Like a Like:
Dispelling the "younger Hawaiian population" statistics myth

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Abstract

In response to claims of bias in reports of Native Hawaiian well-being statistics, this paper applies a simple methodology, age standardization, to selected measures of well-being to determine whether observed disparities among Native Hawaiians persist when controlling for age structure. Although age-standardizition of Census 2000 data reduced gaps between Native Hawaiians and the control population, non-Hispanic Whites, for most of the well-being measures examined, it did so only marginally: Native Hawaiians continue to exhibit significantly worse educational, health and economic disadvantages. These findings show no support for the hypothesis that the younger Native Hawaiian population age structure is the source of social, educational, health and economic disadvantages. These findings have substantial implications, both locally and globally, as supplements to the existing efforts of indigenous populations to create broader understanding (and responsible reporting) of native concerns with reliable and accurate data.

Introduction

An editorial in the *Honolulu Advertiser* on 9 January 2007 announced that "Hawaiians do better without entitlements" based, in part, on the hypothesis that the lower median age of the Native Hawaiian population in the state of Hawai'i accounts for its lower socioeconomic standing relative to other ethnic groups in the state. While it is generally accepted in social science circles that younger persons and families typically have less wealth and, therefore, are likely to occupy lower socioeconomic statuses, no actors in the debate over Native Hawaiian rights and programs have taken the time to test the specific case of the Native Hawaiian population in Hawai'i. This paper addresses that shortcoming by providing basic, age-standardized indicators commonly used to measure population well-being.

Age standardization is a simple methodology, commonly used in demographic analyses, in order to remove the effects of population age structure. According to Preston, Heuveline and Guillot (2001), three conditions must be met in order for standardization to be useful:

1. One is comparing an aggregate-level variable (usually a rate or proportion) among two or more populations, or in the same population over time;
2. The variable takes on different values from subgroup to subgroup within each population (e.g., from age group to age group);
3. One wishes to minimize the effect on the comparison of differences in the composition of the population according to these subgroups. (p.26)

The first prerequisite is satisfied by selecting an appropriate population to which Native Hawaiians can be compared. The third prerequisite is satisfied by the claims of the *Advertiser* editorial which claims that socioeconomic differences between Native Hawaiians and other groups are an artifact of the relatively younger age distribution of the Native Hawaiian population. It is the second prerequisite that is, perhaps, the principle reason why socioeconomic statistics are not routinely presented in age-standardized

format. Socioeconomic data are rarely gathered or reported for distinct age groups, possibly owing to small sample sizes that would limit significance testing.

Standardization is an accepted methodology in demography for the comparison of two or more populations. The flagship journal of the discipline, *Demography*, underscored the importance of the methodology in its seminal issue in 1964, in which Kitagawa remarks:

> "Comparisons of population phenomena are often complicated by related factors which should be taken into account in any definitive analysis. The need to control for differences in population composition, when comparing rates of incidence or some phenomenon in two or more populations, is generally recognized. (p. 296)"

In other disciplines, such as medicine and health outcomes research, age standardization is commonly used to create age-neutral population measures that are derived from individual age groups.[1] However, the technique has applications in other areas as well. Age standardization has been effectively used in the analysis of social phenomena such as crime (Farley, 1980), household and family structure (Burch, 1980) and migration (Miller, 1977; Kritz and Gurak, 2001).

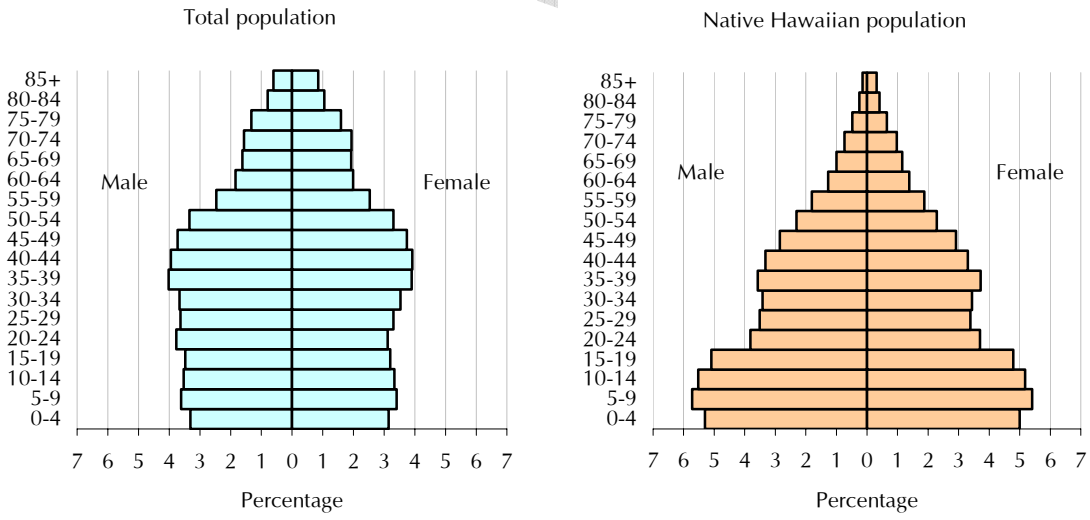
In response to concerns regarding differing age structures among the Maori and non-Maori populations in Aotearoa (New Zealand), Robson et al. (2007) use age standardization to objectively show that even when controlling for the younger age distribution of the Maori population, Maoris continue to experience greater health deficits in comparison to other ethnic groups in their native homeland. The author accomplishes this task by standardizing age-specific mortality, prevalence and hospitalization rates using three "standards" for comparing Maori and non-Maori outcomes: adopting the Maori population distribution; adopting the World Health Organization recommended

[1] See, for example, Preston, Keyfitz and Schoen (1972).

population distribution; and applying "Segi's World Population" standard population distribution (Segi, 1960; Estève et al., 1994).

In 2005, Kana'iaupuni, Malone and Ishibashi authored a comprehensive volume of statistics and narrative entitled, *Ka Huaka'i: 2005 Native Hawaiian Educational Assessment*. It described the status of educational well-being among the Native Hawaiian population in the new millennium and related that status to other domains of well-being. In so doing, considerable data were presented, generally revealing continued socioeconomic disadvantage among the Native Hawaiian population relative to other major ethnic groups in the state. While the data presented in that publication are varied in format – population means, distributions and trends – no age-standardization was included. The report did, however, acknowledge the relatively young age structure of the Native Hawaiian population in the state (Figure 1). Therefore, this paper will examine selected measures presented in *Ka Huaka'i* in order to both demonstrate the application of age standardization to educational, health and socioeconomic statistics and assess the claims of bias in the analysis and reporting of Native Hawaiian well-being measures.

Figure 1. Population age pyramids in the state of Hawai'i, total population and Native Hawaiian population: 2000



Data source: U.S. Census 2000, Summary File 2.

Hypothesis

In various media outlets, such as the *Advertiser* article mentioned earlier, speculation persists that Native Hawaiian social, economic and housing disadvantage is, in part, an artifact of the younger overall age structure of the Native Hawaiian population. However, the next step in the scientific method requires data analyses and the interpretation of results in order to determine whether a hypothesis has merit.[2]

To address this void in the debate, this paper tests the controversial hypothesis that, after standardizing for age, Native Hawaiian well-being statistics will be *no worse* than those of non-Hispanic Whites.

Data and Methods

The data for this report are drawn from Census 2000 data tables readily available on the U.S. Census Bureau website.[3] Using the American Fact Finder tool on the Census Bureau website, I gather an array of well-being indicators that are available in various age categories. Data include household and family income, college enrollment among adults, self-reported disability status, unemployment rates, labor force participation, homeownership, and poverty (among individuals, families and households).[4]

Age standardization is a simple method that requires no more than simple multiplication and division. In brief, age-specific rates for a given phenomenon – for example, unemployment (the number of unemployed individuals in a particular age group divided by the total number of individuals in the same age group who are in the civilian

[2] It should be noted that the proponents of the "younger population" hypothesis of Native Hawaiian socioeconomic disadvantage fail to substantiate their argument through standard scientific inquiry, but have instead moved directly to conclusions based not on credible, replicable evidence, but on speculation and opinion.

