

Ethnic identities and lifestyles in a multi-ethnic cancer patient population

Abstract: This report examined ethnic identity in 367 recently diagnosed cancer patients in Hawai'i's primary ethnic groups: Japanese, Hawaiians, Europeans, and Filipinos. The study assessed ethnic self-identity; definitions of and participation in different ethnic lifestyles; and relationships between measures of ethnic self-identity, lifestyle, and other indicators of ethnic and cultural affiliations. Results indicated that medical record-based ethnic indicators were well linked to individual self-reports of family pedigree. Self-descriptors included non-standard terms such as "American" and "Local," and respondents reported following between five and six different ethnically-associated ways of life. Multivariate analysis indicated that ethnic self-identity made a unique contribution that went beyond standard ethnic and acculturative markers in explaining lifestyles. This study provides strong support for multiculturalism in this ethnically heterogeneous population.

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Introduction

The US population is becoming increasingly ethnically heterogeneous. In 1970, about 1 in 8 persons belonged to an ethnic/racial minority group, a figure that had grown to 1 in 4 by the late 1990s. Non-whites are projected to make up more than a third of the population by 2020 and nearly half by 2050¹. This ethnic and cultural diversity will present numerous challenges to making meaningful ethnic classifications of individuals. Distinguishing between race, ethnicity, and culture is a longstanding and unresolved methodological concern². "Race" is often used to refer to biological differences between groups, whereas ethnicity is seen as a demographic marker of culture, which refers to shared ancestry, values, attitudes, and practices. Finding appropriate ways to measure each of these constructs is a goal in both research and public policy^{3,4}. The meaning and use of race has been and remains a controversial topic⁵.

Much research in this area focuses on acculturation, which refers to the process whereby an immigrant, minority or indigenous group member becomes fluent in the beliefs, behaviors, and values of the dominant or colonizing culture. Earlier work in this field generally adopted a "bipolar" view of acculturation, assuming that as individuals learned to function in a new culture, they became less strongly affili-

ated with their culture of origin. More recent work acknowledges different forms of acculturation. For example, immigrants may separate (i.e., choose to retain their original cultural tenets and segregate themselves from the mainstream society), become marginalized (i.e., have difficulty fitting in with either the original or mainstream society) or reflect integration/biculturalism (i.e., maintain aspects of the culture while simultaneously adopting values and behaviors of the mainstream culture). An individual may also assimilate (when the original culture is replaced by culture and customs of the mainstream society)⁶. More recently, another model of acculturation has emerged: the development of diasporic communities where the culture of origin continues to provide a primary point of reference for individuals who may be far away⁷. The accessibility of modern global communications and air transportation facilitate the development and maintenance of such diasporic communities.

A variety of measures may indicate level of acculturation, including birthplace, length of time in the US, generational status, and behaviors and skills, such as knowledge and use of original and acquired languages. A given approach to measuring acculturation may not perform equally well across ethnic groups^{8,9}. For example, while language use may be an effective way to measure ethnic identification in Hispanics, this may be a poor or irrelevant indicator of acculturation and/or ethnic identity in African-Americans.

Ethnic identity is a construct that may be meaningful across different groups. Most studies in this area have concentrated on identification with one ethnic group, or one ethnic group relative to another. However, Oetting and Beauvais¹⁰ suggest that it is important to take an "orthogonal" approach to measuring cultural affiliations, i.e., to assess independently individuals' identifications with more than one ethnic group. A number of investigators have assessed simultaneous identification with more than one ethnic group¹¹⁻¹⁶. All of these studies included a comparison between only two groups and in limited populations: Hispanic vs. "American" for all reports except Suinn's¹⁵ study of Asians compared to Americans.

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However, in environments where multiple ethnic groups are represented in high numbers, it may be that individuals maintain identification with more than two groups. The state of Hawai'i provides a unique natural laboratory to examine this phenomenon, due to its long-standing ethnic and cultural diversity. Unlike any other US state, there is no clear ethnic majority, as no ethnic group constitutes 50% or more of the state's population. In addition, interracial and interethnic marriages are common in Hawai'i, with 56% of marriages in the state between individuals of different ethnic/racial backgrounds¹⁷. Also, the proportion of persons of mixed ethnic background is above 21%, more than any other US state¹⁷. In contrast to many other parts of the US with high numbers of recent Asian immigrants¹⁸, Hawai'i's major waves of immigration occurred in the late nineteenth and early twentieth centuries, when successive groups of Chinese, Japanese, and Filipinos came to Hawai'i to work on the sugar and pineapple plantations. Thus, Hawai'i's residents of Asian ancestry include a majority of individuals who were born in Hawai'i and have lived there for many generations, although there continues to be immigration, particularly among Filipinos. In fact, 4,000 new Filipinos settle in Hawai'i each year¹⁹. Culturally, Hawai'i is also unique, since the major ethnic groups reflect Western, Eastern, and Polynesian heritages and manifest dramatic variation in values, customs, attitudes and behaviors in almost every area of life²⁰. In addition, the concept of a 'local' culture that incorporates cultural aspects from various ethnic groups has received considerable attention²¹. Since the Hawaiian islands are the most isolated island chain in the world, geographical and climatic influences may contribute to a unique island culture.

