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## The Role of Acculturation and Family Functioning in Predicting HIV Risk Behaviors Among Hispanic Delinquent Youth

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### Abstract

The present study examined the relationship between Berry's acculturation typology and HIV risk behaviors and whether family functioning mediated any such effects. A total of 235 high risk Hispanic adolescents were categorized into one of Berry's four acculturation typologies through the use of cut-off scores on measures of Hispanicism and Americanism. Structural equation modeling was used to examine the effects of acculturation typology on HIV risk behaviors and the indirect effects of acculturation typology on HIV risk behaviors through family functioning. Acculturation typology was related to HIV risk behaviors. Family functioning partially mediated the effects of acculturation typology on the HIV risk behavior outcomes. These findings suggest that both Americanism and Hispanicism play an important role in the etiology of HIV risk behaviors among Hispanic youth and that both, along with family functioning, are important to consider when designing preventive interventions for this population.

### Keywords

HIV; Substance use; Hispanic; Family; Acculturation

### Introduction

The risk of acquisition and transmission of human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) and other sexually transmitted infections in adolescents constitutes a serious public health concern. Adolescents who engage in HIV risk behaviors, including early sex initiation, unprotected sex, and substance use are at particularly high risk of contracting HIV/AIDS. Unfortunately, a large proportion of adolescents engage in one or more HIV risk behavior, including early sex initiation, unprotected sex, and substance use. For example, epidemiological studies indicate that 46 % of high school aged youth have engaged in sexual activity, including 6 % before age 13. Parallel data show a significant proportion of youth report using licit and illicit substances. For example, 73 % of ninth through twelfth graders report lifetime alcohol use, and 24 % report binge drink [1]. Although all adolescents in the US are impacted by HIV/AIDS,

Hispanic adolescents are disproportionately affected. This is of particular concern as Hispanics comprise roughly 15 % of the United States population and are expected to account for 25 % of the population by 2050 [2]. Hispanics are also a young population, with 39 % under 19 years old [3].

To prevent HIV risk behaviors such as unprotected sex and substance use among Hispanic youth, it is important to understand the extent to which acculturation processes such as the retention of Hispanic cultural values and the adoption of American cultural values are associated with HIV risk behaviors. In spite of the profound impact that acculturation can have on HIV risk behaviors [4], relatively few studies have examined the effects of acculturation. Therefore, the purpose of this study was to examine the effects of acculturation on HIV risk behaviors and, specifically, whether, and the extent to which, HIV risk behaviors vary as a function of acculturation. Furthermore, given the central role of family for Hispanics [5] and the role that family functioning plays on both acculturation and HIV risk behaviors, this study also examined whether, and the extent to which, family functioning mediated any effects of acculturation on HIV risk behaviors.

### **HIV Risk Behaviors and Hispanic Delinquent Youth**

Hispanic adolescents, the largest and fastest growing minority group in the US, often report higher rates of HIV risk behaviors, relative to their non-Hispanic white counterparts [6]. For example, compared to their non-Hispanic white counterparts, Hispanic adolescents are more likely to report not having used a condom during their last sexual intercourse [7] and twice as likely to get a sexually transmitted infection. Moreover, Hispanics have the highest prevalence rate of teenage pregnancy among all major ethnic groups [8, 9]. In addition to these sexual risk behaviors, Hispanic adolescents are also at increased risk for substance use. In fact, Hispanic 8th and 10th grade youth report the highest use of both licit and illicit substances among all major ethnic groups, with the exception of amphetamines [10]. This is especially disconcerting given that substance abuse and HIV/AIDS are intertwined epidemics with 40 % of US AIDS deaths related to drug abuse [11]. For example, 22 % of those who are sexually active report engaging in sexual activity while high or drunk, increasing their risk for contracting sexually transmitted infections including HIV [1]. In addition, early onset of substance use has been associated with future adult drug dependence, which in turn increases the likelihood of HIV infection [6].

