

Acculturation Status and HIV/AIDS Knowledge and Perception of Risk Among a Group of Mexican American Middle School Students

Flavio Francisco Marsiglia
Rudy Navarro

ABSTRACT. This article explores relationships between acculturation status, HIV/AIDS knowledge, and perceived risk of HIV infections among a selected group of Mexican American youth from a large Southwestern city. The vulnerability, risk and resiliency model served as the theoretical framework for the research. Students exhibiting lower acculturation levels were significantly less knowledgeable about HIV/AIDS and felt at a significantly higher risk for HIV infection than their more acculturated classmates. Lower acculturation had a temporary resiliency effect on the female students. The implications of these findings for future research, policy development, prevention programs and social work practice are discussed. (*Article copies available for a fee from The Haworth Document Delivery Service: 1-400-312-9678. E-mail address: getinfo@haworthpress.com Website: http://www.haworthpress.com*)

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INTRODUCTION

While AIDS cases and deaths in 1996 declined in the U.S. for the first time since the beginning of the epidemic, several groups, includ-

Flavio Francisco Marsiglia and Rudy Navarro are both affiliated with the School of Social Work, Arizona State University, Tempe, AZ.

Address correspondence to Flavio F. Marsiglia, School of Social Work, DRS Project, Arizona State University, P.O. Box 87371.1, Tempe, AZ 85287-3711 ([e-mail: marsiglia@asu.edu](mailto:marsiglia@asu.edu)).

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ing Hispanics, are still experiencing alarming transmission rates. Young people ages 13-24 and particularly African-American and Hispanic youth continue to become infected with HIV at a very high rate (CDC, 1998d). While multiple factors may account for the behaviors leading to HIV transmission, the role of acculturation, or the degree to which an individual is assimilated into the mainstream culture, may play an important role for Hispanic youth and their families.

Much has been written about the epidemiology of HIV/AIDS among the Hispanic population and the various behaviors and behavioral determinants that place Hispanics at risk for HIV infection (CDC, 1998d; Dawson and Hardy, 1989; Sabogal and Catania, 1996; Sweat & Levin, 1995; Van Oss Maria & Gomez, 1998). Several studies have suggested that important differences in risk behavior and predictors of risk behavior may exist among and within Hispanic sub-groups (Deren et al., 1997; Kaiser Family Foundation, 1998; Sabogal et al., 1995) but few studies have examined these differences among Hispanic children and adolescents. Regional studies can be a conduit to gaining a better understanding of certain Hispanic sub-groups because they tend to be geographically concentrated.

The proximity to Mexico and the very porous nature of the international border make the Southwest region a geographical, social, and political unit encompassing communities on both sides of the international line. Mexican American youth can be found navigating throughout a unique cultural and linguistic spectrum (Acuna, 1996). Differences in levels of acculturation, language proficiency, immigration history, and socioeconomic status make the Mexican American community of the Southwest very heterogeneous (Anzalua, 1987).

Much of the research on HIV/AIDS and Mexican American youth has been conducted as part of broader umbrella identity constructs such as Latina/o or Hispanic. The assumption of Hispanic homogeneity has pervaded the literature, obscuring important differences between and within groups of Mexican Americans, Cubans, Puerto Ricans, Central Americans, South Americans, Spaniards, and others (Felix-Ortiz & Newcomb, 1995; McNeece & DiNitto, 1994). Besides national origin, Hispanics are also diverse in areas of education, living environment, family composition, language, religion, traditions and socioeconomic status. This paper reports on a study conducted with a selected group of Mexican American middle school students in a large city in the Southwest region of the United States. Literature on His-

panics in general is incorporated when more specific information about Mexican Americans is not available.

The relationship between HIV/AIDS knowledge, perceptioir of risk, condom efficacy beliefs, acculturation, and sample characteristics is investigated in the framework of the vulnerability, risk and resiliency model (Begun, 1993). It is hypothesized that a lower level of acculturation, as measured by the use of Spanish in a variety of contexts, is associated with lower levels of HIV/AIDS knowledge, lower levels of awareness about risk of infection, and unfavorable beliefs about the efficacy of condoms in preventing HIV transmission.

