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Performance of the U.S. Office of Management and Budget's Revised Race and Ethnicity Categories in Asian Populations*

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Abstract

Objectives—The U.S. Office of Management and Budget (OMB) guidelines for collecting and reporting race and ethnicity information recently divided the “Asian or Pacific Islander” category into “Asian” and “Native Hawaiian or Other Pacific Islander”. The OMB’s decision to disaggregate the “Asian or Pacific Islander” category was the first step toward providing these communities with information to better serve their needs. However, whether individuals who formerly made up the combined group categorize themselves as the new guidelines intend is a question analyzed in this report.

Methods—A subset of adults participating in the Hemochromatosis and Iron Overload Screening Study completed both the OMB-minimum and the expanded race and ethnicity measure used in the National Health Interview Survey. We compared responses on the expanded measure contained within the OMB “Asian” definition (Filipino, Korean, Vietnamese, Japanese, Asian Indian, Chinese, and/or Other Asian) to “Asian” responses on the OMB-minimum measure.

Results—Mixed heritage Asians less often marked “Asian”. Among mixed heritage Japanese, Chinese, and Filipinos, 27%, 49%, and 52% did not mark “Asian” on the OMB measure, respectively. Eleven percent of single-heritage Filipinos did not mark “Asian.”

Conclusions—Many individuals formerly making up the combined “Asian or Pacific Islander” group do not categorize themselves as the revised OMB guidelines intend. This is particularly evident among Filipinos and among Asians of mixed heritage. This research illuminates the reliability and utility of the broad “Asian” category and points to possible consequences of collapsing groups into a single category, i.e., missed information and/or erroneous generalization.

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1. INTRODUCTION

Among the revisions to the U.S. federally sponsored collection and reporting of race and ethnicity information guidelines, the Office of Management and Budget (OMB) divided the “Asian or Pacific Islander” category into two categories — “Asian” and “Native Hawaiian or Other Pacific Islander.” The revised OMB standards now have five minimum categories for race: American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; and White. There are also two ethnicity categories: “Hispanic or Latino” and “Not Hispanic or Latino.” These classification revisions received considerable attention (Friedman, Cohen, Averbach, & Norton, 2000; Parker & Makuc, 2002; Sondik, Lucas, Madans, & Smith, 2000; Srinivasan & Guillermo, 2000; Wallman, Evinger, & Schechter, 2000). The decision to divide “Asian or Pacific Islander” was driven by a desire to appropriately distinguish the Pacific Islander category. As Native Hawaiians made up only 3% of the broad “Asian or Pacific Islander” group (Wallman et al., 2000), the ability to describe their health, socioeconomic status, and monitor potential discrimination had been minimal (Office of Management and Budget, 1997).

The OMB’s decision to disaggregate the “Asian or Pacific Islander” category was a step toward providing these communities with information to better serve their needs (Srinivasan & Guillermo, 2000). It is not clear, however, if the individuals who formerly made up the OMB’s “Asian or Pacific Islander” combined group now categorize themselves as the current guidelines intend. While the guidelines do not tell individuals who they are or how to classify themselves, the Office of Management and Budget defines “Asian” as “[a] person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam” (Office of Management and Budget, 1997). Thus, the term “Asian” blurs national origin distinctions, combining vast cultural and geographic diversity under a single rubric. Although this pan-ethnic terminology emerged in the US, this terminology does not exist in Asian countries and does not correspond to an Asian identification in any other country (Edmonston, Goldstein, & Tamayo Lott, 1996). There is no evidence that people of Pakistani, Tamil, Japanese, Vietnamese, or Filipino descent perceive themselves as belonging to a single Asian group (Laws & Heckscher, 2002).

