

## HIV/AIDS Protective Factors among Urban American Indian Youths

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*Abstract:* This research examined how family and individual factors influence 3 HIV/AIDS risk behaviors: having more than 1 sexual partner in the last 3 months, substance use at last sexual intercourse, and condom non-use at last sexual intercourse. The sample includes 89 sexually active American Indian adolescents living in a large Southwestern U.S. city. Logistic regression results revealed that family communication acts as a protective factor against HIV risk through a lower reported substance use during last sexual intercourse, but it did not appear to affect the number of multiple recent sex partners. Family and personal involvement in American Indian cultural activities, both low on average in this urban sample, had no effect on outcomes. This study advances knowledge on sexual health risk and protective factors among American Indian adolescents, an understudied group, and provides implications for prevention intervention with American Indian youths and their families.

*Key words:* HIV/AIDS, family context, protective factors, American Indian youth.

While there is a growing body of research on HIV/AIDS in the general population, less is known about the protective and risk factors associated with HIV/AIDS infection among American Indian youth. Relative to other racial/ethnic groups, American Indians have received minimal attention because they have had low reported rates of infection since the early days of the epidemic.<sup>2,10,27,36</sup> Yet, over two decades into the epidemic, reported rates of infection among American Indians have begun to increase, especially among youth, who make up a large portion of the American Indian population.<sup>2,4</sup> The change in rates raises questions about this group's vulnerability to HIV/AIDS and marks a need to better understand the factors that may lead to or prevent behaviors associated with disease contraction in this group. Toward that end, this study uses a sample of sexually active, urban American Indian youth and explores the influence of family and individual factors on behaviors associated with HIV/AIDS risk: having multiple recent sexual partners, substance use during sex, and unprotected sex.

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**American Indian youth and HIV/AIDS.** According to the Centers for Disease Control (CDC),<sup>5</sup> there were 1,506 American Indians living with AIDS at the end of 2004, less than 1% of the total U.S. AIDS cases. At that same time, there were 11.1 American Indians with HIV/AIDS per 100,000 population, based on the CDC's 33-state surveillance estimates.<sup>5</sup> The accuracy of these official numbers has been questioned by people who believe that actual rates may be higher.<sup>4,30</sup> Poor record keeping by the Indian Health Service (IHS), poor and under-reporting of disease, racial/ethnic misclassification of American Indians, and low levels of HIV testing among American Indians may explain the suspected underestimates.<sup>4,11,27,30</sup>

Some researchers have described HIV as the new smallpox, an epidemic that could decimate entire American Indian communities in a way reminiscent of the epidemics caused by early European colonization.<sup>2,3</sup> The fact that many American Indian communities present risk factors commonly associated with HIV infection contributes to the concern. For example, American Indians report high rates of substance use, especially alcohol use,<sup>2,7,8,12</sup> and high rates of sexually transmitted diseases.<sup>8</sup> Furthermore, American Indians face high rates of poverty and low rates of educational achievement, which may constitute barriers to prevention and access to health services.<sup>3,7</sup> On the other hand, the community's past low levels of infection necessitate further research to identify possible protective factors. Once these protective factors are identified and better understood, they can be integrated into effective and culturally grounded prevention programs. This article seeks to advance the existing knowledge about the phenomenon from a resiliency perspective by examining the unique characteristics of Native American youth residing in urban areas.

**The urban context.** Despite their identified high HIV-risk behaviors, American Indians are sometimes thought to be better protected from HIV/AIDS than other groups because many live on tribal lands in rural, isolated areas. Residence on tribal lands may provide risk-reducing social support and cultural connectedness due to proximity to family and other tribe members and traditional events.<sup>17</sup> Urban areas, in contrast, have been associated with greater HIV/AIDS risk because residents are exposed to more infected people, behavior norms associated with greater HIV/AIDS risk, and other problems, such as homelessness, which may ultimately increase the risk of infection.<sup>26</sup> In fact, the majority of American Indian HIV cases are in urban areas.<sup>11</sup> However, it is important to recognize that urban areas may also be protective in some respects. For example, American Indians residing in urban areas may benefit from greater access to HIV/AIDS knowledge and education than people living on reservations have.<sup>2</sup>

