

Asian American Adolescents' First Sexual Intercourse: Gender and Acculturation Differences

By Hyeouk Chris Hahm, Maureen Lahiff and Rose M. Barreto

Hyeouk Chris Hahm is assistant professor, School of Social Work, Boston University, Boston. Maureen Lahiff is a biostatistician, School of Public Health, University of California, Berkeley. Rose M. Barreto is a doctoral candidate, School of Social Welfare, University of California, Berkeley.

CONTEXT: Interventions aimed at adolescents need to be culturally specific. The dearth of data on Asian American adolescents has made it difficult to meet their needs.

METHODS: Data from the National Longitudinal Study of Adolescent Health were used, with a sample of 323 Asian American female adolescents and 366 Asian American male adolescents. Logistic regression analysis was used to assess the association between acculturation at Wave 1 (1995) and sexual experience at Wave 2 (1996), controlling for demographic, psychosocial and family variables.

RESULTS: Overall, 24% of young women and 20% of young men had had sexual intercourse. Among young women, the most acculturated were more likely to have had sexual intercourse than the least acculturated (odds ratio, 4.9); acculturation was not associated with sexual intercourse for young men. Medium and high levels of parental attachment were associated with decreased odds of sexual experience for young women (0.4 and 0.2), but not for young men. Binge drinking was associated with an increased risk of sexual experience for young women (6.4), and tobacco use was associated with increased risk for young men (3.0).

CONCLUSIONS: Like all adolescents, Asian Americans are at high risk for the consequences of sexual activity. For this fast-growing population, there is a crucial need for preventive programs that are culturally sensitive, inclusive of family and gender-specific.

Perspectives on Sexual and Reproductive Health, 2006, 38(1):28–36

Sexual intercourse during adolescence is a significant and complex event. It leads to a radically new understanding of one's identity as a physically developing person, and it is a major psychological milestone on the road to adulthood.¹

Adolescent sexual activity in the United States is associated with a broad range of health and social problems.² Sexual activity places youths at risk for STDs³ and pregnancies—every year about three million cases of STDs are reported among 10–19-year-olds,⁴ and 870,000 pregnancies occur among 15–19-year-old women.⁵ Early sexual activity is associated with alcohol and drug use, intimate partner violence, pregnancy and inconsistent condom use, as well as multiple sex partners.⁶ STDs and adolescent pregnancies place an economic burden on the youth involved and on society.⁷ Therefore, it is critical to understand the factors that are associated with the first sexual intercourse of young adolescents.

There is a dearth of information about Asian American adolescents' sexual behavior, even though Asian Americans, whose number grew by 52% between 1990 and 2000, are the fastest growing ethnic minority in the United States.⁸ Most studies that have included Asian American youth have used only small samples, often convenience samples, and have been cross-sectional.⁹ In addition, many have focused exclusively on college students.¹⁰

The cultural heritage of Asian Americans makes the systematic study of sexual activity and attitudes about sexual-

ity complex, because in Asian cultures, there is a sharp distinction between public and private selves, and sexuality is kept within the realm of the private self. Unmarried people, especially women, are expected to abstain from expressing sexual desire because they may bring shame or dishonor to the family. This sexual conservatism is viewed as vital to the maintenance of family unity.¹¹

Although Asian American adolescents have lower rates of sexual experience than white, black and Latino adolescents,¹² the overall rate is almost 30% by age 18. However, the stereotype of Asian Americans as a “model minority” does not hold for adolescents in the area of sexual activity, particularly with HIV-related risk behaviors.¹³ A nationally representative survey and studies in southern California have found that once Asian American adolescents and young adults engage in sexual intercourse, they are similar to other ethnic groups in terms of their number of lifetime partners and sexual behaviors that may transmit HIV.¹⁴ Furthermore, young adults and adolescents of Asian descent who were surveyed in British Columbia and Massachusetts had less knowledge about the risk of HIV and other STDs than respondents of other ethnicities.¹⁵ Among Asian American students in several southern California colleges, only 11% reported consistent condom use, with no significant differences between men and women.¹⁶ In a national study of HIV-positive adults, Asian Americans had the highest rate of late intervention.¹⁷

Many factors are associated with adolescents' initiation of sexual intercourse: age, ethnicity, gender, parental attachment, substance use and socioeconomic status.¹⁸ A higher level of acculturation also is associated with higher rates of risky sexual activities among ethnic minority youth.¹⁹ Acculturation is the complex psychological process of adaptation to a different culture, by which members of an ethnic group gradually change their behaviors and attitudes to be more like those of the host society. High acculturation suggests adopting the values, language and beliefs of the new culture, while low acculturation suggests retaining the values, languages and beliefs of the original culture.²⁰ A critical aspect of acculturation is renegotiating or redefining gender roles in the new cultural context. Gender role acculturation occurs when the host culture's gender role norms influence the individual's perceptions of masculinity, femininity and sexuality.²¹

Asian American adolescents, particularly women, often live in a bicultural world where they experience contradictions between their heritage and American culture. They observe American notions of gender roles through interactions with peers and at schools, and Eastern notions of gender roles through family and ethnic community socialization. Highly acculturated Asian American females may adopt gender roles shaped by American values, which emphasize an egalitarian distribution of social status, power and sexual freedom. However, less acculturated young women may internalize traditional gender-specific norms, which are characterized by passivity and submissiveness during interactions with men.²² For Asian men, sexual behavior may not be strongly influenced by level of acculturation, because both cultures value young men's independence, freedom and sexual accomplishment.²³

Associations between parental communication and delayed adolescent sexual activity have been clearly established.²⁴ Discussion with parents about sexuality, romantic relationships, HIV and AIDS, and strategies to reduce risky behaviors are linked to reductions in sexual activity, pregnancies and unprotected intercourse.²⁵ However, because of gaps in language and culture, the advantages of parental communication may not be available to highly acculturated adolescents whose parents are immigrants.²⁶ Highly acculturated adolescents may interpret a lack of communication as a lack of parental interest and may therefore feel that their peers are their only sources of information and emotional support.²⁷

Sexual identity develops differently for young men and women.²⁸ In the overall U.S. population, men tend to have their first sexual experience at a younger age and hold more permissive attitudes than women.²⁹ However, findings from studies of Asian American youth suggest some differences. In a study of Chinese American college students, a higher proportion of women than of men had experienced sexual intercourse by age 21.³⁰ However, in a study of Asian college students in Canada,³¹ men had higher rates of sexual experience. In other samples of Asian American adolescents³² and young adults,³³ no significant gender differences

were found in the prevalence of sexual intercourse.

