

## RESEARCH ARTICLE

# Beyond the “Model Minority” Stereotype: Trends in Health Risk Behaviors Among Asian/Pacific Islander High School Students

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**ABSTRACT**

**BACKGROUND:** Asian/Pacific Islander (API) students have been stereotyped as the “model minority.” The objective of this study was to examine the trends in health risk behaviors among API students who participated in the San Diego City Schools Youth Risk Behavior Survey (YRBS) between 1993 and 2005.

**METHODS:** High school students from the San Diego City School District completed the self-administered YRBS between 1993 and 2005. Among sexually active students, logistic regression for survey data was used to examine trends in health risk behaviors.

**RESULTS:** From 1993 to 2005, condom use at last sexual intercourse was consistently lower among API students than their cross-ethnic peers. We observed a significant increasing trend in lifetime smoking, drinking, and marijuana use. Parental communications regarding human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS) were significantly less frequent and decreased over time.

**CONCLUSIONS:** Our findings challenge the notion of API youth being the “model minority.” API students face unique challenges, including barriers to good communication about sex and lower rates of condom use. School-based prevention programs are needed for API students, including a focus on HIV communication with parents.

**Keywords:** Child and adolescent health; risk behaviors; health communication.

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Many long-term health problems in adulthood are caused by the initiation of risky behaviors during adolescence,<sup>1</sup> such as cigarette smoking, alcohol use, drug use, and unprotected sex that can lead to unintended pregnancy, sexually transmitted diseases, and human immunodeficiency virus (HIV) infection. These interrelated behaviors contribute to the leading causes of morbidity and mortality in the United States.<sup>2</sup>

Asian/Pacific Islanders (APIs) constitute the fastest growing ethnic group in the United States, comprising 5% of the US population, a 63% increase since 1990.<sup>3</sup> Almost 35% of the API population in the United States resides in California.<sup>4</sup> The API population in the United States represents a very diverse group, including persons of Chinese, Japanese, Vietnamese, Korean, Filipino, Laotian, Cambodian, Indian, and Native Hawaiian origin, among others.<sup>3</sup> A larger proportion of APIs are younger compared to other ethnic groups; for example, 26% of the API population is under 18 years old, compared to 23% of Whites.<sup>5</sup> Being younger, a higher percentage of API population are at increased relative risk of initiating problem behaviors.

However, because of certain indicators, including a higher average income, good academic performance, and cultural stereotyping, APIs are often viewed as the “model minority” characterized as universally intelligent, successful, and at low risk for problem behaviors.<sup>6</sup> Consequently, there has been little public health concern or research regarding API youth risk acts.<sup>7</sup> This stereotype tends to reflect perceptions held in society rather than actual characteristics of groups.<sup>8</sup> The false image can perpetuate negativity toward API youth, including resentment over their perceived success. In addition, even seemingly positive stereotypes can be mixed with underlying negative feeling toward API youth.<sup>9</sup> For instance, the positive aspects of the “model minority” stereotype are often mixed with negative images of overachievement, excessive competition, and social awkwardness and isolation.<sup>10</sup>

Society’s stereotypes of API youth are inaccurate. In particular, API youth appear especially vulnerable to HIV, in contrast to the stereotypes. Adolescents, in general, are increasingly at risk for HIV<sup>11</sup> despite accurate knowledge of HIV<sup>12,13</sup> and the protective benefits of such knowledge.<sup>7</sup> Among API adolescents, several factors suggest an even higher HIV risk: (1) knowledge regarding HIV transmission is lower among API than their cross-ethnic peers,<sup>7</sup> (2) social norms discourage openly discussing sex,<sup>14</sup> and (3) stigma toward HIV is high.<sup>15</sup> Despite evidence of API’s increased vulnerability, there are few data on risk acts or studies of HIV-related communication among API youth.<sup>16</sup>

The Youth Risk Behavior Survey (YRBS), a school-based survey developed by the Centers for Disease Control and Prevention (CDC), has monitored the

health risk behaviors of high school students in the United States.<sup>1</sup> By mounting the YRBS biennially over the last 14 years, the CDC has been able to monitor the trends in HIV-related sexual risk behaviors among high school students over time.<sup>17</sup> However, analyses of the data focusing on the API youth are limited since there are only a few API students in the national sample. In fact, there are so few API youth in the national sample that a meaningful estimate of health risk behaviors is not possible.<sup>18</sup>