For American Indian youth, living in an urban area involves navigating through two worlds and a mix of risk and protective factors. As adolescents, they are already experiencing multi-faceted changes in their lives.<sup>31</sup> Their daily bicultural experience of home and community may produce cultural conflicts and raise questions about identity and sense of belonging.<sup>22</sup> American Indian identity may take on greater salience as the youths interact with students and teachers of other racial/ethnic backgrounds. They may come to be viewed narrowly as *Indian*, and negative interactions may lead to poorer self-appraisal.<sup>18</sup> In summary, the urban context is

the backdrop for the behavioral choices that urban American Indian youth make about sexual behavior and HIV/AIDS risk.

**Sexual behavior and HIV/AIDS.** Sexual activity continues to be the main mode of HIV transmission for adolescents in general,<sup>9-10</sup> and American Indian youth are no exception.<sup>10</sup> Among sexually active youth the number of sexual partners, substance use during sex, and non-use of condoms have been associated with HIV/AIDS infection. Although national data on sexually active youths' number of recent sexual partners are not available, evidence suggests that the number of partners may increase HIV risk when no protective measures are taken.<sup>9</sup> Unfortunately, American Indian youth, like youth from other racial/ethnic backgrounds, are inconsistent and infrequent users of protection.<sup>10,13</sup> Nationally, 42% of youth of all racial/ethnic backgrounds report no condom use during the last sexual intercourse.<sup>14</sup> Relative to their non-Native peers, American Indian youth are about half as likely to use contraceptives.<sup>15</sup>

Studies in the general adolescent population show that condom use is less likely when youth are under the influence of substances.<sup>9</sup> According to a national survey of adolescents aged 15 to 24, 11% report having used alcohol or drugs during the most recent sexual intercourse.<sup>14</sup> Studies among American Indian adults have linked substance use to less condom use, especially by females.<sup>4,8</sup> Few studies have explored this link among youth.

Some research has explored the family's role in encouraging healthy sexual behavior, although few studies thus far have explored this association among American Indian youth. Existing research suggests that parental monitoring, positive family relations, and parent-child discussions about sex can protect against risky sexual behavior among American Indian youth.<sup>1,7,16,19</sup>

Other research has documented the relationship between family relations and substance use.<sup>20-21</sup> Family members have been found to have both positive and negative effects on American Indian youths. Family members' substance use can motivate youths to avoid using alcohol and other drugs because they witness closely its negative consequences or it can foster substance use because the youths are invited to use alongside their family members.<sup>20</sup> Supervision by family members may give youths a sense that they are protected and cared for, thereby decreasing their interest in substance use.<sup>20</sup> Closeness to and low conflict with family members has also been associated with less substance use.<sup>21</sup>

Cultural factors also are key variables in prevention for American Indians.<sup>6,10,37</sup> The belief is that developing cultural pride will strengthen youth's perceptions of their own value, thereby motivating them to engage in healthy behaviors.<sup>3</sup> Although some research demonstrates the success of culturally grounded programs for American Indian adults,<sup>37</sup> little research on American Indian youth has tested this association in relation to HIV/AIDS risk. One study found that American Indian adolescents' cultural connectedness and Native religious involvement had no effect on sexual behaviors.<sup>19</sup> In contrast, another study found that youth in more culturally traditional families became sexually active at later ages and had higher rates of condom use,<sup>2</sup> suggesting an important prevention role for the family's culture.