In this study, we investigate the association between levels of acculturation and rates of sexual experience for Asian American adolescents, using data from the National Longitudinal Study of Adolescent Health (Add Health). Drawing from the literature, we hypothesize that factors associated with sexual experience will differ by gender. More specifically, we expect that when compared with young women who are less acculturated, young women who are highly acculturated will have higher odds of having had sexual intercourse. We do not expect that acculturation level is associated with sexual experience for the young men.

METHODS

Data

Add Health is a longitudinal study of a nationally representative sample of youth who were in grades 7–12 in 1995.³⁴ The sample was selected from the enrollment rosters of 132 schools, derived from a sampling frame that comprised all school districts in the United States with a high school. To ensure a representative sample of adolescents, the Add Health study designers stratified schools by region, urbanicity, type (public, parochial, private) and racial composition. At Wave 1 (April–December 1995), roughly 50,000 adolescents completed in-school questionnaires, and 20,745 of them participated in confidential in-home interviews; more than 14,700 students were reinterviewed at home for Wave 2 (January–December 1996). The response rate for Wave 1 was 79%; for Wave 2 it was 88%.

The present study included the 1,048 Asian American respondents who participated in the in-school interview and in both the Wave 1 and the Wave 2 in-home surveys. However, the final sample was reduced to 689 participants (323 female, 366 male) because of missing values. On average, individuals for whom complete data were available were half a year younger, and had slightly higher socioeconomic status and self-esteem, than those with missing data. There was no difference in the proportion of men and women for whom data were missing.

Variables

Participants were divided into four groups according to level of acculturation: U.S.-born adolescents who reported using English at home, foreign-born adolescents who reported using English at home, U.S.-born adolescents who reported exclusive use of another language at home and foreign-born adolescents who reported exclusive use of another language at home. Research on Latinos has demonstrated that these groups lie on a continuum from the most acculturated to the least.³⁵ Since language may be a stronger component of acculturation than place of birth, those who are not U.S.-born but use English at home are considered more acculturated than those who are U.S.-born but do not use English at home.³⁶ Because the differences between the ordered groups are not equal, we analyzed the data categorically, with the least acculturated group as the reference group.

TABLE 1. Percentage distribution of Asian American participants in Waves 1 (1995) and 2 (1996) of the National Longitudinal Study of Adolescent Health, by selected characteristics at Wave 1, according to gender

Characteristic	Female (N=323)	Male (N=366)
Ethnicity		
Chinese	22.3	22.6
Filipino	22.8	20.1
Japanese	6.3	9.3
Indian	18.1	15.3
Korean	9.9	10.7
Vietnamese	10.6	12.1
Other	10.1	10.1
Acculturation		
Speak English at home, U.S.-born	46.4	46.3
Speak English at home, foreign-born	11.9	17.7
Speak no English at home, U.S.-born	9.8	15.9
Speak no English at home, foreign-born	31.9	20.1
Age		
12	0.0	0.1
13	7.7	5.8
14	17.7	11.2
15	13.0	18.4
16	21.8	21.8
17	26.5	32.2
18	13.4	10.5
Socioeconomic status		
Low	32.4	26.4
Medium	30.7	40.6
High	36.9	33.0
Parental attachment		
Low	10.9	9.8
Medium	69.9	75.9
High	19.2	14.3
School attachment		
Low	8.6	16.9
Medium	68.1	61.2
High	23.3	21.9
Grade point average		
Low	11.2	19.1
Medium	54.3	54.8
High	34.6	26.1
Self-esteem		
Low	15.3	9.3
Medium	66.3	73.9
High	18.4	16.8
Binge drinking in past 12 mos.		
Yes	12.6	15.4
No	87.4	84.6
Tobacco use in past 12 mos.		
Yes	10.8	14.9
No	89.2	85.1
Total	100.0	100.0

Notes: Percentages are weighted, and may not total 100 because of rounding. For explanation of low, medium and high socioeconomic status, parental and school attachment, grade point average and self-esteem, see text on this page.

All covariates were measured at the time of the Wave 1 in-home interview. Age was measured in years. Gender was coded 0 for male and 1 for female. Family socioeconomic status was determined by combining parental educational attainment and occupational status. Parental educational attainment was coded on a scale of 1–6 (eighth grade or less;

some high school, or business, trade or vocational school; complete high school or general equivalency diploma; some postsecondary; four-year college or university graduate; and postgraduate professional training). Occupations were coded on a scale of 1–5, ranging from blue-collar (low) to white-collar professionals (high): construction workers, mechanics, factory workers, laborers, bus drivers, security officers, farmers or fishermen; office workers or salespeople; technical workers, computer specialists, teachers, librarians or nurses; managers, including executives or directors; and doctors, lawyers or scientists. The scores for education and occupation were summed; for respondents reporting information on two parents, the higher score was used (possible range, 2–11; alpha, 0.73). Observed values ranged from 2 to 11; the mean socioeconomic status score was 6.93 (standard deviation, 2.4). Similar measures have been used by Ford et al.³⁷ and Guterman et al.³⁸

Parental attachment was assessed by 13 items that focused on the participant's perception of his or her relationship with each parent. For example, the adolescents were asked if they are satisfied with their relationships and communication with their mothers and with their fathers, if their families understand them and if their parents care about them. Responses were on a scale of 1–5, ranging from “not at all” to “very much” (possible range, 13–65; alpha, 0.90). The observed values ranged from 21 to 65 (mean, 55.1; standard deviation, 7.5).