The issue of assigning ethnicity to individuals becomes important because of research linking ethnicity to many other variables of interest, including cancer outcomes. For example, ethnicity is an important correlate of outcomes such as health risk behaviors²², perceptions of cancer-related pain²³, screening activities²⁴, and cancer incidence and mortality²⁵. These findings may derive from ethnic designation serving as a proxy for variables such as cultural values, self-concept, minority status, socioeconomic status, and health-related behaviors that affect cancer-related outcomes².

This report examines ethnic identity among a group of recently diagnosed cancer patients in Hawai'i. In this study, individuals' ethnic self-identification and ethnically-related lifestyles were assessed and also included standard ethnic classifications used in vital statistics and medical research. Specifically, this study examined: 1) how respondents self-identify their ethnicity; 2) how lifestyles reflect ethnic affiliations; and (3) relationships between measures of ethnic self-identity, lifestyle, and other indicators of ethnic and cultural affiliations.

Method

Participants

The data reported in this paper were collected as part of a larger study with the primary objective of assessing quality of life in cancer patients from Hawai'i's primary ethnic groups²⁶⁻²⁸. This cohort provided an opportunity to examine additional questions of interest, including ways to measure ethnic identification, which is the focus here. Study participants were identified through consecutive registrations on the Hawai'i Tumor Registry (HTR), part of the National Cancer Institute-supported Surveillance, Epidemiology, and End Results Registry. Eligibility criteria were: histologic confirmation of any kind of cancer diagnosed between four and six months previously; ability to understand English; permission of primary physician; O'ahu residency; HTR classification as Caucasian, Filipino, Hawaiian/part Hawaiian, or Japanese ethnic origin; 18 years of age or older. HTR data were abstracted from the chart for age, sex, marital status, and site and stage of cancer.

Procedure

Permission was obtained from attending physicians before respondents were contacted. Each respondent received a letter followed by a telephone call, and data were collected by interview, most often at the respondent's home. At the time of the telephone call, respondent ethnicity was verified as described below. Interviews were conducted by one of four female research associates, all of whom had completed graduate work in social sciences as well as extensive training in interviewing and cancer patient interaction for this study. The respondents completed a semi-structured interview and completed the questionnaire packet at the end of the interview. Interviews took on average about one hour.

Measures of ethnicity

Ethnicity reported in medical records. Respondents were selected on the basis of HTR classification as Caucasian, Filipino, Hawaiian/part Hawaiian, or Japanese. This ethnic assignment is done generally "by sight," according to the estimation of health care personnel.

Blood quantum. Respondents were evaluated for eligibility for the study based on their identification of their four grandparents' backgrounds. Three of four grandparents from the same ethnic group defined a respondent's blood quantum ethnicity, except for Hawaiians, for whom any grandparent being Hawaiian would define the respondent as being Hawaiian/part Hawaiian. This classification will be referred to as "blood quantum" and is often used in Hawai'i for ethnic classification. All patients who met blood quantum classification as Hawaiian/part Hawaiian, Caucasian, Japanese and Filipino were included in the study.

Table 1. Relationships between measures of ethnicity: Blood quantum, ethnicity reported in medical records, and ethnic self-identification

	Blood Quantum				
	Caucasian	Filipino	Hawaiian	Japanese	Total
Medical records					
Caucasian	119	0	4	2	125
Filipino	0	61	1	0	62
Hawaiian	0	0	42	0	42
Japanese	1	0	0	130	131
Unknown/mixed	1	1	4	1	7
Total	121	62	51	133	367
Self-identity					
Caucasian	65 (54%)	0	6 (13%)	0	71 (20%)
Filipino	0	57 (93%)	2 (4%)	0	59 (16%)
Hawaiian	2 (2%)	2 (3%)	37 (77%)	2 (2%)	43 (12%)
Japanese	0	0	1 (2%)	98 (75%)	99 (27%)
European	15 (12%)	2 (3%)	1 (2%)	0	18 (5%)
Chinese	0	0	7 (15%)	0	7 (2%)
Portuguese	11 (9%)	0	2 (4%)	0	13 (4%)
American	26 (22%)	8 (13%)	3 (6%)	50 (38%)	87 (24%)
Local	5 (4%)	2 (3%)	5 (10%)	7 (5%)	19 (5%)
Other	8 (7%)	1 (2%)	2 (4%)	15 (12%)	26 (7%)

Ethnic Self-identity. Using a measure similar to that of other researchers^{9, 29-30}, respondents were asked, “In terms of my ethnicity or culture, I consider myself to be (open-response option)”. Both the words *ethnicity* and *culture* were used, since pre-testing indicated that respondents were better able to understand what was meant when the question was phrased in this way.