**A contextual approach to American Indian youth sexual behavior.** The standard

knowledge-attitudes-behavior (KAB) approaches to explaining risky sexual behavior (e.g., the theory of reasoned action,<sup>23</sup> the theory of self efficacy,<sup>24</sup> and the health belief model<sup>25</sup>) focus on the individual. The models generally posit that people with greater knowledge of HIV transmission and modes of prevention and greater self efficacy will be less likely to engage in risky sexual behavior and more likely to engage in risk reduction behavior. Thus, the research has explored such individual variables as the extent to which individuals have correct knowledge of HIV and sexuality, perceive themselves to be personally vulnerable to HIV infection, are willing to use condoms or negotiate safe sex, and have confidence in their ability to protect themselves from HIV.<sup>2</sup> Although this approach has helped to generate needed information on existing HIV knowledge and attitudes, it has been less effective in explaining adolescents' actual sexual behavior. Knowledge and attitudes do not consistently predict behavior.<sup>2,26,28</sup> Walters and Simoni, for example, found in their study of adult urban American Indians that trauma was a better predictor of HIV risk behavior than social cognitive variables.<sup>26</sup>

The inconsistent findings have been explained, in part, in terms of a failure to account for context. A person's ability to translate knowledge and norms into healthy behavior may be encouraged or constrained by the context in which he or she lives.<sup>28,32,33</sup> This limitation of the KAB approach, among others, has prompted some researchers to call for less individual, more contextual approaches, and for more strength- or resiliency-based rather than risk-based approaches to understanding and preventing HIV/AIDS among youth.<sup>35</sup> In addition, some researchers have stressed the importance of taking into account community-level experiences, such as communities' historical oppression as a group, and cultural contexts when examining American Indians' health behaviors.<sup>6,29,30,34,37,38</sup>

Given the limitations of standard approaches and the importance of context for American Indians, we advance a contextual model for examining the relationship between American Indian youth and HIV/AIDS protective and risk behaviors. Calling upon Bogenschneider's<sup>39</sup> Ecological Risk/Protective Theory, we explore family factors that form part of the social context that may influence sexual behavior. Bogenschneider's theory explains youth outcomes in terms of adolescents' personal attributes and the dynamic environments in which youth live. It accounts for protective factors that may offset risks in adolescents' lives. From this perspective, we hypothesize that urban American Indian adolescents' family context may include supports and stressors that influence sexual behavior and, consequently, exposure to HIV/AIDS.

We propose to examine individual factors and contextual family factors, specifically family relations, family communication about HIV/AIDS, and family cultural involvement among urban American Indian youth. The study is guided by the hypothesis that family relations, family communication, and family cultural involvement are associated with the presence or absence of selected sexual risk behaviors among sexually active, urban American Indian youth.

## Methods

This article reports the findings of a secondary data analysis using data from the first wave of the urban American Indian Multisector Help Inquiry (AIM-HI), which examined the service use of a representative sample of 200 American Indian youths living in a large metropolitan area of a Southwestern state in the U.S. Youth aged 12 to 19 years were randomly selected from complete tribal enrollment and school district records. One child per household was enrolled and interviewed in 2001. Institutional review boards at Washington University in St. Louis, the tribal council, and the urban school district approved the study's procedures. Local American Indian educational and health services staff initially notified families of the study and encouraged their participation. Families returned a pre-stamped postcard indicating consent to or refusal of the family members' participation in the research. Only six families or youth refused to participate.

Interviewers administered a brief interview exploring behavior and functioning; the interview was structured, using material from the Youth Self Report,<sup>40</sup> the child version of the Columbia Impairment Scale,<sup>41</sup> and substance use questions from the Youth Risk Behavior survey.<sup>42</sup> Of the youth who completed the brief interview, half were randomly sampled to complete a long interview. An additional 50 youth, who were not randomly selected but were identified as being in great need of services, based on the brief interview, were added to the sample. Of the youth selected for the long interview, fewer than 3% refused or had a parent withdraw consent. Those who participated were paid \$25. The field supervisors and interviewers, most of whom were American Indian, were trained by the AIM-HI research team. Additional details on the study are summarized by Stiffman, Striley, Brown, Limb, and Ostmann.<sup>43</sup>

**Sample.** The present analyses were conducted using a sub-sample from the study described above. The sub-sample consisted of the 89 urban youth who reported that they had ever had sex and were not married. A comparison of the sub-sample with the rest of the original sample revealed the following two statistically significant ( $p < .05$ ) differences. The sub-sample was older, with a mean age of 16.2 years, whereas unselected youth from the original sample had a mean age of 15.3 years. The sub-sample reported greater family and personal involvement in American Indian cultural activities than the sample as a whole, but the size of the difference was marginal and not practically meaningful. (Both groups reported relatively low involvement.)