The self-esteem score was determined by the responses to 11 items: “I have a lot of energy”; “I seldom get sick”; “when I do get sick, I get better quickly”; “I am well coordinated”; “I have a lot of good qualities”; “I am physically fit”; “I have a lot to be proud of”; “I like myself just the way I am”; “I feel like I am doing everything just about right”; “I feel socially accepted”; and “I feel loved and wanted.” Responses were on a scale of 1–5, ranging from “never” to “every day” (possible range, 11–55; alpha, 0.84). The observed values were 22–55, and the mean self-esteem score was 43.3 (standard deviation, 5.9).

The school attachment scale was the sum of the following six items: “I feel close to people at my school”; “I feel like I am a part of my school”; “students at my school are prejudiced”; “I am happy to be at my school”; “the teachers at my school treat students fairly”; and “I feel safe in my school.” Responses ranged from “strongly disagree” to “strongly agree,” on a scale of 1–5 (possible range, 6–30; alpha, 0.70). The observed values ranged from 9 to 29; the mean school attachment score was 21.8 (standard deviation, 3.2).

For grade point average, the average of the grades in English, math, history and science from the most recent grade period was used. The possible values on this scale were 1–4 (alpha, 0.73); the observed values ranged from 1 to 4, and the mean grade point average was 3.1 (standard deviation, 0.75).

After the socioeconomic status, parental attachment, school attachment, self-esteem and grade point average scales were created, they were recoded into categorical variables. Values more than one standard deviation below the average were coded as low, within one standard deviation of the

TABLE 2. Percentage of Asian American adolescents who were sexually experienced at Wave 2, by selected characteristics, according to gender

Characteristic	Female	Male	Characteristic	Female	Male
All	24.2	19.5	Parental attachment		
Ethnicity			Low	57.4	27.6
Chinese	14.3	9.0	Medium	23.3	21.5
Filipino	41.0	31.4	High	8.7	3.1
Japanese	40.0	11.5	χ^2	18.1***	7.6**
Indian	11.1	11.1	<i>F(df)</i>	1.7(95.1)	1.8(102.4)
Korean	26.7	5.3	School attachment		
Vietnamese	11.1	33.3	Low	53.1	28.3
Other	32.3	37.7	Medium	23.0	19.0
χ^2	2.2	2.5	High	16.8	14.2
<i>F(df)</i>	2.7(149.6)	2.8(155.0)	χ^2	6.8**	1.5
Acculturation			<i>F(df)</i>	1.9(108.9)	1.4(80.5)
Speak English at home, U.S.-born	30.5	18.1	Grade point average		
Speak English at home, foreign-born	36.7	34.4	Low	43.7	27.3
Speak no English at home, U.S.-born	10.0	7.7	Medium	22.8	15.9
Speak no English at home, foreign-born	14.8	18.7	High	20.0	21.3
χ^2	3.2*	3.0*	χ^2	1.8	1.4
<i>F(df)</i>	2.5(136.4)	2.1(115.2)	<i>F(df)</i>	1.6(86.2)	1.7(97.3)
Age			Self-esteem		
12	0.0	0.0	Low	26.5	30.2
13	3.5	0.0	Medium	27.5	19.3
14	4.6	11.4	High	10.1	14.5
15	13.8	7.1	χ^2	3.0	1.2
16	28.1	22.2	<i>F(df)</i>	1.9(102.6)	1.7(97.4)
17	37.5	27.4	Binge drinking in past 12 mos.		
18	39.4	31.0	Yes	71.6	39.3
χ^2	5.6***	2.2	No	17.3	15.9
<i>F(df)</i>	3.5(192.8)	3.4(222.8)	χ^2	26.3***	9.7**
Socioeconomic status			<i>F(df)</i>	1.0(55)	1.0(56)
Low	29.8	19.0	Tobacco use in past 12 mos.		
Medium	28.1	26.5	Yes	60.0	46.8
High	15.9	11.3	No	19.7	14.2
χ^2	1.9	2.8	χ^2	23.5***	14.6***
<i>F(df)</i>	1.7(93.4)	1.8(99.3)	<i>F(df)</i>	1.0(55)	1.0(56)

*p≤.05. **p<.01. ***p<.001. Notes: Percentages are weighted. Because of the weighting, the chi-square test statistic is adjusted, and the p value is calculated from an approximate F distribution. For explanation of low, medium and high socioeconomic status, parental and school attachment, grade point average and self-esteem, see page 30.

average as medium and more than one standard deviation above the average as high.

Binge drinking and tobacco use were coded as dichotomous variables. Those who reported one or more days in the last 12 months on which they drank five or more drinks in a row were coded as binge drinkers. Those who reported ever smoking cigarettes in the past 30 days were coded as tobacco users.

The question “Have you ever had sexual intercourse?” from the Wave 2 interview was used as the outcome variable. A response of yes was coded as 1; a response of no was coded as 0.

Statistical Analysis

The distribution of specific Asian ethnic groups among respondents for whom complete data were available differed from the distribution among the U.S. population. Therefore, specific weights were estimated and applied to the entire analysis, to adjust the population estimates to match the population ethnic distribution. Data from the 2000 census were used for Asian subgroups, and the proportion of each group aged 5–24. Stata 8.0 was used for all analyses.