Measure of ethnic lifestyle

Identification with and Strength of Following Ways of Life (WOLs). Based on items developed by Oetting and Beauvais¹⁰, respondents were asked whether they followed various “ways of life” (WOLs). Focus groups during pilot testing had indicated that respondents were likely to self-identify as Portuguese, Japanese, Hawaiian, Filipino, Chinese, Caucasian, American, Local, and/or Other. For each of these possible “ways of life,” respondents were asked “...how much you participate in the following cultural lifestyles” with response options of “Not at all”, “Not much”, “Some”, and “A lot.” Respondents were instructed that they could choose the same answer for any or all categories if they so wished (e.g., responding “A lot” for both the Japanese WOL and the Hawaiian WOL).

Components of Ways of Life (WOLs). For each WOL that respondents reported following to some degree (not much, some, or a lot), they were asked an open-ended question about how they followed this WOL. Responses to this question were transcribed, categories developed, and answers subsequently coded.

being “not interested.” Fifty-six percent of participants were women, and 70% were married. Forty percent had a high school education or less, and the mean age was 62 years. The largest numbers of participants had cancers of the breast (34%) or prostate (28%), consistent with the most prevalent cancers in the state²⁵. Fifty-seven percent of respondents were born in Hawai‘i, 26% on the continental U.S., 11% in the Philippines, 3% in Japan, 3% in other Western countries (e.g., Germany, Canada), and .3% (one individual) in Korea. Forty-six percent of respondents had lived in Hawai‘i all their life or within one year of their whole life. For the remainder of the sample, the mean number of years residing in the state was 30 years, with a median of 27 years.

Analysis. Analysis included univariate analysis for each measure, bivariate analysis of the relationship between measures, and multivariate analysis of multiple measures.

Univariate analyses

Ethnicity reported in medical records. Based on the HTR identification of patients’ ethnic backgrounds, the sample breakdown was: 11% (n=42) Hawaiian, 34% (n=125) Caucasian, 36% (n=131), Japanese, 17% (n= 62) Filipino, and 2% (n=7) other or unknown.

Blood quantum. Based on respondents’ identifications of their grandparents’ ethnic backgrounds, the sample breakdown was: 14% (n=52) Hawaiian, 33% (n=121) Caucasian, 36% (n=132) Japanese, and 17% (n= 62) Filipino.

Other Data. Data on place of birth, years lived in Hawai‘i, and language were collected. Regarding language, respondents were asked “What languages can you use besides English?” and they indicated whether they could read, write, speak, and/or understand each language and which language they preferred to use.

Results

Participants. The study sample consisted of 367 cancer patients, representing 58% of eligible patients. The most frequent reasons for nonparticipation were patients not feeling well enough to take part or

Ethnic self-identity. All responses to this open-ended question (“In terms of my ethnicity (culture), I consider myself to be...”) were transcribed, categories were developed to describe the responses, and responses were coded. As seen in Table 1, the categories included individual ethnic descriptors (the four main ethnic groups represented in the sample, as well as Chinese), national ancestry (European and Portuguese), reference to American nationality, “local,” and other responses. Other responses included personal characteristics (e.g., “Well-rounded and color blind,” “Human,” and “Neutral”) and indications of mixed ethnicity (“A mix of many cultures”). Many respondents gave answers that included more than one descriptor: for example, “Japanese American.” We coded each response in as many categories as appropriate; thus, the categories were not mutually exclusive, and many respondents gave answers that were classified in two or more categories.

Way of life (WOL) assessment. Respondents were asked, “Do you live by or follow the _____ way of life?” (Portuguese, Japanese, Hawaiian, Filipino, Chinese, Caucasian, American, Local, and Other categories). (No consistent responses were given in the “Other” category, and it will not be discussed further.) If respondents answered “Not much”, “Some”, or “A lot” for any choice, they were considered in this analysis to be living that WOL to some degree. Only one person endorsed none of these WOLs, and the vast majority of respondents (94%) reported that they followed more than one WOL, with 79% indicating that they followed four or more WOLs. On average, respondents reported following 5.4 different WOLs.