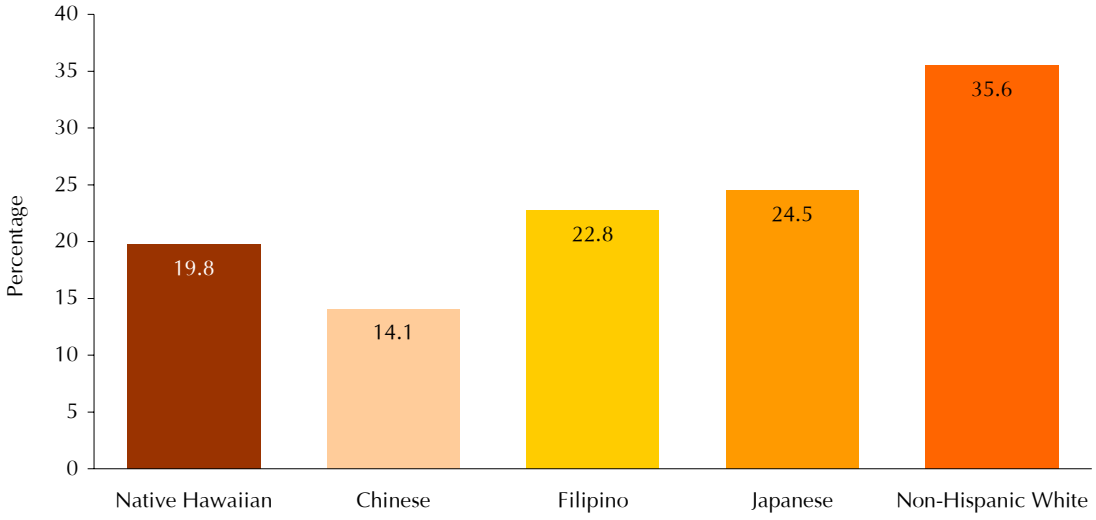
[3] The Census Bureau website (www.census.gov) contains the American Fact Finder data tool, which can provide detailed tabulations of census and survey data from several products, however, Census 2000 provides the most accurate data relative to the Native Hawaiian population.

[4] Detailed references to each census data product accompany each respective subject-matter figure.

labor force) – are weighted by the *average* age distribution of the two populations considered. These standardized age-specific rates are then summed to produce a new, age-standardized population-level statistic – in this example, an age-standardized unemployment rate.

For the purposes of this paper, Native Hawaiian well-being indicators are age-standardized in conjunction with those of non-Hispanic Whites, the numerically and socially dominant ethnic group in the United States. Non-Hispanic Whites represent 70.4 percent of total population in the United States and 35.6 percent of the population in the state of Hawai'i (Figure 2).[5]

Figure 2. Ethnic composition of the state of Hawai'i, by major ethnic group: 2000 [6]



Source: Tabulations on Census 2000, Summary File 2 (Table PCT-1).

Although various methods of age standardization exist, Preston, Heuveline and Guillot (2001) recommend computing an average age distribution between the two populations to be compared, as described above, then applying that average age

[5] See Census 2000, Summary File 2, PCT-1 for detailed population totals for all tallied races, ethnicities and ancestries.

[6] Percentages do not sum to 100 percent owing to multiple-race reporting in Census 2000, i.e., individuals of multiple races may be counted among two or more ethnic categories.

distribution to the age-specific measures for each constituent population in order to derive a new *weighted* measure of each total population.[7]

Results

In general, the results show that Native Hawaiian levels of well-being do, in fact, change after age-standardization. However, the gaps between Native Hawaiians and non-Hispanic Whites do not diminish significantly and, in some cases, Native Hawaiian disadvantage actually increases when controlling for population age structure.

Table 1 shows a summary of both original (crude) and age-standardized rates of well-being indicators for Native Hawaiians and non-Hispanic Whites in Hawai'i. The first column lists selected measures sorted by their respective domain of well-being, with the universe (or base population) for each measure and the number of age groups used in the standardization listed in parentheses. The following three columns (columns 2 through 4) present crude Native Hawaiian rates, crude non-Hispanic White rates, and the difference between the two, respectively. Similarly, columns 5 to 7 show the *age-standardized* rates for Native Hawaiians and non-Hispanic Whites, and their respective differences. Because the differences presented in columns 4 and 7 represent the (potential) relative disadvantage of Native Hawaiians in these measnures, the final column (column 8) offers the change in these differences, thus revealing whether the age-standarization process increases or decreases any relative disdvantage or advantage among Native Hawaiians. In other words, column 8 shows whether the gap between Native Hawaiians and non-Hispanic Whites grows wider or more narrow with age standardization.

For each of the domains of well-being examined, I present results for the state of Hawai'i in figures that accompany each section. However, more detailed tables of the findings are included in appendices, which are noted in each section.

[7] An alternative method is to apply an objective "standard" population distribution to all groups under study in order to determine whether significant differences in age-standardized rates persist.

Table 1. Summary well-being statistics, original and age-standardized: Native Hawaiians and non-Hispanic Whites in the state of Hawai'i

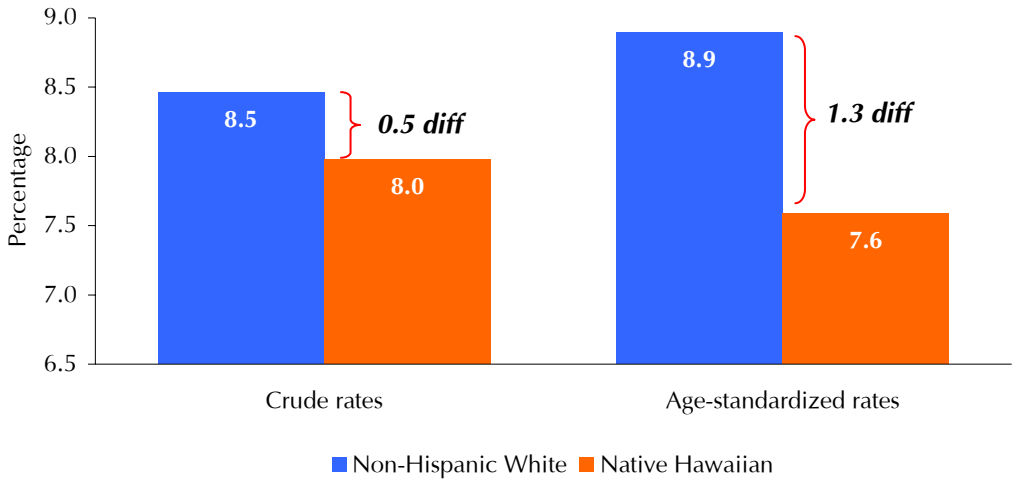
	Crude rates			Age-standardized rates			
	Native Hawaiian	Non-Hispanic White	Difference (NH_O – N-HW_O)	Native Hawaiian	Non-Hispanic White	Difference (NH_{AS} – N-HW_{AS})	Change in relative difference ($Diff_{AS}$ – $Diff_O$)
Educational well-being							
College enrollment [population 15 years and older (4 groups)]	7.98	8.46	(0.48)	7.59	8.90	(1.31)	(0.82)
Educational attainment: bachelor's or higher [population 18 years and older (5 groups)]	10.92	28.56	(17.64)	11.12	27.84	(16.72)	0.92
Physical well-being							
Disability rate [population 5 years and older (4 groups)]	16.59	16.75	(0.16)	18.00	15.62	2.37	2.53
Social well-being: Residential stability							
Homeownership rate [occupied households (9 groups)]	52.43	49.77	2.66	53.17	48.91	4.27	1.61
Economic well-being: Employment							
Unemployment rate [civilan labor force 15 years and older (13 groups)]	9.80	6.34	3.46	9.95	7.62	2.33	(1.13)
Labor force participation rate [population 15 years and older (13 groups)]	65.88	68.50	(2.62)	65.42	68.97	(3.55)	(0.93)
Economic well-being: Income							
Average household income [households (7 groups)]	$56,075	$64,969	($8,894)	$56,290	$64,748	($8,459)	$435
Average family income [families (8 groups)]	$59,086	$72,719	($13,634)	$59,498	$72,243	($12,745)	$889
Economic well-being: Poverty							
Individual poverty rate [poverty-eligible population (13 groups)]	16.04	10.42	5.62	15.47	10.85	4.62	(1.00)
Household poverty rate [poverty-eligible households (4 groups)]	15.80	9.93	5.87	15.58	10.00	5.59	(0.29)
Family poverty rate [poverty-eligible families (4 groups)]	14.06	6.61	7.45	13.78	6.73	7.06	(0.39)
Single-mother family poverty rate [poverty-eligible single-mother families (4 groups)]	31.31	22.09	9.22	30.45	22.71	7.74	(1.48)

Data: Tabulations on Census 2000, selected Summary File 2 and Summary File 4 data tables.