Using meaningful racial/ethnic classifications is increasingly important due to growing US diversity and an accompanying interest in health and socioeconomic disparities (Day, 1996; Li & DiGianni, 2003; Smedley, Stith, & Nelson, 2003). Several studies have documented accuracy problems with race/ethnicity data. For example, estimates of racial/ethnic differences in health status vary depending on data collection methods (Blustein, 1994; Boehmer et al., 2002; Hahn, Mulinare, & Teutsch, 1992; Kressin, Chang, Hendricks, & Kazis, 2003; Pan, Glynn, Mogun, Choodnovskiy, & Avorn, 1999). Therefore, researchers are urged to use techniques and tools that provide the most reliable and useful results (Stewart & Napoles-Springer, 2003).

The importance of gathering accurate data for the Asian population parallels the population’s growth. Asians are projected to be the fastest-growing major US population category over the next half century. Census projections show the Asian population could grow by 213% and that Asians’ share of the nation’s population is projected to double, and stand at 8% by 2050 (Armas, 2004; U.S. Census Bureau, 2004). In this time of increasing US heterogeneity, environments where multiple Asian subgroups are represented in high numbers, like the state of Hawaii, may provide clues to America’s increasingly diverse future. Hawaii represents a unique setting for examining differences among populations because: (i) there is no clear ethnic majority, as no group constitutes more than a third of the state’s population; (ii) 21.4% of individuals responding to the 2000 census marked two or more races, in contrast with 2.4% in

the US as a whole (U.S. Census Bureau, 2000); (iii) 58% marked an Asian category, and 23% indicated a Pacific Islander category, whether alone or in combination with other categories, in contrast with 4.2% and .3% of respondents in the US as a whole (U.S. Census Bureau, 2001, 2002); (iv) of the individuals who marked only one race on the 2000 census, 41.6% marked a category that would be collapsed into “Asian”, in contrast to 3.6% in the US as a whole (U.S. Census Bureau, 2000). This research, performed in Hawaii, provides an opportunity to examine how Asian populations categorize themselves and illuminates the reliability and utility of the broad “Asian” category.

A related question is whether using closed-coded, broad race/ethnicity categories like “Asian” discourages participation. That is, if race/ethnicity measures do not specifically name communities of interest, like “Chinese,” potential Chinese participants may not believe the research is interested in their population.

This report examines Asian subgroup responses to the revised OMB-minimum measure for race/ethnicity compared to a more expanded measure. We also report common Asian mixed heritage responses, and how these mixed individuals assign their primary identity. Finally, we test whether including more detailed race/ethnicity categories increases participation from groups within these categories.

2. METHODS

This study was conducted at Kaiser Permanente Hawaii (KPHI) as an ancillary effort to the multi-site Hemochromatosis and Iron Overload Screening (HEIRS) Study (McLaren et al., 2003). KPHI members participated in the HEIRS Study as part of the Kaiser Permanente field center. The HEIRS Study is designed to study the: prevalence; penetrance; genetic and environmental determinants and modifiers; and potential clinical, personal, and societal impact of iron overload and hereditary hemochromatosis (McLaren et al., 2003). Primary care patients 25 years and older were recruited to have blood drawn and tested for iron markers and genotypes indicating susceptibility to hereditary hemochromatosis. Participants also completed an initial screening form that included items on socio-demographics, including race/ethnicity.

Recruitment at the Hawaii site used two approaches. The first involved approaching patients in KPHI clinic lobbies on the island of Oahu, describing the study, and obtaining their consent. These participants underwent a blood draw and completed an initial screening form at that visit. The second strategy used existing administrative databases to identify primary care patients at KPHI clinics on Oahu and Maui who were mailed a cover letter and brochure, with detachable postcard to indicate interest in the study, or decline participation. Interested potential participants received enrollment materials, including consent forms and a questionnaire. Their blood was drawn upon a return visit to a KPHI clinic.