**Demographics.** The sample of 89 youth was 51% female. According to respondents' reports of their tribal membership, 35% of the sample was affiliated with the Diné (Navajo) nation only, 12% Hopi only, 6% Pima only, 3% Apache only, 1% Maricopa only, and 21% of the respondents were affiliated with one of the following tribes: Acoma, Cherokee, Cheyenne, Chicaksaw, Choctaw, Laguna Pueblo, Papago, Quechan, Sioux, Tohono Odham, Warm Springs Confederated Tribes, Pasqua Yaqui. The remaining 22% of the sample affiliated with more than one tribe. Respondents' ages ranged from 14 to 20 years with an average of 16.5 years. A majority of respondents (66%) indicated that their families received some form

of tribal or other governmental financial assistance, indicating low socioeconomic status. Almost the entire sample (87%) reported that they had ever been taught in school about HIV/AIDS infection.

**Measures.** We analyzed three outcomes: having more than one sexual partner in the last three months, alcohol or drug use during last sexual intercourse (1 = *Yes*, 0 = *No*), and sexual intercourse without a condom during last encounter (1 = *Yes*, 0 = *No*).

Family relations were measured by an index with five items.<sup>44</sup> The respondent indicated the frequency, ranging from *rarely* (1) to *all or most of the time* (5), with which: the family gets on their nerves, they really enjoy their family, they can really depend on their family, their family argues too much, and they feel like a stranger in their family. Negatively worded items were reverse coded so that higher values indicated more positive family relations. The standardized Cronbach's Coefficient Alpha for the measure was .70.

Family communication about HIV/AIDS was measured by a single item indicating whether the youth ever talked about HIV/AIDS infection with his/her parents or other adults in his/her family (1 = *Yes*, 0 = *No*).

Individual and family involvement in American Indian culture was measured using questions from Oetting and Beauvais' Orthogonal Cultural Identity Scale.<sup>45</sup> Family cultural involvement was measured by a single item assessing the degree of family involvement in American Indian traditions. Individual cultural involvement was measured by a set of items assessing the respondent's involvement in American Indian traditions, including memorials/feasts, powwows/dances, giveaways, healing ceremonies, sweats, religious events, naming ceremonies, talking circles, spiritual running (running races or relays to bring attention to a specific issue or cause), and other traditional activities, and private American Indian spiritual activities, including using sweet grass, juniper, sage, or corn pollen, or praying in the home. Responses to the items were averaged. The standardized Cronbach's Coefficient Alpha for the measure was .87. The responses to all individual and family involvement items ranged from *a lot* (3) to *not at all* (0), with higher values indicating greater cultural involvement.

Substance use was captured by a dichotomous variable distinguishing users from non-users. It was a composite of several measures capturing lifetime experience with alcohol, tobacco, and other drugs. Alcohol use was measured by a single variable indicating whether the person had had at least 6 drinks in his or her lifetime (1 = *Yes*, 0 = *No*). Tobacco use was measured by several variables that captured whether the person had ever used cigarettes, cigars, a pipe, snuff, or chewing tobacco for recreational purposes (1 = *Yes*, 0 = *No*). Other drug use was measured by a series of 46 substance-specific variables capturing whether the person had ever used the substances (1 = *Yes*, 0 = *No*). A value of 1 on the alcohol, tobacco, or other drug measure qualified the adolescent as a substance user.