Educational Well-being

Of particular concern to many is access to higher education. Native Hawaiians, in general, exhibit lower rates of college enrollment. Prior to age standardization, non-Hispanic White adults had only a marginal greater likelihood of attending college: 8.5 percent of non-Hispanic Whites compared to 8.0 percent of Native Hawaiians. Age standardization, however, actually increases the gap in enrollment rates from one-half a percentage point to 1.3 percentage points. That is, controlling for age actually produces a *greater* disadvantage in Native Hawaiian college enrollment than previously stated.

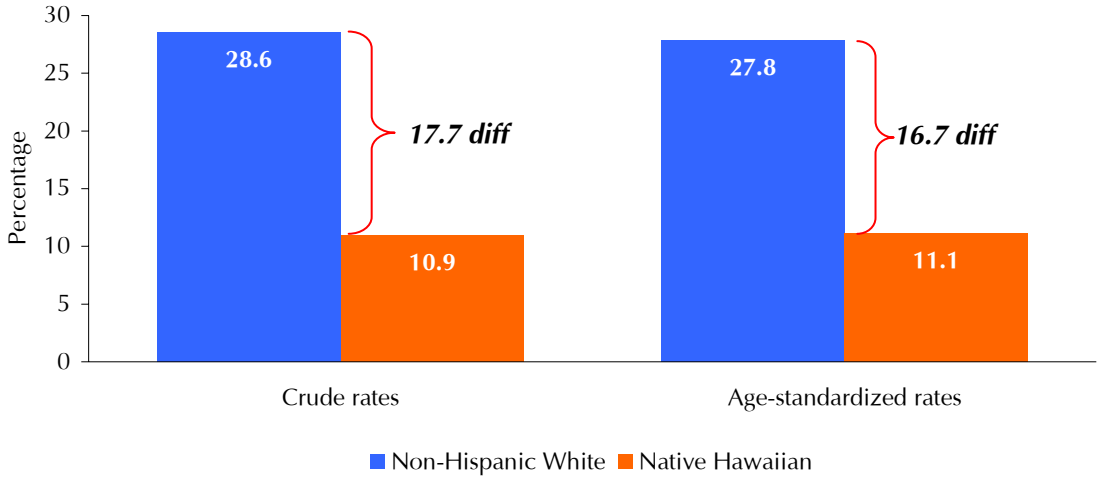
Figure 3. College enrollment rates in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians, ages 16 years and older: 2000



Source: Tabulations on Census 2000, Summary File 4 (Table PCT-63).

Generally speaking, higher educational attainment is highly correlated with higher socioeconomic status. On average, Native Hawaiians lag behind other groups in the state in the attainment of post-secondary credentials. According to Census 2000, 28.6 percent of non-Hispanic Whites ages 18 years and older had earned a bachelor's degree or higher, while only 10.9 percent of Native Hawaiians had done so. Adjusting the age-specific rates with age standardization changes these percentages only marginally, reducing the gap from 17.7 percentage points to 16.7 percentage points – still a significant difference.

Figure 4. Bachelor's degree attainment rates in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians, ages 18 years and older: 2000



Source: Tabulations on Census 2000, Summary File 4 (Table PCT-65).

As shown in Appendix A, at the national level, Native Hawaiian adult college enrollment *exceeds* that of non-Hispanic Whites after age standardization, which lends support for the stated hypothesis. However, this finding is not surprising: a greater number of post-secondary education opportunities exist in the continental United States than in the state of Hawai'i. While encouraging to Native Hawaiian educators, the dramatic increase of national enrollment rates relative to state enrollment rates, driven by attendance at continental educational institutions, portends concern about the quality, cost and diversity of educational opportunities for Native Hawaiians in their native land.

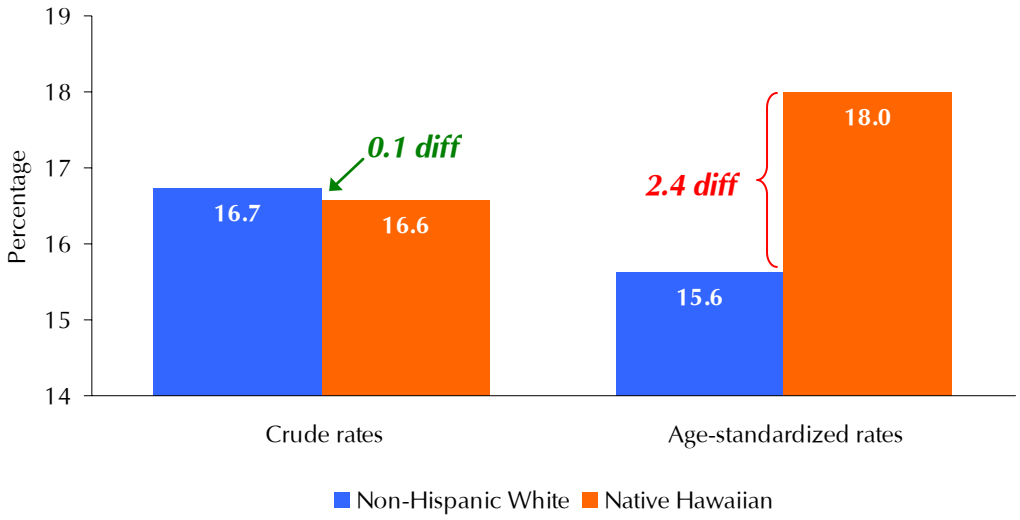
Appendix B, which presents detailed age-specific and summary rates of bachelor's degree attainment, shows no such Native Hawaiian advantage at the national level: non-Hispanic White adults remain nearly twice as likely to hold a bachelor's degree than their Native Hawaiian counterparts.

Physical Well-being

One area of well-being in which Native Hawaiian statistics have fared well in recent years is that of self-reported disability status. Census 2000 revealed little difference

between Native Hawaiian disability status and that of the total population in the state. However, as shown in Figure 5, age standardization produces a significantly higher disability rate among Native Hawaiians – from 16.6 percent to 18.0 percent – and a significantly lower rate for non-Hispanic Whites – from 16.7 percent to 15.6 percent. In essence, the gap in disability rates turned from a 0.1 percentage point advantage for Native Hawaiians (i.e., fewer with any disability) to a 2.4 percentage point disadvantage (i.e., more with any disability). In this instance, age standardization revealed a deficit in physical well-being that was previously unknown.

Figure 5. Disability rates in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians, for individuals ages 5 years and older: 2000



Source: Tabulations on Census 2000, Summary File 4 (Table PCT-69).