The initial screening form collected race/ethnicity information with the OMB-minimum standard measure, as ethnicity (Spanish, Latino, or Hispanic vs. not Spanish, Latino, or Hispanic), and race (American Indian or Alaska Native (AI/AN); Asian; Black or African-American; Native Hawaiian or other Pacific Islander (NHOPI); White or Caucasian). After starting recruitment for the HEIRS study KPHI received approval from the HEIRS study Steering Committee and Observational Study Monitoring Board, and the KPHI Institutional Review Board to include an expanded race and ethnicity measure. This race and ethnicity measure was on a yellow half sheet of paper attached to the enrollment packet for a subgroup of participants.

Recruitment took place between February 2001 and February 2003. A total of 6,729 KPHI members participated in the HEIRS study, all of whom answered the initial screening form

that included the OMB-minimum race/ethnicity question. A sub-group of 2,285 participants also completed the additional, expanded race/ethnicity measure. This sub-group comprises this report's sample.

2.1 Measures

2.1.1 OMB-minimum race and ethnicity measure—The HEIRS study race/ethnicity measure is detailed in Table 1. This measure allowed for checking multiple categories and matches the minimum standard for maintaining, collecting, and presenting data on race and ethnicity for all federal reporting purposes according to the OMB (Office of Management and Budget, 1997). Further definition of terms, e.g., the OMB definition of “Asian”, was not provided in any study materials. The OMB clarified, in the 1997 notice announcing the revisions, that its decisions on the minimum race and ethnicity classifications “permit the collection of more detailed information on population groups provided that any additional categories can be aggregated into the minimum standard set of categories” (Office of Management and Budget, 1997).

2.1.2 NHIS race and ethnicity measure—The additional expanded race/ethnicity measure used only at the KPHI study site is also presented in Table 1. We chose a measure used in the National Health Interview Survey (NHIS) (National Center for Health Statistics, 2000) that has expanded terms for Asians and Pacific Islanders and has been recommended for its comprehensiveness by Lin and Kelsey (2000). Like the OMB-minimum measure, the NHIS measure allows for checking multiple categories. An NHIS follow-up question asks participants marking multiple categories to indicate the category they feel best represents their race. As the OMB-minimum standard measure uses the term “race,” our choice of the NHIS variable, which also includes the term “race” in its question format, allows us to easily compare the outcomes using the expanded NHIS variable to those found using the OMB-minimum measure.

2.2 Analysis

Pearson's chi-square analyses, with Bonferroni correction, compared individuals who marked the pan-ethnic category “Asian” on the OMB measure to those who marked a response on the NHIS measure contained within the OMB definition of “Asian” (i.e., those marking Filipino, Korean, Vietnamese, Japanese, Asian Indian, Chinese, Other Asian). Comparisons were made between all “single heritage” Asians (those who marked only one NHIS Asian subcategory) and all “mixed heritage” Asians (those who marked more than one NHIS subcategory, where at least one was an Asian subgroup). The three groups receiving the largest proportion of NHIS responses, Filipino, Japanese, and/or Chinese, were similarly divided and three Pearson's chi-square tests assessed differences between single and mixed heritage respondents from each group. To evaluate the relative functioning of the OMB-minimum “Asian” category to other OMB-minimum categories, Pearson's chi-square tests compared those marking the NHIS category “Native Hawaiian” to those who marked the “Native Hawaiian or other Pacific Islander” (NHOPI) on the OMB measure.

Using descriptive statistics we analyzed NHIS responses, focusing on those who reported at least one Asian subgroup. A response that included two or more “Asian” groups, e.g., an individual marking Japanese and Chinese, was considered a multiple/mixed race response. This differs from some tabulation methods for a dual “within-(broad) Asian category” response (Office of Management and Budget, 2000). Individuals checking more than one category were instructed to “please circle above the one group you feel best represents your race” in order to assess respondents' primary identification.