In bivariate analyses of relationships between selected variables and rates of sexual experience, the usual chi-square test statistic was adjusted to account for the weighting; the adjusted test statistics have an approximate F distribution. Explanatory variables that had a p value less than .10 in the bivariate analyses were included in the multiple logistic regression models to assess the association between acculturation and sexual intercourse for young women and young men. The standard errors and test statistics in the logistic regression are also adjusted to account for the weighting. Chi-square testing was performed to assess differences between females and males in rates of sexual intercourse.

RESULTS

At Wave 1, the mean age of all Asian American adolescents included in this study was 16.1 years (standard deviation, 1.5). The sample included adolescents from different Asian ethnic backgrounds (Table 1). Similar proportions of young women were Chinese and Filipina, and the highest proportion of young men were Chinese. The vast majority (96%) of adolescents had parents who were both of an Asian ethnicity (not shown). Those who spoke English at home

TABLE 3. Odds ratios (and 95% confidence intervals) from multivariate analyses assessing associations between selected characteristics and the likelihood that Asian American adolescents were sexually experienced, by gender

Characteristic	Female	Male
Acculturation		
Speak English at home, U.S.-born	4.87* (1.38–17.20)	1.08 (0.45–2.62)
Speak English at home, foreign-born	4.25** (1.45–12.40)	1.86 (0.46–7.52)
Speak no English at home, U.S.-born	1.18 (0.28–4.99)	0.48 (0.12–1.93)
Speak no English at home, foreign-born (ref)	1.00	1.00
Age		
	1.86*** (1.36–2.54)	1.65* (1.07–2.56)
Socioeconomic status		
Low (ref)	1.00	1.00
Medium	0.38* (0.16–0.92)	1.09 (0.55–2.18)
High	0.36 (0.10–1.25)	0.34 (0.09–1.23)
Parental attachment		
Low (ref)	1.00	1.00
Medium	0.37** (0.18–0.77)	0.86 (0.23–5.72)
High	0.16*** (0.06–0.42)	0.18 (0.02–1.40)
School attachment		
Low (ref)	1.00	1.00
Medium	0.35* (0.14–0.91)	0.71 (0.33–2.11)
High	0.34* (0.12–1.00)	0.60 (0.19–1.88)
Self-esteem		
Low (ref)	1.00	1.00
Medium	2.07 (0.67–6.40)	0.75 (0.10–5.11)
High	1.65 (0.43–6.32)	0.93 (0.12–7.45)
Binge drinking in past 12 mos.		
Yes	6.36** (1.74–23.20)	1.99 (0.69–5.74)
No (ref)	1.00	1.00
Tobacco use in past 12 mos.		
Yes	1.75 (0.63–4.85)	3.03* (1.37–6.69)
No (ref)	1.00	1.00

*p≤.05. **p<.01. ***p<.001. Notes: ref=reference group. For explanation of low, medium and high socioeconomic status, parental and school attachment, grade point average and self-esteem, see page 30.

and were U.S.-born represented the highest proportion of both females and males (46% of each). The majority of women (89%) and men (90%) indicated that they had either medium or high parental attachment. Most women and men reported medium or high school attachment (91% and 83%, respectively). Thirteen percent of women and 15% of men reported binge drinking in the past year; 11% of females and 15% of males reported tobacco use.

A total of 24% of the young women and 20% of the young men reported in Wave 2 that they had had sexual intercourse (Table 2, page 31). In the bivariate analyses, foreign-born adolescents who spoke English at home had the highest rates of sexual intercourse for both women and men (37% and 34%, respectively). However, for the most acculturated group, U.S.-born adolescents who spoke English at home, a much higher proportion of women (31%) than of men (18%) reported having had intercourse (p=.01—not shown).

For both males and females, a higher proportion of older adolescents than of younger adolescents had had sexual intercourse.

More than half of young women with low parental attachment had had sexual intercourse by Wave 2. By contrast, among those with high parental attachment, fewer than one in 10 reported having had intercourse. There is a stunning gender difference in results for young people with low parental attachment—57% of such women had had sexual intercourse, compared with 28% of men (p=.01—not shown).

Among young women who reported low school attachment in Wave 1, more than half had had sexual intercourse by Wave 2. The proportion of young women who had had sexual intercourse varied by level of school attachment and was less than one-fifth at the highest level. However, differences in rates of sexual intercourse according to school attachment were not statistically significant for young men.

Among women, 72% who reported binge drinking in the past 12 months had had sexual intercourse, compared with 17% of those who did not. Among men, 39% who reported binge drinking had had sexual intercourse, compared with 16% who did not. For the young women, 60% of those who reported tobacco use had had sexual intercourse, compared with 20% of those who did not. For the young men, 47% of those who reported tobacco use had had sexual intercourse, compared with 14% who did not.

Differences in rates of sexual experience by ethnicity, socioeconomic status, grade point average and self-esteem were not statistically significant for either women or men.

The multiple logistic regression analyses adjusted for age, parental attachment, socioeconomic status, self-esteem, school attachment and substance use (Table 3). For the women, those who spoke English at home and were either U.S.-born or foreign-born had significantly higher odds of having had sexual intercourse by Wave 2 than those who did not speak English at home and were foreign-born (odds ratios, 4.9 and 4.3, respectively). For the men, there is no evidence of association between acculturation and sexual experience.

Other factors that were associated with significantly increased odds of sexual experience for women were older age (odds ratio, 1.9) and binge drinking in the past 12 months (6.4). Factors associated with decreased odds of having had sexual intercourse for young women were medium socioeconomic status, compared with low (odds ratio, 0.4); high and medium parental attachment (0.2 and 0.4, respectively); and high and medium school attachment (0.3 and 0.4, respectively).