Demographic variables included sex (1 = *Female*, 0 = *Male*), age, tribal affiliation, and socioeconomic status. Age categories ranged from 14 years or younger to 18 years or older, with single years in between. Socioeconomic status was measured by the family's receipt of financial assistance, such as Tribal Assistance, Medicaid,

TANF (Temporary Aid to Needed Families), food stamps, WIC (Women Infants and Children), housing assistance, Social Security, and subsidized day care (1= receipt of any assistance, 0=no assistance).

**Analysis strategy.** Descriptive statistics were produced and bivariate analyses conducted to assess relationships between each of the predictor variables and the three outcomes. Then, multivariate logistic regression was conducted. Demographic predictors and individual factors were entered first. Each family measure was then entered individually, along with controls. Finally, a full model with all predictors and controls was produced for each of the three outcomes (having more than one sex partner in the last three months, using substances during last sexual intercourse, and sex without a condom during last sexual intercourse). Analyses were weighted to account for the sampling methodology.

## Results

Univariate analyses of the outcome variables revealed that 11% of the youth reported having more than one sex partner in the last three months. Sixteen percent reported using alcohol or drugs during last sexual intercourse, five percentage points higher than national figures. Finally, 32% reported not using a condom during last sexual intercourse, 10 percentage points lower than national figures. Table 1 contains these proportions as well as differences by sex. Although the pattern is that boys were more likely to have had more recent sex partners and use substances at last intercourse and girls were more likely to have had sex without a condom, these differences were not statistically significant.

Additional analyses revealed high levels of family support in the sample. On average youths reported that they had positive family relations for “a good part of” the last six months (=4.06). Sixty percent of the sample reported that they had ever talked about HIV/AIDS with parents or other adults in their family. On average, the youth reported that their families had some involvement (=1.97) in American Indian traditions. Personal involvement was somewhat lower. On average, the adolescents reported only a little personal involvement (= .98) in American

**Table 1.**

### PROPORTIONS OF SEXUALLY ACTIVE YOUTH ENGAGING IN HIV/AIDS RISK BEHAVIORS BY SEX

	Boys n=44	Girls n=45	All n=89
More than 1 sex partner in last 3 months	15%	8%	11%
Substance use during intercourse	17%	15%	16%
No condom use during intercourse	26%	39%	32%

Indian cultural traditions. The vast majority (83%) reported recreational substance use experience.

Table 2 shows the proportions of youth engaging in HIV/AIDS risk behaviors based on whether they engage in family communication about HIV/AIDS. A pattern of protection appeared for two of the three outcomes. Fewer youth in families that talk about HIV/AIDS reported substance use or no condom use at last intercourse, relative to youth in families that do not discuss HIV/AIDS. However, more youth in these families reported sex with multiple recent partners.

Table 3 reports the logistic regression estimates from the final multivariate models predicting the likelihood of having more than one sex partner in the last three months, substance use at last intercourse, and condom non-use at last intercourse and including all controls. These results indicate that family HIV/AIDS communication, but not positive family relations or family involvement in American Indian cultural traditions, are related to HIV/AIDS risk behavior. In particular, family communication about HIV/AIDS has a positive effect on the likelihood of having had more than one sex partner in the last three months and a negative effect on the likelihood of having used substances at last intercourse. Relative to youth without family communication about HIV/AIDS, youth who discuss HIV/AIDS with their parents or other adult family members had nine ( $=e^{2.22}$ ) times greater odds of having multiple recent sex partners and .24 ( $=e^{-1.44}$ ) times lower odds of using substances at last intercourse. Family HIV/AIDS communication was not related to the likelihood of having unprotected sex.

