

# Ethnic Variations in Prevalence of High-Risk Sexual Behaviors Among Asian and Pacific Islander Adolescents in Hawaii

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High-risk sexual behaviors among adolescents are a significant public health concern in the United States. These behaviors account for increasing rates of premature morbidity and mortality by contributing to risk of unintended teen pregnancy, HIV/AIDS, and other sexually transmitted diseases (STDs). Complications associated with adolescents' sexual risk behaviors may take years to manifest and may seriously compromise adolescents' health and quality of life in adulthood.

The Asian and Pacific Islander (API) adolescent population appears to be at heightened risk for the negative consequences of high-risk sexual behaviors. Some have described HIV/AIDS among the soaring API population worldwide as a global pandemic.<sup>1</sup> Although prevalence of STDs, HIV/AIDS, and pregnancy has been lower among API adolescents than among adolescents from other ethnic groups, it is suspected that Asians and Pacific Islanders underreport and misreport STD and HIV infection because of cultural norms that look unfavorably upon sexual risk behaviors.<sup>1,2</sup> For example, the relatively low prevalence of STDs among API adolescents<sup>3</sup> may be partially caused by cultural norms that discourage API youths from seeking immediate treatment for STDs, thereby placing them at even greater risk for negative health consequences of STDs. The Centers for Disease Control and Prevention has reported that API adolescents and adults constitute the largest proportion of individuals by ethnicity who are tested at HIV testing sites where anonymity is preserved.<sup>1</sup> Because anonymous HIV testing data are not included in national HIV surveillance reports, the number of Asians and Pacific Islanders reported to be living with HIV infection is likely underestimated. Also, although reported rates of HIV/AIDS among API adolescents are low, certain sexual risk behaviors that contribute to HIV/AIDS risk are as prevalent among API adolescents as they are among adolescents from other ethnic groups.<sup>4</sup>

Although Asians and Pacific Islanders comprise dozens of racial/ethnic groups and speak

**Objectives.** We examined ethnic variations in high-risk sexual behaviors among Asian and Pacific Islander (API) adolescents in comparison with White adolescents.

**Methods.** We obtained data from the 2003 Hawaii Youth Risk Behavior Survey on 4953 students in grades 9 through 12. We conducted  $\chi^2$  and logistic regression analyses on these data to examine the prevalence of high-risk sexual behaviors among Japanese, Filipino, Native Hawaiian, and White adolescents.

**Results.** We found significant ethnic variation in prevalence of high-risk sexual behaviors among API adolescents. Relative to White adolescents, Native Hawaiian adolescents were most likely to engage in lifetime sexual intercourse, recent sexual intercourse, and sexual initiation before age 13 years; Japanese adolescents were least likely to engage in these behaviors. Filipino adolescents were least likely to use substances before last sexual intercourse and condoms during last sexual intercourse.

**Conclusions.** Our findings suggest divergent patterns of risk among API ethnic groups, underscoring the heterogeneity of API subgroups and emphasizing the need for health disparities research on disaggregated API ethnic groups. The findings of such research should be used to design ethnically relevant interventions aimed at mitigating the negative health consequences of high-risk sexual behaviors. (*Am J Public Health.* 2009;99:1886–1892. doi:10.2105/AJPH.2008.133785)

nearly 500 languages and dialects,<sup>1</sup> national surveys and studies typically categorize all Asians and Pacific Islanders as an aggregate racial group. The evidence suggests important ethnic-group differences among API adolescents,<sup>5</sup> but these differences are obscured in national studies that typically focus on White, African American, and Hispanic populations while combining all API groups into 1 category; in addition, few studies have been published on ethnically disaggregated API data. Consequently, there is a lack of data on prevalence of sexual risk behaviors among API subgroups. We believe that API subgroups differ in their sexual-risk profiles as a result of variations in underlying cultural and socioeconomic factors that may affect sexual risk behaviors. Thus, to learn more about the sexual-risk profiles of API subgroups, we examined variations in high-risk sexual behaviors among adolescents from 3 API ethnic subgroups that are populous in Hawaii: Japanese, Filipinos, and Native Hawaiians.