For men, only older age and tobacco use were associated with increased odds of sexual experience (odds ratios, 1.7 and 3.0, respectively). In contrast to the multivariate results for women, sexual intercourse was not associated with parental attachment or school attachment.

DISCUSSION

Overall, the weighted population estimates for the proportion of Asian American adolescents who were sexually experienced were 24% for females and 20% for males. By contrast, a national longitudinal study by Grunbaum et al.

showed a 28% prevalence rate,³⁹ and a California study by Schuster et al. showed a 27% prevalence rate.⁴⁰ Our results may differ because we used weights calculated specifically for Asians rather than weights calculated for all ethnic groups, as in Grunbaum et al., or no weights, as in Schuster et al.

Acculturation was not associated with sexual intercourse for young men. For young women, however, high levels of acculturation were associated with significantly increased odds of sexual experience. In other words, the influence of American cultural values on young Asian women's sexuality is greater than their influence on the sexuality of young Asian men.

Why is level of acculturation associated with elevated odds of sexual intercourse for young Asian American women? From the sociocultural perspective, there are three possible explanations. First, Asian cultures convey different expectations about independence and sexual activity for young men and young women. Sexual activity is accepted and even subtly encouraged for young men.⁴¹ As young women acculturate, they may perceive sex as an assertion of independence and gender equality.

In addition, the more acculturated young women become, the less importance they may place on the cultural values of their families. For instance, in a comparison of university students, Chinese Canadian women held less traditional views of gender and family than did Chinese Canadian men. Also, a greater proportion of women than of men reported that their views differed from those of their parents.⁴²

In a study of Asian American college students, Cochran and colleagues found that the most important reason for refraining from sexual activity for women was the maintenance of cultural, family and religious values and harmony. In contrast, the main reasons given by men were partner's pregnancy, AIDS and the lack of opportunity.⁴³

Second, differences in dating partners may help explain gender differences in sexual experience. Asian American adolescent women may be dating older men.⁴⁴ If young Asian American women are dating and having sex with non-Asian young men, their dating experiences are part of the acculturation process as well as a consequence. Young Asian American women who are more acculturated are more likely to adopt American attitudes about sex and are more likely to go out with whites.⁴⁵ Also, young Asian American women may become more acculturated by dating young white men, and consequently adopt American attitudes toward sex.

These assertions are supported by studies of Asian American adults. A higher proportion of Chinese American women who date whites than of those who date Chinese men are sexually active.⁴⁶ When compared with whites, blacks and Latinos, Asian American adult women have the highest rate of interethnic dating and marriage, particularly with white partners.⁴⁷ While women of all ethnic groups have higher rates of interethnic dating than men, the difference is greatest for Asian Americans.⁴⁸

The findings of these studies are consistent with Amer-

ican cultural stereotypes about Asian Americans, as seen in fiction, popular films and advertisements. Asian women are seen as "exotic, sensual and submissive," whereas Asian men are often viewed as "asexual, passive or sexually less desirable."⁴⁹ Adolescents are sensitive to such messages, both explicit and implicit. Media play a prominent role in acceptance of sexual stereotypes and shaping sexual attitudes and behaviors among American youth.⁵⁰

Another possible explanation for the elevated odds of sexual intercourse for highly acculturated females is that the longer immigrant families live in the United States, the more family support declines.⁵¹ Decreases in family support as a result of acculturation may affect adolescent females and males differently. More acculturated women may engage in sexual activity because of a desire for intimacy or as a way of being accepted by their peers. As indicated in our multivariate model for women, parental attachment was associated with decreased odds of sexual experience for young women.

Our finding that low parental attachment was associated with greater odds of sexual intercourse for young women implies that increasing parental attachment may lead to closer identification with and acceptance of parental values, possibly reducing the risk of sexual intercourse. Communication is an important component of parental attachment. Holtzman and Rubinson found that parent-daughter communication about sexual issues, including AIDS, is associated with reduced numbers of sex partners and more protected sexual intercourse among young women in general.⁵² Clear and explicit messages from parents about the importance of delaying sex or using protection and the prevention of HIV and AIDS are crucial.⁵³ For example, for African American adolescents, maternal disapproval of young women's sexual activity and having a satisfying maternal relationship are associated with abstinence and less frequent intercourse.⁵⁴

Parental attachment was significant for young men in the bivariate analyses, but after controlling for the other covariates, it became insignificant. This implies that parental attachment may be associated with other significant variables, and thus may have an indirect association with sexual intercourse. Statistical exploration confirmed that higher parental attachment is associated with lower levels of tobacco use, which is significant for the young men.

Studies that have found significant parental influence on young women also have noted that young men are more strongly influenced by their peers than by their parents.⁵⁵ Adolescents' sexual intercourse is also significantly associated with best friends' mildly deviant behaviors, such as smoking, drinking and cheating on tests.⁵⁶

Binge drinking was not associated with sexual intercourse for the young men in our study, although it was strongly associated with sexual intercourse among the young women. Previous work with the Add Health data found that moderate and high parental attachment protects highly acculturated adolescents from alcohol use,⁵⁷ and acculturation leads to binge drinking via social interaction with substance-

The influence of American cultural values on young Asian women's sexuality is greater than their influence on the sexuality of young Asian men.

using peers.⁵⁸ Further investigation into the characteristics of peer groups and substance use may lead to a better understanding of the gender difference we found in the association between substance use and sexual intercourse. Nevertheless, available evidence suggests that school-based substance abuse and sex education programs must be integrated.⁵⁹ Teachers, counselors and mental health professionals need to be aware that adolescents who have histories of binge drinking and tobacco use are at increased risk for engaging in sexual intercourse.