At the individual level, only substance use was significant. A powerful predictor, it was associated with a much greater likelihood of having multiple recent sex partners and using substances at last intercourse. However, it was not associated with condom non-use. Individual American Indian cultural involvement, age, sex, and socioeconomic status, measured by financial assistance, had no effect on the three outcomes. According to the log likelihood ratio tests, the models predicting multiple recent sex partners and substance use during sex had good fit, but the

**Table 2.**

**PROPORTIONS OF SEXAULLY ACTIVE YOUTH ENGAGING IN HIV/AIDS RISK BEHAVIORS BY FAMILY HIV/AIDS COMMUNICATION (No communication/Communication)**

	No HIV/AIDS communication n=35	HIV/AIDS communication n=54
1+ sex partner in last 3 months	2%	18%
Substance use during last intercourse	23%	11%
No condom use during last intercourse	42%	26%



**Table 3.**

**LOGISTIC REGRESSION ESTIMATES (STANDARD ERRORS):  
PREDICTING THE LIKELIHOOD OF HIV/RISK BEHAVIORS  
AMONG SEXUALLY ACTIVE YOUTH**

	More than 1 sexual partner in last 3 months	Substance use at last sexual intercourse	Condom non-use at last intercourse
Family communication about HIV/AIDS	2.22 (1.00)**	-1.44 (.64)**	-.68 (.56)
Positive family relations	-.29 (.62)	-.39 (.48)	-.11 (.38)
Family American Indian cultural involvement	.16 (.60)	.99 (.69)	-.23 (.49)
Individual American Indian cultural involvement	-.24 (.38)	-.06 (.51)	.21 (.33)
Ever used substances	17.23 (.49)****	17.18 (1.01)****	-1.22 (.76)
Female	-.66 (.89)	-.26 (.71)	.66 (.54)
Financial assistance	1.11 (.88)	.31 (.70)	.83 (.61)
Age	.38 (.43)	.58 (.28)**	.11 (.22)
Intercept	-26.20 (7.53)****	-27.00 (4.95)****	-1.88 (3.88)
Likelihood ratio			
Chi-Square (df)	20.59 (8)***	22.71 (8)***	14.96 (8)*
Weighted N	127	127	124

\*p<.10, \*\*p<.05, \*\*\*p<.01, \*\*\*\*p<.001

model predicting condom non-use only marginally improved on the intercept-only model.

## Discussion

This study examined the prevalence of three sexual risk behaviors among sexually active American Indian youth, providing needed information on an understudied group by exploring the relationship between individual and contextual family factors and HIV/AIDS risk. The findings provide a snapshot of the risk status of a selected group of sexually active American Indian youth residing in a large metropolitan area of the Southwest U.S. The finding of lower than national average rates of unprotected sex is reassuring, but it runs counter to previous research<sup>15</sup> and warrants further investigation. It may reflect resources and supports unique to these urban American Indian youth. In particular, it may reflect greater access to condoms and HIV/AIDS information due to urban residence or some other factor. The vast majority of the sample (98%) reported receiving HIV education

in school. This programming may be accompanied by a condom distribution plan, thereby facilitating condom use in this particular sample. If so, this finding would suggest that greater access to HIV/AIDS prevention resources fosters lower risk among urban American Indian youth, though further study is required to confirm this possibility.

The finding of higher than national rates of substance use during sex lends credence to some concerns voiced by researchers about the under-reported risk for HIV/AIDS in this population.<sup>3,4</sup> It is important to remember that the original sample included an additional group of youth identified as having a greater need for services. This fact limits any comparisons with national rates. The high rates of lifetime substance use in this sample and among American Indian youth in general, however, contribute to the salience of this risk behavior in this population. Prevention efforts in this population should emphasize substance use as an avenue of disease transmission.

Of the family factors assessed here, only family communication about HIV/AIDS was a significant factor. Positive family relations had no effect. The measure may be too general to explain a youth's sexual risk behavior. It may be that sex-specific family attitudes and norms, such as those reflected in conversations about sex or HIV/AIDS, are more salient predictors in this group of already sexually active youth. Furthermore, the finding of no effect does not necessarily mean that families are not protective or have no influence on American Indian youth's sexual behaviors. It may mean that good relations alone will not foster healthy sexual activity. Targeted family intervention, such as family communication about HIV/AIDS, may be required to have an impact on HIV/AIDS risk.