At the national level, the same switch occurs, whereby relative Native Hawaiian advantage in disability rates – 17.0 percent compared to 18.3 percent for non-Hispanic Whites – turn into relative disadvantage after age standardization: 19.1 percent among Native Hawaiians compared to 16.7 percent among non-Hispanic Whites (

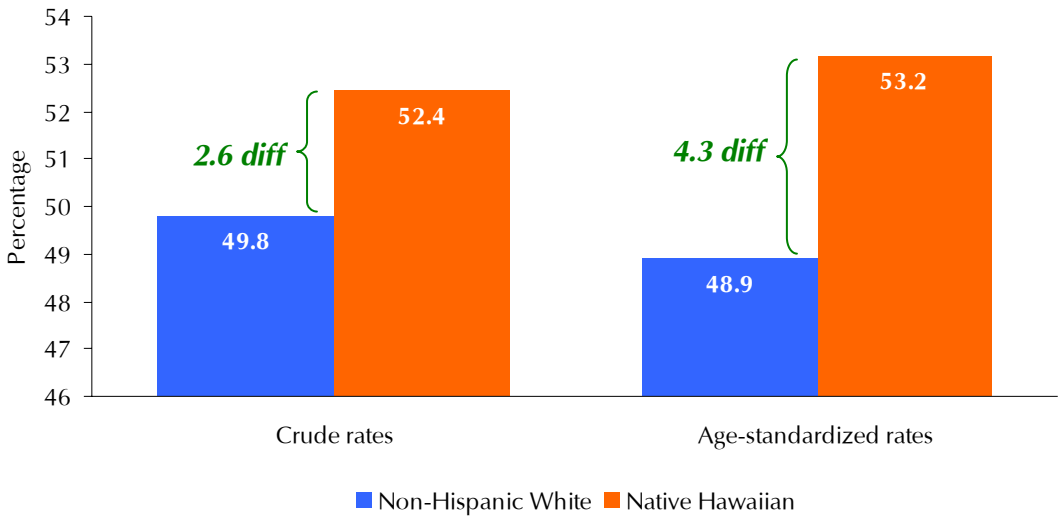
Appendix C).

Social Well-being

Homeownership is not only an oft-cited part of the American dream – a social construct that helps solidify relationships in neighborhoods, families and adulthood – it also serves as a key indicator of wealth, owing to the economic leverage it can provide in credit, equity and investment markets. Although the total Native Hawaiian homeownership rate in 2000 is more than four percentage points lower than the statewide average (Kana'iaupuni, Malone and Ishibashi, 2005), aggregate rate comparisons with non-Hispanic Whites reveal a Native Hawaiian advantage of 2.6 percentage points (Figure 6). After age standardization, the Native Hawaiian homeownership advantage increases to 4.3 percentage points. While encouraging, one should note that the Native Hawaiian advantage may be attributable, in part, to two key circumstances: (1) the Department of Hawaiian Home Lands, a federally funded agency founded by the Hawaiian Homes Commission Act of 1920, provides homeownership opportunities to Native Hawaiians with a minimum of 50 percent aboriginal ancestry; and, (2) fully 7.8 percent of all non-Hispanic White adults, 18 years and older, were active military in 2000 (compared to only 0.4 percent of Native Hawaiian adults), thereby reducing the pool of potential home buyers in this population.[8]

[8] See Census 2000, Summary File 4, Table PCT-67 for armed forces status estimates.

Figure 6. Homeownership rates in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians: 2000



Source: Tabulations on Census 2000, Summary File 2 (Table HCT-8).

At the national level, non-Hispanic Whites have over a 20-percentage point advantage in homeownership rates before standardization: 72.2 percent compared to only 50.9 percent among Native Hawaiians (Appendix D). The gap diminishes from 21.2 percentage points to 17.0 percentage points after age standardization, yet remains substantial.

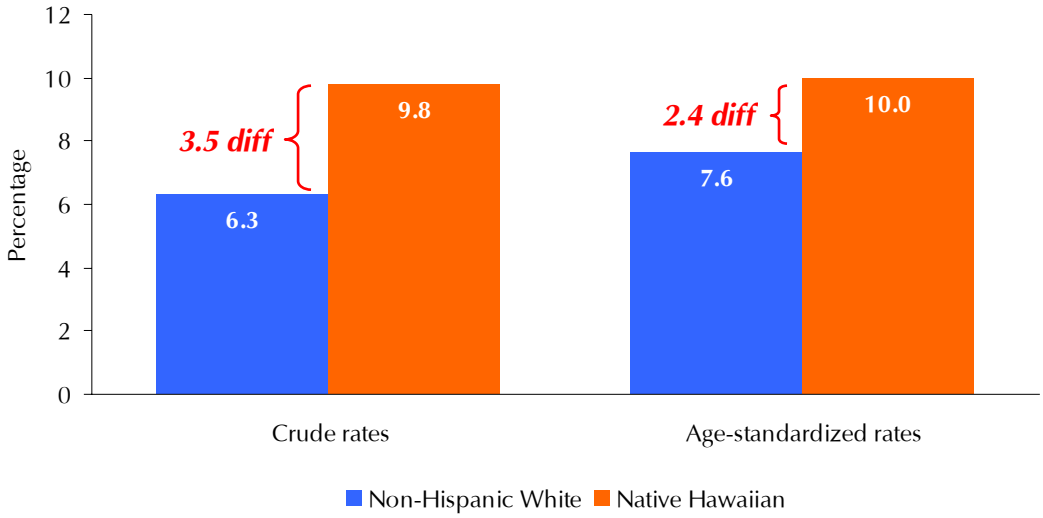
Economic Well-being: Employment

The unemployment rate serves as a key economic indicator in the United States and plays unique role in Hawai'i owing to the dominant visitor industry in the state, whose labor force requirements are highly sensitive to global social, economic and environmental conditions. Generally considered a "low unemployment" state, Hawai'i exhibits marked differences in unemployment rates[9] among the various ethnic groups who constitute the civilian labor force. As shown in Figure 7, Native Hawaiians experienced a 9.8 percent unemployment rate in 2000, over three percentage points higher than that of

[9] The unemployment rate is the percentage of the civilian labor force that is currently unemployed. Those who are "unemployed" are individuals who are jobless, but actively seeking employment. Individuals who do not work and are not looking for work (retirees, students, homemakers, etc.) are considered "not in the labor force" and therefore are excluded from unemployment rate calculations.

non-Hispanic Whites (6.3 percent). Age standardization reduces the gap to 2.4 percentage points between the two groups, yet Native Hawaiians remains significantly more likely to be unemployed.

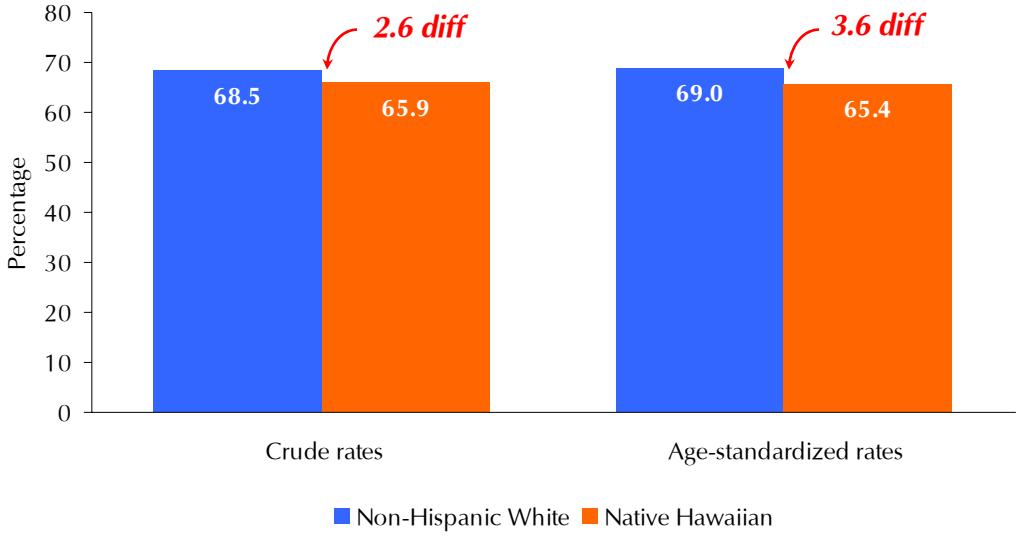
Figure 7. Unemployment rates in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians, among individuals 16 years and older: 2000



Source: Tabulations on Census 2000, Summary File 4 (Table PCT-79).

Figure 8 presents rates of overall labor force participation among Native Hawaiians and non-Hispanic Whites in Hawai'i. Crude labor force participation rates – the number of individuals in a population who are working (or seeking work) as a percentage of the entire working-age population – show a 2.6 percentage point gap between non-Hispanic Whites (68.5 percent) and Native Hawaiians (65.9 percent). However, the gap widens another full percentage point after age standardization, revealing even greater Native Hawaiian disadvantage in the Hawai'i labor market.