Degree of participation in ways of life (WOLs). Respondents were asked to rate how much they followed each WOL on a scale of 1 to 4, where higher numbers indicated higher degrees of participation. Mean scores were: Following a Japanese WOL: 2.4; Following a Hawaiian WOL: 2.3; Following a Filipino WOL: 1.8; Following a Caucasian WOL: 2.9; Following an American WOL: 3.6; and Following a Local WOL: 3.2.

We also investigated the number of strong ethnic affiliations followed simultaneously, based on the number of “a lot” answers that were given. Most (87%, n = 316) individuals indicated that they followed at least one ethnic WOL “a lot:” 24% (n = 88) had one strong ethnic WOL; 34% (n = 125) had two strong ethnic WOLs; 18% (n = 65) had three strong ethnic WOLs; 8% (n = 30) had four strong ethnic ways of life; and 2% (8 individuals) had five or more strong ethnic WOLs.

Components of ways of life (WOLs). To understand the components (e.g. behaviors, attitudes, or other phenomena) associated with each way of life, all individuals who reported following a particular WOL were asked an open-ended question about why they felt they followed that WOL. The most frequent responses (those who garnered at least 10% of responses) are summarized in Table 2. A number of additional items were mentioned by smaller numbers of respondents.

Across multiple WOL categories, respondents mentioned eating ethnic foods, affiliating with persons of a given ethnicity, and participating in ethnic traditions, celebrations and/or events. However, there were other unique characteristics that distinguished between the different WOLs. For example, being “neat and clean” was associated distinctively with a Japanese WOL, and being warm and friendly (e.g., “having aloha”) was associated with a Hawaiian WOL.

Language use and preferences. Fifty-nine percent of our sample cited an ability to speak, read or understand one or more languages in addition to English. The most common ethnically-associated languages were Hawaiian (used by 5%), a Filipino dialect (15%), or Japanese (31%). Other languages mentioned included Spanish (used by 6%), French (4%), and German (3%). Eighty-

Table 2. Responses of those endorsing ways of life

Way of life	Number endorsing	Common responses
Caucasian	244	Eating Caucasian food and affiliations with Caucasians.
Filipino	138	Eating Filipino food, affiliations with Filipinos, attending or participating in Filipino traditions, celebrations and/or events, and being honest, respectful and/or polite.
Hawaiian	242	Eating Hawaiian food, enjoying or performing Hawaiian music and/or dance, being warm, friendly and/or having 'aloha', having a relaxed and/or casual manner, affiliations with Hawaiians, and speaking the language.
Japanese	233	Eating Japanese food, attending or participating in Japanese traditions, celebrations and/or events, affiliations with Japanese, being neat/clean, being honest/respectful/polite, and following Japanese family dynamics.
Chinese	178	Eating Chinese food, affiliations with Chinese, and attending or participating in Chinese traditions, celebrations and/or events.
Portuguese	82	Eating Portuguese food, affiliations (i.e. I have a Portuguese friend(s), coworker(s), etc.), and attending or participating in Portuguese traditions, celebrations and/or events.
American	331	Eating American food, following the laws and/or constitution of America, and living in a democratic country.
Local	319	Having a relaxed and/or casual manner, eating local food, using local language (i.e. pidgin), being multicultural, and having unique attire (i.e. less formal).

* Responses listed here are those which were most commonly given, and garnering at least 10% of WOL endorsers' responses.

nine percent of respondents said they preferred to use English, and the second most common answer was “no preference” or “it depends.”

Bivariate analyses

Blood quantum, ethnicity reported in medical records, and ethnic-identity. Table 1 provides information about the correspondence between HTR records of ethnicity, self-reports of blood quantum, and ethnic self-identity. It can be seen that the medical records were well-correlated with blood quantum for all groups except Hawaiians/part Hawaiians, where the registry corresponded to blood quantum only 84% of the time. This is not surprising since having any Hawaiian grandparent qualified an individual as Hawaiian/part Hawaiian under this study’s blood quantum criterion; as such, some respondents may have been as much as 75% of an ethnicity other than Hawaiian. For the other ethnic classifications, the registry was in accord with blood quantum in almost every case.

With respect to ethnic self-identity, there was considerably more variety. Nonetheless, in each blood quantum-based ethnic group, the corresponding ethnic label was the most frequently mentioned self-identifier. This was particularly true for Filipinos, where more than 93% described themselves as Filipino, whereas no Caucasian or Japanese individuals identified themselves as such. Caucasian was the least frequently cited ethnic identifier; only 54% of Caucasians described themselves as such (although we included similar terms indicating Caucasian ancestry, such as “White” and “haole”). Instead, many respondents provided a national label, such as “Irish” or “Italian.” “American” was the second most frequently mentioned descriptor in all groups except Hawaiians. Japanese respondents were particularly likely to describe themselves as Americans or Japanese Americans, and the contrast across groups was significant ($p < .001$).