As a separate aim, Pearson chi-square tested if more detailed race/ethnicity categories would increase participation by Asians and Pacific Islanders, comparing participation rates for individuals who received only the OMB-minimum standard race/ethnicity measure to those who also received the NHIS measure in their packet. As a related analysis, Pearson chi-square tested the proportion of Asians and Pacific Islanders among respondents to the two types of materials. In order to reduce any potential biases associated with temporal differences in response rates, individuals recruited prior to using the NHIS measure (and hence initiation of the use of two types of study packets) were excluded from these analyses.

3. RESULTS

3.1 Marking “Asian”

Of 2,285 individuals surveyed with the NHIS measure at the KPHI site, 1,029 marked an “Asian” category according to the OMB definition (Office of Management and Budget, 1997) (i.e., those marking Filipino, Korean, Vietnamese, Japanese, Asian Indian, Chinese, Other Asian). Of these 17% did not mark “Asian” on the OMB-minimum measure. Conversely, of the respondents who marked “Asian” on the OMB-minimum measure, <1% did not mark an Asian subcategory on the NHIS measure (Table 2).

Table 3 provides greater detail on NHIS-measure versus OMB-minimum measure responses. We compared a combined group of “single heritage” Asians ($n=694$) to a combined group of “mixed heritage” Asians ($n=335$). In the combined group comparison ($\chi^2=279.51$, $df=1$, $p<.001$), and in each of the three ethnically-specific comparisons, mixed individuals were less likely to mark “Asian” on the OMB measure than “single heritage” individuals (Chinese $\chi^2=89.89$, $df=1$, $p<.001$; Filipino $\chi^2=44.37$, $df=1$, $p<.001$; Japanese $\chi^2=74.96$, $df=1$, $p<.001$).

We did not collect supplementary information that could explain the response pattern for those who marked a single Asian heritage on the NHIS measure but did not mark “Asian” on the OMB-minimum measure (14 Filipino and the nine Japanese respondents). However, for the mixed heritage Asian responders on the NHIS measure who did not mark “Asian” on the OMB-minimum measure, we examined their other response(s) on the NHIS measure: 1) Mixed heritage Filipinos who did not mark “Asian” on the OMB measure most often marked “Native Hawaiian or other Pacific Islander” (NHOPI) on the OMB-minimum measure. Of the 40 who did not mark “Asian” and did mark NHOPI on the OMB measure, 35 marked either “Native Hawaiian” or another Pacific Islander category on the NHIS measure; 2) Mixed heritage Japanese who did not mark “Asian” on the OMB measure most often marked NHOPI. Of the 17 who did not mark “Asian” and did mark NHOPI, 17 had marked “Native Hawaiian” on the NHIS measure; 3) Mixed heritage Chinese who did not mark “Asian” on the OMB measure most often marked the NHOPI category. Of the 75 Chinese who did not mark “Asian,” and did mark NHOPI, 74 had marked “Native Hawaiian” or another Pacific Islander category on the NHIS measure.

We undertook the same comparison between the NHIS category “Native Hawaiian” and the OMB-minimum measure “Native Hawaiian and Other Pacific Islander” (NHOPI) category. We were interested in whether including the more specific “Native Hawaiian” in the OMB-minimum measure would affect response patterns. Although mixed individuals were less likely to mark “Native Hawaiian or other Pacific Islander” on the OMB measure than “single heritage” individuals ($\chi^2=11.98$, $df=1$, $p<.001$), among the mixed heritage group, 87% of those who marked Native Hawaiian on the NHIS also marked the corresponding OMB-minimum NHOPI category (Table 3). This is a greater proportion than the proportions of mixed Asian subgroups who marked the “Asian” OMB category.

Table 4 details primary identity for those who reported more than one NHIS race/ethnicity category and reported at least one Asian subgroup. The three most common categories are detailed. Twenty-one percent of these mixed individuals did not select a primary identification when asked to do so.