Figure 8. Labor force participation rates in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians, among individuals 16 years and older: 2000



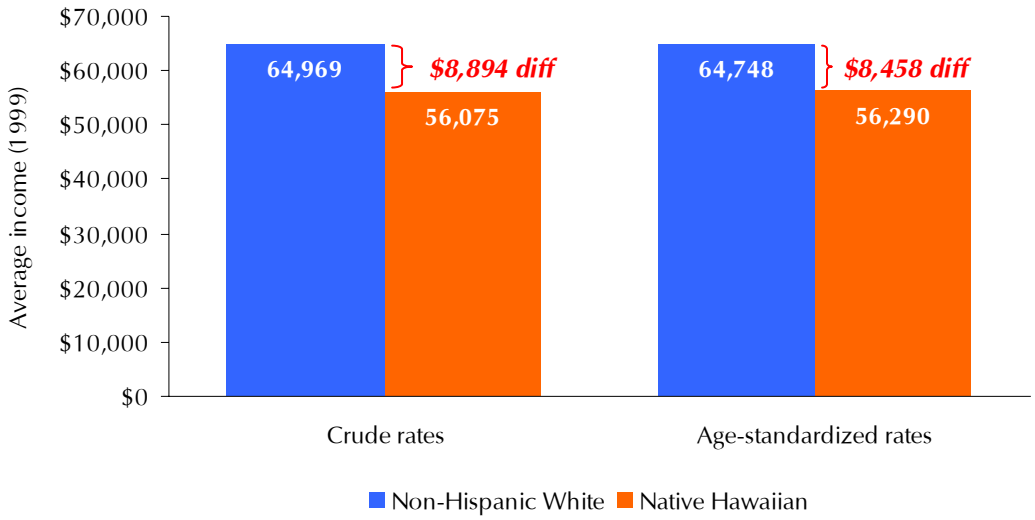
Source: Tabulations on Census 2000, Summary File 4 (Table PCT-79).

As shown in Appendix E, the Native Hawaiian disadvantage in employment persists at the national level as well, even after standardizing population distribution among age-specific unemployment rates.

Economic Well-being: Incomes

Perhaps the most commonly thought-of measure of socioeconomic status is income. Specifically, household or family income is a key indicator of financial well-being, which can, in turn, be leveraged to obtain access to other domains of well-being. Therefore, I examine both household and family income to determine if the youthful age structure of the Native Hawaiian population accounts for low incomes reported in other research. As shown in Figure 9, age standardization results in a $221 decrease in average non-Hispanic White household income and a $215 increase in average Native Hawaiian household income. Regardless, a substantial gap persists between the two groups: non-Hispanic White average household income remains $8,458 higher than that of Native Hawaiians.

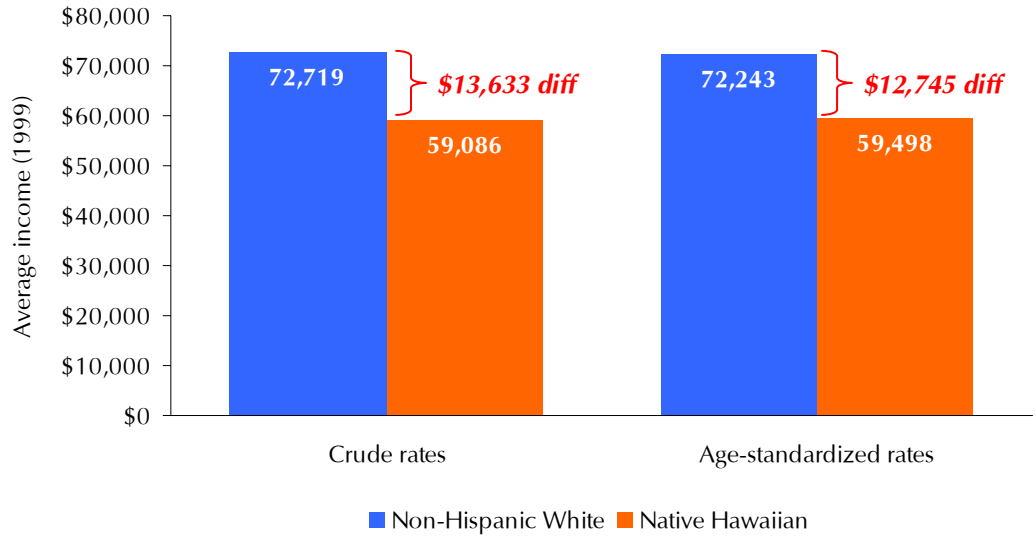
Figure 9. Average household income in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians: 1999



Source: Tabulations on Census 2000, Summary File 4 (Table PCT-93).

Figure 10 shows that family income exhibits similar changes: average non-Hispanic White family income falls $476 after age standardization, while average Native Hawaiian family income increases $412. However, the difference between the two remains $12,745 in favor of non-Hispanic Whites.

Figure 10. Average family income in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians: 1999



Source: Tabulations on Census 2000, Summary File 4 (Table PCT-120).

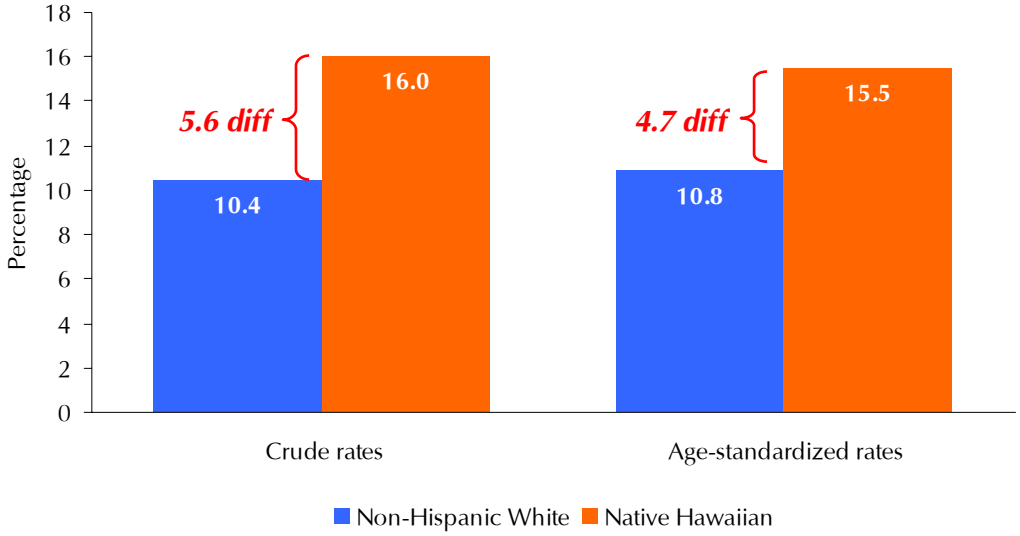
Appendix G and Appendix H present detailed data tables of average household and family income age standardization, respectively, for both Hawai'i and the United States. One should note that at the national level, Native Hawaiian average incomes remain lower than those of non-Hispanic Whites, even without adjustments for cost-of-living, which is significantly higher in the state of Hawai'i than on the U.S. continent.

Economic Well-being: Poverty status

Poverty status is computed based on family income and family composition, and the subsequent ability to afford a basket of goods, i.e., the poverty threshold. Census 2000 reports poverty status for both individuals and families (of various types): those who fall below 100 percent of the poverty threshold are classified as "below poverty."[10] Based on 1999 income, Native Hawaiian individuals exhibited greater rates of poverty than non-Hispanic Whites: 16.0 percent compared to 10.4 percent, respectively (Figure 11). As hypothesized, the gap closes to 4.7 percentage points after age-standardization, however, Native Hawaiian individual poverty remains over 40 percent higher than that of non-Hispanic Whites.

[10] Although some public assistance programs use varying levels of poverty qualification, the poverty statistics presented here represent individuals and families who fall below 100 percent of the poverty threshold.