Relationships between ethnicity and ethnic lifestyle. For each matched WOL variable, mean levels of strength of following the specified WOL differed significantly by blood quantum classification (Table 3); for example, individuals who were classified as “Filipino” on the basis of their ancestry were also most likely to report following a Filipino lifestyle. This was true for all four

groups. In all blood quantum categories, following an American WOL was either the first or second most salient WOL (highest mean). Mean scores for numbers of WOLs did not differ significantly between ethnic groups, indicating that many respondents across categories followed multiple WOLs.

Relationships between ethnicity, lifestyle, and indicators. We examined the relationship between language use, place of birth, years of residence in Hawai’i, ethnic self-identity and WOL endorsement. Results were predictable and statistically significant for most analyses.

Ethnic self-identity. Language use variables (can vs. can’t use Hawaiian, Filipino, and Japanese languages) were related to the matched Ethnic self-identity variables (“In terms of my ethnicity (culture), I consider myself to be:___”), and this relationship was found to be significant (chi-square, $p < .001$) for each of the three groups. For example, 89% of persons who knew Filipino languages used some form of a Filipino identification in their answers, compared to 3% of those who didn’t know a Filipino language.

Respondents’ place of birth was significantly related to ethnic self-identity by chi-square analyses for individuals describing themselves as Hawaiian ($p < .001$), Japanese ($p < .001$), or Filipino ($p < .001$). Of persons born in Hawai’i, 20% used Hawaiian terms in self-identification, compared to 3% of those born on the mainland and no one born in other countries. Forty-three percent of individuals born in Hawai’i described themselves as Japanese, while 75% of those born in Japan did so.

Years lived in Hawai’i was significantly correlated ($p < .01$) with Ethnic self-identity for Japanese ($r = .35$), and Hawaiian identification ($r = .23$). However, a negative association was found between years lived in Hawai’i and Filipino identifica-

Table 3. Means and Standard Deviations on Way Of Life (WOL) variables, by Blood-Quantum Classification

Way of Life ^a	Blood Quantum			
	Caucasian N = 121	Filipino N = 62	Hawaiian N = 51	Japanese N = 133
Do you follow a Caucasian WOL? ^{**}	3.6 (.8)	2.0 (1.1)	3.1 (.9)	2.6 (1.0)
Do you follow a Filipino WOL? ^{**}	1.4 (.7)	3.6 (.7)	1.7 (.9)	1.4 (.7)
Do you follow a Hawaiian WOL? ^{**}	2.2 (1.0)	2.1 (1.0)	3.2 (.8)	2.3 (.9)
Do you follow a Japanese WOL? ^{**}	1.7 (.9)	1.9 (1.0)	2.0 (.9)	3.5 (.6)
Do you follow a Chinese WOL? [*]	1.7 (.9)	1.9 (1.0)	2.2 (1.1)	1.9 (.9)
Do you follow a Portuguese WOL? [*]	1.4 (.8)	1.6 (.8)	1.6 (.8)	1.3 (.6)
Do you follow a American WOL? ^{**}	3.8 (.5)	3.3 (.9)	3.4 (.8)	3.6 (.6)
Do you follow a Local WOL? ^{**}	2.9 (.8)	2.9 (1.1)	3.5 (.5)	3.5 (.7)
Number of WOLs endorsed	5.0 (2.0)	5.5 (2.5)	5.5 (1.8)	5.6 (1.6)

*Differences statistically significantly different at *p < .05, ** p < .001*
^a Respondents were asked how much they followed each WOL on a scale of 1 to 4, where higher numbers indicated greater participation.

tion (-.22), reflecting the more recent immigration of Filipinos to the state; i.e., the fewer years in Hawai'i, the stronger the identification as a Filipino.

Ways of life. For the WOL question, language use was related to stronger endorsements of following the associated WOL; that is, respondents who could use Hawaiian, Japanese, and Filipino languages were likely to report following Hawaiian, Filipino, and Japanese WOLs, respectively. Chi-square tests showed these relationships to be statistically significant ($p < .001$).

Place of birth was significantly related to respondents' answers on the WOL variables for the Japanese, Hawaiian, Filipino, Caucasian, American, and Local categories (see Table 3). Relationships were as expected. For example, 92% of respondents born in Japan stated that they followed a Japanese WOL either "some" or "a lot", compared with individuals born in the Philippines (24%) and Mainland U.S. (26%). Not surprisingly, respondents born on the US Mainland or in other Western countries were the most likely to say that they followed Caucasian and American lifestyles. Interestingly, however, 71% of all persons born in Hawai'i endorsed a Japanese WOL.