3.2 Response rate results

Fifty-six percent of those who received both the NHIS measure and the OMB-minimum race/ethnicity measure returned their study materials (798/1430). Of these, 87.8% completed their blood draw for the HEIRS study (701/798). Fifty-five percent of those who only received the OMB measure returned their survey (713/1293). Of these, 88.2% had their blood drawn (629/713). Of those who received both measures, Asians represented 37.7% of the sample and NHOPI represented 14.7% of the sample. Of those who received only the OMB measure, Asians represented 39.6% of the sample and NHOPI represented 16.2% of the sample. Differences between those receiving and not receiving the expanded instrument were not statistically significant.

4. DISCUSSION

Researchers should strive to improve how race/ethnicity is captured so results are more meaningful (Lin & Kelsey, 2000; Mays, Ponce, Washington, & Cochran, 2003). In the past, researchers often used the category “Asian and Pacific Islander” (Meredith & Siu, 1995). This “lumping groups together” drew criticism from various disciplines who called for greater specificity (Bhopal, 1997; Centers for Disease Control, 1993). While the OMB’s decision to separate this category is a step in the right direction, our results indicate that specification beyond, or providing definitions when using the minimum OMB categories is prudent, at least on self-administered questionnaires with Asian populations.

While it is not known why 11% of the single heritage Filipino respondents did not mark “Asian” on the OMB measure, it would seem that participants did not identify with or accept this terminology. Filipinos have been known to categorize themselves as Spanish (Mays et al., 2003), Pacific Islander, Asian American, or, if mixed, White (Yu & Liu, 1992). Filipinos in the current study followed a similar pattern, as the OMB options for race/ethnicity capture data for this group in multiple categories. The Philippines consist of over 7,000 islands set in the western Pacific Ocean, so it is not surprising that many in this population would mark a category that includes “Other Pacific Islander”, particularly if not provided with a definition stating that the category “Asian” includes individuals with ancestry in the Philippine islands.

Most mixed heritage Filipinos, Chinese, and Japanese who did not mark “Asian” on the OMB-measure marked NHOPI. Most often these respondents had marked “Native Hawaiian” or another Pacific Islander category on the NHIS measure, which partially explains the OMB-minimum response. This doesn’t explain, however, why these individuals did not also mark “Asian” on the OMB-measure, as checking multiple categories was allowed. And, as this mixed heritage group had marked multiple categories on the NHIS measure, presumably these respondents were not averse to marking more than one category. Rather, the discrepancy may result from more specific terminology (e.g., “Filipino”, “Japanese”, “Chinese”) garnering responses more readily than the term “Asian.” “Asian” is not an identity that is readily embraced. When Lien, Conway and Wong (2003) provided Asian Americans multiple self-identification options — American, Asian American, Asian, ethnic American (e.g., Chinese American), or simply ethnic origin (e.g., Chinese) — 34% identified themselves as “ethnic American” and 30% by ethnic origin alone. Interestingly, 85% of the sample did *not* choose the more generic “Asian American” category. A follow-up question queried whether they *ever* think of themselves as “Asian American.” Only about half reported such a pan-ethnic consciousness. Least popular among the choices was “Asian”, 4% on average, with no group

having more than 7% of its respondents preferring this label. This “Asian” term is among the OMB-minimum categories, which many of our respondents did not mark. Our findings support other research documenting the complications when race/ethnicity is assessed among mixed populations (Hahn, Truman, & Barker, 1995). In open-ended questioning, monoethnic responses, often with clear preference patterns, are common among mixed heritage individuals (Phinney & Alipuria, 1996). Such underreporting among mixed heritage populations may be important because of the relationship of race/ethnicity to health, including biologic risk factors (Bacha, Saad, Gungor, Janosky, & Arslanian, 2003; Jones et al., 2004; Lovejoy, de la Bretonne, Klemperer, & Tulley, 1996; Osei & Schuster, 1996; Rodgers & Lewandowski, 2002), health behaviors (Chung, Tash, Raymond, Yasunobu, & Lew, 1990; Hiatt et al., 1996), health perceptions (Greenwald, 1991), and mortality (American Cancer Society, 2004).