Figure 11. Individual poverty rates in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians: 1999

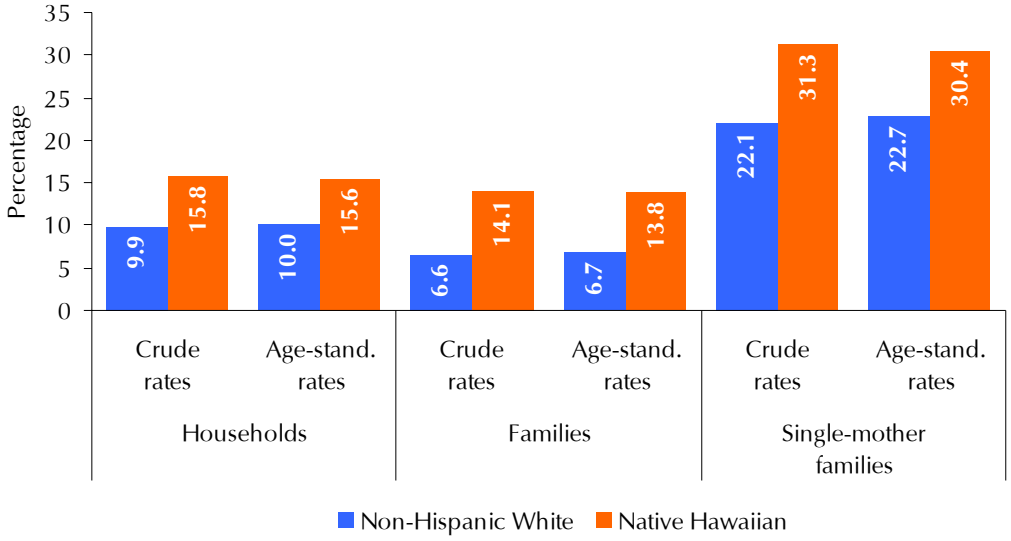


Source: Tabulations on Census 2000, Summary File 4 (Table PCT-142).

Appendix I presents detailed individual poverty rates for both Hawai'i and the United States. Like state-level poverty rates, age standardization has only a marginal effect on the gap between Native Hawaiian and non-Hispanic White poverty rates at the national level.

Figure 12 shows poverty rates at the household, family and single-mother family levels. In each instance, Native Hawaiian poverty rates exceed those of non-Hispanic Whites and change only minimally after age-standardization.

Figure 12. Household and family poverty rates in the state of Hawai'i, for non-Hispanic Whites and Native Hawaiians, by household/family type: 1999



Source: Tabulations on Census 2000, Summary File 4 (Table PCT-163).

At the national level, the gaps between Native Hawaiian and non-Hispanic White poverty persist for each household/family classification examined (Appendix J, Appendix K, and Appendix L). Although age standardization narrows the gap slightly, the changes are minimal and reinforce the significant socioeconomic disadvantage of Native Hawaiian families in the state.

Conclusions

In response to claims of bias in the presentation of Native Hawaiian statistics, which are often reported as crude rates and therefore do not account for the generally younger age structure of the Native Hawaiian population, this paper applied a simple demographic methodology to selected measures of well-being in order to account for the effects of population age structure. Typically used in fertility and mortality research, age stardardization can readily be applied to any population measure provide sufficient age-specific data are available.

Among the six general domains of well-being analysed, age standardization reduced the gap between Native Hawaiians and the control population, non-Hispanic

Whites, among the majority of the measures examined, but only marginally so: Native Hawaiians continue to exhibit substantially worse educational, health and economic disadvantage even when controlling for age structure. In fact, in one case, Native Hawaiian *advantage* in crude (self-reported) disability rates turned into *disadvantage* after age standardization. That is, while crude disability rates show that Native Hawaiians are less likely to report any disabilities than non-Hispanic Whites, the age-standardized rates suggest otherwise: after conrolling for population age structure, Native Hawaiians are 15 percent *more* likely to report any disabilities than their non-Hispanic White peers.

Native Hawaiians in Hawai'i do exhibit an advantage in homeownership according to both crude and age-standardized homeownership rates. Age standardization increased the Native Hawaiian advantage from 2.6 percentage points to 4.3 percentage points relative to non-Hispanic Whites. However, at the national level – which includes the Native Hawaiian advantage in the state of Hawai 'i – Native Hawaiians experience a 17.0 percentage point disadvantage in homeownership even after controlling for age structure. No doubt, the absence of the Department of Hawaiian Home Lands and/or non-Hispanic White active military in the state of Hawai'i, would likely result in an even greater disadvantage at both the state and national levels.

It should be noted that age standardization is but a tool used for comparing two or more populations on key measures of concern. Performing such an analysis should not be used to obscure the very real issues at play when discussing population well-being. For instance, a younger population age structure is not a an "excuse" for poor well-being in a population. Instead, it can often be yet another *symptom* of socioeconomic and social disadvantage, where high rates of morbidity and mortality at older ages place even greater burdens on younger members of the population, limiting their opportunities, draining thier resources and subjecting them to the same health risks as their elders. In sum, the implication of the "younger population" myth as it relates to socioeconomic disadvantage is an attitude of "they'll grow out of it."

Given these findings, one can easily conclude that Native Hawaiian socioeconomic disadvantage is not an artifact of the younger age structure of the Native Hawaiian population, but is instead a statistically significant reality of the indigenous

population of the Hawaiian Islands. In scientific language, the younger population hypothesis finds no support from the analyses presented here. This research supplements a growing literature among native peoples, whose entreaties for a decolonized approach to developing frameworks of scientific inquiry and conducting research in a responsible and responsive manner are accompanied by rigorous efforts to produce and disseminate data and statistics that are unimpeachable. As indigenous research continues its resurgence across the globe and the data collected by government agencies include greater numbers of ...

References

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Appendix A. College enrollment rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Average age dist.	Non-Hispanic White enrollment rate	**Standardized Non-Hispanic White enrollment rate**	Native Hawaiian enrollment rate	**Standardized Native Hawaiian enrollment rate**
United States					
Total	**1.0000**	**7.41**	***8.82***	**10.27**	***9.17***
15 to 17 years	0.0668	0.55	0.04	0.60	0.04
18 to 24 years	0.1425	37.83	5.39	32.04	4.57
25 to 34 years	0.1837	10.20	1.87	11.14	2.05
35 years and over	0.6070	2.50	1.52	4.14	2.51
Hawai'i					
Total	**1.0000**	**8.46**	***8.90***	**7.98**	***7.59***
15 to 17 years	0.0708	0.90	0.06	0.51	0.04
18 to 24 years	0.1461	27.81	4.06	25.64	3.75
25 to 34 years	0.1887	12.91	2.44	9.47	1.79
35 years and over	0.5944	3.92	2.33	3.40	2.02

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-63).

Appendix B. Bachelor's degree attainment rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Average Non-Hispanic White-Native Hawaiian age dist.	Non-Hispanic White bachelor's degree attainment rate (%)	**Standardized Non-Hispanic White bachelor's degree attainment rate (%)**	Native Hawaiian bachelor's degree attainment rate (%)	**Standardized Native Hawaiian bachelor's degree attainment rate (%)**
United States					
Total	**1.0000**	**24.93**	***24.91***	**13.64**	***13.84***
18 to 24 years	0.1528	9.35	1.43	4.43	0.68
25 to 34 years	0.2010	32.42	6.52	16.79	3.37
35 to 44 years	0.2204	29.03	6.40	15.34	3.38
45 to 64 years	0.2856	28.93	8.26	17.44	4.98
65 years and over	0.1402	16.46	2.31	10.18	1.43
Hawai'i					
Total	**1.0000**	**28.56**	***27.84***	**10.92**	***11.12***
18 to 24 years	0.1582	5.73	0.91	3.29	0.52
25 to 34 years	0.2099	28.36	5.95	12.77	2.68
35 to 44 years	0.2209	30.87	6.82	12.35	2.73
45 to 64 years	0.2950	37.14	10.96	14.27	4.21
65 years and over	0.1160	27.61	3.20	8.43	0.98

Appendix C. Disability rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Average age dist.	Non-Hispanic White disability rate	**Standardized Non-Hispanic White disability rate**	Native Hawaiian disability rate	**Standardized Native Hawaiian disability rate**
United States					
Total	**1.0000**	**18.34**	***16.68***	**16.95**	***19.12***
5 to 15 years	0.2032	5.75	1.17	6.10	1.24
16 to 20 years	0.0898	11.32	1.02	11.78	1.06
21 to 64 years	0.5979	16.86	10.08	19.89	11.89
65 years and over	0.1090	40.45	4.41	45.27	4.94
Hawai'i					
Total	**1.0000**	**16.75**	***15.62***	**16.59**	***18.00***
5 to 15 years	0.2211	5.72	1.27	5.61	1.24
16 to 20 years	0.0887	10.03	0.89	11.58	1.03
21 to 64 years	0.6021	16.65	10.03	19.38	11.67
65 years and over	0.0881	39.08	3.44	46.08	4.06

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-69).

