Once data are available, we will be able to update this measurement.

¹⁰⁶ We can only see these charts for the 2010 Census because, as we noted, the data for 2020 are not yet available.

¹⁰⁷ It is important to note that if race was misreported in this way in the birth data, but not in the decennial census, we will see a potential overcount in our analysis. This is one of the ways in which errors outside of the decennial census can cause issues in interpretation of potential coverage errors using PA.

¹⁰⁸ This includes states such as Hawaii and California.

¹⁰⁹ Our choices were also informed by our knowledge of active state/local advocacy groups who can learn from findings focused on their community.

¹¹⁰ The reason self-response can't officially serve as a measure of decennial census accuracy is because the Census Bureau uses techniques such as Nonresponse Followup and imputation to improve the count, especially in areas with low self-response rates.

¹¹¹ See, for instance:

<https://static1.squarespace.com/static/5ef63030d9999309b65e3c91/t/6115277a7e4218049cc9d8b6/1628776334313/NHPI+Demographic+Profile+%28National%29.pdf>, p. 21.

¹¹² Providing avenues for language support up front will help optimize self-response and remove potential cases from the Nonresponse Followup workload. For more information, see letter from Asian American, Native Hawaiian and Pacific Islander community-based organizations raising language support concerns: <https://www.advancingjustice-aaajc.org/sites/default/files/2018-10/AANHPI%20Census%20Language%20Support%20Program%20Letter%20October%202018%20Final.pdf>.

See also senate letter raising concerns about language support program:

<https://twitter.com/hansilowang/status/1075886626864357376>. For example, unlike for the 2010 Census, when the Census Bureau provided language assistance guides in several NHPI languages, the Bureau provided no language support in any NHPI language for the 2020 Census.

¹¹³ For instance, being able to examine how self-response correlates with net coverage error at the county or city level can tell us a lot more than the state or national levels.

¹¹⁴ For more on Hawaii, see <https://www.census.gov/library/stories/state-by-state/hawaii-population-change-between-census-decade.html>.

¹¹⁵ https://www.census.gov/content/dam/Census/topics/research/erdman_bates_2017.pdf

NOTES

¹¹⁶ For example: <https://www.census.gov/content/dam/Census/library/working-papers/2019/demo/Hard-to-Count-Populations-Brief.pdf>.

¹¹⁷ See, for instance: <https://onlyinark.com/culture/marshallese-in-arkansas-from-the-islands-to-the-ozarks/> and the Marshallese Oral History Project (<https://www.mei.ngo/mohp>).

¹¹⁸ Renters are known to have lower response patterns, see for example: https://www.census.gov/content/dam/Census/topics/research/erdman_bates_2017.pdf.

¹¹⁹ It will be interesting to see how these trends changed in 2020 once data are available from the 2020 Census because this group grew significantly from a very small base in 2010.

¹²⁰ Note that there are relatively few census tracts that meet these conditions to draw strong conclusions about the self-responses of NHPIs in Arkansas.

¹²¹ This means they can live and work in the U.S. legally. They are labeled as “nonimmigrants” but are not considered citizens or nationals, and they are not eligible for most federal benefits. See “A Community of Contrasts,” p. 21.

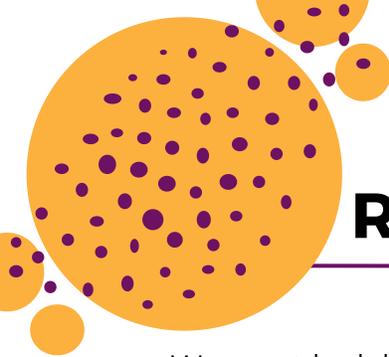
¹²² According to the 2020 Census.

¹²³ The number in 2020 appears to decline, but the data are not available for us to recode “Some Other Race” currently for the Hispanic and NHPI community. This number would be much larger if we could report these data. A simple calculation, without recoding those who report only “Some Other Race” and “Hispanic,” shows at least 55,000 NHPI Alone or in Combination in Los Angeles County in the 2020 Census. For more on NHPIs in the state of California, see: https://archive.advancingjustice-la.org/sites/default/files/A_Community_Of_Contrasts_NHPI_CA_2014.pdf.

¹²⁴ Utah is one of the three states where more than 1% of the population identifies as NHPI Alone. See: <https://www.census.gov/library/stories/2022/05/aanhpi-population-diverse-geographically-dispersed.html#:~:text=Hawaii%2C%20Nevada%2C%20and%20Alaska%20are,in%20combination%20with%20another%20race>.

¹²⁵ It will be important to see if this undercount persists in 2020.

