HAWAIIAN MEN AND INCOME ATTAINMENT:
A HUMAN CAPITAL ANALYSIS

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by

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HAWAIIAN MEN AND INCOME ATTAINMENT:

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Abstract

by

Maria-Elena D. Diaz

Using 1990 U.S. Census Five Percent Public Use Microsample data for Hawaii and California, I examine the income attainment process for understudied Hawaiian men compared to white, Japanese, Chinese, Filipino, and African American men, using a human capital model with multivariate analysis. My analysis is limited to American-born wage earners residing in a Metropolitan Statistical Area. Although California Hawaiians earn a higher income and obtain higher returns to their human capital, I find that differences are greater between racial/ethnic groups in California compared to Hawaii. Further, there seems to be a two-tiered socioeconomic attainment process in terms of returns to human capital and income attainment, whereby Hawaiians, Filipinos, and African Americans constitute the bottom tier. Possible theoretical explanations for income attainment are explored, including assimilation, cultural and structural theories, internal colonialism, and discrimination.
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INTRODUCTION

One of the great promises of American society is that everyone has an equal opportunity through hard work and higher education to improve their standard of living and attain higher paying jobs. However, this is a hollow promise if one works hard to achieve a particular occupation, and then receives compensation different from others with equal credentials. Many studies using human capital models have been conducted in this area with non-Hispanic Whites, Blacks, Hispanics, and Asians, but very little has been done with Pacific Islanders due to their numerical size. This study will add to the literature by examining Hawaiians using human capital models of income attainment in the wage market. Human capital models of income attainment propose that income is determined by productivity-related attributes such as schooling, language skills, training and experience. The more human capital possessed, the greater the productivity potential, and thus the larger earnings of the individual. Differential returns on human capital variables based on racial/ethnic group status may suggest discrimination at the interactional or structural levels, insurmountable cultural differences, or cultural discrimination.

As the largest group of Pacific Islanders, Hawaiians deserve attention, not just because they experience poor life outcomes in Hawaii, including the highest rates of high school dropouts, suicide, incarceration, and public assistance (Kanahele 1982; Dudley and Agard 1993; Ifuku 1998), but also because of the historical context by which they became American citizens. Like Native Americans and African Americans,
Hawaiians did not choose to become Americans. An independent nation until near the end of the nineteenth century, the Kingdom of Hawaii was overthrown by Americans on January 17, 1893; an act President Cleveland declared unjust on December 18, 1893, and President Clinton later called illegal and for which he issued an official apology in US Public Law 103-105 in 1993.

Despite this, past scholars have described Hawaii as a multicultural paradise where equal opportunity is afforded to everyone. This contradiction with the social problems of Hawaiians calls for a reconsideration of whether or not Hawaiians receive equal compensation in the workplace. Since Hawaiians lost control of the political, economic and social institutions that govern the Hawaiian Islands, and because of their poor life outcomes compared to other racial/ethnic groups, we might expect that they experience discrimination in the wage economy. I will examine this in the present study. To explore if this discrimination is unique to Hawaii or persists throughout American society, I will compare the wage-based income attainment of Hawaiian men in Hawaii with those in California, since the majority of Hawaiians who migrate to the U.S. mainland move to California.\(^1\) Evidence of income disparities would support the concept of a racialized socioeconomic system whereby hard work plays only a minor role in upward mobility, and the need for increased attention to the adaptation problems of Hawaiians into American society.

\(^1\) This study is limited to men due to the different processes for income attainment for men and women, which is too cumbersome to address in one article. Women will be examined in a future article. See discussion in “Data and methods,” p. 9.
Influenced by Robert Park and his assimilation theory, sociologist Andrew Lind described Hawaii as a racial paradise where all the races lived together mostly in harmony, particularly in contrast to the violent race relations on the contiguous U.S. (Lind 1968). Although he acknowledged that economic competition sometimes led to racial prejudice in the islands, Lind described Hawaii as a place where those who sought upward mobility achieved it, suggesting that the Hawaiian Islands were mostly free of discrimination (1968, 1982). Lind saw occupational discrimination as a temporary phenomenon as members of racial/ethnic groups became assimilated and gained access to opportunities, and described an increasing equalization of opportunity within Hawaii (1982, 90; also Fuchs 1961, 449). According to Lind, “…Hawaii has afforded a favorable atmosphere and setting for the free and equal participation by all its residents in the life of the community…” (1982, 92). This characterization would lead to the conclusion that individuals, regardless of racial/ethnic background, through hard work and higher education could attain similar levels of achievement and rewards.

More recent contributions to research of race relations in Hawaii suggest racial tension and conflict has been a social problem in the Hawaiian Islands (for a detailed critique of early research on race relations in Hawaii see Okamura 2000). Although racial violence, a recurring component of American history, never reached the intensity or frequency of U.S. mainland episodes, racial tensions and conflict occurred...
throughout Hawaii’s history, which Lind noted but minimized (1968, 1982). In the early twentieth century, overt conflict generally emerged in protest against working conditions in the plantations, where occupations and wages were stratified by race with whites receiving the best positions and pay (Glenn 2002, chapter 6). Discrimination in hiring was a problem encountered by members of racial/ethnic minority groups throughout the twentieth century (Okamura 2000; Chang 1996). Such racial episodes suggest that perhaps equal compensation is not the reality in the Hawaiian workplace.

Several research studies have examined socioeconomic attainment in Hawaii. Descriptive studies based on census data find that Hawaiians attain lower rates of education and lower levels of income compared to Whites, Japanese, and Chinese in Hawaii. Moreover, this racial ranking has held consistent through analyses of the 1970, 1980, and 1990 U.S. censuses. However, these studies suggest that although structural discrimination prevents oppressed groups in Hawaii from achieving upward mobility similar to the Japanese and Chinese, individuals can still compete equally in the marketplace (Okamura 1982, 1990, 1998a, 1998b). The present study will examine if this is the case.

Popular discourse in the Hawaiian Islands today still maintains that those at the top of the racial hierarchy, such as Japanese, Chinese and Whites, hold that location because of hard work and sacrifice, while those at the bottom, like the Hawaiians, find themselves there because of laziness and lack of discipline, perpetuating the belief that discrimination does not exist (Kanahele 1982). If discrimination does not exist at the individual level, Hawaiians in the workforce should receive equal returns to human capital investments. If not, this suggests that discrimination may be at work, such that
Hawaiian men with higher education may be blocked from certain occupations or receive lower pay compared to equally credentialed Whites; structural barriers prevent higher levels of occupational attainment; or that a culture clash between Hawaiian and American cultures impedes the economic integration of Hawaiians.

Several research questions will be addressed in this study: Does the human capital model explain income attainment for Hawaiians? Do Hawaiians who earn a wage income receive human capital returns equal to people of other racial/ethnic groups in Hawaii and California? Do Hawaiians with similar credentials receive the same income as other racial/ethnic groups within similar occupations? Do Native Hawaiians receive equivalent human capital returns in Hawaii and California?
THEORIES AND HYPOTHESES

Before conducting my human capital analysis of Hawaiian income attainment, several theories describing mechanisms involved in income attainment need to be considered. Some of these theories suggest different expectations for my findings. Nonetheless, each theory provides us with a way of beginning to understand the mechanisms that may be shaping the findings in my study.

Assimilation

Assimilation theory describes a process whereby racially diverse people with a variety of cultural heritages within a particular geographical location achieve cultural solidarity, such that any member can participate in economic and political life without encountering prejudice or discrimination (Park, 281). When applied to immigrants, assimilation theorists assert that newcomers acquire over time the values and skills to experience social and economic upward mobility in the host society. However, the concept of assimilation has also been applied to Native Americans, African Americans and Hawaiians who did not immigrate to the United States (Gordon 1964, 78; Lind 1968, 1982). Despite any structural or cultural barriers, all groups are expected to eventually assimilate into American society. Therefore, I would expect that, according to assimilation theory and Lind’s optimistic prognosis of the assimilation process in Hawaii, at the individual level, Hawaiians who do participate in the wage economy
obtain equal rewards for similar credentials in similar occupations compared to other racial/ethnic groups.

**Culture theories**

*Culture clash*

As early as the mid-nineteenth century plantation era in Hawaii, the work ethic of Hawaiians was questioned. Hawaiians were deemed to be lacking ambition, lazy, wasteful of time, and prone to enjoying life instead of working hard with an eye to the future (Daws, 178-179; Kanahele, 23). This characterization of Hawaiian culture continued into the twentieth century. Lind noted the downward occupational mobility of Hawaiians since the 1930s (Lind 1980, 86), and attributed this process to their divergent cultural group values, “…that have militated against success in occupations which assume the sanctity of private property and the central importance of its acquisition” (Ibid, 88). In a later article, Lind asserted that Hawaiians and other disadvantaged minorities have not achieved upwardly mobility comparable to the Japanese and Chinese in Hawaii because of “relative lack of experience or concern with financial success” (1982, 139). According to this view, Hawaiian cultural values prevented socioeconomic achievement. Consequently, even if Hawaiians participated in the wage economy, their culture may prevent them from being as productive as members of other racial/ethnic groups, and from attaining upward mobility and income parity with dominant groups.
Cultural discrimination

Alternatively, it may be the case that instead of Hawaiian culture interfering with socioeconomic achievement, American cultural discrimination prevents hard-working and ambitious Hawaiians from achieving upward mobility. According to Kanahele, “objective historians…attest to the capacity of Hawaiians for hard work, especially when it involves a worthwhile goal and work with others in a group” (1982, 23). Thus, productivity may not be the problem. There may be a cultural bias, reinforced by stereotypical views of Hawaiians, among those who do the hiring and promoting to discriminate against those who do not “Americanize.” For example, the courts in Hawaii have upheld the rights of employers to discriminate against the Hawaiian Creole local accent (*Kalakaua et al v Friday*, 876F2d698, in Haas 1998a, 64), even if the individual involved possesses the appropriate credentials for the job. Thus if hard-working Hawaiians obtain differential returns to human capital compared to other racial/ethnic groups, this may be the result of cultural discrimination.