Years of residence in Hawai'i was related to the numerous WOL variables in bivariate Pearson's correlation coefficients, with particularly strong relationships to following Local WOL ($r = .49$, $p < .01$), Japanese WOL ($r = .42$, $p < .01$), and Hawaiian WOL ($r = .25$, $p < .01$).

Multivariate analysis

To investigate whether the Ethnic self-identity variable added explanatory power over "standard" acculturation indicators, multiple stepwise linear regressions were performed for the most frequently-endorsed WOLs (i.e., Japanese, Hawaiian, Filipino, Caucasian, American, and Local). The first step used the simultaneous predictors place of birth, blood quantum (for Japanese, Hawaiian, Filipino and

Caucasian), language use (for Japanese, Hawaiian, and Filipino), and years in Hawai'i. The first three predictors were coded as dichotomous variables to match the dependent variable of interest; e.g., born in Japan vs. born elsewhere, Japanese blood quantum vs. other blood quantum, and Japanese language use vs. no Japanese language use were used to predict the outcome variable, how much the respondent reported following a Japanese WOL). The second step entered the dichotomous Ethnic Self-Identity variable appropriate to the outcome of interest (e.g., used "Japanese" as an ethnic self-identifier vs. did not) was used to predict how much the respondent reported following a Japanese WOL.

Results are seen in Table 4. As expected, the first step explained significant amounts of variance in all WOLs. The second step—self-identification as a member of a particular ethnic group—explained significantly additional variance in all groups except Japanese and Filipinos.

Discussion

This study provides the first information available that we are aware of about the simultaneous assessment of multiple cultural identities and lifestyles, and it is one of the first to focus on a predominantly Asian and Pacific Islander population. Despite the unique contributions of these data, some limitations should be mentioned. The individuals in this report voluntarily chose to participate in the study, and they may have differed from individuals who refused in unknown ways. The sample consisted of newly-diagnosed cancer patients. While it is not clear that being diagnosed with cancer affects reports of cultural identity, it remains a possibility. Perhaps more importantly, these individuals were, on average, in their sixties, consistent with the age of when cancer is diagnosed most often. Ethnic identity is very likely to be an evolving construct that differs in today's youth compared to their grandparents. In addition, most respondents were long-time residents of the US (consistent with immigration patterns in Hawai'i), and it is likely that

new immigrants would reflect different patterns of responses. We also included only individuals who could use English, and those who were of one of Hawai'i's four largest ethnic groups. Clearly, additional replication and extension of these findings are warranted.

Our first research question was to examine how individuals self-identify their ethnicity. We found that many respondents prefer to label themselves using complex blends of ethnic, racial, national, cultural, and personal characteristics. We could only scratch the surface of these self-descriptions in our analysis. While most individuals cited the ethnic label associated with their pedigree, these labels were not adequate for self-description. Respondents' self-descriptors also demonstrated con-

Table 4. Analysis of contribution of Self-Identification to ethnic WOL Endorsement

Way of Life	Explained Variance (R ²)		Significance (R ²)
	Step 1 ^a	Step 1 ^b	
Caucasian	.245**	.256	.03
Filipino	.598**	.600	NS
Hawaiian	.148**	.158	.05
Japanese	.501**	.502	NS
American	.031*	.050	.009
Local	.251**	.268	.004

^aIncludes blood quantum (for Japanese, Filipino, Hawaiian/part Hawaiian and Caucasian), place of birth, language (for Japanese, Filipino, and Hawaiian), length of Hawai'i residence.

^bIncludes variables noted in Step 1^a and self-identification with the target group.

** $p < .001$ * $p < .01$

siderable variability in understanding of terms such as ethnicity and culture. Qualities not generally included in ethnic classifications were cited, such as nationality (both current and country of origin) and personal characteristics. In particular, respondents underused "Caucasian" or "White" in describing their ethnicity or culture. The respondents were technically correct, since "Caucasian" is a racial, not ethnic or cultural designation. However, this term is standard for classification for reporting purposes such as vital statistics, and there is no clear, preferable alternative. These researchers echo Bhopal and Donaldson's suggestion³¹ that more attention be directed at developing descriptors that reflect meaningful subgroups within the Caucasian category. In addition, many individuals cited their most salient culture as being "local," a classification that has not been used in other empirical work this study's authors are aware of. It is probable that many locations, not only Hawai'i, have unique and distinct blends of ethnic, historical and cultural influences that can be amalgamated and summarized as being "local." "American" was also a frequent self-descriptor, in all probability referring to what is seen as distinct American culture, as well as patriotism. Respondents of Japanese descent were most likely of any ethnic group to describe themselves as "Americans," perhaps reflecting the strong national pride of many World War II veterans and their families who live in Hawai'i.