Delinquent youth are also at increased risk for engaging in HIV risk behaviors when compared to the general adolescent population. For example, delinquent youth report a higher prevalence of being sexually active and unprotected sex, which in turn places them at greater risk for HIV infection [12]. When coupled with substance use, delinquent youth report 5 or more HIV risk behaviors including unprotected sex [12]. Hispanic delinquent youth are also at greater risk for engaging in HIV risk behaviors. Hispanic delinquent youth, for example, report higher rates of substance use when compared to African Americans, but similar rates to non-Hispanic whites [13], which in turn places them at greater risk for HIV infection [6].

## Acculturation, HIV/AIDS Risk Behaviors and Family Functioning

Acculturation is traditionally defined as a unidimensional process and the degree to which a person moving from one culture to another adopts the new culture, typically measured through language preference [14, 15]. More recently, however, researchers have conceptualized acculturation as a bi-dimensional process that includes both the adoption of host-country culture (e.g., customs, values, language) and the retention of country-of-origin culture. The extent to which Hispanics' level of orientation is toward American and Hispanic culture refers to Americanism and Hispanicism, respectively [16]. One of the more widely utilized bi-dimensional models of acculturation is Berry's [17] acculturation framework. According to Berry, there are four typologies of acculturation: (1) marginalized (i.e., low Americanism and low Hispanicism); (2) separated (i.e., low Americanism, high Hispanicism); (3) assimilated (i.e., high Americanism, low Hispanicism); and (4) integrated (i.e., high Americanism, high Hispanicism). Within Berry's model, the integrated typology represents biculturalism, and this group is postulated to be a low-risk group because of high orientation towards both American and Hispanic cultures [17]. Research has shown that rates of HIV risk behaviors (including early sex initiation and substance use) in Hispanic youth vary as a function of acculturation level [18, 19]. Specifically, Hispanic youth with higher levels of Americanism have shown higher rates of HIV risk behaviors, relative to youth with lower Americanism levels [14, 18, 20]. A limitation of these studies, however, is that they examined acculturation as a unidimensional model. That is, these studies have only looked at how acculturation (i.e., Americanism) is related to HIV risk behaviors. In fact, relatively few studies have examined differences in problem behaviors by utilizing a bi-dimensional model of acculturation [20]. In one study, utilizing a bi-dimensional model of acculturation, Sullivan et al. [20] found that integrated adolescents who both maintain country-of-origin culture practices (i.e., Hispanicism) and adopt host-culture practices (i.e., Americanism) reported the highest levels of parental involvement, positive parenting, and family support. In contrast, assimilated adolescents who adopt hostculture practices and do not retain country-of-origin culture practices reported the greatest levels of aggressive behavior.

Many Hispanic cultures emphasize the importance of family and interconnected relationships [21]. Previous studies have highlighted the mechanism by which family functioning, defined as family cohesion, parental involvement, and family communication, may mediate the effects of acculturation on HIV risk behaviors, including substance use [15, 22–26]. For example, Martinez [27] found that family functioning mediated the effects of acculturation (defined as Americanism) on substance use. Again, Martinez's [27] article was limited in that the measure of acculturation was unidimensional. Whether, and the extent to which, family functioning mediates acculturation typology (i.e., using a bi-dimensional acculturation model) on HIV risk behaviors (including early sex initiation and unprotected sex), however, is not well understood. To the best of our knowledge, there are no published studies examining whether HIV risk behaviors (including unprotected sex, early sex initiation, and substance use) vary by acculturation typology and whether family functioning mediates these effects.

## Current Study and Hypotheses

The purpose of this study was to examine whether HIV risk behaviors vary as a function of acculturation typology and whether, and to what extent, family functioning mediates the relationship between acculturation typology and HIV risk behaviors in a sample of Hispanic delinquent youth. Acculturation typology is hypothesized to be related to HIV risk behaviors. Specifically, we hypothesized that marginalized and assimilated adolescents will report higher rates of HIV risk behaviors when compared to integrated and separated youth. Furthermore, family functioning is hypothesized to mediate the effects of acculturation typology on HIV risk behaviors.