Structural theories

Another perspective is that structural reasons can explain why Hawaiians earn less than Whites, Japanese, and Chinese. Industrial segmentation, the separation of the economy into core and periphery sectors, may result in the concentration of Hawaiians in the periphery, which is characterized by short-term attachments and the lack of career ladders or promotional opportunities (Marini 1989). Industrial segmentation leads to occupational segmentation—explicated by dual labor market (Piore 1970) and segmented labor market theories (Kalleberg, Wallace, and Althauser 1981)—and the creation of higher-paying primary and lower-paying secondary jobs. Primary jobs are
associated with core industries, and secondary jobs are associated with peripheral industries. This occupational sorting can occur within firms, or between firms. Labor elasticity can also play a role: When potential employees for a particular job are in large supply, this leads to lower wages; when they are scarce, wages increase. The human capital necessary for primary jobs is higher than secondary jobs; therefore, fewer individuals meet the requirements for primary jobs. If Hawaiians possess lower levels of human capital and were thus concentrated in the periphery, holding secondary jobs, this would explain the lower socioeconomic attainment of Hawaiians in the workforce as a group. However, Hawaiians equally credentialed to other racial/ethnic groups should still receive comparable compensation within the same jobs.

Furthermore, Hawaiians may encounter structural barriers in education that lead to occupational sorting into lower-paying jobs. Poorer quality educational opportunities can result in higher high school dropout rates and lower college completion rates. Educational barriers from an early age would make Hawaiians less prepared to do well in college or even able to choose to attend college. Thus, despite effort equal to those in the dominant groups, Hawaiians may not be comparable prepared for work compared to those who receive higher quality educational opportunities. This could lead to differential consideration in hiring and promotion, as well as differential wages, in the workforce.

**Internal colonialism**

A final perspective on the socioeconomic outcomes of Hawaiians is proposed by internal colonialism. Contrasting the experience of voluntary immigrants to the United States with racial/ethnic groups who became a part of American society via
forced migration (Blacks, and some Chinese) and conquest (Native Americans, Mexicans in the Southwest, and Filipinos), Robert Blauner examines the different assimilation processes for “colonized” peoples through cheap paid labor, as well as varying cultural policies that enabled or destroyed a group’s original culture in relation to the dominant Anglo-Saxon culture (1972). Blauner identifies several differences in the experiences of colonized people in the U.S. compared to immigrants, some of which include lack of choice in becoming a part of the dominant society; concentration in the cheapest, least skilled jobs without upward mobility opportunities; and origin from a country or entity under Western domination (Ibid). Blauner asserts that individuals from colonized groups find that even if one adopted Anglo-Saxon culture, only a few experienced social mobility and the cost—the weakening of group cohesion and the lose of their cultural heritage—was great (Ibid).

Thus, according to internal colonialism, Hawaiians may have experienced downward mobility due to the loss of political sovereignty and their incorporation by a colonial power. In the first half of the twentieth century, the white oligarchy responsible for the overthrow of the Hawaiian kingdom exercised monolithic control over the Americanized political, economic, and educational institutions of the islands. In 1896 English replaced Hawaiian as the official language of government, including in the public school system (Haas 1998a, 62; 1998b, 208). Hawaiian Creole English, the linguistic form predominantly made up of Hawaiian words with contributions from other language groups and utilized by most immigrants and many Hawaiians, came under attack (Haas 1998a, 62). A segregated school system emerged whereby English standard schools provided a superior education to the “nonstandard” schools, which
were located in ethnic enclaves. Inferior education in nonstandard schools and discrimination against darker-skinned minorities, including Hawaiians, in English standard schools created an uneven playing field for minorities in Hawaii (Haas 1998b). By 1940, Hawaiians had experienced a decline in their occupational attainment of professional positions (Lind 1982, 86-87). From 1970 through the end of the century, they were over represented in the lower paying positions of the occupational hierarchy (Okamura 1982, 1990, 1998a, 1998b).

Since Hawaiians appeared to experience discrimination in the educational and occupational sorting process, they may also experience discrimination in the distribution of wages. This could be due to inferior education, a process of channeling Hawaiians to lower-paying sectors of the economy, or an uneven distribution of rewards within the same occupations. If internal colonialism theory best describes the income attainment of Hawaiians, I expect similarly credentialed Hawaiians to be differently compensated in the wage economy compared to other racial/ethnic groups.

**Human capital and discrimination**

I use human capital theory to examine income parity between Hawaiians and other racial/ethnic groups. Human capital theory maintains that an individual’s level of productivity determines his/her income attainment (Becker 1964). An individual can increase his/her productivity through higher education, skills acquired through work experience, and informal education processes. If the human capital model of earning is correct, then there should be no difference across groups in coefficients for education and work experience once control variables are included (Carnoy 1996a). Differential returns on human capital variables based on ethnic group status, and
residuals that remain after controlling for human capital and other determinants of income suggest discrimination (Hirschman and Wong 1984; Marini 1989; Grodsky and Pager 2001). The substantial research in this area finds that education significantly explains some of the variance in income attainment, and that significant differences exist in returns to human capital on the basis of race/ethnicity and gender. However, this is only suggestive of discrimination because of the possibility of unobserved heterogeneity or spurious effects.

**Occupational indicators of discrimination**

Some elaborations on the human capital model include occupation as a variable. These modifications recognize other possible sources of discrimination, such as unequal distribution of members of racial/ethnic minorities with similar human capital across occupations, and differential rewards for individuals with comparable human capital within the same occupation (Barringer, Takeuchi, and Xenos 1990; Grodsky and Pager 2001). One study found that black men in higher-paying occupations experience a net gain in earnings AND greater wage discrimination (Kaufman 1983). Thus, structural barriers may prevent minority groups from translating education into higher earnings comparable to white males: either better education does not lead to better paying jobs resulting in lower returns to education, or better education leads to better paying jobs that pay less to minority group members. Evidence seems to support occupation as an intervening variable between human capital and income.
Men and income attainment

Many studies have been conducted comparing differences in returns to human capital variables across major racial/ethnic groups. Due to the historical discrimination against Blacks, and their numerical majority within the minority population, early studies from the 1950s to 1970s focused on black-white differences between men in schooling, occupation and earnings (Chiswick 1983). More contemporary studies have consistently shown smaller returns to education and significantly lower income for black and Hispanic men compared to white men within the context of a narrowing of the gap between Blacks and Hispanics with Whites (Farley 1983; Hirschman and Wong 1984; Tienda and Lii 1987; Carnoy 1996b).

For Asian men, the findings have been mixed. Using 1970 U.S. Census data, one study found American-born Chinese and Japanese men seemed to earn similar or higher incomes than white men, and to receive similar returns to education, but American-born Filipino men earned significantly less and received a significantly smaller return on their education (Chiswick 1983). In another study, net effects of race/ethnicity on income narrowed from 1960-1976 but were still significantly negative compared to Whites for all Asian groups except for Japanese (Hirschman and Wong 1984). Using 1980 census data for the entire United States, another study (Zhao and Kamo 1994) also found significant negative earning differences for U.S. born Chinese and Japanese in California (see also Nee and Sanders 1984), and U.S. born Japanese with college degrees in Hawaii compared to Whites.

found that earnings in Hawaii continue to be lower than earnings in California, but that
American-born Japanese and Chinese men have higher earnings than white men in
California and Hawaii, while American-born Filipino men have lower earnings in
comparison with white men in both places. Further, the study showed that the return
to education was higher in California than Hawaii, with returns to white men being
higher than all Asian groups in both states. In California, Asian men received a higher
return for each additional year of experience, and in Hawaii, white men received a
higher return for experience. Despite these contradictory findings for Asians, the
above studies showed that educational over-achievement brings American-born
Japanese and Chinese earnings close to Whites, and that levels of educational
achievement comparable to Whites would narrow but not eliminate the income gap for
Filipinos, Hispanics and Blacks (Nee and Sanders 1984; Barringer, Takeuchi and
Xenos 1990).

Very little seems to have been written about the income attainment of
Hawaiian men using the human capital model. One study using 1975 U.S. Office of
Economic Opportunity Census data for Hawaii includes Hawaiians, Chinese,
Japanese, Filipinos, Koreans, Portuguese, Mixed ancestry and Whites (Fujii and Mak
1983). The authors find that for Hawaii-born men only the income of Hawaiian,
Filipino and Mixed ancestry men were significantly lower than Whites, and the rate of
return to education was significantly higher for Whites compared to all groups except
Koreans.

Based on the human capital research, there appears to be a racialized order to
returns to human capital variables. At the top we find some ordering of White,
Japanese, and Chinese; next are Hawaiians and Filipinos; and at the bottom are Blacks. Consequently, I hypothesize the following for Hawaii and California:

1. Human capital significantly explains income attainment for Hawaiians.
   a. Education significantly explains income attainment for Hawaiians.
   b. Work experience significantly explains income attainment for Hawaiians.