HIV/AIDS AND HISPANICS

As of December 1997, Hispanics accounted for 12% of the total AIDS cases reported while accounting for 12% of the total U.S. population (CDC, 1998a; CDC, 1998b). Rates for new cases of AIDS reported in 1997 were 3.4 times higher for Hispanic men than for white men and over seven times higher for Hispanic women compared to white women (CDC, 1998b). In the full year between 1995 and 1996, 25 states that report cases of HIV infection as distinct from AIDS cases found that HIV diagnoses increased among Hispanics (+10%) while decreasing among African Americans (-3%) and whites (-2%) (CDC, 19984).

Mortality reports present a similar picture. Between the first half of 1996 and the first half of 1997, reports of new AIDS cases and deaths among people with AIDS declined for all racial and ethnic populations (CDC, 19984). However, while the percent decrease in AIDS cases for whites was 25%, the decrease for Hispanics was only 13%. Similarly, the decrease in AIDS-related deaths for Hispanics was only 42%, compared to 54% for whites. AIDS is the fourth leading cause of death for Hispanics and the eighth leading cause of death for the general population.

Increases in heterosexual transmission rates are a large concern for Hispanics. AIDS incidence among Hispanic men who have sex with men or inject drugs has decreased but heterosexual transmission has increased by 11% (CDC, 19984). Heterosexual transmission among Hispanic women has always accounted for the majority of cases with injection drug use accounting for the second most cases. In 1996, the number of Hispanic women infected through injection drug use

dropped by eight percent (CDC, 1998d). The number of Hispanic women infected heterosexually in 1996 continued to increase although at a slower rate than in previous years.

The situation for adolescents in general and Hispanic youth in particular is equally serious. Hispanic youth accounted for 25% of new AIDS cases reported in 1997 for the 13-19 year old age group but they accounted for only 13% of the U.S. population in that age group in 1996 (CDC, 1998b). Twenty-three percent of new AIDS cases reported in 1997 in the 13-24 year old age group are Hispanic and this group constitutes 21% of cumulative AIDS cases.

A variety of behaviors place adolescents and minority youth at increased risk for HIV/AIDS. Such characteristics and behaviors include their young age at first intercourse, their non-use or ineffective use of contraceptives including condoms, number of sexual partners, high rates of STD's, and limited HIV/AIDS knowledge (DiClemente, Boyer, & Morales, 1988; Richter, Valois, McKeown, & Vincent, 1993). Recent findings from the 1997 CDC Youth Risk Behavior Surveillance Report show that Hispanic youth are more likely than white youth to have had sexual intercourse in their lifetime, to have had four or more sexual partners in their lifetime, and to have initiated sex before the age of 13. They are also more likely to not use condoms and to have conceived. These findings illustrate the general trends identified among Hispanic youth but they do not provide information about differences among sub-groups included under the Hispanic umbrella term or by levels of acculturation within subgroups.

HISPANIC SUBGROUPS, ACCULTURATION LEVELS, AND HIV/AIDS

Studies that report on specific behavioral or attitudinal characteristics of various Hispanic youth subgroups are rare. For adults, the lowest prevalence rate of HIV risk factors has been found in Mexican and Central American populations (Sabogal & Catania, 1996). Mexican born Hispanics residing in the South and West of the United States were found to have the lowest AIDS case rates for Hispanics (Diaz, Buehler, Castro, & Ward, 1993). Transmission modes also vary by Hispanic subgroup with male to male sex being the most common form of transmission for Hispanic men not born in Puerto Rico. Puerto Rican men have been found to be more likely to be infected through

injection drug use. Hispanic women in general are more likely to be infected through injection drug use if they were born in the United States or if they are Puerto Rican. Hispanics of Mexican ancestry have been found to be less knowledgeable about HIV/AIDS than other Hispanic subgroups (Davison and Hardy, 1989). Hispanics living in the West and South of the United States—who are more likely to be of Mexican ancestry—are not as knowledgeable about the availability of life lengthening antiviral drugs and have less personal experience with HIV/AIDS (Kaiser Family Foundation, 1998).

Acculturation, the process by which an individual's or group's cultural norms change as a result of contact with a foreign or dominant society, may be an important factor in explaining Hispanics' risk for HIV/AIDS. Acculturation has been found to impact a variety of sexual behaviors including condom use, rates of sexual activity, and number of sexual partners. Less acculturated men are more likely to carry condoms and report positive attitudes towards condoms (VanOss Marin, Gomez & Tschann, 1993) but are less likely than more acculturated men to use them (Sabogal, Perez-Stable & Otero-Sabogal, 1995).