The association of school attachment with sexual intercourse among young women may be a further indicator of the importance of sociocultural experiences. School attachment may lead to adherence to school messages in a similar manner that parental attachment leads to adherence to parental values. Schools are an important venue for sex education, though the potential role that feelings of attachment to one's school have in influencing sexual behavior remains unexplored.

Limitations

These findings should be considered in light of the limitations of this data set. First, sexual experience and the covariates were self-reported. Add Health was administered using both computer-assisted self-interviewing (CASI) and audio-CASI systems, in which adolescents listened to the questions through headphones and replied via computer. Though CASI and audio-CASI are effective in eliciting answers to highly sensitive questions, such as ones about drug and alcohol use,⁶⁰ approximately 30% of Add Health respondents of every ethnic group (Asian, white, black, Latino and American Indian) did not answer the question regarding sex. This indicates a strong need to improve the survey in this area of study by devising new ways of eliciting answers to questions about sex. This could involve changes in wording, the use of multiple questions or modifications of the survey method.

Second, the measure of acculturation was based on use of English at home and place of birth, which have been validated as indicators of acculturation using adolescent samples.⁶¹ However, Add Health did not ask adolescents if they were bilingual or if their parents were bilingual. Future research on ethnic and acculturation effects on sexuality should incorporate a richer measure of acculturation, including measures of exposure to Asian and American cultures, specific languages used at home, motivation for acculturation and attitudes about acculturation.⁶²

Third, this study used a dichotomous measure of sexual experience, ever versus never having had intercourse. The study of the frequency and exact nature of sexual activities would lead to a more complete understanding of the sexual development of Asian American adolescents, provided accurate and detailed data could be collected.

Fourth, the sample sizes for most ethnic groups were not large enough to allow for comparisons among them. Since Asian Americans are diverse, the findings for associations with acculturation and other characteristics should be in-

vestigated for each major ethnic group.

Finally, more comprehensive longitudinal studies are needed to investigate changes in acculturation over time and how these changes influence sexual norms, family support and parent-adolescent communication, as well as their relationships with sexual activity.

Conclusions

Despite these limitations, our findings have important implications for practice. Since a higher level of acculturation was associated with young women's sexual intercourse, clinicians need to give particular attention to assessing the level of acculturation among Asian American young women.

Innovative preventive programs must incorporate culture, gender and family relationships. To engage and interest adolescents, interventions need to be culturally specific, in terms of not only ethnic culture but teenage culture as well. A sex education intervention that used theater to present real-life scenarios tailored to the issues and culture of its Latino audience resulted in positive changes in the knowledge and intentions of the adolescents.⁶³ Such an approach has potential for Asian American adolescents as well, by recruiting ethnically representative, young adult actors whom the audience can relate to as peers.

Interventions should acknowledge the importance and influence of family by containing a component for parents. Since low parental attachment was associated with greater likelihood of young women's sexual intercourse, interventions that improve parent-adolescent communication, parental involvement and support are urgently needed. Parents could attend workshops and be given take-home videos and instructional workbooks on parent-child communication.⁶⁴

All parents need assistance in initiating discussion of intimate subjects such as premarital sexual activity, STDs and pregnancy. However, Asian American parents need extra assistance because of their cultural heritage. Values and expectations need to be communicated more explicitly in an American context than in an Asian environment, where the culture reinforces restraint and family cohesion.⁶⁵ A motivation for parents to overcome their reticence and to develop their communication skills is their desire to create the conditions in which their adolescents can delay sexual intercourse and be responsible when they become sexually active. Parents need particular assistance in understanding the peer culture that their children encounter at school. For Asian American adolescents, there is a crucial need for preventive programs that are culturally sensitive, inclusive of family and gender-specific.

REFERENCES

1. Rodgers JL and Rowe DC, Adolescent sexual activity and mildly deviant behavior: sibling and friendship effects, *Journal of Family Issues*, 1990, 11(3):274-293.
2. Hayes CD, ed., *Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing*, Vol. 1, Washington, DC: National Academy Press, 1987.
3. Crosby R, Leichliter JS and Brackbill R, Longitudinal prediction of sexually transmitted diseases among adolescents: results from a

national survey, *American Journal of Preventive Medicine*, 2000, 18(4): 312–317.

4. Ventura SJ et al., Revised pregnancy rates, 1990–1997, and new rates for 1998–1999: United States, *National Vital Statistics Report*, 2003, Vol. 52, No. 7.

5. Eng TR and Butler WT, eds., *The Hidden Epidemic: Confronting Sexually Transmitted Diseases*, Washington, DC: National Academy Press, 1997.

6. O'Donnell L, O'Donnell CR and Stueve A, Early sexual initiation and subsequent sex-related risks among urban minority youth: the Reach for Health study, *Family Planning Perspectives*, 2001, 33(6): 268–275.

7. Ericksen KP and Trocki KF, Sex, alcohol and sexually transmitted diseases: a national survey, *Family Planning Perspectives*, 1994, 26(6):257–263.

8. Barnes JS and Bennett CE, *The Asian Population: 2000*, Washington, DC: U.S. Census Bureau, 2002.

9. Brooks TL et al., Association of adolescent risk behaviors with mental health symptoms in high school students, *Journal of Adolescent Health*, 2002, 31(3):240–246; Grunbaum JA et al., Prevalence of health risk behaviors among Asian American/Pacific Islander high school students, *Journal of Adolescent Health*, 2000, 27(5):322–330; and Upchurch DM et al., Gender and ethnic differences in the timing of first sexual intercourse, *Family Planning Perspectives*, 1998, 30(3):121–127.