2. Hawaiians obtain lower return to human capital compared to Whites, Japanese, and Chinese.
   a. Hawaiians obtain lower returns to education.
   b. Hawaiians obtain lower returns to work experience.

3. Human capital differences only partially explains Hawaiians’ income gap with Whites, Japanese and Chinese.

4. After accounting for human capital and control variables, being Hawaiian has a direct negative effect on income attainment.

5. Within occupations, Hawaiians will earn less than Whites, Japanese, and Chinese.
DATA AND METHODS

Sample

My research uses the 1990 U.S. Census Five Percent Public Use Microdata Sample (5% PUMS) for California and Hawaii.\(^2\) This is the only national data set relevant to my study with large enough numbers of Hawaiians to compare with other racial/ethnic groups across two states, and with depth on questions relevant to studying processes of income attainment. The 5% PUMS is a stratified sample of households that completed the long-form of the 1990 Census questionnaire, about 15.9% of all housing units. The population of the 1990 Census includes all persons and households in the United States counted by the U.S. Census Bureau in 1989.

Although undercounting is a problem with the U.S. Census data, this generally applies to people who live at the margins of society, such as the urban poor (Anderson and Feinberg 1999). While this is a serious problem since marginal people represent those who are having most difficulty integrating economically into society, my study focuses on people in the workforce for whom undercounting is not usually considered a problem. However, people at the bottom of the earning scale of the workforce can also experience homelessness or frequently changing, temporary housing conditions so they may also be left out of the analysis. If a significant number of lower-earning people are

\(^2\) Due to the introduction of multi-race categories in the 2000 U.S. Census, I chose to use the 1990 data to establish an anchoring point from which to later develop a comparative study with the 1980 and 2000 censuses.
missing from the data, this may overestimate returns to human capital since lower-
earning people tend to have lower educational attainment.

Almost 75% of all Pacific Islanders live in California or Hawaii, with both
states having over 100,000 Pacific Islanders in 1990. About two-thirds of all Hawaiians
counted in the 1990 census lived in Hawaii, and 16 percent lived in California.\textsuperscript{3} For
this reason, this study compares income attainment in these two states.

Since my main area of interest is if the racial/ethnic status of Hawaiian affects
human capital returns for income attainment in the wage economy, my unit of analysis
is the individual. I limit my analysis to men since different processes appear to
influence the income attainment of men compared to women, to the extent that all sub-
groups of men attain a higher income compared to all sub-groups of women.\textsuperscript{4} Further,
men participate in the labor force more consistently and at much higher rates than
women, and human capital models differ for women (Mar 1999, 71; Zhao and Kamo
1994, 586).

I include as separate groups American-born non-Hispanic Whites, Hawaiians,
Japanese, Chinese, Filipinos, Blacks and other Asians. My focus in comparisons is
how Hawaiians compare to Whites, the dominant group, Japanese, Chinese, Filipinos,
and Blacks. I limit my comparisons to native-born Americans because Hawaiians are
native-born Americans, with only 1% foreign born (U.S. Bureau of the Census 1993b)
who are not included in this study. In addition, like with women, different processes
appear to influence the income attainment of foreign-born men (Mar 1999, 70). Since
the focus of this research is the return to human capital for Hawaiians, the important

\textsuperscript{3} In the 1990 U.S. census, only two percent of Hawaiians lived in Washington, the state with the third
largest population of Hawaiians

\textsuperscript{4} A separate analysis of women will be conducted in a future paper.
question of the relationship between human capital and income for foreign-born populations is left for another study.

I separated out Japanese, Chinese and Filipinos from all other Asians because they are the three largest Asian groups in the United States: 12%, 24%, and 20% of Asians in 1989, respectively (U.S. Bureau of the Census 1993a). There are also the largest Asian subgroups in California and Hawaii. Further, past studies indicate a significant difference in outcomes for Asian sub-groups, especially Filipinos compared to Japanese and Chinese, and Hawaiians seem to show outcomes more similar to Filipinos. Being the earliest Asian immigrant groups in American history, they also have the largest native-born populations. In 1990, the U.S. native-born population of Chinese was 506,000; Filipinos was 506,000; and Japanese was 585,000 (Ibid).

“Other Asians” will not be discussed in my analyses. The patterns related to “Other Asians” cannot be thoroughly understood here given that it is a very heterogeneous group made up of racial/ethnic subgroups with widely divergent human capital characteristics, such as East Indians on the high end and Hmongs on the low end. However, some readers might be interested in the results obtained for “Other Asians” so I keep them in the data set.

My target population is civilian, non-institutionalized, able to work, 25-64 years old with a positive wage income. I include only those who reside in a metropolitan statistical area (MSA) because 94% of Asians and Pacific Islanders, compared to 75% of non-Hispanic Whites, lived in MSAs in 1989 (Ibid). Metropolitan statistical areas represent locations where income and cost of living are higher, which could create an upward bias of returns to educations for Asians and Pacific Islanders compared to
Whites. To get an accurate picture of human capital returns between racial/ethnic groups, comparisons should be made within similar geographical areas (Woo 1985, 310-311). I am able to control for regional variation in income by adding a per capita income variable for the MSAs in my equation.

Methods

My analysis includes examination of four different models using OLS regression since my dependent variable, income logged, is continuous. First I establish the strength of the human capital model for each racial/ethnic group in Hawaii and California, and test for differences in the coefficients between racial/ethnic groups within each state. Next I pool each state’s data to determine if race/ethnicity continues to have a direct effect on income after controlling for human capital and control variables. This is followed by an examination of within occupation earning differences between racial/ethnic groups by state. Finally, I pool the California and Hawaii data to check for differences in the human capital model by location.

In my first model, I run OLS regression on the separate racial/ethnic groups by state to test my hypotheses about the human capital determinants of income and the differential returns of independent variables to Hawaiians, Asians, and Whites in Hawaii and California. In Hawaii, there are 806 Hawaiians, 2245 Whites, 2229 Japanese, 483 Chinese, 544 Filipinos, and 113 Blacks; for California, there are 349 Hawaiians, 172,511 Whites, 2530 Japanese, 1505 Chinese, 1138 Filipinos and 13,609 Blacks. Only the sample size of Blacks in Hawaii may cause concern for achieving statistical significance. However, with six independent variables, 113 would be considered an acceptable size for running a regression analysis (Allison 1999). Further,
separate racial/ethnic group analyses allow slopes as well as intercepts to vary for each group, and facilitate comparison and interpretation of coefficients. (For operationalization of variables see Table 1, p. 21.)

Model 1: \( \log \text{(INCOME)} = a + b_1 \cdot \text{LIMENG} + b_2 \cdot \text{EDUC} + b_3 \cdot \text{WKEXP} + b_4 \cdot \text{WKEXP}^2 \\
+ b_5 \cdot \text{NOTMAR} + b_6 \cdot \text{TOTHRS} + b_7 \cdot \text{PERCAPIN} + e \)

To test for differential returns to human capital, I check for significant differences in the coefficients of the human capital variables between Hawaiians and Whites, Japanese, Chinese, Filipinos and Blacks.\(^5\) I then use regression decomposition to examine the differential contributions from group composition and returns to human capital.

Regression decomposition allows me to calculate the earnings of Hawaiians if they possessed the human capital of whites, for example, but retained the returns for Hawaiians. The difference between Hawaiian income logged, calculated using white human capital, and white income logged is then divided by the original difference between Hawaiian and white average log of incomes. The resulting percentage shows how much of income differences is due to human capital differences. Then, 100 percent minus the resulting percentage shows how much of income differences is due to the effects of human capital and control variables being different for Hawaiians and Whites (Williams 2005a; Shryock and Siegel 1976, 164 and 241).

\(^5\) The statistical test used to check for differences in coefficients across regression models of different samples is 
\[ z = \frac{b_1 - b_2}{\sqrt{SE_{b1}^2 + SE_{b2}^2}} \] (Cohen & Cohen, 1983).
<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>loginc</td>
<td>Logarithm of income: the logarithm of reported wage or salary income. Income is logged to minimize effects of extreme values.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>haw</td>
<td>1=Person selecting Hawaiian as racial/ethnic group</td>
</tr>
<tr>
<td>japan</td>
<td>1=Person selecting Japanese as racial/ethnic group</td>
</tr>
<tr>
<td>chine</td>
<td>1=Person selecting Chinese as racial/ethnic group</td>
</tr>
<tr>
<td>black</td>
<td>1=Person selecting African American as racial/ethnic group</td>
</tr>
<tr>
<td>exasia</td>
<td>1=Person selecting any other Asian group as racial/ethnic group</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Human capital variables</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>limeng</td>
<td>Limited English skills =1 if respondent reported speaking English not well or not at all; limeng=0 if respondent reported speaking English well, very well, or inappropriate. &quot;Inappropriate&quot; refers to people who speak English at home; all other responses indicate that a language other than English is spoken at home.</td>
</tr>
<tr>
<td>nohs</td>
<td>1=Person who had not earned a high school or general equivalency degree</td>
</tr>
<tr>
<td>smcol</td>
<td>1=Person who attended college but did not earn a degree, or earned an associate degree</td>
</tr>
<tr>
<td>bach</td>
<td>1=Person who earned a bachelor degree</td>
</tr>
<tr>
<td>postbach</td>
<td>1=Person who earned a master, doctoral or professional degree</td>
</tr>
<tr>
<td>wkexp</td>
<td>Reported age - years of education - 4</td>
</tr>
<tr>
<td>wkexp2</td>
<td>Work experience squared</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control variables</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>notmar</td>
<td>Dichotomous variable: not married=1 if widowed, divorced, separated, or never married; notmar=0 if married and not separated</td>
</tr>
<tr>
<td>tothours</td>
<td>Total hours worked in 1989 is calculated from the reported weeks worked in 1989 multiplied by usual total hours worked per week in 1989.</td>
</tr>
<tr>
<td>percapin</td>
<td>Per capita income reported by U.S. Census for 24 metropolitan statistical areas included in this study</td>
</tr>
<tr>
<td>hawaii</td>
<td>Dichotomous variable: hawaii=1 if respondent is from Hawaii; 0=respondent is from California</td>
</tr>
<tr>
<td>occupation</td>
<td>Dummy variables created for all census occupations minus one</td>
</tr>
</tbody>
</table>
In my second model, I pool my data by state so that I analyze the Hawaii and California data separately. I check the effect of race/ethnicity after accounting for human capital and control variables.