Less acculturated Hispanic women are less likely to keep or carry condoms (Marin & Marin, 1992) and Spanish speaking women have the lowest rates of condom use (VanOss Marin, Tschann, Gomez, & Kegeles, 1993). Less acculturated and impoverished women are more likely to report their partner's dislike of condoms (Nyamathi et al., 1993). Higher levels of acculturation among Hispanic adolescent girls and young women are positively associated with condom use with partners they "know well" (Ford & Norris, 1993), and highly acculturated Hispanic women are more likely to use condoms with secondary partners (VanOss Marin and Flores, 1994).

Acculturation also affects sexual activity, most notably for Hispanic women. Acculturation has a strong positive association with the likelihood of sexual activity for Hispanic adolescent girls and young women, including oral and anal intercourse (Ford & Norris, 1993). Highly acculturated women are also more likely to use alcohol before having sex (VanOss Marin & Flores, 1994). Sabogal et al. (1995) found that among adults, less acculturated Hispanics were less likely to report having sexual intercourse in the previous year. The same study found that less acculturated men were more likely to report a younger age of first sexual intercourse. Aneshensel et al. (1990) report

that Mexico-born Mexican American female adolescents had the lowest levels of early sexual intercourse but were also most likely to become pregnant.

Some studies have shown that the number of sexual partners is also related to acculturation levels, with highly acculturated Hispanics, both men and women, more likely to report a greater number of lifetime sexual partners (Nyamathi et al., 1993; Sabogal, Faigeles, & Catania, 1993; Sabogal, Perez-Stable, Otero-Sabogal, & Hiatt, 1995; VanOss Marin & Flores, 1994). However, some research has presented contradictory findings. VanOss Marin, Gomez, and Hearst (1993) concur that acculturated Hispanic women report greater numbers of lifetime sexual partners but found that highly acculturated Hispanic men are less likely to have multiple partners than less acculturated men. Traditional gender roles appear to explain some of the differences in sexual norms for less acculturated males and females (Marsiglia, 1998). Gender role expectations for some married Mexican immigrant women were found to restrict contact outside the home/family setting (Vega et al., 1991). However, these trends may not apply among the relatively young. For example, Ford and Norris (1993) demonstrate that acculturation is unrelated to number of partners in the past year for either adolescent Mexican American boys or girls.

The effect of acculturation on HIV/AIDS knowledge has also been researched. Several studies have shown that Hispanics in general score among the least knowledgeable of ethnic/racial groups (Aruffo, Coverdale, & Vallbona, 1991; DiClemente et al., 1988; Singer et al., 1990; Sweat & Levin, 1995). Marin and Marin (1990) demonstrated that higher levels of acculturation among Hispanics were associated with more knowledge about HIV/AIDS and a variety of studies have found evidence that highly acculturated Hispanics are more likely to have correct information about casual modes of transmission (Epstein, Dusenbury, Botvin, & Diaz, 1994; Marin & Marin, 1990; Nyamathi et al., 1993).

The described research stresses the importance of acculturation levels on the attitudes and behaviors of adult female and male Hispanics in general and Mexican Americans in particular. The current study aims at exploring the effect of acculturation on HIV/AIDS knowledge levels and perceived risk specifically on a selected group of Mexican American adolescents residing in the Southwest region.

THEORETICAL BACKGROUND

The vulnerability, risk and resiliency model (Begun, 1993) or-mliz-es our inquiry under an overarching theoretical approach *as we assess* the interplay of levels of knowledge and perception of risk of 1-I IV/ AIDS among Mexican American Youth. This approach stresses the need to: (1) clearly define the issue under study; (2) identify

continuum; (3) identify individual characteristics that form the vulner-ability and invulnerability continuum; (4) intersect the two continua, yielding four probability groups: and (5) explore strategies for prevention and intervention within each of the four cells (Begun, 1993, 1p. 29). *This* perspective allowed us to research the main variables (HIV knowl-ledge/perceived risk and acculturation) as continua, preventing us from seeing them as static or monolithic phenomella. For example we hypothesized that for some young people low acculturation may be a source of resiliency while for others lower acculturation *might* put them at greater risk for HIV infection.

We have approached this study from the perspective that less accul-turation as such cannot be seen as a deficit. Lower levels of accultura-tion, by isolating adolescents from the majority Culture's English lan-guage prevention messages, might increase their perception of risk due to mistaken or exaggerated fears. Less acculturation May thus prevent adolescents from accessing information about safer sex. *On* the other hand, severe cultural isolation or *marginality* might insulate them from awareness of HIV as a significant risk. Less acculturation may also have a buffer effect, for example, if traditional or rigid sexual norms might reinforce adolescents' sexual abstinence.