10. Cochran SD, Mays VM and Leung L, Sexual practices of heterosexual Asian-American young adults: implication for risk of HIV infection, *Archives of Sexual Behavior*, 1991, 20(4):381–391; Huang K and Uba L, Premarital sexual behavior among Chinese college students in the United States, *Archives of Sexual Behavior*, 1992, 21(3):227–240; McLaughlin CS et al., Family, peer and individual correlates of sexual experience among Caucasian and Asian American late adolescents, *Journal of Research on Adolescence*, 1997, 7(1):33–53; and Meston CM, Trapnell PD and Gorzalka BB, Ethnic and gender differences in sexuality: variations in sexual behavior between Asian and non-Asian university students, *Archives of Sexual Behavior*, 1996, 25(1):33–72.

11. Chan CS, Asian-American adolescents: issues in the expression of sexuality, in: Irvine JM, ed., *Sexual Cultures and the Construction of Adolescent Identities*, Philadelphia: Temple University Press, 1994, pp. 89–99.

12. Grunbaum JA et al., 2000, op. cit. (see reference 9); Upchurch DM et al., 1998, op. cit. (see reference 9); Meston CM, Trapnell PD and Gorzalka BB, 1996, op. cit. (see reference 10); Hou SI and Basen-Engquist K, Human immunodeficiency virus risk behavior among white and Asian/Pacific Islander high school students in the United States: does culture make a difference? *Journal of Adolescent Health*, 1997, 20(1):68–74; and Schuster MA et al., The sexual practices of Asian and Pacific Islander high school students, *Journal of Adolescent Health*, 1998, 23(4):221–231.

13. Cochran SD, Mays VM and Leung L, 1991, op. cit. (see reference 10).

14. Ibid.; Hou SI and Basen-Engquist K, 1997, op. cit. (see reference 12); and Schuster MA et al., 1998, op. cit. (see reference 12).

15. Meston CM, Trapnell PD and Gorzalka BB, Ethnic, gender and length of residency influences on sexual knowledge and attitudes, *Journal of Sex Research*, 1998, 35(2):176–188; and Strunin L, Adolescents' perceptions of risk for HIV infection: implications for future research, *Social Science and Medicine*, 1991, 32(2):221–228.

16. Cochran SD, Mays VM and Leung L, 1991, op. cit. (see reference 10).

17. Wong FY et al., HIV testing and awareness of care-related services among a group of HIV-positive Asian Americans and Pacific Islanders in the United States: findings from a supplemental HIV/AIDS surveillance project, *AIDS Education and Prevention*, 2004, 16(5):440–447.

18. Upchurch DM et al., 1998, op. cit. (see reference 9); Hou SI and Basen-Engquist K, 1997, op. cit. (see reference 12); Crockett LJ et

al., Timing of first sexual intercourse: the role of social control, social learning and problem behavior, *Journal of Youth and Adolescence*, 1996, 25(1):89–111; Miller KS, Forehand R and Kotchick B, Adolescent sexual behavior in two ethnic minority samples: the role of family variables, *Journal of Marriage and the Family*, 1999, 61(2):85–98; and Wiederman MW, Maynard C and Fretz A, Ethnicity in 25 years of published sexuality research: 1971–1995, *Journal of Sex Research*, 1996, 33(4):339–342.

19. Huang K and Uba L, 1992, op. cit. (see reference 10); Ebin VJ et al., Acculturation and interrelationships between problem and health-promoting behaviors among Latino adolescents, *Journal of Adolescent Health*, 2001, 28(1):62–72; and Kaplan CP, Erickson PI and Juarez-Reyes M, Acculturation, gender role orientation and reproductive risk-taking behavior among Latina adolescent family planning clients, *Journal of Adolescent Research*, 2002, 17(2):103–121.

20. Kim EJ, O'Neil JM and Owen SV, Asian-American men's acculturation and gender-role conflict, *Psychological Reports*, 1996, 79(1):95–104.

21. Kaplan CP, Erickson PI and Juarez-Reyes M, 2002, op. cit. (see reference 19).

22. Kim EJ, O'Neil JM and Owen SV, 1996, op. cit. (see reference 20); and Talbani A and Hasanali P, Adolescent females between tradition and modernity: gender role socialization in South Asian immigrant culture, *Journal of Adolescence*, 2000, 23(5):615–627.

23. Chia RC, Moore JL and Lam KN, Cultural differences in gender role attitudes between Chinese and American students, *Sex Roles*, 1994, 31(1/2):23–27.

24. Holtzman D and Rubinson R, Parent and peer communication effects on AIDS-related behavior among U.S. high school students, *Family Planning Perspectives*, 1995, 27(6):235–240 & 268.

25. Ibid.; and Jaccard J, Dittus PJ and Gordon VV, Maternal correlates of adolescent sexual and contraceptive behavior, *Family Planning Perspectives*, 1996, 28(4):159–165 & 185.

26. Hahm H, Lahiff M and Guterman N, Acculturation and parental attachment in Asian-American adolescents' alcohol use, *Journal of Adolescent Health*, 2003, 33(2):119–129.

27. Hahm H, Lahiff M and Guterman N, Asian American adolescents' acculturation, binge drinking and alcohol and tobacco using peers, *Journal of Community Psychology*, 2004, 32(3):295–308.

28. Carroll JL, Volk KD and Hyde JS, Differences between males and females in motives for engaging in sexual intercourse, *Archives of Sexual Behavior*, 1985, 14(2):131–139.

29. Feldman SS, Turner RA and Araujo K, Interpersonal context as an influence on sexual timetables of youths: gender and ethnic effects, *Journal of Research on Adolescence*, 1999, 9(1):25–52.