¹²⁶ Interstate 15 runs through downtown Salt Lake City. It is the main interstate running through the city and begins in San Diego, CA and ends in Northern Montana at the Canadian border.



Recommendations

We must look beyond traditional measures of decennial census quality to ascertain the accuracy of Asian American and NHPI counts in the decennial census.¹²⁷ We offer specific recommendations for how the Census Bureau and advocacy groups can improve coverage and better prepare these populations for the 2030 Census.

Most importantly, the census must take a “people-first” approach. This means the Census Bureau must foreground our communities when making policy and operational decisions, focusing specifically on those that have been missed by previous censuses. Other factors, such as cost savings and “expediency,” cannot take priority over people. One way to implement a people-first approach is to consistently engage with interested stakeholders such as Community-Based Organizations (CBOs) working with communities traditionally missed by the census. We must also invest in research that benefits smaller populations, such as NHPIs. Finally, self-response is the preferred method of answering the census because it allows respondents to self-identify. The implementation of each recommendation that follows must be seen through this lens.

We organize our recommendations chronologically for changes that can be made before, during, and after the taking of a census.

1. Researching and Planning for Assessing the Undercount: Understanding and Improving Undercounts and Overcounts in both Traditional and Non-Traditional Measures of Census Quality

The Census Bureau, academics, and CBOs must commit to improving how they measure and assess the quality of decennial census data. This must happen relatively early in the decade, well before the fielding of the 2030 Census, including for Asian American and NHPI communities.

- Research how Asian American and NHPI communities can be incorporated into Demographic Analysis

The Census Bureau, advocacy groups, and academics should research how Asian American and NHPI communities can be better integrated into DA. The Census Bureau can make use of existing historical data, such as births and deaths, that can help improve the count for Asian American and NHPI communities (even if

some data for these groups must be combined to do so). Specifically, the Census Bureau could examine if the data in pre-1997 OMB race categories for births and deaths as well as those in the post-1997 categories could be used to create either combined or separate estimates for the net undercount or overcount of the AANHPI community. These estimates would likely only be available for a subset of the population (i.e., the younger age groups where data would be available on birth records with post-1997 changes), much like the Census Bureau does for the Hispanic and non-Hispanic DA estimates. These estimates would be immensely useful for better understanding the quality of the decennial census for Asian American and NHPI communities, as well as for planning for future censuses. Finally, research should assess whether other records, such as Medicare, can be used for these populations as well.

- **Develop a more robust plan for the Post-Enumeration Survey in 2030**

The Bureau must explore how it can provide more granular data through its Post-Enumeration Survey in 2030. Most critically, the Bureau must give undercount rates by racial and ethnic group for each state. There is limited utility to only providing racial and ethnic undercount rates at the national level. Racial and ethnic undercount rates of larger sub-state jurisdictions are another important metric. When coupled with the state-by-state racial and ethnic undercount data, this will provide communities with a more fulsome understanding of how accurately their communities were counted.

This recommendation would require a substantial increase in the sample size for the PES. However, this increase would serve all geographic areas and race groups, leading to more accurate data after the decennial census is completed. It would offer improvements on future decennial operations, targeting the groups with the greatest needs and de-emphasizing groups with high response rates.

- **Focus on a larger set of potential census quality measures, and maintain transparency in how the Census Bureau measures quality**

Improving DA and the PES will significantly improve our understanding of the quality of the census for all communities, including Asian Americans and NHPIs. However, they will never perfectly measure census quality. Instead, the Census Bureau and other interested parties should continue to innovate and enhance our understanding of the quality of a particular decennial census.

Postcensal population estimates can help measure census quality. After the 2020 Census, when the Census Bureau released state-level estimates compared to apportionment data, the Bureau suggested that population estimates could be used in this way.¹²⁸ Therefore, the Census Bureau should not only use studies of

the error of closure to improve estimates. They should also be used to strengthen the decennial census. Operational metrics (including self-response rates) can further enhance census quality. Advocates and stakeholders would benefit if the Census Bureau could tie race, even if only of the householder, to operational metrics. The Census Bureau should maintain and increase their usage of all data sources to better understand the quality of the census. Finally, they should discuss the results of their studies with the public in a timely fashion.