## SOCIOCULTURAL CHARACTERISTICS UNDERLYING SEXUAL RISK BEHAVIORS

Ethnically specific cultural and socioeconomic factors may influence high-risk sexual behaviors, which may, in turn, differentially increase risk for HIV/AIDS, other STDs, and unintended pregnancy among API adolescents. Thus, high-risk sexual behaviors among API adolescents may be better understood in the context of each API ethnic group's unique heritage and sociocultural characteristics. These factors may have their roots in norms and values widespread in the country of origin (e.g., collectivist vs individualistic values; see Le and Kato<sup>6</sup>), which may be further shaped by other demographic factors (e.g., length of time in the United States; see Yoshikawa et al.<sup>7</sup>). Therefore, the following ethnic-group descriptions emphasize sociocultural and historical influences that may help explain variations in prevalence of high-risk sexual behaviors among

Japanese, Filipino, and Native Hawaiian adolescents in Hawaii.

### Japanese Ethnicity

Traditional collectivist Japanese values emphasize group unity, harmony,<sup>8</sup> and duty and obligation to the family. Efforts to preserve in-group harmony, such as giving priority to relationships and taking others' needs into account, may make certain risk-reducing behaviors (e.g., asking a partner to use a condom) difficult, because such negotiations may be seen as violations of harmony and trust between partners.<sup>9</sup> In addition, Japanese success in overcoming ethnically specific barriers has led to their being labeled a "model minority," which may place undue pressure on Japanese adolescents to succeed<sup>10</sup> and to adopt and act upon a strong sense of responsibility to the family.<sup>11</sup> Failure to live up to cultural values and expectations may result in shame and a loss of social "face" for the family.<sup>9</sup> A desire to avoid shame may be associated with decreased risk behaviors,<sup>12</sup> but behaviors consistent with traditional cultural norms and expectations may be incongruent with Western values, which promote individual choices and goals. In attempting to reconcile these differences, adolescents may place themselves at increased risk for negative health consequences of sexual risk behaviors (e.g., avoiding shame by choosing not to report or receive treatment for HIV/AIDS).<sup>9,10</sup>

### Filipino Ethnicity

Filipinos share collectivist values similar to those of their Japanese counterparts. The Filipino value known as *hiya*, meaning "shame" or "self-deprecation," may prevent Filipino adolescents from seeking help for problems such as HIV infection or other STDs.<sup>13,14</sup> The Filipino value of *pakikisama* ("getting along harmoniously")<sup>13,14</sup> may preclude communication about difficult issues, such as negotiation of condom use, to avoid upsetting others.<sup>13</sup>

The Filipino identity, however, is distinct from Japanese and other East Asian identities. Filipinos' genetic roots lie in the Malay ethnic group, but centuries of colonialism by Spain and the United States caused generations of interracial marriages, such that the modern Filipino identity reflects a mixed heritage.<sup>15-17</sup> In Hawaii today, Filipinos are a socioeconomically disadvantaged ethnic group, with

comparatively low occupational status, educational attainment, and median family income, and they are disproportionately represented in juvenile arrests.<sup>18</sup>

Social and psychological adjustment issues associated with lower socioeconomic status (SES)<sup>16</sup> may be further complicated by feelings of marginalization. For example, in focus groups among Filipino and non-Filipino adolescents in Hawaii, participants stereotyped Filipino girls as "hoochie mamas," referring to a hypersexual style of dressing, although girls from other ethnic groups dress in a similar fashion.<sup>17</sup> Focus group peers suggested that Filipino girls may derive their sense of self-esteem from their sexual persona and the resulting attention they receive from boys. Filipino girls were also thought to be more compliant sexually as a way to avoid confrontation. In the same focus groups, Filipino boys were characterized as people who were involved with gangs and who carried knives or guns.<sup>17</sup> Because they are perceived as prone to violence, Filipino boys may engage in risk behaviors as a way to prove their competence and earn the respect of their in-group peers. These cultural and socioeconomic challenges may contribute to higher rates of high-risk sexual behaviors among Filipino adolescents.