We developed our initial hypotheses by considering the *main* and interaction effects of acculturation and HIV/AIDS knowledge on per-ception of risk from HIV In general more accurate information should tend to lower the perception of risk by strengthening students' sense of self-efficacy and internalized locus of control, as defined by the works of Bandura (1979). The main effect of acculturation, however, is more difficult to predict.

The interaction effects of knowledge and acculturation are even more difficult to predict. While more knowledge may decrease the sense of risk of the highly acculturated it may not have an effect on the sense of risk of the less acculturated due to other barriers. For exam-ple, highly knowledgeable students still operating within more tradi-

tional cultures may not be able to incorporate safer sex practices because of religious reasons, narrowly defined gender roles, limited resources, or power differentials with their partners. A further possibility is that higher levels of acculturation by themselves do not have a protective effect on adolescents if they are not accompanied by higher levels of HIV/AIDS knowledge.

We explored the relationships between risk and protective factors and the students self-perception of risk as expressed in vulnerability and invulnerability measures. Other factors besides acculturation level were analyzed as they were identified as part of the social context that students shared such as gender and socioeconomic status. In order to explore these hypotheses we conducted a series of analyses on data collected by surveying a selected sample of Mexican American youth.

METHODS

Sample

The sample used to conduct the study come from the Youth Plus Survey, which was a component of a larger study funded by the Center for Substance Abuse Prevention (Brooks, Stuewig & LeCroy, 1998). The sample consisted of 351 self-identified Mexican American adolescents who constituted a subset (45%) of the larger multiethnic sample. The middle schools are located in lower-income neighborhoods and serve predominantly minority populations. The students ranged in age from eleven to fifteen. Fifty-seven percent (N = 201) of them were female and 43% (N = 150) were male. Seventy respondents (20%) completed the Spanish language version of the survey. Sixty percent of the Mexican American students who completed the survey indicated that they were receiving a free or reduced lunch.

The Questionnaire

The instrument developed for the survey was multidimensional and was designed to study substance use trends, I-HIV/AIDS knowledge and students' perception of risk for HIV infection. This article only reports on the analyses conducted on the HIV/AIDS domain of the questionnaire. Research assistant teams administered the survey dur-

ing regular 50 minute class periods. Spanish versions of the instrument and Spanish-speaking assistants were available for those students with limited English language skills. The questionnaire, data gathering procedures and consent procedures were reviewed and approved by the University's Human Subjects Institutional Review Board.

Students self-reported on a variety of demographic characteristics including gender, age, socioeconomic status, school achievement, and acculturation level. Socioeconomic status was determined through items asking whether the subject received free or reduced lunch. School achievement was measured with one question about the grades the subject received in school. The student was asked to respond to a 10-point scale ranging from "mostly below D" to "mostly A's." The acculturation scale was comprised of three questions concerning the language that is spoken in the home, with friends, and on tire television and radio stations to which subjects listen (Sabogal et al., 1987). Responses were on a 5-point Likert scale and ranged from "Spanish only," "mostly Spanish," "both Spanish and English," "mostly English" and "English only." The scores on each of the acculturation items were summed to create an acculturation index. High scores indicated more acculturation to mainstream American Culture. The acculturation scale had an alpha of .85.

HIV/AIDS knowledge was measured with ten dichotomous true-false items such as, "There is a vaccine to prevent AIDS," and "You can get AIDS from kissing" (see Table 2 for a complete list of the HIV/AIDS knowledge items). The number of correct responses given by each subject was computed for an overall knowledge score. Perceived risk was assessed with the following questions, "I am less likely than most to get HIV/AIDS," "I would be afraid of getting HIV/AIDS if someone in my class had HIV/AIDS," and "I low much do you worry you could get AIDS in your lifetime?" Beliefs about condom efficacy were assessed with a single question, "How effective are condoms in preventing the transmission of HIV/AIDS?" (See Table 5 for a complete list of the perception of risk and condom efficacy items.)

Analysis Strategy

Simple frequencies, cross tabulations and ordinary least squares regressions were used in order to explore differences between the students' acculturation levels and their knowledge and attitudes to-

wards HIV/AIDS. We explored the relationships between risk and protective factors and the students' self-perception of risk as expressed in vulnerability and invulnerability measures. We also controlled for other variables such as gender, school performance and socioeconomic Status.