## Methods

### Participant Recruitment

Participants were recruited from August 2009 to February 2010 from either the Juvenile Justice System (8.9 %) or from public schools in Miami-Dade County (91.1 %). Youth were eligible to enroll in this study if they: (a) were female or male adolescents of Hispanic immigrant origin, defined by at least one parent born in a Spanish-speaking country of the Americas, (b) were between the ages of 12–17, and (c) had an adult primary caregiver who was willing to participate in the study. Additionally, youth had to meet the study's definition of delinquency, which was defined as having committed one or more offenses or as having committed at least one "Level III Behavior Problem" described by Miami Dade County Public Schools as assault/threat against a non-staff member, breaking and entering/burglary, fighting (serious), hazing, possession or use of alcohol and/or controlled substances, possession of simulated weapons, trespassing, and vandalism. Of the 446 potential participants, 310 were contacted and screened. Of those, 242<sup>1</sup> were assented (parents also consented) and were enrolled. The current study is a secondary analysis of this data.

### Participants

Participants were 235 Hispanic adolescents (152 boys, 83 girls) with a mean age of 14.70 years ( $SD = 1.40$ ). Sixty-four percent of adolescents were born in the US and immigrant adolescents were predominantly from Cuba (25.0 %) and Honduras (15.5 %). The majority of adolescents had resided in the US for over 10 years (67.2 %), 23.0 % reported living in the United States between 3 and 10 years, and 9.8 % less than 3 years. About 60 % of participants came from families with a total yearly income of less than \$20,000 (Table 1).

### Procedures

A survey assessment was conducted in the language preference of the adolescent (i.e. English or Spanish) using an audio computer-assisted self-interviewing (CASI) methodology. Each item on the questionnaire (along with scale response) was read to the adolescent through the use of headphones. The adolescent then indicated her or his response on a laptop computer, moving on to the next question after their response was entered. Families were compensated \$60 for their participation in the assessment.

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<sup>1</sup>Of the 242 enrolled, 7 are missing acculturation data and consequently are not included in the current study.

## Measures

**Demographics**—Adolescents completed a demographics form in which they provided information with respect to their ethnic background origin, country of birth, and number of years lived in the United States.

**Acculturation**—Acculturation was measured as an adolescent's orientation to both American culture and Hispanic culture through the use of the Bicultural Involvement Questionnaire-Revised [28]. Items address these orientations through 21 questions for each culture on a five-point Likert scale (from 1 Not at all comfortable to 5 Very comfortable), each measuring an aspect of comfort or enjoyment of the culture (e.g., How comfortable do you feel speaking Spanish in school? How much do you enjoy American music?) and about the desire to utilize the culture's customs (e.g., I would want the way of celebrating birthdays to be Hispanic). Reliability for the Americanism and Hispanicism subscales of the Bicultural Involvement Questionnaire were  $\alpha = 0.91$  and  $\alpha = 0.94$ , respectively.

Berry's four acculturation typologies [17] were created by using a cut-off score of 63 for both cultural scales (i.e., averaging a response of "in the middle" on each question) to create a dichotomous measure of high and low Americanism and Hispanicism, respectively. Consistent with Berry's acculturation typologies, adolescents who reported low Americanism and Hispanicism scores were classified as marginalized; adolescents who reported low Americanism and high Hispanicism were classified as separated; adolescents who reported high scores on Americanism and low scores on Hispanicism were classified as assimilated; and adolescents who reported high scores on both Americanism and Hispanicism were classified as integrated.

**Family Functioning**—Family functioning was assessed using three indices: parental involvement, family cohesion, and parent-adolescent communication. Parental involvement (15 items,  $\alpha = 0.85$ ) was assessed using the respective subscale from the Parenting Practices Scale [29]. Similarly, family cohesion (6 items,  $\alpha = 0.79$ ) was measured utilizing the family cohesion subscale of the Family Relations Scale [30]. Finally, family communication (3 items,  $\alpha = 0.72$ ) was assessed via the communication subscale of the Family Relations Scale [30].