### Native Hawaiian Ethnicity

Unlike Japanese and Filipino persons, who immigrated to Hawaii to work on sugar plantations, Native Hawaiians have always lived in Hawaii. Their unique history in the Hawaiian Islands bears the following salient characteristics: a stratified society consisting of *ali'i* (ruling class), *kahuna* (priests), *maka'ainana* (commoners), and *kauwa* (slaves); the *kapu* (forbidden) system, which clearly defined social roles and was intended to preserve harmony among people and with nature; the transition from a subsistence economy to a money economy introduced by European influences; and the overthrow of the Hawaiian monarchy and annexation to the United States.<sup>19</sup>

The cultural values and norms of Native Hawaiians today may be attributed to a number of factors, including suppression of Hawaiian cultural practices by nonnative rulers, nonownership of land prior to Western influence, a history of interracial marriage, a decreasing population, efforts to preserve traditional roots and ties to the past, and the

internalization of American norms and cultures. Traditional cultural pride is expressed by such values as *aloha 'aina* (love of the land) and *'ohana* (family). *'Ohana*, which includes extended family relationships, is a core value among Native Hawaiians. Native Hawaiians begin learning the value of relationships in childhood, when they are taught to keep relationships conflict free. This emphasis on avoiding conflict could encourage Native Hawaiian adolescents not to engage in safe-sex negotiation, such as asking a partner to use a condom. Also, Native Hawaiians' history as a group may lead them to mistrust the government and other institutions and thus to resist seeking medical treatment from Western-trained practitioners, who are often seen as culturally insensitive.<sup>19,20</sup>

In Hawaii, Native Hawaiians have lower educational attainment and greater socioeconomic challenges than other API groups.<sup>10</sup> On average, Native Hawaiians have lower per capita income, higher rates of poverty, and lower levels of educational attainment (in terms of earning a bachelor's degree) than do Japanese and Filipino persons.<sup>21</sup> Also, Native Hawaiians have the highest rate of births outside of marriage, a factor that may contribute to economic difficulties.<sup>22</sup> However, births are generally welcomed among Native Hawaiians because of their love of children<sup>19</sup> and their general acceptance of childbearing and childrearing outside of marriage. Thus, adolescent pregnancies among Native Hawaiians may not be discouraged or seen as shameful, unlike those among Japanese and Filipino adolescents.

## METHODS

### Design and Participants

We used the 2003 Hawaii Youth Risk Behavior Survey (HYRBS) to examine ethnic variations in prevalence of high-risk sexual behaviors among adolescents from the 3 API subgroups. HYRBS is derived from the Centers for Disease Control and Prevention's school-based Youth Risk Behavior Survey (YRBS), which was developed to measure prevalence of 6 categories of adolescent health risk behaviors, including sexual risk behaviors; to assess how these behaviors change over time; and to examine co-occurrence of these behaviors.<sup>23-25</sup> Unlike the national YRBS, which categorizes

Asians and Pacific Islanders in either Asian or Native Hawaiian/Other Pacific Islander groups, the HYRBS identifies participants' membership in a specific API ethnic group.

The sample for this study included students in grades 9 through 12 who self-identified as Japanese (n=1080, 12.3%), Filipino (n=1697, 19.3%), Hawaiian or Part-Hawaiian (n=1171, 13.4%), or Caucasian or White (n=1005, 11.5%). We selected these 3 API groups because they were the largest single-race ethnic groups other than Whites who participated in the HYRBS; these groups together account for 38% of Hawaii's population.<sup>26</sup> White students were selected as the reference group for comparison purposes because they were the largest non-API single-race ethnic group who participated in the HYRBS. In addition, Whites are the largest non-API single-race ethnic group in the general population of Hawaii (24.3%).<sup>26</sup> Table 1 summarizes the sample's demographic characteristics. (The remaining 43.5% of the HYRBS sample included Black or African American 2.3%, Chinese 3.5%, Samoan 2.3%, multiple-non-Hispanic 23.9%, and other 11.5%).