Supporting our contention that specific terminology more readily garners response, relative to the Asian mixed heritage groups, a greater proportion of mixed Native Hawaiians (per NHIS response) marked the corresponding NHOPI OMB-minimum category. In this case, “Native Hawaiian” is the terminology of the broad OMB category.

Our hypothesis that individuals with a mixed heritage including Native Hawaiian would tend to choose Native Hawaiian as their primary identification was supported. This response pattern reflects both cultural origin and the political and social benefits tied to indigenous heritage in the state of Hawaii and demonstrates how race/ethnicity may be differentially reported when it affects how individuals are viewed and treated (Olivares Doan & Stephan, 2006; Sondik et al., 2000). Future research on how mixed individuals’ primary identity correlates with data from the group with which they primarily identify is of interest. If a mixed heritage individual was raised in one culture with which they primarily identify, they may share similar beliefs, behaviors, and opportunities as the group, such that knowing the primary identity could provide useful information applicable to outcomes such as health and socioeconomic status. This may be only partly effective, however, as approximately one-fifth of the mixed heritage responders in this report did not mark a primary identity.

Contrary to our hypothesis, using the expanded race/ethnicity measure did not result in higher participation rates. As the NHIS measure was ancillary to the existing HEIRS study, we were not able to simply substitute the NHIS measure for the OMB-minimum categories. Therefore, those who received the NHIS measure were receiving an additional half-page survey instrument. The advantages of a more sensitive demographic instrument were perhaps muted by the design disadvantage of using a longer questionnaire; short questionnaires have been correlated with higher response rates (Edwards et al., 2002). We suggest future research use a randomized design substituting one measure for another, which would eliminate confounding from the study material’s length. This may also eliminate the potential for participants to skip either the OMB-minimum or the expanded measure, as these items may seem redundant to participants. Although we did not track whether such skipping occurred in the current research, this potential problem would be eliminated through substitution with an expanded measure, which is allowed under the OMB guidelines.

For the disaggregation of the “Asian or Pacific Islander” category to represent a step in providing communities with better information (Srinivasan & Guillermo, 2000), the communities to whom these categories apply must understand them. One assumption behind any valid statistic using race/ethnicity is that the categories and designations are understood by the populations questioned (Centers for Disease Control, 1993; Lin & Kelsey, 2000). If the perceptions of those completing a questionnaire differ from those analyzing the data, incorrect conclusions are a likely consequence, in this case through missed information and erroneous generalization. The revised OMB standards specifically state that they do not tell individuals who they are or how to classify themselves. There are no “wrong answers” (Office of

Management and Budget, 2000). That said, the OMB General Guidelines suggest that when the minimum categories are used, to “[p]rovide definitions to the minimum race categories when possible....especially for respondents unsure of the definitions of Asian, American Indian, Native Hawaiian, and Other Pacific Islander...” and “[f]or self-administered forms, providing the definition of the category should be considered if space and formatting limitations can be overcome” (Office of Management and Budget, 2000). Our results support providing definitions when using minimum categories. For example, the OMB-issued document “Provisional Guidance on the Implementation of the 1997 Standards for Federal Data on Race and Ethnicity” (2000) provides examples of use of the OMB-minimum measure where the categories are accompanied by definitions (Example #27 on pg. 24) (Office of Management and Budget, 2000). Alternatively, a more expanded race/ethnicity measure, similar to the NHIS measure used in this report, could be used and be aggregated into the OMB-minimum standard, as allowed under federal regulations.

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Table 1

Race and ethnicity measures

OMB-minimum standard*Please answer **BOTH** questions*Are you Spanish, Latino, or Hispanic? ☐ Yes ☐ No

Which of these broad categories best describes your race? (you may check more than one)

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African-American
- ☐ Native Hawaiian or other Pacific Islander
- ☐ White or Caucasian

NHIS ("expanded") measure

What race do you consider yourself to be - Please check (✓) one or more of these categories.