30. Huang K and Uba L, 1992, op. cit. (see reference 10).

31. Meston CM, Trapnell PD and Gorzalka BB, 1996, op. cit. (see reference 10).

32. Grunbaum JA et al., 2000, op. cit. (see reference 9); and Schuster MA et al., 1998, op. cit. (see reference 12).

33. Cochran SD, Mays VM and Leung L, 1991, op. cit. (see reference 10).

34. Bearman PS, Jones J and Udry JR, The National Longitudinal Study of Adolescent Health: research and design, Carolina Population Center, <www.cpc.unc.edu/projects/adhealth/design.html>, accessed Mar. 1, 2003.

35. Padilla AM, The role of cultural awareness and ethnic loyalty in acculturation, in: Padilla AM, ed., *Acculturation: Theory, Models, and Some New Findings*, Boulder, CO: Westview Press, 1980, pp. 47–84; and Rogler LH, Cortes DE and Malgady RG, Acculturation and mental health status among Hispanics: convergence and new directions for research, *American Psychology*, 1991, 46(6):585–597.

36. Phinney JS, Ethnic identity in adolescents and adults: review of the research, *Psychological Bulletin*, 1990, 108(3):499–514.

37. Ford CA, Bearman PS and Moody J, Forgone health care among adolescents, *Journal of the American Medical Association*, 1999,

282(23):2227–2234.

38. Guterman NB, Hahm HC and Cameron M, Adolescent victimization and subsequent use of mental health counseling services, *Journal of Adolescent Health*, 2002, 30(5):336–345.

39. Grunbaum JA et al., 2000, op. cit. (see reference 9).

40. Schuster MA et al., 1998, op. cit. (see reference 12).

41. Okazaki S, Influences of culture on Asian Americans' sexuality, *Journal of Sex Research*, 2002, 39(1):34–42.

42. Tang TN and Dion KL, Gender and acculturation in relation to traditionalism: perceptions of self and parents among Chinese students, *Sex Roles*, 1999, 41(1/2):17–29.

43. Cochran SD, Mays VM and Leung L, 1991, op. cit. (see reference 10).

44. Meston CM, Trapnell PD and Gorzalka BB, 1996, op. cit. (see reference 10); and Johnson A et al., Surveying sexual attitudes, *Nature*, 1990, 343(6254):109.

45. Meston CM, Trapnell PD and Gorzalka BB, 1996, op. cit. (see reference 10); and Johnson A et al., 1990, op. cit. (see reference 44).

46. Huang K and Uba L, 1992, op. cit. (see reference 10).

47. Weiss MS, Selective acculturation and the dating process: the patterning of Chinese-Caucasian interracial dating, *Journal of Marriage and the Family*, 1970, 32(2):237–282; and Yancey G, Who interracially dates: an examination of the characteristics of those who have interracially dated, *Journal of Comparative Family Studies*, 2002, 33(2):179–196.

48. Jacobs J and Labov T, Gender differentials in intermarriage among sixteen race and ethnic groups, *Sociological Forum*, 2002, 17(4):621–646.

49. Espiritu YL, *Asian American Women and Men: Labor, Laws, and Love*, Thousand Oaks, CA: Sage Publications, 1997; and Park S, What Hollywood should know: a call to action from an Asian American actor, in: Fong TP and Shinagawa LH, eds., *Asian Americans: Experiences and Perspectives*, Upper Saddle River, NJ: Prentice Hall, 2000, pp. 270–272.

50. Ward LM, Understanding the role of entertainment media in the sexual socialization of American youth: a review of empirical research, *Developmental Review*, 2003, 23(3):347–388.

51. Padilla AM, 1980, op. cit. (see reference 35).

52. Holtzman D and Rubinson R, 1995, op. cit. (see reference 24).

53. O'Donnell L, O'Donnell CR and Stueve A, 2001, op. cit. (see reference 6).

54. Jaccard J, Dittus PJ and Gordon VV, 1996, op. cit. (see reference 25).

55. Ibid.; and Holtzman D and Rubinson R, 1995, op. cit. (see reference 24).

56. Rodgers JL and Rowe DC, 1990, op. cit. (see reference 1).

57. Hahm H, Lahiff M and Guterman N, 2003, op. cit. (see reference 26).

58. Hahm H, Lahiff M and Guterman N, 2004, op. cit. (see reference 27).

59. Lowry R et al., Substance use and HIV-related sexual behaviors among U.S. high school students: are they related? *American Journal of Public Health*, 1994, 84(7):1116–1120.

60. Duffy JC and Waterton JJ, Under-reporting of alcohol consumption in sample surveys: the effect of computer interviewing in fieldwork, *British Journal of Addictions*, 1984, 79(3):303–308.

61. Hahm H, Lahiff M and Guterman N, 2003, op. cit. (see reference 26); and Hahm H, Lahiff M and Guterman N, 2004, op. cit. (see reference 27).

62. Suinn R and Ahuna C, The Suinn-Lew Asian Self-Identity Acculturation Scale: concurrent and factorial validation, *Educational and Psychological Measurement*, 1992, 52(4):1041–1046.

63. Guzman BL et al., CAMP: a community-based approach to promoting safe sex behavior in adolescence, *Journal of Community and Applied Social Psychology*, 2003, 13(4):269–283.

64. Meschke LL, Bartholomae A and Zentall SR, Adolescent sexuality and parent-adolescent processes: promoting healthy teen choices, *Family Relations*, 2000, 49(2):143–154.

65. Okazaki S, 2002, op. cit. (see reference 41).

Acknowledgments

An earlier version of this article was presented at the annual meeting of the Society for Social Work and Research, Miami, January 13–16, 2005. This study was funded by the National Institute of Mental Health grant RO1 MH-37310, training grant MH-18828 (3-T32-MH-16089-20SI) and the National Institute of Mental Health Office of AIDS Research grant 1 RO3 MH64341-01. This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman and Kathleen Mullan Harris, and funded by a grant P01-HD31921 from the National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due to Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516–2524.

Author contact: hahm@bu.edu