**HIV Risk Behaviors**—HIV risk behaviors were measured in terms of substance use and sex behaviors. Substance use was measured using items from the Monitoring the Future Study [10], a national, school-based survey of middle school and high school students. Alcohol use, cigarette use, and marijuana use during the past 90 days were assessed and analyzed as binary outcomes. Sex behaviors were measured using the Sexual Behavior instrument [31]. Adolescents reported whether they had sex in the past 90 days, and how often they had used condoms while having sexual intercourse (a five-point Likert measure ranging from 1 = never use to 5 = always use). Adolescents who had no sex in the past 90 days were added to the always used a condom group in the current study.

## Analytic Strategy

Tests of the study hypotheses proceeded in three steps. First, a measurement model [32] was estimated to discern the feasibility of collapsing three subscales of family functioning (i.e., parental involvement, family cohesion, and parent-adolescent communication) into a single latent variable. Second, we estimated a structural equation model (Fig. 1) to test whether acculturation typology was related to HIV risk behaviors. One structural equation model was tested for each of the HIV risk behaviors. Adolescent's age, gender, nativity status (US born or foreign born) and household income were controlled for in the models as covariates for outcomes. Given that within Berry's [17] acculturation typology, integrated typology refers to biculturalism and is hypothesized to be low-risk, the integrated group was used as the reference group. Therefore, each acculturation typology was compared to the integrated group. Third, we tested whether family functioning mediated any effects of acculturation typology on the HIV risk behaviors. Using Mplus version 6.12 [33], MacKinnon's asymmetric distribution of products test in each of the structural equation models (i.e., one test for each of the HIV risk behavior outcomes) was utilized, which creates asymmetric confidence intervals for the mediated effect. Mediation is assumed when the confidence interval for the product does not include 0. Prior to testing the study hypotheses using the three steps described above, demographic characteristics such as age, family income, nativity status, and family functioning were compared across acculturation typology.

## Results

### Acculturation Typology

Analysis yielded four typologies of acculturation: (1) Marginalized (n = 6; 2.6 % of the study sample); (2) Separated (n = 9; 3.8 % of the sample); (3) Assimilated (108; 46.0 % of the sample), and; (4) Integrated (112; 47.7 % of the sample).

### Demographic Comparability by Acculturation Typology

Analysis of variance and Chi-square tests were conducted to examine significant differences in age, gender, nativity status and years in US by acculturation typology (Table 1). Significant differences in nativity status and years residing in the US by acculturation typology emerged. Specifically, separated adolescents were more likely to be foreign-born than adolescents in any of the other acculturation typologies (Table 1). Family functioning variables, including parental involvement and family cohesion, differed across acculturation groups (Table 1), suggesting a relationship between acculturation typology and family characteristics.

### Family Functioning Measurement Model

A confirmatory factor analysis was performed within a structural equation modeling framework to confirm that all three subscales of family functioning, including parental involvement, family cohesion, and family communication, significantly loaded onto a single latent variable of family functioning (all  $p$ 's < 0.05). The standardized factor loadings were 0.61, 0.86, and 0.81 for parental involvement, family cohesion, and family communication,



respectively. Because this model was saturated (with no degrees of freedom), fit statistics are not reported.

### Structural Equation Model

All of the structural equation models (i.e., across all of the outcomes) provided an adequate fit (comparative fit index, or CFIs, ranged from 0.962 to 0.978 and root mean square errors of approximation, RMSEAs, ranged from 0.026 to 0.034 for all outcomes). Path coefficients in structural equation modeling statistics can be thought of as analogous to regression coefficients in simple or multiple regression, where regression coefficients represent the change of outcome with 1 unit of change in a predictor variable while holding all covariates constant. The results for each of the hypothesized relationships are reported below.

**Structural Equation Model: Direct Effects—**The direct path from the marginalized group (compared to the integrated group) to marijuana use in the past 90 days was significant ( $\beta = 0.908, p < 0.05$ ). Thus, compared to integrated youth, marginalized youth reported greater marijuana use. The direct path from the assimilated group (compared to the integrated group) to sexual activity in the past 90 days was also significant ( $\beta = -0.402, p < 0.05$ ) (Table 2).