We further found that ethnic self-identity was not synonymous with the lifestyles individuals reported following, although both blood quantum and ethnic self-identity were strongly correlated with likelihood of following the associated way of life as well. The respondents in this study exhibited high levels of multiculturalism in their everyday lives. In fact, 94% of respondents reported following more than one way of life, and, on average, respondents were involved "some" or "a lot" with between five and six different ethnic ways of life. Study participants were able to identify specific behaviors and attitudes that reflected different ethnic influences in their lives. These behaviors included diet and recreation.

Indicators often used to reflect acculturation, including place of birth, length of current residence, and ability to use heritage languages were shown to be strong correlates of ethnic self-identity and ways of life in this study. Results were generally predictable with a few exceptions. While place of birth clearly demarcated Hawaiian ethnic identification, and quite clearly Filipino, the patterns differed somewhat for Japanese identification, as more than four in ten (43%) individuals born in Hawai'i described themselves as Japanese. In addition, a majority of respondents (71%) reported following a Japanese lifestyle. The endorsement of Japanese characteristics in the self-concepts and lifestyles of many non-ethnic Japanese in Hawai'i in all likelihood reflects the large and long-term presence of residents of Japanese ancestry and the pervasiveness of Japanese customs in the state.

A standard medical record-based indicator of ethnicity proved to be very well linked to individual self-report of family pedigree. Only in Hawaiians/part Hawaiians, most of whom reflected mixed ethnic backgrounds, was the correlation somewhat lower, and even for these individuals, medical records were correct more than eight times out of ten. For populations that are relatively unmixed ethnically, then, standard records may provide a strong proxy for individually-obtained pedigrees.

Multivariate analysis indicated that ethnic self-identity made a unique contribution to explaining Hawaiian, Caucasian, American, and Local lifestyles that went beyond standard ethnic and acculturative markers. For Japanese and Filipino respondents, this was not true, probably because of the much higher use of a heritage language in these groups and its effect on explaining lifestyle. This finding implies that as use of a heritage language becomes less common, ethnic self-identity becomes more significant in explaining identification with an ethnic lifestyle. However, the connection between language, identity, and lifestyle is not always straightforward. For example, despite the fact that Japanese are long-term immigrants, they have maintained Japanese language schools in Hawai'i, while Filipinos are relatively new immigrants for whom Filipino dialects may be their first language. The situation is particularly complex for Hawaiians/part Hawaiians, given that the teaching of Hawaiian language was suppressed in the early 1900s. It is only since the Hawaiian renaissance of the 1970's²⁰ that immersion schools and other approaches to wide-scale teaching of Hawaiian have been implemented. Perhaps in the future, the strength of the association between use of the Hawaiian language and endorsement of Hawaiian self-identification and lifestyle may increase.

Although the predictors were significantly linked with the ways of life, the amount of explained variance was modest. This implies that additional factors beyond standard indicators of ethnicity and acculturation and self-identification affect how strongly individuals adhere to ethnic traditions in their day-to-day lives. One research challenge is to identify additional important predictors. Another important question is exploring the relationship between different indicators of cultural identification and health-related outcomes. It may be, for example, that acculturation and following particular ways of life are better predictors of health outcomes than ethnic labels; this conclusion is supported by a recent study of dietary consumption³². The current study suggests that blood quantum, ethnic self-identity, and ethnically associated lifestyle all provide distinct information. Further, in ethnically diverse populations like Hawai'i and increasingly on the Mainland, multiculturalism is the rule, rather than the exception. Developing new concepts and measures of ethnic identity, and a better understanding of the relationships between ethnicity, culture, and cancer-related outcomes are high priorities.