The HYRBS assesses 6 sexual risk behaviors: (1) lifetime sexual intercourse (ever had sexual intercourse), (2) recent sexual intercourse (sexual intercourse within the 3 months preceding the survey), (3) early sexual intercourse (initiated before age 13 years), (4) multiple sexual partners (had 4 or more lifetime partners), (5) substance use before last sexual intercourse (use of alcohol or drugs; among current sexually active adolescents), and (6) condom use (by current sexually active participant or partner during last sexual intercourse).<sup>27</sup> Each of these behaviors was assessed by a single item dichotomously scored (yes or no), for consistency with national YRBS analyses.

**Statistical Analyses**

We calculated prevalence of sexual risk behaviors for each ethnic group separately, and we conducted  $\chi^2$  analyses to identify significant ethnic group variation. We also conducted logistic regression analyses to compute odds ratios (ORs) for the likelihood of Japanese, Filipino, and Native Hawaiian adolescents to engage in sexual risk behaviors compared with their White counterparts (the reference group),

**TABLE 1—Selected Demographic Characteristics, by Racial/Ethnic Group: Hawaii Youth Risk Behavior Survey, 2003**

	White, %	Japanese, %	Filipino, %	Native Hawaiian, %	$\chi^2$ (df)	P
Gender					4.79 (3)	.188
Girl	533 (53.4)	528 (48.9)	847 (49.9)	583 (49.9)		
Boy	465 (46.6)	551 (51.1)	849 (50.1)	586 (50.1)		
Age, <sup>a</sup> y					51.42 (18)	<.001
≤12	4 (0.4)	4 (0.4)	4 (0.2)	2 (0.2)		
13	22 (2.2)	39 (3.6)	73 (4.3)	26 (2.2)		
14	230 (22.9)	252 (23.4)	405 (23.9)	264 (22.6)		
15	277 (27.6)	296 (27.4)	423 (24.9)	344 (29.4)		
16	247 (24.6)	251 (23.3)	391 (23.1)	286 (24.4)		
17	195 (19.4)	226 (20.9)	330 (19.5)	227 (19.4)		
≥18	29 (2.9)	11 (1.0)	70 (4.1)	21 (1.8)		
Grade level					22.98 (9)	<.01
9	273 (27.5)	268 (24.9)	508 (30.2)	285 (24.5)		
10	267 (27.0)	295 (27.4)	453 (26.9)	332 (28.6)		
11	258 (26.1)	252 (23.4)	376 (22.4)	292 (25.1)		
12	192 (19.4)	262 (24.3)	344 (20.5)	253 (21.8)		
Academic performance					253.14 (12)	<.001
Mostly A's	370 (39.8)	468 (45.8)	495 (32.9)	192 (18.6)		
Mostly B's	340 (36.6)	356 (34.9)	548 (36.4)	381 (37.0)		
Mostly C's	179 (19.2)	167 (16.4)	365 (24.3)	369 (35.8)		
Mostly D's	25 (2.7)	24 (2.4)	75 (5.0)	68 (6.6)		
Mostly F's	16 (1.7)	6 (0.6)	22 (1.5)	21 (2.0)		

Note. Other demographic information, such as school district, was removed from the dataset by the Hawaii State Department of Education and was not available. Numbers and percentages may not sum to total because of non-responses.  
<sup>a</sup>Mean age across all racial/ethnic groups was 15.4 years.

as well as for adolescent boys compared with adolescent girls (the reference group) for the total sample and for each ethnic group.

**RESULTS**

Our  $\chi^2$  analyses revealed significant ethnic-group differences among White, Japanese, Filipino, and Native Hawaiian adolescents in prevalence of 6 sexual risk behaviors (Table 2). ORs and 95% confidence intervals (CIs) suggested that, generally speaking, Native Hawaiians were most likely to engage in sexual risk behaviors relative to Whites, and Japanese were least likely to do so (Table 3).

**Lifetime Sexual Intercourse**

Nearly one half of Native Hawaiian adolescents reported lifetime sexual intercourse, a rate comparable to the 2003 national YRBS

average (Table 2 and Table 4). Approximately one third of White and Filipino adolescents and one fifth of Japanese adolescents reported lifetime sexual intercourse. Compared with Whites, the odds of lifetime sexual intercourse were significantly higher among Native Hawaiians (OR=1.77; 95% CI=1.47, 2.14) and significantly lower among Japanese (OR=0.51; 95% CI=0.41, 0.62; Table 3). The odds of lifetime sexual intercourse were significantly lower for Japanese and Filipino boys than for their female counterparts (OR=0.59; 95% CI=0.43, 0.80 and OR=0.67; 95% CI=0.54, 0.84, respectively; Table 5).