It appears that family communication has an impact, but that impact can be positive or negative, possibly depending on the content of the conversations. The finding of their impact, coupled with the finding of generally positive family relations in the sample, suggests that the family may be a resource for prevention. The seriousness of HIV/AIDS as a topic of conversation may make family HIV/AIDS communication a more salient factor than general family relations. Some families may speak only rarely about sex such that when they do, the experience resonates loudly for the youth, influencing their subsequent behavior.

We must be cautious in our interpretation of findings, however. First, the measure of family communication about HIV/AIDS was based on a single item, the only one available on the topic in the dataset. A more comprehensive measure, whose reliability and validity could be assessed, would have been preferable. Second, due to the cross-sectional nature of the data, causal ordering is unclear, and detailed information about the content and tone of the family HIV/AIDS conversations is unknown. It may be that family members initiate conversations about HIV/AIDS when they realize or suspect that the youth is having sex. Alternatively, it may be that these conversations portray sex as a normal, healthy human activity, thus fostering sexual activity and reducing the need to rely on substance use to get through the experience. Family conversations may, however, fail to distinguish the circumstances under which sexual activity can threaten health, such as unprotected sex with multiple partners. Further exploration of the content of family exchanges

about HIV/AIDS, with more comprehensive measures, may yield information important for possible prevention interventions. Mixed methods or ethnographic research may also be useful avenues to understand better the nature and meaning of those conversations.

Family involvement in American Indian culture had neither a protective nor a risk effect on the outcomes. Individual involvement also had no effect. There were low levels of both types of involvement in the sample as a whole, perhaps due to the urban composition of the sample and the consequent bicultural perspective of the respondents. In addition, because the cultural involvement variable assessed only American Indian culture, it may have failed to distinguish between youth with high and low involvement in mainstream culture, thus suppressing a possible protective effect of Native orientation as well as a risk effect of mainstream orientation. Future studies could explore the effects of mainstream cultural involvement and enculturation stress at the family and individual levels. Biculturalism and enculturation must be explored. It is worth noting, however, that the one other study of American Indian youth sexual practices that was identified also found no relationship between cultural involvement and safer sexual practices.<sup>19</sup>

Youth with lifetime substance use experience were more likely to report having multiple sex partners and using substances at last intercourse, and the effects were very strong. This is a notable finding, given our relatively limited measure of substance use (a dichotomous measure distinguishing youths who have ever used and youths who have never used substances). However, the finding is consistent with prior research linking substance use and sexual risk behavior.<sup>4,8-9,14</sup> It suggests that lifetime substance use is a robust predictor of sexual risk behavior and that HIV/AIDS prevention programs must address substance use as a separate but related behavior.

No family or individual variable predicted condom non-use. Prior research has found substance use to be a consistent predictor of condom non-use.<sup>9</sup> The surprising absence of an effect here may be due to the failure to include more proximal variables, such as partner or sexual encounter characteristics, which have been found to be related to condom use.<sup>28,32,33</sup>

## Conclusion

This study provides important descriptive information on the HIV/AIDS risk and protective factors associated with sexually active American Indian youth, an understudied group. It also identified important contextual family factors that are related to HIV/AIDS risk and protection. Future researchers must continue to examine contextual factors, using longitudinal data, to develop greater understanding of the influences on American Indian adolescents' sexual behaviors and their implications for HIV/AIDS prevention. In particular, there is a need to explore the conditions under which family HIV/AIDS communication is associated with risk and protection and whether topic-specific family communication can be employed to protect against other outcomes. It is possible that family discussion about substance use may relate to substance use during sex in the way that HIV/AIDS family

communication related to it. If so, families may need support from service providers on how to engage in culturally relevant conversations with their children about substance use and safer sex. Future research could also explore the role of family factors, comparing sexually active youth with non-sexually active youth, since there is some evidence that family factors may differ for the two groups.<sup>16</sup> Beyond the family, other contextual influences on youth sexual risk behavior, such as trauma, are also in need of study. More work must be done to capitalize on the available (albeit limited) data and to collect new data to help fill the knowledge gap regarding the factors that protect American Indian youths from HIV/AIDS.

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