Compared to the assimilated group, the direct paths from the marginalized group to marijuana use ( $\beta = 0.889, p < 0.05$ ) and sexual activity ( $\beta = 1.283, p < 0.05$ ) in the past 90 days were significant.

**Structural Equation Model: Indirect Effects Through Family Functioning—**There was a significant indirect effect between the assimilated group and marijuana use ( $\beta = 0.198, 95\% \text{ CI} = 0.051 \text{ to } 0.345$ ), alcohol use ( $\beta = 0.127, 95\% \text{ CI} = 0.015 \text{ to } 0.239$ ), and smoking ( $\beta = 0.144, 95\% \text{ CI} = 0.018 \text{ to } 0.271$ ), through family functioning. There was also a significant indirect effect between the assimilated group and sexual activity ( $\beta = 0.101; 95\% \text{ CI} = 0.002 \text{ to } 0.2$ ) and frequency of condom use through family functioning ( $\beta = -0.142; 95\% \text{ CI} = 0.254 \text{ to } 0.03$ ) (Table 2).

### Discussion

The purpose of the present study was to examine whether risk behaviors vary as a function of acculturation typology in a sample of Hispanic delinquent youth and to determine whether family functioning mediates any effects of acculturation typology on HIV risk behaviors. To the authors' knowledge, there are no published studies examining whether HIV risk behaviors (including unprotected sex) vary by acculturation typology and whether family functioning mediates any such effects.

The results from the present study support the hypothesized model that HIV risk behaviors vary as a function of Berry's acculturation typology in this high risk sample of Hispanic youth. Specifically, compared to integrated youth, marginalized youth reported greater marijuana use. As Berry [17] notes, marginalized groups may result from failed attempts at assimilation into society or as a result of discrimination and hostility from that society. Given the experiences that many marginalized youth experience, it may well be that these

youth are at increased risk of engaging in HIV risk behaviors. For example, Holmes [34] found that perceived discrimination predicted future incarceration rates. Recent studies of gay, lesbian, bisexual, and transgender youth suggest that rejection by the dominant culture and discrimination may play a role in risk behaviors [35]. Thus, from an intervention perspective, one mechanism by which to decrease HIV risk behaviors for marginalized youth may be to increase both the levels of Americanism and Hispanicism of these youth.

One mechanism by which to decrease HIV risk behaviors for marginalized youth may be to increase both the levels of Americanism and Hispanicism. Family-based interventions may be especially effective among Hispanic youth, including Bicultural Effectiveness Training (BET) [36] and Familias Unidas [37]. To increase levels of Americanism and Hispanicism, BET targets acculturation processes that increase stress in many Hispanic families such as intergenerational differences and cultural conflict. BET has been shown to increase family functioning, reduce family stress and decrease risk outcomes in a sample of high-risk Hispanic youth. Likewise, Familias Unidas has been found to be efficacious in preventing/reducing substance use risk behaviors in multiple randomized controlled trials with Hispanic youth [38, 39]. Familias Unidas aims to increase Hispanic parents' knowledge, many of whom are foreign-born, of American cultural norms and practices. It also provides Hispanic parents with the knowledge and skills needed to create a healthy family environment for their adolescent, while taking into consideration values and acculturation experiences [37]. Although both BET and Familias Unidas are parent centered, targeting Americanism and Hispanicism processes in parents may in turn have an effect on adolescents' Americanism and Hispanicism. Additionally, it may very well be that this sample of marginalized Hispanic youth may benefit from including modules that specifically target Americanism and Hispanicism among Hispanic youth.