Model 2: \[ \log (\text{INCOME}) = a_0 + b_1 \cdot \text{RACE} + b_2 \cdot \text{LIMENG} + b_3 \cdot \text{EDUC} + b_4 \cdot \text{WKEXP} + b_5 \cdot \text{WKEXP2} + b_6 \cdot \text{NOTMAR} + b_7 \cdot \text{TOTHRS} + b_8 \cdot \text{PERCAPIN} + e \]

In my third model, I add occupations (minus one) to my pooled data and analyze returns to race/ethnicity for occupations. In controlling for occupations, the results of this analysis will allow the \( \text{RACE} \) variable to be interpreted as the within-occupation difference in log earnings between white and non-white workers (Grodsky and Pager 2001, 554).

Model 3: \[ \log (\text{INCOME}) = a_0 + b_1 \cdot \text{RACE} + b_2 \cdot \text{LIMENG} + b_3 \cdot \text{EDUC} + b_4 \cdot \text{WKEXP} + b_5 \cdot \text{WKEXP2} + b_6 \cdot \text{NOTMAR} + b_7 \cdot \text{TOTHRS} + b_8 \cdot \text{PERCAPIN} + b_9 \cdot \text{OCCUPATIONS} + e \]

In my fourth model, I pool the Hawaii and California data to check for interaction effects by location.

Model 4: \[ \log (\text{INCOME}) = a_0 + b_1 \cdot \text{RACE} + b_2 \cdot \text{LIMENG} + b_3 \cdot \text{EDUC} + b_4 \cdot \text{WKEXP} + b_5 \cdot \text{WKEXP2} + b_6 \cdot \text{NOTMAR} + b_7 \cdot \text{TOTHRS} + b_8 \cdot \text{PERCAPIN} + b_9 \cdot \text{HAwAIi} + b_{10} \cdot \text{INTERACTIONS} + e \]

**Variables**

My dependent variable is the natural logarithm of income. I use the log of income because this reduces the influence of extreme values on the distribution of income and minimizes heteroscedasticity (Williams 2005b; Grodsky and Pager 2001).

My human capital explanatory variables are education, work experience and English skills. Since education is not reported as a continuous variable in the data, I measure education using categorical variables, which I simplify into credentialing
groups—points at which people earn diplomas and degrees. My categories are not a high school graduate, high school graduate, some college, bachelor degree, and graduate/professional degree. For work experience, I calculated age minus years of education minus four. Although education is a categorical variable, I converted it into a continuous variable and assigned the traditional number of years assumed to complete associate, bachelor, master, and professional/doctoral degrees. I also include work experience squared to represent the curvilinear relationship of work experience to income attainment. Although only American-born individuals are included in my data, I include a measure of limited English because the question as asked by the Census Bureau identifies people who speak English at home as being of limited English ability. However, second generation Americans may use English at home with their parents who prefer its use, and this may impact the acquisition and assessment of their English skills.

Other variables that influence income are hours worked, marital status (positive effect if married for men), occupational sector, and region of the country (Chiswick 1983; Hirschman and Wong 1984; Kilbourne, England, and Beron 1994; McCall, 2001). I include several control variables in my model to account for these influences. I measure hours worked as a self-reported continuous variable, and marital status as a dichotomous variable, separating those who are single, separated, or divorced, from married men. I account for geographic differences in income across MSAs with a continuous variable for per capita income. However, this only applies to the California data since only one MSA is found in Hawaii.
Occupation is a self-reported item in the census. In the census’ occupational classification system, there are 500 specific occupational categories organized into 6 summary and 13 major occupational groups. In my study I use the actual occupational categories to get at the within occupation differences by race/ethnicity (Grodsky and Pager 2001). For Hawaii, the number of occupations was 391; for California, it was 496. I measure occupation in my third model by introducing dummy variables for all occupations reported in the respective state’s 1990 census minus one.

Finally, I measure race/ethnicity with dummy variables for each racial/ethnic group, except for Whites who are my reference group.

**Assessment of methodology**

The strength of this approach is that I will be working with a large N that will reduce consequences of random measurement errors, provide sufficient power for achieving statistical significance, and improve statistical tests. Further, the 1990 5 Percent PUMS provides the best sampling frame for studying Hawaiian labor-aged adults in the wage economy in comparison to similarly situated adults in other racial/ethnic groups with questions that include important components of economic stratification. Missing data is corrected in the 5% PUMS with imputed values.

There are some weaknesses to this research design. Self-reported education is a string variable in the U.S. census with various responses grouped together in a total of 17 categories. I reduce these categories to five, using credentialing points to guide me. Education is subject to some measurement error since some individuals close to a credentialing point may report being a high school graduate or having a bachelor’s degree, when this is not the case. I assume such biased responses are random. Another
potential problem is that the traditional number of years associated with completing an 
associate or bachelor degree does not always reflect reality. Even more variation 
probably occurs in the amount of time someone takes to complete a graduate or 
professional degree. However, I am limited by what is actually collected in the data. 

Work experience is derived from age minus years of schooling minus four. 
This measure is a bit more problematic because it assumes that a person works 
continuously. Therefore it is not as valid a measure as education, particularly in relation 
to racial/ethnic minorities with low educational levels who may become discouraged 
and drop out of the labor force for periods of time, or experience greater 
unemployment. This weakness also impacts the validity of the work experience 
squared term, which accounts for the assumption that productivity and, therefore, 
income increases in a curvilinear manner with age. Nonetheless, I can estimate the 
contribution of work experience across racial/ethnic groups, recognizing that this 
estimate will be less reliable for people with weaker labor force participation 
throughout their adult years, since the data does not measure periods of unemployment. 

Also, there may be distorted recall effects that influenced the responses given by 
respondents for income or total hours worked. Some people may deliberately under- or 
over-report their income. Assuming these are random occurrences, my analysis will 
still be useful. 

Further, income attainment is determined by additional factors mentioned in 
research that I cannot measure in this study, such as the aspirations of significant 
others, mental aptitude, and network ties. Other factors, which one could argue are part 
of someone’s human capital, are not easily measurable, such as an individual’s
achievement motivation, employer provided education and training workshops in addition to experiences and skills gained from the job, and other informal education experiences.

The measure of English skills, which is automatically coded “good” for native-born Americans who speak English at home, does not allow for variation in the command of the English language by native-born Americans. Differences in quality and location of education can affect an individual’s verbal skills. This introduces measurement error.

Racial/ethnic categories are always problematic. All such groupings actually represent a heterogeneous grouping of cultures and people. Further, Hawaiian activists consider “Hawaiian” to be a nationality and not a racial/ethnic category (Trask 1999, 104). However, racial/ethnic discrimination has been a concern throughout U.S. history, and evidence indicates that white ethnic groups assimilate more quickly than all other groups. Thus, these groupings are necessary to get an idea of the continued role, if any, of discrimination against people of color in income attainment. To confound this problem, the 1990 Census does not allow people to report membership in more than one racial-ethnic group so that bi- and multiracial people are thrown together with those who identify with only one racial-ethnic group. Nonetheless, if chosen to select only one racial/ethnic group identity, a person is likely to choose the one with which he/she most strongly identifies. This is particularly true for part-Hawaiians since the resurgence of the sovereignty movement in Hawaii in the 1970s, and the cultural cache to being Hawaiian in Hawaii. Consequently, there may even be greater heterogeneity among those reporting to be Hawaiian.
A final potential problem with this study may be in the comparison between Hawaii and California. Hawaiians who migrate may not be random from the Hawaiian population. A move across the ocean is not the same as moving from Honolulu to Waianae, or from California to Washington. Financial resources and willingness to separate from a communally oriented culture indicate that financial means must be available, as well as psychological resources, such as achievement motivation and independence from cultural ties, that may not be true of all Hawaiians. When financial and psychological resources are limited or exhausted, many Hawaiians who migrate to the mainland do return home (Barringer, Gardner, and Levin 1993). However, since very little is known about the income attainment of Hawaiian wage-earners compared to other racial/ethnic groups, this study will provide us with some insight into whether or not Hawaiian wage earners differ in Hawaii and California and how Hawaiians compare to others in income attainment.
FINDINGS

Group characteristics

Hawaii men

Group composition differences tell part of the story of variation in income attainment between racial/ethnic groups. Using t-tests to check for significant differences in group composition in Hawaii, Table 2A shows Whites, Japanese and Chinese in Hawaii had significantly higher incomes than Hawaiians, whereas Filipinos and Blacks obtained incomes that were not significantly lower than Hawaiians.