2. Implementing the Census: Applying Research Findings to the 2030 Census

- **Promote Get Out The Count (GOTC) strategies for different subgroups**

Overcounts and undercounts are not spread evenly either geographically or across racial and ethnic subgroups. This underlines the importance of local communities' and subgroups' efforts to GOTC. This includes: language support and communications, culturally and linguistically appropriate materials and outreach, and hiring community members to ensure trusted partners within the census taker and partnership specialist ranks (positions within the Census Bureau).¹²⁹ Because no group is a monolith, a one-size-fits-all approach to census outreach will result in further inaccuracies and wasted resources. Care must be taken throughout the decennial census process—from planning to research to implementation—to properly develop nuanced and targeted plans for reaching communities in culturally appropriate and effective ways.

For example, when developing research plans, specific attention should be given to assessing the impact on smaller population groups (such as NHPs). Another option is to increase investment in attitude and messaging research that looks at both racial and ethnic groups as well as different subgroups within each community.¹³⁰ Finally, more attention is needed on the relationship between funding spent on GOTC research and census response rates, outlining the efficacy of these efforts at different levels of geography and for different communities. The Census Bureau should conduct this research early in the planning process to ensure ample time to implement findings.

- **Enhance operations and the targeted use of administrative data**

While administrative data should be used in responsible and cost-effective ways, it must be done with a “people first” approach. That is, data should be used to lower the cost of the census for those that are easily found and counted in administrative records and (most likely) the census. Instead of using funding to count those easily

enumerated, funding should be allocated to count people who are not likely to appear in administrative data (and who are also not likely to respond to the decennial census). These groups would include, but are not limited to, non-citizens, renters, and those without broadband access.¹³¹ For those groups, responses should be secured directly from the household, especially during Nonresponse Followup, with administrative records generally used as a last resort.

3. After Fielding the Census: Executing Best Practices in Post-Fielding Activities to Improve the Mechanics of the Count

- **Develop best practices for processing and resolving omissions and duplications**

Discussions of decennial census quality often focus on undercounts. There is less focus on overcounts from duplications or other erroneous enumerations.¹³² Much like undercounts, these can hamper the quality of the decennial census and impact decennial census outcomes—including funding and political representation. We cannot have a fair and equitable decennial census process without focusing on both omissions and duplications. Therefore, the Census Bureau should research how to address, and correct for, duplications or other erroneous enumerations that lead to overcounts along with its ongoing focus on addressing undercounts.

- **Correcting for differential undercounts by race**

Identifying and gaining insight into potential undercounts and overcounts is a first step in resolving the problem. But there are also opportunities to fix differential undercounts retroactively. For example, after the 2020 Census, the Census Bureau applied a fix to postcensal population estimates, using DA to adjust the estimates base to account for the undercount of young children.¹³³ Similar changes could be applied by race and ethnicity. This could improve the overall equity and fairness of the decennial census and downstream processes (such as population estimates and the American Community Survey). Additionally, the Census Bureau should research potential options to correct differential undercounts at lower levels of geography in the decennial census. Finally, the Bureau should engage in a rigorous discussion with interested stakeholders to determine the best way to address these issues.

- **Stakeholder engagement and debriefing**

The Census Bureau should formally debrief relevant stakeholder groups, discussing plans and sharing suggestions for how to address each of the above issues. These briefings should begin early in the planning process and continue

throughout the implementation phases. These groups should include, but should not be limited to, the National Advisory Committee and the Census Scientific Advisory Committee.

- **Enhancing partnerships for research and development**

The Census Bureau should increase investment in partnering with researchers to determine the causes of overcounts and undercounts, particularly as they impact different racial and ethnic groups. More research is needed on the specific barriers to participation for differential racial and ethnic groups, as well as subgroups. Achieving this understanding is the first step towards making meaningful changes to eradicate differential undercounts.

NOTES

¹²⁷ As we have shown throughout this paper, traditional measures of census quality do not provide enough detail for either of these groups. See also: <https://link.springer.com/book/10.1007/978-3-030-10973-8> for a discussion of what is and is not covered in traditional measures of census quality for Asian Americans and NHPs.

¹²⁸ Specifically, looking at larger differences between the estimates and the census, while not proof of census miscounts, provides us with evidence of the need for further examination. According to A Preliminary Analysis of U.S. and State-Level Results from the 2020 Census, "Instead, comparisons between the two are generally undertaken to evaluate the quality of the estimates and ascertain the effectiveness of method changes applied over the course of the previous decade. The difference between the census and the estimates is called the 'error of closure,' and it is used to inform future methodological improvements and research for the estimates."
<https://www.census.gov/content/dam/Census/library/working-papers/2021/demo/pcp-twps0104.pdf>, p. 5.