However, the San Diego City School District is one population, though smaller than a national sample, that offers a high enough proportion of API students for analysis purposes. Therefore, the San Diego City Schools YRBS provides us with an excellent opportunity to examine health risk behaviors among API youths compared to their cross-ethnic peers. This paper examines the trends in health risk behaviors among API high school students who participated in the San Diego City Schools YRBS between 1993 and 2005. We first examine the sexual behaviors among API students, compared to their cross-ethnic peers. We then examine the trends in health risk behaviors among those students who are sexually active. The trends are compared across White, Hispanic, and African-American high school students in the following categories: (1) cigarette smoking, (2) alcohol drinking, (3) marijuana use, and (4) HIV/acquired immunodeficiency syndrome (AIDS) communication with parents.

## METHODS

### Subjects

From 1993 to 2005, a 2-stage cluster sample design was used to sample students in grades 9–12 in the San Diego City Schools YRBS.<sup>1</sup> The first-stage sampling frame included all public schools in San Diego City School District containing any students in grades 9–12. Schools were selected with a probability proportional to school enrollment size; all selected schools agreed to participate. At the second stage of sampling, 1 or 2 intact classes of a required subject (such as English or social studies) were randomly selected. All students in the selected classes were eligible to participate in the survey. A weighting factor was applied to each student record to adjust for nonresponse and for the varying probabilities of selection. The number of Native American students was too low for meaningful analysis in this study.

### Procedures

Survey procedures were designed to protect the students’ privacy by allowing anonymous and voluntary participation. Local parental informed consents

were obtained before survey administration. The students completed the self-administered questionnaire in their classrooms during a regular class period, recording their responses directly on a computer-scannable booklet or answer sheet. Except for the demographic section, the wording of the questions in the San Diego YRBS was identical to the biennial national YRBS questionnaires. This study was approved by the Human Subjects Protection Committee of the University of California at Los Angeles.

For each of the survey years, we first examined the proportion of students reporting ever having sexual intercourse in their lifetime (eg, sexually active students). Lifetime sexual intercourse was defined as ever having had a sexual intercourse during one's lifetime but did not distinguish between vaginal, anal, or oral sex. Among the sexually active students, we examined the following risk behaviors: lifetime cigarette smoking, alcohol use, marijuana use, and HIV/AIDS communication with parents. "Lifetime use" was defined as ever engaging in a behavior. Parental HIV/AIDS communication was defined as students reporting that they had talked about AIDS or HIV infection with a parent or other adult family member in their lifetime.

#### Data Analyses

Standard statistical methods are used to analyze data that is assumed to be collected using a simple random sampling scheme. These methods, however, tend to

underestimate variance when the data is collected with a cluster design, which is often found in educational survey research. In order to calculate the sampling variances for the two-stage cluster sample design used in YRBS, STATA (version 9.0; Statistics/Data Analysis, College Station, TX) was used to compute lifetime and current percentages of risk behaviors and the 95% confidence intervals (CIs) using a weighting factor. Logistic regression for survey data was used to examine trends in lifetime smoking, drinking, marijuana use, and HIV/AIDS communication among sexually active students. Age and gender differences in risk behaviors among high-school students have been reported by the CDC;<sup>17</sup> therefore, these attributes were controlled in the logistic regression analyses. For each of the risk behaviors, White students were selected as the reference category to compare ethnic differences in risk behaviors. Year by ethnicity interaction terms were also included in each of the logistic regression models to examine the changes in trends in risk behaviors from 1993 to 2005.