The distribution of education across racial/ethnic groups parallels the order of income attainment. Hawaiians had the largest percentage of individuals with less than a high school education, and the largest percentage with a high school degree with only the difference from Filipinos not attaining significance. Whites, Japanese, and Chinese had significantly higher rates of attaining a bachelor degree, and all groups with the exception of Filipinos had significantly higher rates for obtaining graduate/professional degrees.

Furthermore, Whites, Japanese, and Chinese had significantly larger totals for hours worked in 1989, whereas hours worked for Filipinos and Blacks were not significantly different from Hawaiians. None of the group work experience averages
### TABLE 2A

**DESCRIPTIVE STATISTICS FOR MEN IN HAWAII BY RACE/ETHNICITY IN 1989**

<table>
<thead>
<tr>
<th></th>
<th>Hawaii men</th>
<th>Hawaiian</th>
<th>White</th>
<th>Japanese</th>
<th>Chinese</th>
<th>Filipino</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>6517</td>
<td>806</td>
<td>2245</td>
<td>2229</td>
<td>483</td>
<td>544</td>
</tr>
<tr>
<td><strong>Mean/ Mean %</strong></td>
<td>S. D.</td>
<td>Mean %</td>
<td>S. D.</td>
<td>Mean %</td>
<td>S. D.</td>
<td>Mean %</td>
<td>S. D.</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td>39.547</td>
<td>10.308</td>
<td><em>40.719</em></td>
<td>10.23</td>
<td><em>42.702</em></td>
<td>11.188</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td>$26,745</td>
<td>16604</td>
<td><em>$37,609</em></td>
<td>32527</td>
<td><em>$35,517</em></td>
<td>25693</td>
</tr>
<tr>
<td><strong>Dependent variable:</strong></td>
<td></td>
<td>Log of income</td>
<td>9.950</td>
<td><em>10.231</em></td>
<td>.852</td>
<td><em>10.251</em></td>
<td>.849</td>
</tr>
<tr>
<td><strong>Control Variables:</strong></td>
<td></td>
<td>Total hours worked</td>
<td>2007</td>
<td><em>2165</em></td>
<td>.699</td>
<td><em>2110</em></td>
<td>.615</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not married</td>
<td>.361</td>
<td>.481</td>
<td>.368</td>
<td>.482</td>
<td>.372</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per capita income</td>
<td>16256</td>
<td>0</td>
<td>16256</td>
<td>0</td>
<td>16256</td>
</tr>
<tr>
<td><strong>Human capital variables:</strong></td>
<td></td>
<td>Limited English</td>
<td>.001</td>
<td>.035</td>
<td>.006</td>
<td>.076</td>
<td>.013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not a high school graduate</td>
<td>.168</td>
<td>.374</td>
<td>.059</td>
<td>.235</td>
<td>.044</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High school graduate</td>
<td>.439</td>
<td>.497</td>
<td>.210</td>
<td>.408</td>
<td>.311</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some college</td>
<td>.282</td>
<td>.45</td>
<td>.317</td>
<td>.465</td>
<td>.312</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bachelor degree</td>
<td>.089</td>
<td>.285</td>
<td>.225</td>
<td>.418</td>
<td>.246</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graduate/professional deg</td>
<td>.022</td>
<td>.148</td>
<td>.188</td>
<td>.391</td>
<td>.088</td>
</tr>
</tbody>
</table>

*p<.05: Mean is significantly different (smaller or larger than Hawaiian sample).

S.D. means standard deviation
were significantly different from Hawaiians with the exception of the higher average for Japanese. Although Whites and Japanese obtained significantly higher rates for limited English speakers, this human capital disadvantage appears to be mitigated considerably by their higher attainment of education and hours worked.

California men

The California data displays similar characteristics. Table 2B shows Whites, Japanese and Chinese in California had significantly higher mean incomes than Hawaiians, whereas Filipinos and Blacks obtained incomes that were lower than Hawaiians; however, only the mean income for Blacks was significantly lower. In education, Hawaiians had the highest rate for “high school graduate;” only Blacks had a higher rate of “not a high school graduate,” with only the rates of Japanese and Chinese attaining statistical significance from Hawaiians; and all groups had higher rates of attaining a bachelor degree, although the rate for Blacks was not significantly different from Hawaiians. For graduate/professional degrees, all groups obtained higher averages with the exception of Blacks; moreover, the rate for Filipinos was not statistically significant compared to Hawaiians.

In California, for total hours worked the Japanese average was significantly higher than that for Hawaiians, while the average for Blacks was significantly lower. Whites and Blacks averaged a significantly lower per capita income than Hawaiians, while the Chinese average was significantly higher. Finally, only the Chinese and
**TABLE 2B**

DESCRIPTIVE STATISTICS FOR MEN IN CALIFORNIA BY RACE/ETHNICITY IN 1989

<table>
<thead>
<tr>
<th></th>
<th>California men</th>
<th>Hawaiian</th>
<th>White</th>
<th>Japanese</th>
<th>Chinese</th>
<th>Filipino</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>191954</td>
<td>349</td>
<td>172511</td>
<td>2530</td>
<td>1505</td>
<td>1138</td>
<td>13609</td>
</tr>
<tr>
<td><strong>Mean/% S. D.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td>$28,466 16544</td>
<td>*$40,279 33046</td>
<td>*$40,308 27771</td>
<td>*$39,882 27696</td>
<td>$28,425 18227</td>
<td>*$27,576 20814</td>
<td></td>
</tr>
<tr>
<td><strong>Dependent variable:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control Variables:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total hours worked</td>
<td>2037 .642</td>
<td>2104 .660</td>
<td>*2108 .627</td>
<td>2107 .649</td>
<td>1977 .645</td>
<td>*1916 .705</td>
<td></td>
</tr>
<tr>
<td>Not married</td>
<td>.390 .488</td>
<td>.347 .476</td>
<td>.405 .491</td>
<td>.410 .492</td>
<td>.408 .492</td>
<td>*0.466 .499</td>
<td></td>
</tr>
<tr>
<td>Per capita income</td>
<td>17214 .2793</td>
<td>*16788 .2728</td>
<td>17195 .2456</td>
<td>*18521 .2754</td>
<td>17261 .2773</td>
<td>*16701 .2196</td>
<td></td>
</tr>
<tr>
<td><strong>Human capital variables:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited English</td>
<td>.006 .075</td>
<td>.005 .068</td>
<td>.014 .117</td>
<td>.039 .193</td>
<td>.011 .102</td>
<td>0.004 .059</td>
<td></td>
</tr>
<tr>
<td>Not a high school graduate</td>
<td></td>
<td>.118 .322</td>
<td>.085 .279</td>
<td>* .034 .181</td>
<td>.037 .189</td>
<td>.106 .308</td>
<td>0.135 .342</td>
</tr>
<tr>
<td>High school graduate</td>
<td>.341 .475</td>
<td>* .197 .397</td>
<td>* .134 .341</td>
<td>* .072 .258</td>
<td>* .192 .394</td>
<td>*0.243 .429</td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>.393 .489</td>
<td>.359 .48</td>
<td>* .324 .468</td>
<td>* .266 .442</td>
<td>.428 .495</td>
<td>0.427 .495</td>
<td></td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>.106 .308</td>
<td>* .224 .417</td>
<td>* .352 .478</td>
<td>* .381 .486</td>
<td>* .207 .405</td>
<td>0.135 .342</td>
<td></td>
</tr>
<tr>
<td>Graduate degree</td>
<td>.043 .203</td>
<td>* .135 .342</td>
<td>* .156 .363</td>
<td>* .244 .43</td>
<td>.068 .251</td>
<td>0.06 .238</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05: Mean is significantly different (smaller or larger than Hawaiian sample).
S.D. means standard deviation.
Filipinos work experience averages were significantly lower than the Hawaiian average. While the education average differences between racial/ethnic groups seem to justify the higher income rates of Whites, Japanese and Chinese, they do not show if returns to human capital are equitable across racial/ethnic groups. A test of coefficients across regression models by ethnicity for each state shows if Hawaiians in Hawaii and California obtain similar returns on human capital compared to other groups, but first I will examine the effectiveness of the human capital model in explaining income attainment for Hawaiians in Hawaii and California.

**Regression results by ethnic groups**

*Human capital model by ethnic groups in Hawaii*

My first model shows the slopes for human capital variables by ethnicity and state. Table 3A shows that although the human capital model explained the highest amount of variance for Hawaiians ($R^2 = .45$), the significant predictors of income were limited to no high school, bachelor degree, total hours worked, and marital status. Surprisingly, “graduate/professional degree” and “work experience” did not attain significance. The graduate degree results might be due to the relatively small number of Hawaiians in my sample with this level of educational attainment ($N=18$). Although Hawaiians obtained the smallest return to graduate/professional degree, this difference was not statistically significant compared to the other groups.