**Recent Sexual Intercourse**

Approximately one third of Native Hawaiians were recently sexually active (a rate similar to the national 2003 YRBS average), whereas roughly 22% of Whites and Filipinos

**TABLE 2—Prevalence of High-Risk Sexual Behaviors, by Racial/Ethnic Group: Hawaii Youth Risk Behavior Survey, 2003**

	White (N=1005)		Japanese (N=1080)		Filipino (N=1697)		Native Hawaiian (N=1171)		$\chi^2$ (df)
	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	No.	% (95% CI)	
Lifetime sexual intercourse	295	32.9 (29.82, 36.13)	201	19.9 (17.41, 22.40)	481	32.2 (29.77, 34.60)	472	46.5 (43.34, 49.67)	164.04** (3)
Recent sexual intercourse	198	22.1 (19.31, 24.84)	146	14.5 (12.36, 16.76)	337	22.6 (20.44, 24.74)	323	31.8 (28.85, 34.70)	86.45** (3)
Sexual initiation before age 13 y	40	4.5 (3.24, 5.97)	13	1.3 (0.72, 2.13)	47	3.1 (2.33, 4.11)	99	9.7 (7.98, 11.66)	95.38** (3)
4 or more lifetime sexual partners	98	10.9 (8.95, 13.08)	30	3.0 (2.05, 4.16)	84	5.6 (4.52, 6.87)	130	12.7 (10.76, 14.90)	89.84** (3)
Substance use before last sexual intercourse <sup>a</sup>	53	27.5 (21.02, 34.06)	23	15.8 (10.22, 22.31)	46	13.7 (10.22, 17.72)	89	27.6 (22.64, 32.71)	26.32** (3)
Condom use during last sexual intercourse <sup>a</sup>	107	56.6 (48.26, 63.53)	74	51.0 (41.56, 59.08)	136	41.1 (35.38, 46.45)	154	48.9 (42.76, 54.40)	12.59* (3)

Note. CI = confidence interval. Numbers and percentages may not sum to total because of non-responses and data filters (e.g., sexually active students).

<sup>a</sup>Among current sexually active students (i.e., students who had sexual intercourse during the previous 3 months).

\* $P < .01$ ; \*\* $P < .001$ .

**TABLE 3—Results of Logistic Regression of High-Risk Sexual Behaviors, by Racial/Ethnic Group and Gender: Hawaii Youth Risk Behavior Survey, 2003**

	Japanese vs White, OR (95% CI)	Filipino vs White, OR (95% CI)	Native Hawaiian vs White, OR (95% CI)	Boys vs Girls, OR (95% CI)
Lifetime sexual intercourse	0.51 (0.41, 0.62)	0.97 (0.81, 1.15)	1.77 (1.47, 2.14)	0.74 (0.65, 0.84)
Recent sexual intercourse	0.60 (0.47, 0.76)	1.03 (0.84, 1.26)	1.64 (1.34, 2.02)	0.57 (0.49, 0.65)
Sexual initiation before age 13 y	0.28 (0.15, 0.53)	0.69 (0.45, 1.07)	2.31 (1.58, 3.37)	1.85 (1.38, 2.48)
4 or more lifetime sexual partners	0.25 (0.17, 0.38)	0.49 (0.36, 0.66)	1.19 (0.90, 1.58)	1.08 (0.87, 1.35)
Substance use before last sexual intercourse <sup>a</sup>	0.49 (0.29, 0.85)	0.42 (0.27, 0.66)	1.01 (0.68, 1.50)	1.78 (1.31, 2.42)
Condom use during last sexual intercourse <sup>a</sup>	0.80 (0.52, 1.23)	0.53 (0.37, 0.77)	0.73 (0.51, 1.05)	1.73 (1.33, 2.25)

Note. OR = odds ratio; CI = confidence interval. Analyses were also conducted that covaried grade in school and academic performance. The significant OR findings in those analyses were the same as the results for analyses without controls for grade in school and academic performance.