## RESULTS

### Sample Demographics

Table 1 highlights the demographic characteristics of the students who participated in the San Diego YRBS from 1993 to 2005. The total sample size across the 7 biennial survey periods was 13,233 students. Gender, grade, and age in school were evenly distributed over

Table 1. Demographic Characteristics of Students Who Participated in the San Diego Youth Risk Behavior Survey, 1993–2005

Characteristics	Survey Year 1993	Survey Year 1995	Survey Year 1997	Survey Year 1999	Survey Year 2001	Survey Year 2003	Survey Year 2005
	N = 1788 % (SE)	N = 1997 % (SE)	N = 2413 % (SE)	N = 1715 % (SE)	N = 1814 % (SE)	N = 1811 % (SE)	N = 1695 % (SE)
Gender							
Male	50.08 (1.55)	46.96 (1.57)	50.38 (1.16)	49.67 (1.52)	50.00 (1.62)	50.75 (1.28)	49.54 (1.45)
Female	49.92 (1.55)	53.04 (1.57)	49.62 (1.16)	50.33 (1.52)	50.00 (1.62)	49.25 (1.28)	50.46 (1.45)
Race/ethnicity							
White	34.68 (2.11)	31.30 (1.79)	32.10 (1.47)	25.58 (2.04)	29.39 (2.49)	28.78 (2.41)	28.15 (2.77)
Asian/Pacific Islanders*	24.11 (1.88)	26.64 (1.66)	25.10 (1.42)	23.01 (1.97)	10.76 (1.18)	11.12 (1.07)	11.36 (1.15)
Hispanic	24.96 (2.31)	24.44 (1.78)	26.16 (1.44)	36.97 (2.05)	37.36 (2.68)	39.31 (2.23)	41.20 (2.93)
African American	14.49 (1.50)	15.79 (1.13)	16.63 (1.13)	13.90 (1.30)	15.28 (1.37)	14.47 (1.29)	14.13 (1.30)
Grade							
9th	25.93 (3.31)	29.08 (4.15)	29.12 (3.42)	29.86 (4.48)	29.32 (4.14)	29.63 (4.82)	29.43 (5.63)
10th	27.08 (3.81)	26.82 (5.01)	27.06 (3.19)	26.69 (4.34)	25.97 (4.36)	27.30 (4.52)	27.02 (4.29)
11th	25.97 (3.77)	24.40 (4.10)	24.39 (3.46)	24.23 (4.28)	24.79 (3.93)	23.89 (3.88)	23.55 (4.11)
12th	21.02 (3.43)	19.69 (3.82)	19.44 (3.09)	19.22 (3.74)	19.22 (3.77)	19.18 (4.38)	20.01 (3.89)
Age							
14 or younger	11.40 (1.99)	13.69 (1.81)	12.37 (1.48)	14.97 (2.43)	15.86 (2.40)	17.26 (2.92)	16.91 (3.09)
15	22.65 (2.21)	25.68 (2.64)	27.15 (2.19)	25.34 (2.55)	25.03 (2.50)	26.30 (2.72)	27.30 (2.92)
16	26.20 (1.94)	27.42 (2.71)	25.87 (1.94)	27.23 (2.61)	26.18 (2.58)	24.54 (2.46)	25.75 (2.82)
17	25.53 (2.34)	21.39 (2.30)	22.30 (2.12)	21.50 (2.51)	22.11 (2.36)	21.57 (2.65)	21.25 (2.72)
18 or older	14.23 (2.02)	12.83 (2.21)	12.30 (1.71)	10.96 (2.08)	10.83 (1.85)	10.32 (2.17)	8.79 (1.73)

\*Asian/Pacific Islanders consist of Asians, Indo-Chinese, Filipinos, and Pacific Islanders.  
SE = standard error.

the 7 survey years. In addition, the ethnic composition over the first 4 survey years was very similar; however, over the next 3 survey years between 2001 and 2005, there were more Hispanic students and fewer API students.

### Lifetime Sexual Behavior

Table 2 highlights the lifetime sexual behavior of students who participated in the San Diego YRBS between 1993 and 2005. Across the 7 survey years, a higher proportion of African-American students consistently reported having sexual intercourse in their lifetime (54.9% overall), followed by Hispanic (44.9%), White (37.2%), and API (32.3%) students. Although fewer API students reported lifetime sexual intercourse, compared to their cross-ethnic peers, among those students who were sexually active, consistently fewer API students reported condom use during their last sexual intercourse across the 7 survey years (48.9% overall), compared to their Hispanic (55.2%), White (58.6%), and African-American (65.7%) peers. The sample size of sexually active students across the 7 survey years was 5,039 students.