The failure of work experience to attain significance is a little more difficult to explain. This could be due to the concentration of Hawaiians in the service sector of the economy. Service sector employment characteristically has a high-turnover rate,
**TABLE 3A**

**MODEL 1A  HAWAII MEN BY ETHNICITY**

OLS regression, dependent variable: logarithm of income

<table>
<thead>
<tr>
<th></th>
<th>Hawaiian</th>
<th>White</th>
<th>Japanese</th>
<th>Chinese</th>
<th>Filipino</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>B</td>
<td>SE</td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Intercept:</strong></td>
<td>8.5206</td>
<td>.1481</td>
<td>8.246</td>
<td>.0917</td>
<td>8.3414</td>
<td>.0877</td>
</tr>
<tr>
<td><strong>Human capital variables:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited English</td>
<td>-0.7258</td>
<td>0.6405</td>
<td>0.1631</td>
<td>0.1951</td>
<td>0.002</td>
<td>0.1144</td>
</tr>
<tr>
<td>No high school</td>
<td><strong>-0.1905</strong></td>
<td>0.0665</td>
<td>0.0042</td>
<td>0.0696</td>
<td><strong>-0.213</strong></td>
<td>0.0673</td>
</tr>
<tr>
<td>Some college</td>
<td>0.0984</td>
<td>0.0545</td>
<td>***0.1349</td>
<td>0.0416</td>
<td>0.0652</td>
<td>0.0343</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td><strong>0.2232</strong></td>
<td>0.0826</td>
<td>***0.3427</td>
<td>0.045</td>
<td>***0.2048</td>
<td>0.0374</td>
</tr>
<tr>
<td>Graduate/professional</td>
<td>0.2289</td>
<td>0.1544</td>
<td>***0.4458</td>
<td>0.0474</td>
<td>***0.3824</td>
<td>0.0516</td>
</tr>
<tr>
<td>Work experience</td>
<td>-0.0015</td>
<td>0.0107</td>
<td>***0.0476</td>
<td>+ 0.0066</td>
<td>***0.0566</td>
<td>+ 0.0056</td>
</tr>
<tr>
<td>Work experience squared</td>
<td>0.0003</td>
<td>0.0002</td>
<td>***-0.0007</td>
<td>0.0001</td>
<td>***-0.0009</td>
<td>0.0001</td>
</tr>
<tr>
<td><strong>Control variables:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total hours</td>
<td>***0.0007</td>
<td>3E-05</td>
<td>***0.0005</td>
<td>2E-05</td>
<td>***0.0006</td>
<td>2E-05</td>
</tr>
<tr>
<td>Not married</td>
<td><strong>-0.2665</strong></td>
<td>0.0508</td>
<td>***-0.168</td>
<td>0.0318</td>
<td>***-0.2226</td>
<td>0.0301</td>
</tr>
<tr>
<td>Per capita income</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>N</td>
<td>806</td>
<td>2245</td>
<td>2229</td>
<td>483</td>
<td>544</td>
<td>113</td>
</tr>
<tr>
<td><strong>R squared value</strong></td>
<td>0.445</td>
<td>0.329</td>
<td>0.357</td>
<td>0.352</td>
<td>0.34</td>
<td>0.366</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001
+ = slope significantly larger than Hawaiian sample, p<.05
# = slope significantly smaller than Hawaiian sample, p<.05
and limited if any advancement opportunities, including pay raises. The combination of these factors may prevent Hawaiians from accumulating long-term advantages from being in the work force that is normally associated with a significant, positive coefficient for work experience.

For Whites, all variables in the model significantly predicted income with the exception of limited English and no high school. In Hawaii, Whites with no high school education did not differ significantly from those with a high school education.

In the model for Japanese, all variables significantly predicted income with the exception of limited English and some college. Japanese with some college did not have an educational advantage compared to Japanese with a high school degree.

For Chinese, “no high school” and “bachelor degree” did not significantly predict income. Thus, in Hawaii, Chinese with a bachelor degree did not attain significantly higher returns to education compared to those with a high school degree, and those with some college attained higher returns than those with a bachelor degree. One explanation might be that Chinese with some college obtained associate degrees in skilled trade areas that lead to higher pay compared to college graduates who work in offices as support staff. Also, the minimum earnings for Chinese with a bachelor degree was $150 compared to $15,000 for those with an associate degree. Therefore, it may also be the case that the wage income is supplementary to some Chinese with a bachelor degree, and they work fewer hours at their wage employment than do those with an associate degree. In the ethnicity models, limited English successfully predicted (negative) income only for Chinese.
The human capital model for Filipinos significantly predicts earnings for all variables except limited English, no high school, and graduate/professional degree. Like Hawaiians, the missing advantage to obtaining a graduate degree for Filipinos may be due to the small number with graduate degrees in my sample (N=7). One finding that seems to support this explanation is that, although not significant, the return to graduate education for Filipinos was actually higher than the return to graduate education for Japanese. The failure of no high school to be significantly different from Filipinos with a high school degree may be indicative of Filipino concentration in the lowest tier of occupations.

For Blacks, the only variable to significantly predict income was total hours worked. Thus, bachelor (N=14) and graduate (N=13) degrees did not significantly affect income compared to an African American with a high school degree. However, the small sample size of Blacks (N=113) may be preventing some of the human capital variables from achieving significance. Support for this may be found in the coefficient obtained for graduate education (0.464), which was higher than all groups except Chinese. Alternatively, it may be the case that the human capital model does not do a good job of explaining income attainment for Blacks in Hawaii. Evidence suggesting this interpretation is the black coefficient for a bachelor degree (0.1726), which is the second lowest return after the Chinese coefficient.

In Hawaii, the human capital model seemed to best explain income attainment for groups with the highest incomes, Whites, Japanese and Chinese, with only two variables for each group failing to attain significance. For Filipinos, all of the independent variables attained significance, except limited English, lack of a high
school diploma, and a graduate degree. Although the human capital model explained
the most variance for the Hawaiians, only lack of a high school education, a bachelor
degree, total hours worked, and marital status were successful in predicting income.
For Blacks, the only variable to successfully predict income was total hours worked.

*Human capital model by ethnic groups in California*

In California, Table 3B shows that only the coefficients for bachelor degree,
total hours worked, and not married attained significance in the regression model for
Hawaiians. In contrast to the findings for Hawaii, the human capital model accounted
for the least variance amongst Hawaiians in California ($R^2 = .354$). As in the Hawaii
findings, work experience unexpectedly obtained a non-significant coefficient.

For Whites, Filipinos, and Blacks, all the variables attained significance, with
the exception of limited English for Filipinos and Blacks, and all of the coefficients
were in the expected direction. The Japanese model’s coefficients mostly attained
significance with the exception of limited English and no high school, and the Chinese
model’s coefficients also mostly attained significance with the exception of no high
school and some college. In sum, the human capital model does a reasonable job of
explaining income attainment for all groups in California with the exception of
Hawaiians.

Therefore, my first hypothesis, human capital significantly explains income
attainment for Hawaiians, is only partially supported. In Hawaii, education, with the
exception of graduate/professional education explains income attainment for
Hawaiians; however, work experience does not significantly predict income
attainment. In California only the education coefficient for a bachelor degree
### TABLE 3B

**MODEL 1B CALIFORNIA MEN BY ETHNICITY**

OLS regression, dependent variable: logarithm of income

<table>
<thead>
<tr>
<th></th>
<th>Hawaiian</th>
<th>White</th>
<th>Japanese</th>
<th>Chinese</th>
<th>Filipino</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intercept:</strong></td>
<td>8.588</td>
<td>7.999</td>
<td>8.018</td>
<td>8.43</td>
<td>7.612</td>
<td>7.731</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.3167</td>
<td>0.0146</td>
<td>0.1187</td>
<td>0.1443</td>
<td>0.1646</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Human capital variables:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited English</td>
<td>0.1882</td>
<td>-0.0314</td>
<td>0.1083</td>
<td>-0.2402</td>
<td>-0.0153</td>
<td>0.1903</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.4822</td>
<td>0.0246</td>
<td>0.0147</td>
<td>0.0835</td>
<td>0.1930</td>
<td>0.1052</td>
</tr>
<tr>
<td>No high school</td>
<td>-0.1241</td>
<td>-0.0111</td>
<td>0.0763</td>
<td>-0.1743</td>
<td>-0.1017</td>
<td>0.0745</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.1254</td>
<td>0.0069</td>
<td>0.0147</td>
<td>0.0107</td>
<td>0.0763</td>
<td>0.0214</td>
</tr>
<tr>
<td>Some college</td>
<td>0.1182</td>
<td>0.1019</td>
<td>0.0422</td>
<td>0.1227</td>
<td>0.0659</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.0854</td>
<td>0.0047</td>
<td>0.0027</td>
<td>0.0059</td>
<td>0.0053</td>
<td>0.0158</td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>0.2664</td>
<td>0.3553</td>
<td>0.0027</td>
<td>0.3849</td>
<td>0.0623</td>
<td>0.4251</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.1285</td>
<td>0.0552</td>
<td>0.0027</td>
<td>0.0648</td>
<td>0.0623</td>
<td>0.0212</td>
</tr>
<tr>
<td>Graduate/prof</td>
<td>0.2454</td>
<td>0.5191</td>
<td>0.006</td>
<td>0.6026</td>
<td>0.0871</td>
<td>0.597</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.1868</td>
<td>0.0016</td>
<td>0.0001</td>
<td>0.0686</td>
<td>0.0871</td>
<td>0.0284</td>
</tr>
<tr>
<td>Work experience</td>
<td>-0.0059</td>
<td>0.0440</td>
<td>0.0001</td>
<td>0.0462</td>
<td>0.0059</td>
<td>0.0026</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.0169</td>
<td>0.0007</td>
<td>0.0001</td>
<td>0.0059</td>
<td>0.0084</td>
<td>0.0028</td>
</tr>
<tr>
<td>Work exp squared</td>
<td>0.0001</td>
<td>-0.0007</td>
<td>0.0001</td>
<td>-0.0007</td>
<td>0.0001</td>
<td>-0.0002</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.0003</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0002</td>
<td>0.0005</td>
</tr>
<tr>
<td>Control variables:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total hours</td>
<td>0.0007</td>
<td>0.0006</td>
<td>0.0005</td>
<td>0.0005</td>
<td>0.0007</td>
<td>0.0008</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>6.00E-05</td>
<td>0.3 E-05</td>
<td>0.0057</td>
<td>2.00E-05</td>
<td>3.00E-05</td>
<td>0.9 E-05</td>
</tr>
<tr>
<td>Not married</td>
<td>-0.277</td>
<td>-0.2515</td>
<td>0.0337</td>
<td>-0.2354</td>
<td>0.0287</td>
<td>-0.2179</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>0.0783</td>
<td>0.0007</td>
<td>0.0037</td>
<td>0.0353</td>
<td>0.0422</td>
<td>0.0123</td>
</tr>
<tr>
<td>Per capita income</td>
<td>1.00E-05</td>
<td>1.00E-05</td>
<td>3 E-05</td>
<td>3.00E-05</td>
<td>7.00E-06</td>
<td>3.0 E-05</td>
</tr>
<tr>
<td><strong>SE</strong></td>
<td>1.00E-05</td>
<td>0.7 E-05</td>
<td>5.00E-06</td>
<td>6.00E-06</td>
<td>7.00E-06</td>
<td>3.0 E-05</td>
</tr>
<tr>
<td>N</td>
<td>349</td>
<td>172511</td>
<td>2530</td>
<td>1505</td>
<td>1138</td>
<td>13609</td>
</tr>
<tr>
<td>R squared value</td>
<td>0.354</td>
<td>0.397</td>
<td>0.365</td>
<td>0.421</td>
<td>0.411</td>
<td>0.436</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001
+ = slope significantly larger than Hawaiian sample, p<.05
# = slope significantly smaller than Hawaiian sample, p<.05
significantly predicts income attainment for Hawaiians, while work experience fails to significantly predict income attainment.