RESULTS

Although there were differences between environments (home, friends, and media) in the students' language usage, they tended to speak more Spanish at home than in any other setting. Forty-one percent of the students completing the survey were bilingual, 35% were English dominant, and 24% were Spanish dominant (see Table 1). Thus, 65% of the respondents spoke Spanish all the time or they spoke Spanish as much as they spoke English.

An initial analysis of the HIV/AIDS knowledge answers portrays a group of teens with relatively little accurate knowledge about HIV/AIDS. Table 2 reports the responses for each of the ten items measuring HIV/AIDS knowledge.

In general, HIV/AIDS knowledge was low with anywhere from 35% to 70% of the sample answering incorrectly or reporting that they did not know if particular items were true or false. "Don't know" responses comprised a substantial portion of the answers to several items including "All homosexuals have AIDS" and "There is a vac-

TABLE 1. Language Used to Communicate with Family and Friends, to Watch TV and to Listen to Radio

	With Family		With Friends		TV & Radio	
	N	%	N	%	N	%
Spanish only	53	15	20	6	19	6
Mostly Spanish	33	9	20	6	12	4
Both English & Spanish	150	43	123	35	164	47
Mostly English	54	16	74	21	61	17
English only	60	17	113	32	92	26
Total	350	100	350	100	350	100

TABLE 2. Percentage Distributions of Responses to HIV/AIDS Knowledge Questions

Item	False	True	Don't know	(N)
Can get HIV from donating blood	36.7	43.3	20.1	(349)
All homosexuals have AIDS	29.2	29.5	41.3	(349)
Can get HIV from infected person w/out symptoms ✓	9.2	57.1	33.7	(347)
Can get HIV from kissing	66.2	14.9	18.9	(349)
AIDS can be cured if treated early	46.2	16.8	37.0	(346)
Can get HIV from sharing a fork	63.2	8.0	28.7	(348)
Can be infected but have no symptoms ✓	13.8	47.4	38.8	(348)
There is a vaccine to prevent AIDS	33.5	14.9	51.6	(349)
HIV can be spread using someone's comb	74.4	4.6	21.0	(348)
Heterosexual man cannot get AIDS	64.7	16.1	19.3	(348)

Key: ✓ = true statement

cine to prevent AIDS." Items related to casual contagion such as getting HIV from kissing, sharing a fork, and using someone's comb received the highest number of correct responses.

Table 3 presents a cross tabulation showing the relationship between language use (Spanish dominant, bilingual and English dominant) and HIV knowledge (0-3, 4-7, and 8 or more correct answers).

Spanish dominant students were disproportional] y represented in the least knowledgeable category (43%), while English dominant students were the group most likely to answer 8-10 items correctly (35%). Bilingual students fell in between but closer to the trends exhibited by English dominant than those exhibited by the Spanish dominant students.

A regression analysis was conducted in which knowledge scores were regressed on acculturation, gender, age, free lunch, reduced lunch, and low grades. The results are reported in Table 4.

Less acculturated students, as measured by language usage, were more likely to have lower levels of HIV/AIDS knowledge than more acculturated students. Female students in general had a higher level of HIV/AIDS knowledge than male students. Students receiving free

TABLE 3. Cross Tabulation Between Number of Correct Knowledge Answers and Language Usage Groups (N = 346)

Number of correct knowledge answers	Language usage groups					
	Spanish dominant		Bilingual		English dominant	
	N	%	N	%	N	
0-3 correct	35	43%	39	27%	28	23%
4-7 correct	35	43%	75	53%	51	42%
8-10 correct	11	14%	29	20%	43	35%
Total	81	100%	143	100%	122	100%

Chi-square = $p < .001$

TABLE 4. Regression Models Predicting HIV/AIDS Knowledge (N of Correct Answers to 10 Questions)

Characteristic	B
Acculturation	0.193***
Gender (female = 1; male = 0)	1.013***
Age	0.237
Free lunch (Yes = 1; No = 0)	-0.939**
Reduced Lunch (Yes = 1; No = 0)	-0.809
Low grades	-0.071
Intercept	-0.529

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

lunch were more likely than other students to answer knowledge questions incorrectly or to mark "I don't know."