### Trends in Risk Behaviors Among Sexually Active Students

Figures 1a through 1d highlight the trends in lifetime smoking, drinking, marijuana use, and HIV/AIDS communication among sexually active students. Table 3 displays the adjusted odds ratios (ORs) of trends in health risk behaviors across ethnicities

between 1993 and 2005, adjusting for age and gender. ORs >1 reflects a significant increasing trend in risk behavior between 1993 and 2005, compared to White high school students. Significant ORs <1 reflects a significant decreasing trend between 1993 and 2005, compared to White high school students.

**Lifetime Smoking.** As shown in Figure 1a, the levels of lifetime smoking among sexually active White and Hispanic students tended to show a relatively steady or declining trend. Among sexually active API students, however, the levels of reported lifetime smoking showed an overall increasing trend, compared to the White students (OR = 1.18; 95% CI: 1.08, 1.29;  $p < .0001$ ), after controlling for gender and age. Lifetime smoking among sexually active African-American students also showed an increasing trend, although not statistically different from the trends in lifetime smoking among White students.

**Lifetime Alcohol Drinking.** Reported levels of lifetime alcohol drinking among sexually active students were relatively high across all ethnic groups. Among API students, we observed a statistically significant increasing trend in lifetime alcohol drinking, compared to their White peers (OR = 1.33; 95% CI: 1.14, 1.53;  $p < .0001$ ). By 2005, their level of lifetime drinking was among the highest (91.5%).

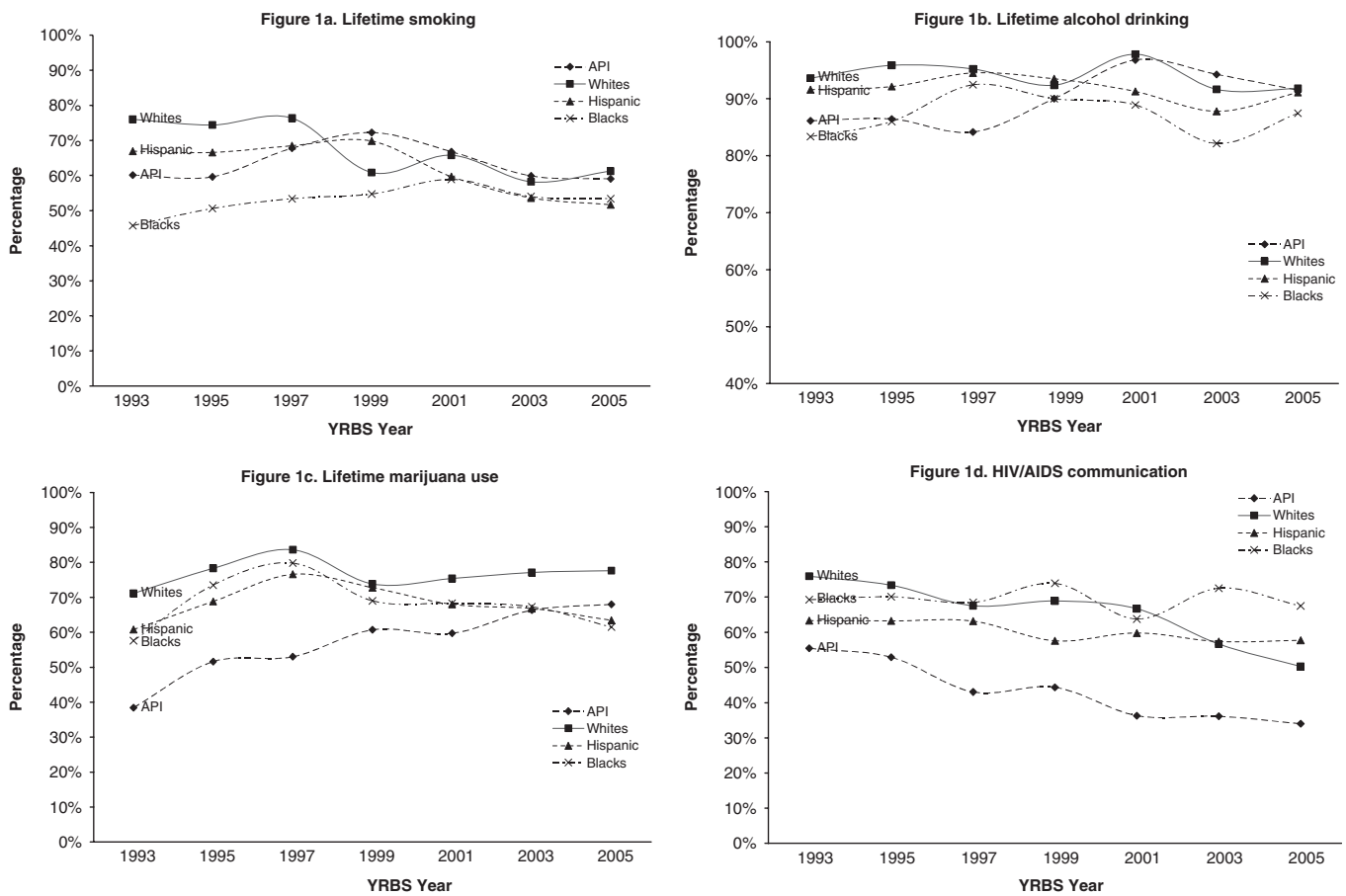
**Lifetime Marijuana Use.** Compared to other ethnic groups, reported lifetime marijuana use among API students was lower until 2001, relative to their cross-ethnic peers. However, we observed a statistically significant increasing trend in marijuana use among API students, compared to their White peers (OR = 1.13;