Contrary to what we would have expected, however, assimilated (i.e., high on Americanism) youth showed higher risk only in sexual activity within the last 90 days compared to integrated youth, when considering only direct paths. Although previous studies have suggested that more Americanized youth report greater problem behaviors (including engaging in more HIV risk behaviors) than less Americanized youth, researchers examining both Americanism and Hispanicism have suggested that it is the loss of Hispanicism (and not the levels of Americanism) that increase the odds that Hispanic youth will engage in risky behaviors [40]. Thus, we would have expected that youth with lower Hispanicism would have reported engaging in more HIV risk behaviors than youth with higher Hispanicism. However, our study found only one such direct effect.

The findings from this study do suggest, however, that there were indirect effects between assimilated youth (compared to integrated youth) and the HIV risk behaviors through family functioning. Thus, family functioning appeared to explain the effects between acculturation typology (i.e., assimilated vs. integrated youth) on the HIV risk behaviors. The results provide support for previous research suggesting that family functioning mediates the effects of acculturation on adolescent substance use [27]. This study suggests that these indirect effects are important in every examined risk behavior. From an intervention perspective, increasing family functioning among assimilated youth may lead to increased condom use and reduced substance use. It may be that interventions that aim to improve family



functioning in Hispanic youth do so by increasing the Hispanic youth's level of Hispanicism [38, 41].

## Limitations and Conclusions

The present study is not without its limitations. First, this study used a cross sectional design. It is important that the effects of acculturation typology on HIV risk behaviors be evaluated with a longitudinal design. Second, all measures collected were self-reported. This may be of particular concern with respect to HIV risk behaviors as participants may under or over report behaviors such as condom use. Third, the number of marginalized youth in this study is small. However, this is consistent with previous research testing Berry's model of acculturation [40]. For example, in one study with a sample size of  $n = 436$ , only  $n = 10$  participants were classified as marginalized [40]. Selective enrollment of separated and marginalized youth in future studies may yield more insight into the characteristics of these groups. Despite the small sample size, the models converged and furthermore significant effects were detected. Caution, however, should be taken when interpreting these results until studies with larger sample sizes can replicate these findings. Finally, because this sample of Hispanic youth were all at high risk, the findings from this study may not generalize to all Hispanic youth or even to all high risk Hispanic youth. Notwithstanding these limitations, this study provides some evidence that HIV risk behaviors vary as a function of acculturation typology and that family functioning may partially mediate the effects of acculturation typology on HIV risk behaviors. The present study extends prior research by using a bi-dimensional model of acculturation, which includes both Americanism and Hispanicism, and suggest that both constructs are important in understanding the etiology of HIV risk behaviors among Hispanic youth and in the design of preventive interventions for this population.

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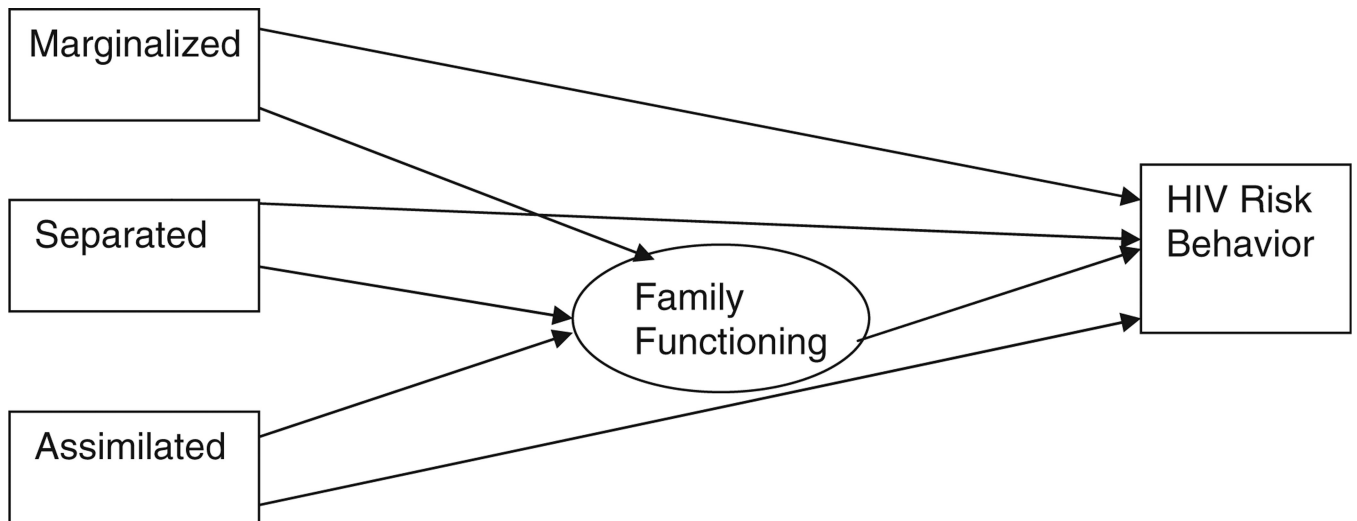
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**Fig. 1.** Hypothesized direct and indirect effects of acculturation typology on HIV risk behaviors. This diagram shows the general structural equation model framework for testing the direct and indirect effects of acculturation typology on HIV risk behaviors with a hypothesized mediating pathway through family functioning