Appendix D. Homeownership rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Avg. householder age dist.	Non-Hispanic White homeownership rate	Standardized Non-Hispanic White homeownership rate	Native Hawaiian homeownership rate	Standardized Native Hawaiian homeownership rate
United States					
Total	**1.0000**	**72.18**	***70.40***	**50.94**	***53.37***
Householder 15 to 24 years	0.0604	20.35	1.23	12.42	0.75
Householder 25 to 34 years	0.1839	52.62	9.68	32.51	5.98
Householder 35 to 44 years	0.2391	72.96	17.44	50.51	12.08
Householder 45 to 54 years	0.2042	80.05	16.35	61.47	12.55
Householder 55 to 64 years	0.1342	83.94	11.27	68.41	9.18
Householder 65 to 74 years	0.0988	84.61	8.36	72.28	7.14
Householder 75 to 84 years	0.0622	79.26	4.93	72.27	4.50
Householder 85 years and over	0.0171	66.93	1.14	69.85	1.19
Hawai'i					
Total	**1.0000**	**49.77**	***48.91***	**52.43**	***53.17***
Householder 15 to 24 years	0.0510	8.29	0.42	14.50	0.74
Householder 25 to 34 years	0.1774	22.25	3.95	32.30	5.73
Householder 35 to 44 years	0.2404	41.63	10.01	47.68	11.46
Householder 45 to 54 years	0.2289	57.88	13.25	60.51	13.85
Householder 55 to 64 years	0.1440	67.73	9.75	67.96	9.79
Householder 65 to 74 years	0.0924	73.00	6.74	72.16	6.66
Householder 75 to 84 years	0.0534	73.95	3.95	74.59	3.98
Householder 85 years and over	0.0125	66.76	0.84	76.38	0.96

Source: Tabulations on Census 2000, Summary File 2 (Table HCT-8).

Appendix E. Unemployment rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Average age dist.	Non-Hispanic White unemployment rate	**Standardized Non-Hispanic White unemp. rate**	Native Hawaiian unemployment rate	**Standardized Native Hawaiian unemployment rate**
United States					
Total	**1.0000**	**4.39**	***5.40***	**9.46**	***9.51***
16 to 19 years	0.0918	15.25	1.40	23.45	2.15
20 to 21 years	0.0432	10.60	0.46	17.38	0.75
22 to 24 years	0.0567	6.47	0.37	13.67	0.77
25 to 29 years	0.0914	4.11	0.38	9.76	0.89
30 to 34 years	0.0966	3.41	0.33	7.56	0.73
35 to 44 years	0.2152	3.15	0.68	6.78	1.46
45 to 54 years	0.1669	2.87	0.48	5.37	0.90
55 to 59 years	0.0587	2.89	0.17	6.11	0.36
60 to 61 years	0.0196	3.11	0.06	3.44	0.07
62 to 64 years	0.0263	3.06	0.08	6.90	0.18
65 to 69 years	0.0395	3.30	0.13	7.60	0.30
70 to 74 years	0.0345	3.96	0.14	8.46	0.29
75 years and over	0.0596	12.35	0.74	11.02	0.66
Hawai'i					
Total	**1.0000**	**6.34**	***7.62***	**9.80**	***9.95***
16 to 19 years	0.0927	20.64	1.91	24.15	2.24
20 to 21 years	0.0450	12.81	0.58	15.61	0.70
22 to 24 years	0.0608	10.83	0.66	13.50	0.82
25 to 29 years	0.0960	7.25	0.70	10.99	1.05
30 to 34 years	0.0972	5.63	0.55	8.91	0.87
35 to 44 years	0.2166	5.30	1.15	7.59	1.64
45 to 54 years	0.1786	4.37	0.78	5.80	1.04
55 to 59 years	0.0590	3.80	0.22	5.91	0.35
60 to 61 years	0.0176	3.23	0.06	2.69	0.05
62 to 64 years	0.0246	2.34	0.06	6.34	0.16
65 to 69 years	0.0352	5.13	0.18	6.38	0.22
70 to 74 years	0.0300	7.90	0.24	9.23	0.28
75 years and over	0.0467	11.65	0.54	11.46	0.54

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-79).

Appendix F. Labor force participation rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Average age dist.	Non-Hispanic White labor force participation rate	Standardized Non-Hispanic White labor force participation rate	Native Hawaiian labor force participation rate	Standardized Native Hawaiian labor force participation rate
United States					
Total	**1.0000**	**64.92**	***68.29***	**67.94**	***64.89***
16 to 19 years	0.0918	54.26	4.98	47.48	4.36
20 to 21 years	0.0432	75.18	3.25	73.54	3.18
22 to 24 years	0.0567	81.55	4.62	78.38	4.44
25 to 29 years	0.0914	83.86	7.66	78.63	7.19
30 to 34 years	0.0966	82.93	8.01	80.17	7.74
35 to 44 years	0.2152	83.29	17.92	78.95	16.99
45 to 54 years	0.1669	82.05	13.70	78.26	13.07
55 to 59 years	0.0587	69.22	4.06	66.22	3.88
60 to 61 years	0.0196	56.97	1.12	53.76	1.06
62 to 64 years	0.0263	41.49	1.09	40.98	1.08
65 to 69 years	0.0395	25.30	1.00	23.29	0.92
70 to 74 years	0.0345	14.68	0.51	14.84	0.51
75 years and over	0.0596	6.13	0.37	8.07	0.48
Hawai'i					
Total	**1.0000**	**68.50**	***68.97***	**65.88**	***65.42***
16 to 19 years	0.0927	45.09	4.18	42.40	3.93
20 to 21 years	0.0450	78.25	3.52	73.19	3.30
22 to 24 years	0.0608	81.60	4.96	77.12	4.69
25 to 29 years	0.0960	81.62	7.83	78.21	7.51
30 to 34 years	0.0972	81.14	7.89	79.26	7.71
35 to 44 years	0.2166	82.49	17.87	78.85	17.08
45 to 54 years	0.1786	81.64	14.58	78.08	13.94
55 to 59 years	0.0590	69.37	4.09	64.61	3.81
60 to 61 years	0.0176	57.22	1.01	53.16	0.94
62 to 64 years	0.0246	45.24	1.11	38.39	0.94
65 to 69 years	0.0352	27.83	0.98	22.17	0.78
70 to 74 years	0.0300	18.73	0.56	14.49	0.43
75 years and over	0.0467	8.34	0.39	7.84	0.37

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-79).

Appendix G. Average household income, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Avg. householder age dist.	Non-Hispanic White average household income	**Standardized Non-Hispanic White average household income**	Native Hawaiian average household income	**Standardized Native Hawaiian average household income**
United States					
Total	**1.0000**	**60,321**	***61,059***	**56,477**	***56,920***
Householder under 25 years	0.0578	29,544	1,709	30,007	1,736
Householder 25 to 34 years	0.1815	54,155	9,828	46,656	8,467
Householder 35 to 44 years	0.2432	69,128	16,809	58,035	14,111
Householder 45 to 54 years	0.2049	77,011	15,779	66,287	13,582
Householder 55 to 64 years	0.1342	68,409	9,179	68,141	9,143
Householder 65 to 74 years	0.0983	48,197	4,738	60,509	5,948
Householder 75 years and over	0.0802	37,646	3,017	49,072	3,933
Hawai'i					
Total	**1.0000**	**64,969**	***64,748***	**56,075**	***56,290***
Householder under 25 years	0.0471	32,929	1,552	29,176	1,375
Householder 25 to 34 years	0.1750	50,009	8,753	42,914	7,512
Householder 35 to 44 years	0.2443	63,114	15,416	53,281	13,014
Householder 45 to 54 years	0.2311	75,493	17,445	65,506	15,137
Householder 55 to 64 years	0.1425	80,963	11,534	70,481	10,041
Householder 65 to 74 years	0.0926	64,069	5,930	60,949	5,641
Householder 75 years and over	0.0675	61,021	4,119	52,899	3,571

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-93).