Table 2. Sexual Behavior of Students Who Participated in the San Diego Youth Risk Behavior Survey, 1993–2005

	Survey Year 1993	Survey Year 1995	Survey Year 1997	Survey Year 1999	Survey Year 2001	Survey Year 2003	Survey Year 2005	Total
Sexual Behavior	N = 1788 % (95% CI)	N = 1997 % (95% CI)	N = 2413 % (95% CI)	N = 1715 % (95% CI)	N = 1814 % (95% CI)	N = 1811 % (95% CI)	N = 1695 % (95% CI)	N = 13,233 % (95% CI)
<b>Ever had sexual intercourse in lifetime</b>								
White	43.2% (37.8–48.8)	42.1% (36.1–48.3)	37.1% (31.7–42.8)	29.9% (23.2–37.5)	32.7% (25.8–40.2)	36.8% (29.3–45.0)	38.5% (30.9–46.7)	37.2% (34.7–39.7)
Asian/Pacific Islanders	30.6% (24.7–37.2)	32.4% (27.3–38.0)	39.3% (35.0–43.9)	29.8% (23.9–36.3)	30.8% (23.0–39.8)	27.8% (22.4–33.8)	31.4% (25.4–38.2)	32.3% (30.0–34.6)
Hispanic	47.9% (40.6–55.3)	49.9% (44.1–55.7)	48.8% (44.6–53.0)	44.8% (38.5–51.2)	42.0% (37.9–46.2)	44.3% (38.6–50.2)	42.2% (37.0–47.7)	44.9% (42.6–47.3)
African American	67.9% (61.3–73.8)	62.8% (55.8–69.3)	61.8% (55.4–67.9)	53.4% (44.3–62.3)	44.4% (34.7–54.6)	47.2% (39.3–55.2)	49.7% (40.5–58.9)	54.9% (51.5–58.2)
<b>Used condom during last sexual intercourse</b>								
White	54.8% (49.1–60.5)	49.0% (41.9–56.2)	54.1% (49.0–59.2)	61.4% (52.3–69.7)	67.1% (58.1–75.0)	61.3% (52.9–69.0)	64.6% (56.6–71.6)	58.6% (55.8–61.3)
Asian/Pacific Islanders	48.9% (40.8–57.2)	44.7% (35.7–54.1)	44.0% (36.1–52.3)	52.9% (43.0–62.5)	53.0% (39–66.6)	52.3% (41.6–72.7)	54.4% (43.1–65.3)	48.9% (44.9–52.8)
Hispanic	41.2% (34.0–48.8)	51.4% (44.8–58.0)	49.1% (43.0–55.2)	59.1% (53.4–64.7)	52.2% (43.8–60.5)	61.7% (55.1–67.9)	61.6% (55.8–67.1)	55.2% (52.5–57.9)
African American	52.6% (41.1–63.8)	59.2% (48.2–69.4)	65.5% (59.4–71.2)	71.3% (61.0–79.8)	67.4% (53.4–78.9)	73.8% (63.4–82.1)	73.1% (63.4–81.0)	65.7% (61.9–69.3)

CI = Confidence interval.