<sup>a</sup>Among current sexually active students (i.e., students who had sexual intercourse during the previous 3 months).

and 15% of Japanese were recently sexually active. The odds of having had sexual intercourse during the previous 3 months were significantly higher among Native Hawaiians (OR=1.64; 95% CI=1.34, 2.02) and significantly lower among Japanese (OR=0.60; 95% CI=0.47, 0.76) relative to Whites. In each ethnic group, adolescent females were significantly more likely than were adolescent males to have been recently sexually active.

### Early Sexual Initiation

The 2003 YRBS reported that 7.4% of adolescents nationwide had their first sexual intercourse before age 13 years. The rate of this

behavior was more prevalent among Native Hawaiian adolescents (9.7%) in the Hawaii sample than among adolescents nationwide; rates for this behavior were lower than the national average among White (4.5%), Filipino (3.1%), and Japanese (1.3%) adolescents in Hawaii. The odds of initiating sexual intercourse before age 13 years were significantly higher among Native Hawaiians (OR=2.31; 95% CI=1.58, 3.37) and significantly lower among Japanese (OR=0.28; 95% CI=0.15, 0.53) relative to Whites. The odds of initiating sexual intercourse before age 13 years were more than 2 times higher for White and Native Hawaiian boys than they were for White and Native Hawaiian girls.

### Multiple Sexual Partners

Prevalence rates for having had multiple sexual partners were lower among Native Hawaiian (12.7%), White (10.9%), Filipinos (5.6%), and Japanese (3.0%) adolescents than they were among adolescents nationwide (14.4%). The odds of having had multiple sexual partners were significantly lower among Japanese and Filipino adolescents (OR=0.25, 95% CI=0.17, 0.38 and OR=0.49; 95% CI=0.36, 0.66, respectively) relative to Whites. The odds of having had multiple sexual partners were significantly higher for Native Hawaiian boys compared with Native Hawaiian girls (OR=1.72; 95% CI=1.19, 2.51), but significantly lower for Japanese boys compared

**TABLE 4—Prevalence of High-Risk Sexual Behaviors, by Racial/Ethnic Group: National Youth Risk Behavior Survey, 2003**

	National Average (N = 15 214), % (95% CI)	Asian (N = 394), % (95% CI)	Native Hawaiian/ other Pacific Islander (N = 89), % (95% CI)
Lifetime sexual intercourse	46.7 (44.1, 49.3)	26.8 (22.1, 31.6)	45.7 (32.2, 57.4)
Recent sexual intercourse	34.3 (32.2, 36.4)	20.1 (16.0, 24.5)	38.6 (26.0, 50.3)
Sexual initiation before age 13 y	7.4 (6.2, 8.6)	4.9 (2.9, 7.5)	12.9 (6.2, 22.2)
4 or more lifetime sexual partners	14.4 (12.8, 16.0)	10.3 (7.3, 13.8)	15.7 (8.1, 25.6)
Substance use before last sexual intercourse <sup>a</sup>	25.4 (23.1, 27.7)	29.6 (18.7, 40.9)	40.7 (20.2, 59.4)
Condom use during last sexual intercourse <sup>a</sup>	63.0 (60.5, 65.5)	66.7 (50.8, 77.1)	53.9 (29.3, 71.8)

<sup>a</sup>Among recently sexually active students (i.e., students who had sexual intercourse during the previous 3 months).

with Japanese girls (OR=0.42; 95% CI=0.19, 0.92).

**Substance Use Before Sexual Intercourse**

More than 25% of White and Native Hawaiian adolescents had used substances before their last sexual intercourse, a rate comparable to the 2003 national YRBS average, whereas prevalence of substance use before last sexual intercourse trailed the national average among Japanese (15.8%) and Filipino (13.7%) adolescents. The odds of having used substances before their last sexual intercourse were significantly lower among recently sexually active Japanese and Filipino adolescents (OR=0.49; 95% CI=0.29, 0.85

and OR=0.42; 95% CI=0.27, 0.66, respectively) relative to Whites. The odds of Filipino and Native Hawaiian boys having used substances before their last intercourse were more than 2 times higher than for their female counterparts.