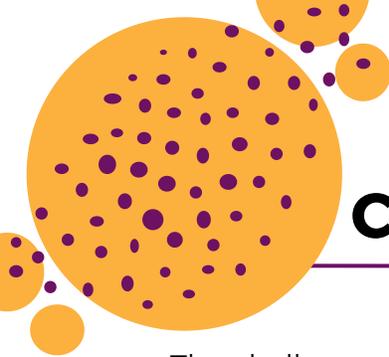
¹²⁹ See, for example, <https://www.countusin2020.org/>; <https://funderscommittee.org/learning-evaluations/>;
https://www.advancingjustice-aajc.org/sites/default/files/2021-03/JCY%20House%20Oversight%202020%20Census%20Jan%209%202020%20Hearing%20Final_0.pdf;
<https://www.advancingjustice-aajc.org/sites/default/files/2018-05/Advancing%20Justice%20AAJC%20testimony%20May%208%202018%20OGR%20Hearing%20Final.pdf>; and
<https://www.advancingjustice-aajc.org/sites/default/files/2018-08/Advancing%20Justice%20Affiliation%20FRN%20Comments%20re%202020%20Census%208.7.2018.pdf>.

¹³⁰ The Census Barriers, Attitudes, and Motivators Study is a good example of this type of work, but greater emphasis could be placed on truly testing the efficacy of messaging. https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/plan/communications-research/2020_cbams.html#:~:text=The%202020%20Census%20Barriers%2C%20Attitudes%2C%20and%20Motivators%20Study,the%202020%20Census%20Integrated%20Partnership%20and%20Communications%20Program

¹³¹ See, for example: <https://mccourt.georgetown.edu/news/who-is-missing-from-administrative-data/>;
<https://www.census.gov/content/dam/Census/library/working-papers/2014/adrm/carra-wp-2014-08.pdf>;
<https://www.urban.org/research/publication/internet-first-or-internet-choice-identifying-factors-predict-low-self-response-rates-2020-census>.

¹³² While relatively less time and energy is spent on overcount research and development, this research does still exist in every decennial census. See, for example: https://nces.ed.gov/FCSM/pdf/2003FCSM_Fay.pdf and
https://www.urban.org/sites/default/files/publication/100324/assessing_miscounts_in_the_2020_census.pdf.

¹³³ <https://www2.census.gov/about/partners/cac/nac/meetings/2022-05/presentation-blended-base-for-population-estimates.pdf>



Conclusions

The challenges of understanding the quality of decennial census data for Asian American and NHPI communities is evidenced by the fact that two traditional measures, DA and the PES, do not provide any information on Asian Americans and NHPs (DA) or only give us national-level information on these communities (the PES). Given the paucity of data, we developed a new methodology, PA, to better understand the quality of the decennial census for Asian Americans and NHPs. This measure allows us to understand the quality of the census for these communities at lower levels of geography. To achieve this, we compared the Census Bureau's postcensal population estimates to the decennial census. This new measure provides insight into the distribution of census quality for Asian American and NHPI communities. Most importantly, it offers an example of how to improve on the overall assessment of census quality by adding another useful measure.

While it is possible to determine overcounts and undercounts from traditional measures of census quality at the national level, significant geographic and demographic variability is hidden by these top-level numbers. For instance, in both 2010 and 2020 our methodology suggested Asian Americans and NHPs both had estimated overcounts at the national level. But there were states that did not follow the pattern. Specifically for the Asian American community, some states in the Upper Midwest, the Northeast, and the South showed undercounts. The Census Bureau should focus special attention on these areas in the 2030 Census to correct for previous overcounts and undercounts.

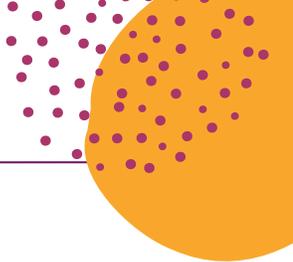
We found similar patterns for the NHPI community. Many states with high populations of NHPs aligned with the national average by showing estimated overcounts in both 2010 and 2020. However, some states in the Upper Midwest, the Northeast, and the South showed undercounts. Some very large counties for the NHPI community, such as Los Angeles and Hawaii counties, showed estimated undercounts in 2020. The Census Bureau should focus special attention on these areas in the 2030 Census to correct for previous overcounts and undercounts.

Within the Asian American community, young children are undercounted—which aligns with data on other racial groups. This undercount of young children is not shown in the data for NHPs—a topic worthy of further research.

Our findings suggest that the Census Bureau needs to make significant investments in several areas. First, the Census Bureau should improve how undercounts and overcounts are assessed in both traditional and non-traditional measures of census quality through research and planning the next round of assessments. Second, the Bureau should implement the census and apply research findings to the 2030 Census. Finally, the Bureau should review the census by executing best practices in post-fielding activities to improve the mechanics of the count.