Figure 1. Trends in Health Risk Behaviors and HIV/AIDS Communication Among Sexually Active Students: San Diego Youth Risk Behavior Survey, 1993–2005



API, Asian/Pacific Islander.

Table 3. Comparison of Health Risk Behavior Trends Among Sexually Active Youth Across Ethnic Groups, San Diego Youth Risk Behavior Survey, 1993–2005

Health Risk Behaviors	Whites* AOR† (95% CI)	API AOR† (95% CI)	Hispanic AOR† (95% CI)	African American AOR† (95% CI)
Lifetime Smoking	1.00	1.18‡ (1.08, 1.29)	1.02 (0.93, 1.11)	1.02 (0.93, 1.11)
Lifetime Drinking	1.00	1.33‡ (1.14, 1.53)	1.05 (0.92, 1.20)	1.05 (0.88, 1.26)
Lifetime Marijuana Use	1.00	1.13‡ (1.11, 2.21)	0.99 (0.91, 1.08)	1.00 (0.90, 1.11)
HIV/AIDS Communication With Parents	1.00	0.36‡ (0.25, 0.53)	0.89 (0.79, 1.01)	1.20 (1.09, 1.34)

AOR, adjusted odds ratio of trends; API, Asian/Pacific Islanders; CI, confidence interval.

\*Whites are treated as the reference group.

†Odds ratios (ORs) adjusted for gender and age.

‡Statistically significant ORs and CIs. OR <1 indicates an inverse association.

95% CI: 1.01, 1.26;  $p < .038$ ). In 2005, API students reported second highest level of marijuana use (68%).

**Parental HIV/AIDS Communication.** Across the 7 survey years, parental HIV/AIDS communication among sexually active API students was consistently lower (45% overall), compared to Hispanic (60% overall), White (63% overall), and African-American (69%

overall) students. Furthermore, we observed a statistically significant decreasing trend in parental HIV/AIDS communication among API students, compared to their White peers (OR = 0.36; 95% CI: 0.25, 0.53;  $p < .0001$ ). In 2005, only 34% of the sexually active API students reported discussing AIDS or HIV infection with a parent or other adult family member in their lifetime.



## DISCUSSION

The significant presence of API students in this sample is 1 of the study's major strengths, as it provides the first opportunity for analysis of risk behaviors of API students, relative to their cross-ethnic peers. The 7 biennial YRBS surveys across a 12-year span in San Diego City Schools provide valuable data on students of API heritage who constituted an average 20% of overall students across the 7 survey years. Supporting the validity of the sample, the pattern for adolescent risk acts (ie, lifetime smoking, alcohol use, marijuana use, parental HIV/AIDS communication) among African-American, Hispanic, and White students found in the San Diego City Schools YRBS data are very similar to the patterns found in the national YRBS data.<sup>1,19-25</sup>

API youth have often been referred to as the "model minority"<sup>6</sup> in regard to features that include sexual risk behavior. Reinforcing this stereotype, this study found the rates of lifetime sexual intercourse among API students to be consistently lower than their cross-ethnic peers. While this finding is encouraging, further examination suggested that among students who were sexually active, API students had an increased sexual risk compared to their cross-ethnic peers. In particular, API students were consistently less likely to report using condoms during their last sexual intercourse. This finding is consistent with recent data from the National Longitudinal Study on Adolescent Health showing that API youth were significantly less likely to use condoms at first intercourse, compared to their cross-ethnic peers.<sup>26</sup> These findings are also consistent with previous studies indicating that while the age of initiation of sexual intercourse is later among API youth, the rate and frequency of risk acts are similar to those among White peers once the API youth become sexually active.<sup>27</sup>