☐ White	☐ Filipino
☐ Black/African American	☐ Korean
☐ American Indian	☐ Vietnamese
☐ Alaskan Native	☐ Japanese
☐ Native Hawaiian	☐ Asian Indian
☐ Guamanian	☐ Chinese
☐ Other Pacific Islander: _____
(Please specify)	☐ Samoan
☐ Other Asian: _____
(Please specify)	☐ Hispanic or Latino
☐ Other Race: _____
(Please specify)	☐ Don't Know

Next, if you checked more than one category, please circle above the one group you feel best represents your race.

Next, if you checked more than one category, please circle above the one group you feel best represents your race.

Table 2

Comparison of responses to NHIS and OMB-minimum measures

	Marked "Asian" on OMB-minimum measure	Did not mark "Asian" on OMB-minimum measure	
Marked ≥ 1 NHIS Asian category ^a , % (n)	82.7 (851)	17.3 (178)	1,029
Did not mark an NHIS Asian category ^a , % (n)	.5 (6)	99.5 (1,250)	1,256
			Total = 2,285

^a As defined by the OMB, i.e., Filipino, Korean, Vietnamese, Japanese, Asian Indian, Chinese, Other Asian

Table 3

OMB-minimum responses for subgroups from the NHIS measure

Responses to NHIS measure:		Asian ^a on OMB measure		Responses ^a (#) to OMB measure among those who did not mark Asian:						
		N	#	%	Hispanic	AI/AN	Black	NHOPI	White	No answer
Asian^{b,c}										
single heritage		694	669	96.4	2	0	0	9	3	13
mixed heritage		335	182	54.3	22	3	2	110	63	1
Three largest Asian categories:										
Filipino^c										
single heritage		125	111	88.8	2	0	0	6	1	7
mixed heritage		98	47	48.0	11	3	1	40	16	0
Japanese^c										
single heritage		389	380	97.7	0	0	0	3	0	6
mixed heritage		109	79	72.5	1	0	1	17	12	0
Chinese^c										
single heritage		129	129	100.0	0	0	0	0	0	0
NHOPI^d on OMB measure										
mixed heritage		191	97	50.8	12	0	0	75	38	1
Native Hawaiian^c										
single heritage		85	85	100.0	0	0	0	0	0	0
mixed heritage		267	233	87.3	2	1	0	13	21	1
all		352	267	90.3	2	1	0	13	21	1

^aMarked alone or along with other OMB categories. Categories within both of the OMB and NHIS measures are non-mutually exclusive, i.e., participants could mark multiple categories on each measure.

^bIncludes all individuals who marked a category on the NHIS measure that would be included in the OMB definition for "Asian"

^c χ^2 , $p < .001$, mixed vs. single heritage responders to OMB "Asian" category

Table 4
Primary identification of mixed heritage individuals with ≥ 1 Asian subgroup^a ascertained from NHIS responses

	Primary identity						
	Total	Native Hawaiian	Japanese	Filipino	Chinese	White	No Answer
Three most common mixes:							
Chinese, Native Hawaiian, White	57	25 (43.9%)	0 (0.0%)	0 (0.0%)	5 (8.8%)	16 (28.1%)	10 (17.5%)
Japanese, White	35	0 (0.0%)	14 (40.0%)	0 (0.0%)	0 (0.0%)	8 (22.9%)	10 (28.6%)
Chinese, Native Hawaiian	30	19 (63.3%)	0 (0.0%)	0 (0.0%)	5 (16.7%)	0 (0.0%)	6 (20.0%)
Total	122	44 (36.1%)	14 (11.5%)	0 (0.0%)	10 (8.2%)	24 (19.7%)	26 (21.3%)

^aUsing OMB definition of “Asian” i.e., those marking Filipino, Korean, Vietnamese, Japanese, Asian Indian, Chinese, Other Asian.