*Tests of significance for Hawaii data*

In tests of coefficients across regression models, coefficients for education were consistently lower for Hawaiians compared to Whites, Japanese and Chinese without a high school education and with a graduate education. However Hawaiians obtained a higher coefficient compared to Japanese with some college, and a higher coefficient for those with a bachelor degree compared to Japanese and Chinese. Nonetheless, the only significant result was the higher coefficient for whites with no high school, as can be seen by referring to Table 3A.

All groups, with the exception of Blacks, obtained significantly higher returns to work experience compared to Hawaiians. For total hours worked, Hawaiians obtained a significantly higher return compared to Whites, Japanese and Filipinos. Blacks had the same return to total hours worked as Hawaiians.

*Tests of significance for California data*

In California, although Hawaiians obtained the lowest return to bachelor degree and graduate/professional degree compared to all other groups, these differences were not statistically significant as can be seen in Table 3B. The coefficient for work experience was significantly larger for all groups compared to Hawaiians, with the exception of Blacks. The coefficient for total hours worked was significantly smaller for Japanese and Chinese compared to Hawaiians. The per capita income for Whites was significantly larger than for Hawaiians.
These findings only partially support my second hypothesis, Hawaiians obtain significantly lower returns to human capital compared to other racial/ethnic groups. In Hawaii, except for those with no high school compared to whites, and California, Hawaiians do not receive significantly lower returns to education. However, Hawaiians do obtain significantly lower returns to work experience compared to Whites, Japanese and Chinese in both Hawaii and California.

*Regression decomposition for Hawaii men*

Using regression decomposition, if Hawaiians had the same level of human capital as whites, their mean log of income increases to 10.13, an increase of 0.18. However Hawaiians would still trail whites by 0.1. By dividing what Hawaiians gain by having the same level of human capital as Whites (0.18) by the original difference between Hawaiians and Whites log of income (0.28), I find that differential composition on explanatory and control variables accounts for 64.29% of income differences between Hawaiians and Whites. This leaves 35.71% of differences in income explained by effects of independent variables being different for Whites than Hawaiians.

Similarly, if Hawaiians had the same level of human capital as Japanese, their log of income increases to 10.12, but still trails Japanese by 0.13. Thus, 56.67% of income differences between Hawaiians and Japanese are explained by differential composition on explanatory and control variables, 44.33% is due to effects of independent variables being different for Japanese than Hawaiians.

Using the human capital composition for Chinese, Hawaiians log of income increases to 10.14, and continues to lag behind the average of Chinese by 0.12.
Therefore, differential composition on explanatory and control variables explains 61.29% of income differences between Hawaiians and Chinese, and 38.71% is due to effects of independent variables being different for Chinese than Hawaiians.

Regression decomposition for California men

The California data shows if Hawaiians had the same level of human capital as Whites, their log of income increases to 10.14, an increase of 0.11. However Hawaiians would still trail whites by 0.16. Therefore, differential composition on explanatory and control variables accounts for 40.74% of income differences between Hawaiians and Whites. This leaves 59.26% of differences in income explained by effects of independent variables being different for Whites than Hawaiians.

Similarly, if Hawaiians had the same level of human capital as Japanese, their log of income increases to 10.18, but still trails Japanese by 0.19. Thus, 44.12% of income differences between Hawaiians and Japanese are explained by differential composition on explanatory and control variables, 55.88% is due to effects of independent variables being different for Japanese than Hawaiians.

Using the human capital composition for Chinese, Hawaiians log of income increases to 10.20, and continues to lag behind the average of Chinese by 0.16. Therefore, differential composition on explanatory and control variables explains 51.52% of income differences between Hawaiians and Chinese, and 49.48% is due to effects of independent variables being different for Chinese than Hawaiians.

These findings provide support for my third hypothesis, human capital differences only partially explains Hawaiians’ income gap with Whites, Japanese and Chinese in both Hawaii and California.
Summary of findings for Model 1

To summarize the analyses from Model 1, I find the human capital model best explains the income attainment of the groups with the highest incomes, Whites, Japanese and Chinese in Hawaii. The human capital model explains less for Filipinos in Hawaii, since Filipinos without a high school diploma or with a graduate degree are not significantly different than those with a high school education. Although the human capital model explains the most variance for Hawaiians in Hawaii, some college, a graduate degree and work experience do not significantly predict income. The human capital model shows little explanatory power for Blacks since the only variable to successfully predict income was total hours worked.

In contrast to the findings for Hawaii, the human capital model accounts for the least variance amongst Hawaiians in California, and only a bachelor degree, total hours worked, and not married predicts income for California Hawaiians. For the other racial/ethnic groups, the human capital model does a reasonably good job of explaining income attainment in California.

In comparing Hawaiian coefficients across human capital models in Hawaii, the only education coefficient significantly different from Hawaiians is the positive coefficient for whites with no high school. All groups, with the exception of Blacks, obtain significantly higher returns to work experience in Hawaii compared to Hawaiians. For total hours worked, Hawaiians obtain a significantly higher return compared to Whites, Japanese and Filipinos in Hawaii. In California, coefficients for education for Hawaiians are not statistically different from any of the other racial/ethnic groups. However, all groups, with the exception of Blacks, obtained a
significantly higher return to work experience compared to Hawaiians. California Hawaiians obtained a significantly higher return to total hours worked compared to Japanese and Chinese, and the per capita income for Whites was significantly larger than for Hawaiians.

Finally, regression decomposition showed that group composition differences between Hawaiians and Whites, Japanese and Chinese explain less of the income differences between groups in California compared to Hawaii, and only explain part of the income differences between groups in both states.

**Pooled data by state and race/ethnicity effects**

To assess if race/ethnicity continues to have a direct effect on log of income when accounting for human capital and other covariates of income in Model 2, I pooled the data by state, and added dummy variables for all racial/ethnic sub-groups except for Whites. Dummy variables for Hawaiians (-0.077, significant at .01 level), Japanese (0.073, significant at .001 level) and Blacks (-0.288, significant at .001 level) significantly differ from Whites in Hawaii. Thus, Japanese obtain an earning advantage, while Hawaiians and Blacks obtain an earning disadvantage compared to Whites. In a human capital regression model with only Hawaiians and Chinese, where Hawaiian is entered as a dummy variable, Hawaiian obtains a significant negative coefficient.

In California, Japanese (0.031, significant at .05 level) obtain an earning advantage, while Hawaiians (-0.137, significant at .001 level), Filipinos (-0.112, significant at .001 level), and Blacks (-0.160, significant at .001 level), obtain an earning disadvantage compared to Whites. In a human capital regression model with
only Hawaiians and Chinese, where Hawaiian is entered as a dummy variable, Hawaiian obtains a significant negative coefficient.

This supports my fourth hypothesis, after controlling for human capital and control variables, Hawaiians earn significantly less income than those who are White, Japanese and Chinese in both Hawaii and California.

**Within occupation race/ethnicity effects by state**

In my third model, I check for within occupation differences between Hawaiians and Whites in each state. Adding all occupations (minus one) as dummy variables to the separate Hawaii and California human capital regression models, which include dummy variables for racial/ethnic subgroups, similar results are obtained for both states: Hawaiians obtain significant negative coefficients (Hawaii: -.056, California: -.081; both significant at .05 level), Japanese (Hawaii: .046, California: .028, both significant at .05 level), obtain significant positive coefficients, and Chinese (Hawaii: .032, California:.005) obtain non-significant positive coefficients compared to Whites. This finding provides support for my sixth hypothesis: Hawaiians will earn less than Whites, Japanese, and Chinese within occupations in both Hawaii and California.