In our study, we examined risk behaviors among sexually active youth for the following reasons. The prevalence of lifetime sexual intercourse among API youth was lower than their cross-ethnic peers. Our initial analysis of risk behaviors among the entire sample also suggested that API youth reported lower risk behaviors; however, their risk behavior levels were being confounded by their lifetime sexual behavior. Considering the entire sample would underestimate the risk behavior levels of those who are sexually active. Among sexually active API youth, the proportion engaging in health risk behaviors (smoking, drinking, and marijuana use) is, in general, relatively lower than the proportions among their cross-ethnic peers. However, we observed that over time there has been a statistically significant increasing trend in lifetime smoking, drinking, and marijuana use among sexually active API students, compared to their sexually active cross-ethnic peers. In fact, among

those who are sexually active, the gap in health risk behaviors between API students and students of other ethnicities seems to have converged over the years 1993 to 2005. Therefore, contrary to the stereotype of the "model minority," API students are clearly at risk and are increasingly engaging in health risk behaviors. Our findings suggest that once API students become sexually active, they tend to mirror their cross-ethnic peers in terms of health risk behaviors.

Parental communication about HIV/AIDS is a key area in which API students differ significantly from their cross-ethnic peers. HIV-related communication has previously been found to have a protective effect on adolescents' sexual behaviors.<sup>28-34</sup> If parents express their concern and monitor their children's behavior, youth are less likely to engage in risky acts. In the current study, less than half of the sexually active API students reported conversations with their parents about HIV-related issues (48% overall). Sexually active students of other ethnic groups were 1.5 times more likely to report discussing HIV-related issues with their parents. A recent study by Aspy and colleagues (2007) found that youth were much less likely to initiate sexual intercourse if their parents taught them to say no, set clear rules, talked about what is right and wrong and about delaying sexual activity.<sup>35</sup>

Parental support is crucial for youth to develop self-protective sexual health behaviors. Open discussion about sex, including communication about HIV/AIDS prevention between the parents and their children is critical in reducing health risk behaviors among youth.<sup>36</sup> Our findings suggest that API parents struggle with communicating with their children about sexual health issues, including communication about HIV/AIDS. This struggle may be exacerbated by cultural differences between API parents and their children. When mounting school-based programs, it is important to involve API parents and provide them with education about sex and sexuality, including HIV prevention, in order to increase parental monitoring and HIV discussions with their children.

### Limitations

Although the high proportion of API students in this sample was a strength of the study, there were limitations that undercut the potential implications that can be drawn about API students' health behavior trends from 1993 to 2005. First, the generalizability of our findings is limited. Our sample of API youth, although representative of API high-school students in San Diego, may not be generalizable to API youth in the state of California or United States as a whole. Second, the YRBS survey did not provide data on the generational status of the API youth or their level of acculturation in the United States. Third, the survey did not query the students for their specific

ethnic heritage group within the category of API. The ethnic composition of API in San Diego (13.6%) is diverse and reflects the API ethnic groups within all of California: Filipino, Chinese, Vietnamese, Japanese, Korean, Indian, and other Asian. Therefore, this study limits the implications to and understanding of specific API ethnic subgroups in terms of youth risk behaviors. Fourth, we observed a relative decline in the API youth in the sample from 2001 and 2005, compared to a relative increase in the Hispanic youth from 1999 and 2005. One plausible explanation of this shift in sample sizes may be due to the Latino population representing a young and growing segment of the population. Children comprised 39% of the Latino population in San Diego, whereas children make up only 21% of San Diego's non-Latino population.<sup>4</sup> This relative rise in Hispanic youth in our sample may be a consequence of this shift in the Latino population profile. While we can offer some plausible explanation of these trends, our findings call for additional investigation to have a better contextual understanding of the population as a whole.

## CONCLUSIONS

Despite the limitations, our findings challenge the notion of API youth being the "model minority." Our study provided empirical evidence that API youth face their own unique challenges, including barriers to communication with their parents about sex, low rates of condom use. Like their cross-ethnic peers, API youth are neither perfect nor "bad." The increasing trends in health risk behaviors among sexually active API youth suggest that once they become sexually active, they engage in risk behaviors mirroring those of their cross-ethnic peers. Therefore, the inaccuracy of the notion that API youth are the "model minority" should be acknowledged and addressed in the design and implementation of school-based health programs and services. In aiming to address the cultural needs of API youth, school-based programs should incorporate the key component of involving and educating parents about sexual health and HIV in order to help reduce their children's risk behaviors.

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