In addition, regressions were run to analyze beliefs about condom efficacy, perception of risk, and students' fear of contagion. Acculturation level did not predict the students' views of the efficacy of condoms. However, female respondents were found to be less likely to believe that condoms were effective in preventing the spread of HIV. Less acculturated students were more likely to be fearful about getting infected from an infected classmate and were also more likely to be worried about getting infected with HIV in general (see Table 5).

TABLE 5. Regression Models Predicting Perception of Risk and Condom Efficacy

Characteristic	Effectiveness of condoms in preventing HIV/AIDS ¹	Less likely than most to get HIV/AIDS. ²	Afraid of getting HIV/AIDS if someone in my class has it. ²	How much student worries about getting infected. ³
	B	B	B	B
Acculturation	0.022	0.033	-0.055*	-0.082***
Gender	-0.211*	-0.190	-0.244	-0.017
Age	-0.005	0.151	-0.069	-0.041
Free lunch	-0.145	0.114	0.194	0.096
Reduced lunch	-0.228	0.374	0.247	0.096
Low grades	-0.012	-0.007	0.008	-0.023
Intercept	2.914	-0.138	3.886	4.152

* p < .05; *** < .001

Responses = (1) Not at all effective; (2) A little; (3) Very; (4) Extremely

² Responses = (1) Not true; (2) A little true; (3) Pretty true; (4) Very true

³ Responses = (1) Not at all; (2) A little; (3) Some; (4) A great deal

Less acculturated students were not different than their more acculturated classmates in their responses to the questions about their perception that "it was less likely that they could become infected with HIV "

Table 6 presents the same regressions but now controlling for HIV knowledge level. Young women Continue() to be more likely than boys to have less confidence on the effectiveness of condoms even after we controlled for knowledge level.

Acculturation status was no longer significant once we controlled for knowledge but knowledge level was significant in relationship to fear of contagion "if a classmate were infected." However, after controlling for HIV knowledge level, less acculturated students continued to be more worried about getting infected with HIV than other students.

DISCUSSION

The purpose of this research was to gain a better understanding of differences in HIV/AIDS knowledge and perception of risk among a

TABLE 6. Regression Models Predicting Perception of Risk and Condom Efficacy and Controlling for HIV/AIDS Knowledge

Characteristic	Effectiveness of condoms in preventing HIV/AIDS. ¹	Less likely than most to get HIV/AIDS. ²	Afraid of getting HIV/AIDS if someone in my class has it. ²	How much student worries about getting infected. ³
	B	B	B	B
Acculturation	0.014	0.025	-0.039	-0.083***
Gender	-0.256*	-0.234	-0.162	-0.083
Age	-0.013	0.143	-0.050	-0.043
Free lunch	-0.101	0.158	0.118	0.104
Reduced lunch	-0.190	0.414	0.182	-0.090
Low grades	-0.009	-0.004	0.002	-0.022
HIV knowledge	0.043*	0.043	-0.080**	0.008
Intercept	2.914	-0.138	3.886	4.152

* $p < .05$; ** $< .01$; *** $< .001$

¹Responses = (1) Not at all effective; (2) A little; (3) Very; (4) Extremely

²Responses = (1) Not true; (2) A little true; (3) Pretty true; (4) Very true

³Responses = (1) Not at all; (2) A little; (3) Some; (4) A great deal

selected sample of Mexican American youth in the Southwest region. The stain variables explored by the study were level of acculturation of the students as measured by language proficiency, their knowledge about HIV/AIDS, and their perceived sense of risk for infection.

Overall, HIV/AIDS knowledge was low with anywhere from 35% to 70% of the sample answering incorrectly or reporting that they did not know if a particular item was true or false. Less acculturated students lead significantly lower knowledge levels than more acculturated students. Gender and socioeconomic status explained some of the differences in terms of knowledge level. Females were more knowledgeable about HIV/AIDS than males. Students coming from families with a lower socioeconomic status were less knowledgeable about I-IIV/AIDS than other students of higher socioeconomic status.

Acculturation level did not predict the students' views of the efficacy of condoms. However, female respondents were found to be less likely to believe that condoms were effective in preventing the spread of I IN This can be related to issues of efficacy (Bandura, 1979). Due

to traditional gender roles, females may have known about the importance of safer sex practices but may have not felt that they had control over their potential partners to actually use them (VanOss, Marin, Gómez, & Tschann, 1993; Marin & Marin, 1997). In fact, the data show that the young women were more likely than boys to have less confidence in the effectiveness of condoms even after controlling for knowledge level.