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References

- Day JC. *Population projections of the United States by age, sex, race, and Hispanic origin: 1995 to 2050* (U.S. Bureau of the Census, Current Population Reports, P25-1130). Washington, DC: U.S. Government Printing Office, 1996.
- Okazaki S, Sue S. Methodological issues in assessment research with ethnic minorities. *Psychol Assess* 1995, 7: 367-75.
- Olmedo E. Acculturation: A psychometric perspective. *Amer Psychologist* 1979, 34: 1061-70.
- Obidinski E. Methodological considerations in the definition of ethnicity. *Ethnicity* 1978, 5: 213-28.
- Schwartz RS. Racial profiling in medical research. *N Engl J Med* 2001, 344:1392-3.
- Berry J, Trimble J, Olmedo E. Assessment of acculturation. In Lonner W, Berry J (Eds.), *Field methods in cross-cultural research*. (pp. 291-324). New Park, CA: Sage Publications, Inc., 1986.
- Alegado, D. International labor migration, diaspora and the emergence of transnational Filipino communities. In M. Tsuda (Ed.), *Filipino diaspora: Demography, social networks, empowerment and culture*. Paris: UNESCO/MOST, 2003.
- Phinney J. The multigroup ethnic identity measure. A new scale for use with diverse groups. *J Adolescent Res*, 1992, 7: 156-76.
- Phinney J. Ethnic identity in adolescents and adults: review of research. *Psychol Bull*, 1990, 108: 499-514.
- Oetting ER, Beauvais, F. Orthogonal cultural identification theory: the cultural identification of minority adolescents. *International J Addiction*, 1990, 25: 655-85.
- Cortes DE, Rogler, L.H. Biculturalism among Puerto Rican adults in the United States. *Amer J Community Psychol*, 1994, 22: 707-21.
- Feliz-Ortiz M, Newcomb M, Myers, H. A multidimensional measure of cultural identity for Latino and Latina adolescents. *Hispanic J Behavioral Sci*, 1994, 16: 99-115.
- Phinney JS, Devich-Navarro, M. Variations in bicultural identification among African American and Mexican American adolescents. *J Res Adolescence*, 1997, 7: 3-32.
- Ramirez MI. Assessing and understanding biculturalism-multiculturalism in Mexican-American adults. In Martinez, JL, Mendoza, RH (Eds.), *Chicano psychology* (pp. 77-94). New York: Academic Press, 1984.
- Suinn, RM. Measurement of acculturation of Asian Americans. *Asian Amer Pac Islander J Health*, 1998, 6:7-12.
- Szapocznik J, Kurtines WM, Fernandez, T. Bicultural involvement and adjustment in Hispanic-American youths. *International J Intercultural Relations*, 1980, 4: 353-65.
- State of Hawai'i (2003). <http://www.Hawaii.gov/health.stats>. Accessed July 2004.
- Lin-Fu JS. Advances in genetics: Issues for US racial and ethnic minorities: An Asian American and Pacific Islander perspective. *Community Genetics* 1998, 1: 124-9.
- <http://myadvertiser.com/1999/Oct/10/localnews1.html>; accessed August 13, 2004.
- McDermott JF, Tseng W, Mareztki TW. *People and cultures of Hawai'i: A psychocultural profile*. Honolulu: University of Hawai'i Press, 1980.
- Okamura J. Why there are no Asian Americans in Hawaii: The continuing significance of local identity. *Social Processes in Hawaii*. 1994, 35:161-78.
- Chung CS, Tash E, Raymond J, Yasunobu C, Lew R. Health risk behaviours and ethnicity in Hawaii. *International J Epidemiol*, 1990, 19: 1011-8.
- Greenwald HP. Interethnic differences in pain perception. *Pain*, 1991, 44: 157-63.
- Hiatt RA, Pasick RJ, Perez-Stable EJ, McPhee SJ, Engelstad L, Lee M, Sabogal F, D'Onofrio CN, Stewart S. Pathways to early cancer detection in the multiethnic population of the San Francisco Bay Area. *Health Ed Q*, 1996, 23: S10-S27.
- Hawai'i Cancer Facts & Figures 2003-2004*. Honolulu: American Cancer Society, Hawai'i Pacific, Inc. 2003.
- Gotay CC, Blaine D, Haynes SN, Holup J, Pagano I. Assessment of quality of life in a multicultural cancer patient population. *Psychological Assess* 2002, 14: 439-50.
- Gotay CC, Holup JL, Pagano I. Ethnic differences in quality of life among early breast and prostate cancer survivors. *Psycho-Oncol*. 2002, 11:103-13.
- Gotay, CC, Lau, AK. Preferences for psychosocial interventions in newly-diagnosed cancer patients from a multiethnic population. *J Psychosocial Oncol* 2002, 20: 23-38.
- Kalin, R, Berry JW. Ethnic and civic self-identity in Canada: Analysis of 1974 and 1991 national surveys. *Canadian Ethnic Studies*, 1995, 27:1-15.
- Weinfeld M. Myth and reality in the Canadian mosaic: "Affective ethnicity." *Canadian Ethnic Studies*, 1981, 13: 80-100.
- Bhopal, R, Donaldson, L, White, European, Western, Caucasian or what? Inappropriate labeling in research on race, ethnicity, and health. *Am J Pub Health*, 1998, 88:1303-1307.
- Kim, J, Chan, MM. Acculturation and dietary habits of Korean Americans. *Br J Nutr* 2004, 91:469-78.

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