**California and Hawaii pooled data with interaction effects**

In my final model, I pool the Hawaii and California data to check for interaction effects based on location; significant results are shown in Table 4. The interaction of race/ethnicity by Hawaii shows a decrease of the direct effect of being
## TABLE 4

**POOLED CALIFORNIA AND HAWAII MEN: HAWAII INTERACTIONS**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B SE</td>
<td>B SE</td>
<td>B SE</td>
<td>B SE</td>
<td>B SE</td>
<td>B SE</td>
</tr>
<tr>
<td>Hawaiian</td>
<td>***-0.0868 0.0216</td>
<td>*-0.0702 0.033</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese</td>
<td>***0.0432 0.0112</td>
<td>***0.0761 0.023</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>-0.0135 0.0159</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filipino</td>
<td>***-0.0866 0.0173</td>
<td>*-0.0771 0.033</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>***-0.1621 0.0062</td>
<td>***-0.2116 0.013</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Human capital:**

- Limited English: ***-0.1771 0.0218
- No high school: ***-0.1703 0.0064
- Some college: ***0.1083 0.0043
- College degree: ***0.3577 0.0049
- Graduate/prof: ***0.5226 0.0056
- Work experience: ***0.0428 0.0007
- Work exp squared: ***0.0006 1.3036

**Control variables:**

- Total hours: ***0.0007 2.00E-06
- Not married: ***-0.2447 0.0034
- Per capita income: ***3 E-05 6.00E-07
- Hawaii: ***-0.0846 0.0103

**Interactions**

- Hawaiian*Hawaii: *0.1092 0.047
- Japanese*Hawaii: *0.0589 0.025
- Filipino*Hawaii: **0.1146 0.039
- Black*Hawaii: #-0.1132 0.067
- Bachelor*Hawaii: ***-0.1267 0.025
- Graduate*Hawaii: ***-0.1545 0.031
- Work exp*Hawaii: **0.0026 SE-04
- Hrs wked*Hawaii: ***-0.0001 1.32E-05

**R squared**

- .405

*p>.05  **p>.01  ***p>.001

# = significant at .1; included due to small sample size which may cause Type II error
Hawaiian, Japanese or Filipino in Hawaii, and an increase for Blacks (significance=.091, N=113). However, people with a bachelor or graduate degree receive less in Hawaii than California. Although work experience in Hawaii obtains a higher return than California, education has a much greater influence on income attainment. Also, people in Hawaii earn significantly less for each hour worked. Thus although racial/ethnic discrimination may be less in Hawaii for Hawaiians, Japanese and Filipinos compared to California, lower returns to higher education investments and to total hours worked in Hawaii results in lower incomes.

When I combine all of the interaction effects into the full model for the pooled data for California and Hawaii men, some of the interactions lose significance. As column 6 shows, of the racial/ethnic group by Hawaii interactions that attained significance, only the increased negative effect of Black remains significant. Bachelor degree and graduate degree by Hawaii continue to show strong negative effects, and hours worked in Hawaii also continues to have a significant negative effect.

To illustrate how income differs by state, I examine a regression decomposition of what Hawaiians in Hawaii would earn if they had the group composition of Hawaiians in California. The Hawaii average log of income would increase by 0.03, but still remain below that of the California average for Hawaiians by 0.05. Thus, 37.5% of log income differences between Hawaiians in Hawaii and Hawaiians in California are explained by differential group compositions, and 62.5% is due to effects of independent variables being different in Hawaii and California. Thus, despite the larger direct negative effect for being Hawaiian in California compared to Hawaii, overall Hawaiians in California obtain higher rates of higher
education and better returns to human capital, which leads to higher income attainment.
DISCUSSION AND CONCLUSION

This research study has provided much needed information on income attainment and human capital outcomes for Hawaiians in the workplace. Whether examining Hawaiians in Hawaii or California, Hawaiians do earn less than Whites, Japanese, and Chinese, and more than Filipinos and Blacks. However, the differences in average incomes between Hawaiians, Filipinos and Blacks are not statistically significant. Therefore, these findings suggest that there exists a two-tiered income attainment process whereby Hawaiians, Filipinos, and Blacks constitute the bottom tier. Consequently, this study also supports the need to separate out sub-groups from Asians-Pacific Islanders in research and policy-making.

To summarize my findings, the human capital model explains income attainment better for Whites, Japanese and Chinese in both states compared to the other groups. In Hawaii, human capital predicts some of Filipino income attainment, with the exception of those without a high school diploma and those with a graduate degree. Although the human capital model explains the most variance for Hawaiians in Hawaii, it fails to predict income attainment for Hawaiians with some college or a graduate degree, and based on their work experience. The human capital model seems to fail in the analysis of Blacks in Hawaii, since only total hours worked predicts income; however these results may due to the relatively small sample size of Blacks in Hawaii. In California, the human capital model reasonably predicts income attainment
for all groups, except Hawaiians. With California Hawaiians, the human capital
model explains the least variance, and only a bachelor degree, total hours worked, and
not married predict income.

When comparing the coefficients obtained in the human capital models for
Hawaiians and the different racial/ethnic groups in each state, the only significant
differences were with Whites without a high school education in Hawaii, and with all
other groups, with the exception of Blacks, in work experience in both states. The
failure of work experience to be significant in predicting income in either state is
troubling, but not conclusive due to the problematic operationalization of work
experience as discussed earlier in this paper. What cannot be teased out is whether I
have measured work experience poorly, or whether long-term advantages do not
accrue to Hawaiians in the workplace. Considering other findings suggesting possible
discrimination against Hawaiians in the workplace, and that work experience predicted
income for all groups in both states with the exception of all Hawaiians and Blacks in
Hawaii, I suspect long-term advantages do not accrue to many Hawaiians in the
workplace.

Despite the mostly consistent lack of significant differences in returns to
education when comparing Hawaiians to the other groups, regression decomposition
showed that the most group composition can explain in differences in income is 64%
between Hawaiians and Whites in Hawaii; the least group composition explains is
41% between Hawaiians and Whites in California. Thus, anywhere from 36-59% of
income differences between Hawaiians and those in the top tier is due to smaller
coefficients on the explanatory variables and covariates of income. This suggests that Hawaiians may experience discrimination in the workplace.

In the models where I enter human capital and race/ethnicity variables (Model 2), and where I enter human capital, race/ethnicity, and occupation variables (Model 3), I find a continued direct negative effect for being Hawaiian compared to Whites, Japanese and Chinese. Model 4 shows that the direct effect for being Hawaiian lessens in Hawaii.

However, in assessing whether Hawaii or California provides a more equitable work environment in terms of rewards, I find a mixed picture. On the hand, group composition explains a smaller percentage of income differences between Hawaiians and Whites, Japanese, and Chinese in California than in Hawaii, suggesting discriminatory processes may play a larger role in California. Further, the direct negative effect for being Hawaiian in Model 2 (data pooled by state) and Model 3 (within occupation income differences) is larger in California; however, this is compensated by greater returns to a bachelor and graduate/professional degree. Thus, the data suggest that even though Hawaiians in California earn higher incomes, they also seem to obtain lower coefficients in the human capital models compared to Whites, Chinese and Japanese, than do Hawaiians in Hawaii compared to the same groups. In other words, everyone does better in California, but between groups the differences in compensation are also greater in California. Consequently, regression decomposition of income differences between Hawaiians in California and Hawaiians in Hawaii show that Hawaii Hawaiians gain income when using the coefficients for California Hawaiians.
In the end, the human capital analyses suggest that Hawaiians in both places may experience discrimination. Therefore, this study provides support to the possibility that individual upward mobility in Hawaii and California may not be comparably compensated to Hawaiians in the workplace. A next step would be to conduct a comparative analysis using 1980, 1990 and 2000 census data to examine the human capital process for Hawaiians over time.

However, since human capital research does not get at the mechanisms of discrimination nor can it indisputably prove discrimination, more research is essential in the area of structural and cultural processes that contribute to particular socioeconomic outcomes. Mechanisms, such as the role of family income and expectations, uneven educational access from pre-school thru postsecondary education, the role of peer groups and school structures, employer sorting into different occupations or sectors of the economy, networks that perpetuate racial/ethnic group domination, and the refusal of politicians and society to recognize and remedy racialized socioeconomic hierarchies need to be studied. Further empirical testing of segmented assimilation and split labor market theories in Hawaii may contribute to understanding the maintenance of Hawaiians and Filipinos in the lowest occupational levels, as well as their occupational attainment in California.

In the end, it may be the case that internal colonialism theory better serves as a master frame for explaining the income attainment of Hawaiians compared to assimilation theory. As the racial/ethnic group with the longest duration in Hawaii, we would expect that if economic assimilation had occurred, the human capital model would do a better job of explaining income attainment for Hawaiians, and that
Hawaiians in the wage economy would receive equal returns for equal credentials in similar occupations. My findings suggest that this is not the case.

Additional research into the developments that led to and maintain the “colonization” of Hawaiians would strengthen the internal colonialism approach. For example, the three-dimensional view of power (Lukes 1974; Gaventa 1982) may be useful in explaining the historical process by which Hawaiians became “colonized” and how institutions developed that blocked Hawaiian socioeconomic achievement. Such research is crucial if society desires to create a level playing field for all of its members, and to ensure that contemporary institutions and practices are not reproducing the historical oppression of Hawaiians.
REFERENCES


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