**Condom Use**

Nationally, 63% of 2003 YRBS participants had used condoms during their last sexual intercourse; however, condom use was substantially lower among sexually active White (56.6%), Japanese (51.0%), Native Hawaiian (48.9%), and Filipino (41.1%) adolescents in Hawaii. The odds of sexually active Filipinos having used condoms during their last sexual intercourse (OR=0.53; 95% CI=0.37, 0.77)

were significantly lower than those for Whites. The odds of having used condoms during their last sexual intercourse were significantly higher among White (OR=2.45, 95% CI=1.31, 4.58), Native Hawaiian (OR=1.78, 95% CI=1.13, 2.81), and Filipino (OR=1.70, 95% CI=1.08, 2.70) boys than their female counterparts.

**DISCUSSION**

We found clear differences in patterns of high-risk sexual behaviors among Japanese, Filipino, and Native Hawaiian adolescents relative to their White counterparts. At highest risk were Native Hawaiian adolescents, who were significantly more likely to have engaged in lifetime sexual intercourse, recent sexual intercourse, and sexual initiation before age 13 years in comparison with White adolescents. Filipino and Japanese adolescents were generally less likely to engage in sexual risk behaviors relative to Whites, although prevalence rates were generally higher among Filipinos than among Japanese. National YRBS data for 2003 suggested similar variations, although the national dataset combined Asian subgroups and was based on small samples.

This pattern of sexual risk behaviors among the 3 API subgroups—with the highest prevalence among Native Hawaiians, the next-highest prevalence among Filipinos, and the lowest prevalence among Japanese—is generally consistent with statewide findings in Hawaii on substance use<sup>28</sup> and arrests<sup>29</sup> and with SES indicators such as per capita income, poverty rates, and educational attainment.<sup>21</sup> DiClemente

**TABLE 5—Results of Logistic Regression of High-Risk Sexual Behaviors for Boys vs Girls, by Racial/Ethnic Group: Hawaii Youth Risk Behavior Survey, 2003**

	Japanese, OR (95% CI)	Filipino, OR (95% CI)	Native Hawaiian, OR (95% CI)	White, OR (95% CI)
Lifetime sexual intercourse	0.59 (0.43, 0.80)	0.67 (0.54, 0.84)	0.89 (0.70, 1.14)	0.84 (0.63, 1.11)
Recent sexual intercourse	0.42 (0.29, 0.61)	0.50 (0.39, 0.64)	0.69 (0.53, 0.90)	0.65 (0.47, 0.90)
Sexual initiation before age 13 y	1.17 (0.39, 3.51)	1.60 (0.88, 2.88)	2.09 (1.36, 3.21)	2.32 (1.20, 4.51)
4 or more lifetime sexual partners	0.42 (0.19, 0.92)	0.75 (0.48, 1.18)	1.72 (1.19, 2.51)	1.22 (0.80, 1.85)
Substance use before last sexual intercourse <sup>a</sup>	1.44 (0.57, 3.61)	2.23 (1.19, 4.18)	2.21 (1.35, 3.64)	0.98 (0.51, 1.88)
Condom use during last sexual intercourse <sup>a</sup>	1.07 (0.53, 2.15)	1.70 (1.08, 2.70)	1.78 (1.13, 2.81)	2.45 (1.31, 4.58)

Note. OR=odds ratio; CI=confidence interval.

<sup>a</sup>Among current sexually active students (i.e., students who had sexual intercourse during the previous 3 months).

et al.<sup>30</sup> have suggested that socioeconomically disadvantaged adolescents are more likely to engage in risk behaviors. Whether measured by family income, neighborhood quality, or parents' educational level, lower SES has been associated with early sexual debut,<sup>31</sup> not using a condom at first sexual intercourse,<sup>31,32</sup> and cigarette smoking.<sup>33</sup> Similarly, variations in sexual risk behaviors among our samples of Japanese, Filipino, and Native Hawaiian adolescents reflect sociocultural variations in norms, values, expectations, and socioeconomic conditions, as described in the "Sociocultural Characteristics Underlying Sexual Risk Behaviors" section.