Results indicated that more acculturated students had a reduced perception of HIV risk. Less acculturated students were more likely to be fearful about getting infected from an infected classmate and were also more likely to be worried about getting infected with HIV in general. Less acculturated students were not different than their more acculturated classmates in their responses to the questions about their perception that "it was less likely that they could become infected with HIV" Rather than being unaware of HIV as a result of their possible insulation from majority culture, the least acculturated students tended to have more acute fears of HIV

The interactive effects of knowledge and acculturation were mixed. For one item measuring perception of risk from HIV ("if a classmate were infected"), acculturation status was no longer a significant predictor once we controlled for level of HIV knowledge. In this case, the fear of infection of the less acculturated appears to be due to their relatively lack of accurate knowledge about HIV However, for another item measuring a more general sense of risk-how much the student worries about getting infected-less acculturated students continued to be more fearful of HIV infection even after controlling for level of knowledge.

When analyzing these findings from the vulnerability, risk and resiliency approach (Begun, 1993), we can infer that less acculturated male students coming from families of low socioeconomic status had the lowest level of I-IIV/AIDS knowledge. Instead of experiencing a lower perception of risk due to lack of awareness, they were the ones who expressed the highest levels of perceived risk and fear of contagion. Based on what we know about less acculturated Mexican American young women, their risk may not be imminent. Less acculturated Mexican American female adolescents tend to have a lower substance abuse rate and tend to abstain from sex more often than their more acculturated counterparts (Nyanathi et al., 1993; Sabogal et al., 1993; 1995; VanOss Marin et al., 1993). It may be significant that the oppo-

site trends have been documented for less acculturated Mexican American boys, who appear to be more sexually active and at earlier ages than their more acculturated peers (CDC, 1997). Although for girls the behaviors that put them at risk for contagion may not be present, their lack of knowledge may put them at future risk. Developmentally, it is reasonable to predict that some of these Mexican American female students will engage in sex and substance use in the near future. Their isolation or exclusion from prevention messages is the risk factor not necessarily their actual behaviors. We hypothesize that the students' acculturation status excludes them from the most common knowledge source on HIV/AIDS prevention-mainstream/English language prevention efforts. On the other hand, their less acculturated status appears to be having a temporary resiliency effect on these female students. Our concern rises from the probability that the protective factor of less acculturation may also have the secondary risk effect of isolation.

SOCIAL WORK IMPLICATIONS

There is a need to avoid simplistic assessment of risk that places lower acculturation level as a risk factor. These findings suggests that lower acculturation levels may have a temporary resiliency or protective effect for HIV/AIDS especially for female Mexican American adolescents. I however, the less acculturated students presented a lower knowledge level and an exaggerated perception of risk and fear of infection that needs attention. More research is needed in order to better understand how developmental factors may affect these trends. Once students become sexually active, protective factors such as more traditional norms may turn into risk factors as isolation may prevent students form benefitting from safer sex information.

These findings support the stated need for developing and disseminating tailored prevention messages by Latino subgroups while avoiding simplistic generalizations (Felix-Ortíz & Newcomb, 1995; McNeece & DiNitto, 1994). In addition, attention needs to be given to gender and acculturation differences within subgroups. We recommend that prevention services are made available based on the resiliency and risk factors of each Latino subgroup while considering levels of acculturation.

For example less acculturated Mexican American students need to

receive culturally grounded and language specific messages that take into account their specific resiliency and risk factors. Standardized messages do not appear to be reaching this population. In part, their exaggerated perception of risk and fear of infection can be interpreted as connected to their low HIV/AIDS knowledge level. Prevention messages may not need to approach this group of less acculturated students as being at risk. On the contrary, messages need to reinforce behaviors and norms that have a resiliency effect for them. Social workers and other practitioners can make an important contribution by assessing levels of acculturation of Mexican American adolescents and tailor prevention messages to the needs and strengths of different subgroups as defined by their diverse acculturation status, gender and socioeconomic status. Blanket prevention campaigns do not appear to be serving the needs of less acculturated Mexican American adolescents. We need to conduct more research to better identify resiliency factors and gaps in their knowledge and risk perceptions. Such a process needs to be done in coordination with schools, families, and community based agencies. The knowledge and experience developed need to be shared with policy makers and need to inform grass roots and professional advocacy efforts. The HIV/AIDS pandemic continues to challenge us to redouble our prevention efforts based on the strengths our youth possess and the great challenges they are facing.

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