Appendix H. Average family income, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Avg. householder age dist.	Non-Hispanic White average family income	**Standardized Non-Hispanic White average family income**	Native Hawaiian average family income	**Standardized Native Hawaiian average family income**
United States					
Total	**1.0000**	**70,326**	***69,957***	**59,878**	***61,187***
Householder under 25 years	0.0400	30,287	1,212	26,963	1,079
Householder 25 to 34 years	0.1824	56,279	10,266	44,413	8,102
Householder 35 to 44 years	0.2703	73,828	19,957	59,236	16,012
Householder 45 to 54 years	0.2201	86,609	19,062	70,136	15,436
Householder 55 to 59 years	0.0779	85,666	6,670	77,463	6,031
Householder 60 to 64 years	0.0601	72,980	4,385	78,053	4,689
Householder 65 to 74 years	0.0937	58,905	5,521	67,037	6,283
Householder 75 years and over	0.0555	51,974	2,883	64,040	3,553
Hawai'i					
Total	**1.0000**	**72,719**	***72,243***	**59,086**	***59,498***
Householder under 25 years	0.0399	28,541	1,139	25,604	1,022
Householder 25 to 34 years	0.1785	50,005	8,924	41,104	7,336
Householder 35 to 44 years	0.2643	66,240	17,508	53,670	14,186
Householder 45 to 54 years	0.2342	85,517	20,032	69,087	16,183
Householder 55 to 59 years	0.0829	100,586	8,343	78,542	6,515
Householder 60 to 64 years	0.0593	91,025	5,394	77,626	4,600
Householder 65 to 74 years	0.0878	75,797	6,652	69,071	6,062
Householder 75 years and over	0.0531	80,052	4,250	67,713	3,595

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-120).

Appendix I. Individual poverty rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Average age dist.	Non-Hispanic White individual poverty rate	Standardized Non-Hispanic White individual poverty rate	Native Hawaiian individual poverty rate	Standardized Native Hawaiian individual poverty rate
United States					
Total	**1.0000**	**8.28**	***8.74***	**14.63**	***14.02***
Under 5 years	0.0781	10.76	0.84	19.16	1.50
5 years	0.0165	10.23	0.17	17.48	0.29
6 to 11 years	0.1031	9.65	1.00	17.00	1.75
12 to 14 years	0.0506	8.32	0.42	15.21	0.77
15 years	0.0163	9.11	0.15	15.98	0.26
16 and 17 years	0.0328	8.95	0.29	15.99	0.53
18 to 24 years	0.1051	17.48	1.84	21.65	2.28
25 to 34 years	0.1367	7.70	1.05	13.50	1.85
35 to 44 years	0.1577	6.24	0.99	10.95	1.73
45 to 54 years	0.1236	5.36	0.66	10.01	1.24
55 to 64 years	0.0780	6.92	0.54	10.45	0.81
65 to 74 years	0.0558	6.27	0.35	8.29	0.46
75 years and over	0.0457	9.67	0.44	12.33	0.56
Hawai'i					
Total	**1.0000**	**10.42**	***10.85***	**16.04**	***15.47***
Under 5 years	0.0855	12.48	1.07	21.78	1.86
5 years	0.0187	12.26	0.23	19.01	0.36
6 to 11 years	0.1126	11.72	1.32	19.48	2.19
12 to 14 years	0.0536	9.91	0.53	18.51	0.99
15 years	0.0165	12.42	0.21	18.28	0.30
16 and 17 years	0.0340	13.82	0.47	18.54	0.63
18 to 24 years	0.1056	18.10	1.91	20.77	2.19
25 to 34 years	0.1374	10.68	1.47	15.42	2.12
35 to 44 years	0.1542	8.70	1.34	12.26	1.89
45 to 54 years	0.1284	8.97	1.15	11.05	1.42
55 to 64 years	0.0725	8.04	0.58	10.38	0.75
65 to 74 years	0.0468	6.52	0.31	7.75	0.36
75 years and over	0.0341	7.81	0.27	11.66	0.40

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-142).

Appendix J. Household poverty rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Avg. householder age dist.	Non-Hispanic White household poverty rate	**Standardized Non-Hispanic White household poverty rate**	Native Hawaiian household poverty rate	**Standardized Native Hawaiian household poverty rate**
United States					
Total	**1.0000**	**8.62**	***8.81***	**14.22**	***13.73***
Householder under 25 years	0.0578	29.38	1.70	37.26	2.16
Householder 25 to 44 years	0.4246	7.58	3.22	14.39	6.11
Householder 45 to 64 years	0.3391	6.71	2.27	10.27	3.48
Householder 65 years and over	0.1785	9.06	1.62	11.09	1.98
Hawai'i					
Total	**1.0000**	**9.93**	***10.00***	**15.80**	***15.58***
Householder under 25 years	0.0471	26.10	1.23	44.26	2.09
Householder 25 to 44 years	0.4193	9.79	4.10	18.17	7.62
Householder 45 to 64 years	0.3735	9.19	3.43	11.13	4.16
Householder 65 years and over	0.1601	7.68	1.23	10.76	1.72

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-163).

Appendix K. Family poverty rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Avg. householder age dist.	Non-Hispanic White family poverty rate	**Standardized Non-Hispanic White family poverty rate**	Native Hawaiian family poverty rate	**Standardized Native Hawaiian family poverty rate**
United States					
Total	**1.0000**	**5.58**	***5.94***	**12.35**	***11.61***
Householder under 25 years	0.0400	22.43	0.90	35.74	1.43
Householder 25 to 44 years	0.4527	6.94	3.14	14.81	6.71
Householder 45 to 64 years	0.3580	3.77	1.35	7.46	2.67
Householder 65 years and over	0.1492	3.70	0.55	5.39	0.80
Hawai'i					
Total	**1.0000**	**6.61**	***6.73***	**14.06**	***13.78***
Householder under 25 years	0.0399	17.64	0.70	46.60	1.86
Householder 25 to 44 years	0.4428	8.63	3.82	18.27	8.09
Householder 45 to 64 years	0.3765	4.93	1.86	8.24	3.10
Householder 65 years and over	0.1409	2.44	0.34	5.21	0.73

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-163).

Appendix L. Single-mother family poverty rates, age-standardized for non-Hispanic White and Native Hawaiian populations: United States and Hawai'i

	Avg. householder age dist.	Non-Hispanic White single-mother family poverty rate	Standardized Non-Hispanic White single-mother family poverty rate	Native Hawaiian single-mother family poverty rate	Standardized Native Hawaiian single-mother family poverty rate
United States					
Total	**1.0000**	**18.79**	***19.89***	**29.69**	***28.35***
Householder under 25 years	0.0772	49.99	3.86	56.16	4.33
Householder 25 to 44 years	0.4844	24.76	12.00	36.69	17.77
Householder 45 to 64 years	0.2849	10.46	2.98	16.51	4.70
Householder 65 years and over	0.1536	6.88	1.06	10.06	1.55
Hawai'i					
Total	**1.0000**	**22.09**	***22.71***	**31.31**	***30.45***
Householder under 25 years	0.0713	48.47	3.46	64.14	4.57
Householder 25 to 44 years	0.4572	30.27	13.84	41.35	18.90
Householder 45 to 64 years	0.3224	13.52	4.36	17.14	5.53
Householder 65 years and over	0.1492	7.06	1.05	9.70	1.45

Source: Tabulations on Census 2000, Summary File 4 (Table PCT-163).