### Gender Differences

We found significant gender differences that were particularly notable for each of the 3 API ethnic groups. First, Japanese adolescent boys were most conservative in terms of engaging in high-risk sexual behaviors, perhaps to avoid bringing shame to the family. Second, adolescent girls in all 3 ethnic groups were more likely to engage in high-risk sexual behaviors than were adolescent boys. As Mayeda et al.<sup>17</sup> suggested, girls of color must learn to reconcile their self-esteem with the standard of White beauty in a way that boys do not. Whether trying to emulate or reject this standard, non-White girls may choose to dress hypersexually, which may invite unwanted sexual attention and place them at increased risk for sexual risk behaviors. In addition, females are physiologically more susceptible than are males to certain STDs,<sup>3,34</sup> and females bear a heavier burden than males in the event of an unintended pregnancy.<sup>35</sup> Thus, it is particularly important to develop and implement gender-specific, culturally competent intervention programs designed to mitigate high-risk sexual behaviors among adolescents.

### Conclusions

Our findings must be viewed in light of limitations on their generalizability and validity. First, HYRBS data are based on self-reports of risk behaviors. Use of self-reports may introduce social desirability response bias, especially when behaviors that may be considered sensitive (such as sexual practices) are being reported. Although respondents were assured of confidentiality when the surveys were administered, the possibility of response bias cannot be discounted; studies have shown that

adolescents may not accurately report sexual behaviors.<sup>36–38</sup>

In addition, the Hawaii State Department of Education deleted all demographic information from the HYRBS dataset, including indicators of SES, before making the data available to us. Thus, we could not analyze the extent to which SES may have confounded ethnic variations in prevalence of sexual risk behaviors.

Finally, HYRBS was administered to Hawaii's public school students and excluded private school students, dropouts, and students who were not in attendance on the day of administration, thus limiting the generalizability of its data. Approximately 18% of the student population in Hawaii attends private schools, and the state has a 4.8% dropout rate.<sup>39</sup>

Despite these limitations, we found significant ethnic and gender variations in prevalence of high-risk sexual behaviors among adolescents sampled from Hawaii public schools. Our findings were based on relatively large sample sizes of 3 API ethnic groups, in contrast with previous studies that had methodological problems such as small API sample sizes<sup>2,4</sup> and questionable merging of datasets across time.<sup>40,41</sup> Our sample size strengthens the external validity of our findings, at least in relation to the public school students sampled.

Our findings may be useful in the development of health-risk profiles for disaggregated API subgroups. Because health-risk profiles for API adolescents cannot be inferred from national findings that aggregate API data, our findings offer unique prevalence data on high-risk sexual behaviors among Japanese, Filipino, and Native Hawaiian adolescents. Disparities in sexual risk behaviors found in this study underscore the heterogeneity of API subgroups and emphasize the need for epidemiological studies on disaggregated API subgroups that may better inform the development of culture- and gender-relevant interventions aimed at minimizing the negative consequences of adolescents' sexual risk behaviors. HIV prevention programs based on knowledge about sexual risk behaviors among White, African American, and Hispanic adolescents, for example, may not be culturally appropriate for API subgroups.<sup>1</sup>

Interventions aimed at reducing sexual risk behaviors should emphasize culture- and gender-specific factors that may lead to decreased

health risks. Future research should address issues unique to each API subgroup. Such research is necessary to reduce high-risk sexual behaviors among the growing API adolescent population and to mitigate the short- and long-term consequences of these behaviors. ■

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This article was accepted June 16, 2008.

### Contributors

The authors jointly conceptualized the study. P. Y. Sasaki conducted the analyses, interpreted the findings, and led the writing. V. A. Kameoka contributed to the design of the study, the analysis of the findings, and the writing of the article.

### Acknowledgments

We extend our appreciation to Susan Saka of the University of Hawaii at Manoa's Curriculum Research and Development Group and David Randall of the Hawaii State Department of Education for making the 2003 Hawaii Youth Risk Behavior Survey data available to us.

### Human Participant Protection

No protocol approval was needed for this study.

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