This report raises new questions and opens further avenues for research. Additional information is needed on undercounts and overcounts at lower levels of geography for other racial groups; knowing where errors in coverage are most likely to occur is an essential first step in addressing undercounts and overcounts for other historically marginalized groups. We also need to know more about how subgroups within the Asian American and NHPI community respond to the census. We urge researchers and the Census Bureau to develop new methodologies that can examine how racial subgroups' responses impact overcounts and undercounts. Finally, the relationship between decennial census coverage and self-response is worthy of further study. Researching and solving these questions will only improve outcomes for the Asian American and NHPI communities, which in turn will improve accuracy of the census and likewise strengthen our democracy.





Appendix 1. The Development of Modified Race for 2020 Census Data for this Report

In order to make comparisons between decennial census data and population estimates, it is necessary to reconcile the race categories available in the census data with race categories that appear in the datasets used to produce population estimates.

Since the 2000 Census, respondents have been able to select one or more of the five current Office of Management and Budget (OMB) race groups (White, Black, American Indian or Alaska Native, Asian, or Native Hawaiian or Pacific Islander). OMB gave special dispensation to the decennial census and ACS only to utilize a "Some Other Race" category due to statutory requirements that this category be included. "Some Other Race" may be selected on its own, or in tandem with the other five race categories. Because the administrative data sources that the population estimates use do not include this race category, it is necessary to recode "Some Other Race" respondents from the decennial census data into the other five OMB categories (or one of the multiple race categories made up from those). This file is called the Modified Race (MR) file.

For the 2000 and 2010 Censuses, we are able to obtain the crosswalk between race on the census and modified race from the MR files released by the Census Bureau.¹³⁴ The Census Bureau uses a set of rules to recode the "Some Other Race" data in this MR, specifically:¹³⁵

1. For all people who did not respond with "Some Other Race," no changes were made.
2. For people who responded "Some Other Race" in combination with one or more of the other five OMB race categories, "Some Other Race" was simply removed, leaving only the OMB race category responses.
3. For people who only reported "Some Other Race," the Census Bureau allocated race back to someone from the same household. First, they ensured that the person matched on Hispanic origin. Then, race was allocated back to one of the five OMB race categories (or a combination thereof). Or, if no such person existed within the household, "Some Other Race" respondents were allocated from hot deck imputation (a process that finds similar people in nearby areas to use as "donors" for race characteristics).

Currently, the U.S. Census Bureau does not have the data to create a MR file for the 2020 Census. According to the Bureau, they currently plan to release a MR file once the Demographic and Housing Characteristics file is released, which is slated for May of 2023.¹³⁶ Because of this gap in data availability, and the need to compare race groups in the interim for PA in this report, we created our own MR file. Unlike the demographers at the U.S. Census Bureau, we do not (and for confidentiality reasons, should not) have access to individual-level data, so we use county-level aggregates with the following rules to create this file:

1. For all people who did not respond with “Some Other Race,” no changes were made.
2. For people who responded “Some Other Race” in combination with one or more of the other five OMB race categories, “Some Other Race” was simply removed, leaving only the OMB race category responses (or the combination thereof).
3. For those who only reported “Some Other Race,” we allocated these back to one of the five OMB race groups (or a combination thereof). We used the county-level proportion from the 2010 MR file of people that were coded from “Some Other Race” to each of the 31 race groups¹³⁷ that are used in the population estimates: White, Black, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, and Multiple Races. We then use controlled rounding, a raking procedure, to ensure our county total populations do not change when we undertake this recoding.

Once we have a final file with “Some Other Race” recoded to the 31 possible race groups at the county level, we sum these data into both race “Alone” and race “Alone or in Combination” groupings. These data are then compared to the population estimates from the corresponding vintage year in order to determine differences between the decennial census and the population estimates.

NOTES

¹³⁴ For 2000 data see: <https://www.census.gov/data/datasets/2000/demo/popest/modified-race-data-2000.html>.
For 2010 data see: <https://www.census.gov/data/datasets/2010/demo/popest/modified-race-data-2010.html>.

¹³⁵ For further information on the methodology for developing the 2010 MR file: <https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/modified-race-summary-file-method/mrsf2010.pdf>.

¹³⁶ <https://www2.census.gov/programs-surveys/decennial/2020/program-management/DHC%20Timeline>

¹³⁷ <https://www2.census.gov/programs-surveys/popest/technical-documentation/file-layouts/2000-2010/mr2010.pdf>