Table 1

Study demographic characteristics by acculturation typology

Demographics	Acculturation typology				Overall	p Value
	Marginalized (n = 6)	Separated (n = 9)	Assimilated (n = 108)	Integrated (n = 112)		
Age (Mean, SD)	15.0 (0.6)	14.8 (1.6)	14.7 (1.4)	14.7 (1.4)	14.7 (1.4)	0.927
Gender (n, % of male)	6 (100.0)	7 (77.8)	72 (66.7)	67 (59.8)	152 (64.7)	<0.001 <sup>a</sup>
Grade (Mean, SD)	8.3 (1.5)	10.0 (1.4)	8.5 (1.3)	8.3 (1.6)	8.4 (1.6)	0.465
Foreign-born (n, %)	0 (0.0)	7 (77.8)	29 (26.9)	48 (42.9)	84 (35.7)	<0.001 <sup>a</sup>
Country of origin among foreign-born (n, %)						<0.001 <sup>a</sup>
Cuba	–	3 (42.9)	8 (27.6)	10 (20.8)	21 (25.0)	
Nicaragua	–	0 (0.0)	5 (17.2)	3 (6.3)	8 (9.5)	
Honduras	–	2 (28.6)	2 (6.9)	9 (18.8)	13 (15.5)	
Puerto Rico	–	0 (0.0)	0 (0.0)	7 (14.6)	7 (8.3)	
Other countries	–	2 (28.6)	14 (48.3)	19 (39.6)	35 (41.7)	
Income (n, %)						0.009 <sup>a</sup>
20,000	4 (66.7)	6 (66.7)	64 (59.3)	68 (60.7)	142 (60.4)	
>20,000	2 (33.3)	3 (33.3)	41 (40.7)	44 (39.3)	93 (39.6)	
Parental involvement (Mean, SD)	36.3 (4.2)	33.2 (6.3)	32.0 (7.1)	34.7 (6.3)	33.4 (6.8)	0.027
Family cohesion (Mean, SD)	13.7 (2.5)	17.4 (3.1)	15.6 (3.7)	17.0 (3.6)	16.3 (3.7)	0.006
Parent-adolescent communication (Mean, SD)	6.7 (2.3)	9.0 (1.5)	7.5 (2.1)	8.0 (2.2)	7.8 (2.2)	0.071

<sup>a</sup> Fisher's exact p value was reported because of small sample size in cells

**Table 2**

Direct and indirect effects (through family functioning) of acculturation group/typology on HIV risk behaviors

Risk behavior	Acculturation group	Overall family functioning ( $\beta$ )	
		Direct effect (b)	Indirect effect through family functioning (b, 95 % CI)
Marijuana use in past 90 days	Marginalized	0.908*	0.367
	Separated	-0.131	-0.049
	Assimilated	-0.001	0.198 (0.051–0.345)*
	Integrated (Ref)		
Alcohol use in past 90 days	Marginalized	-0.273	0.235
	Separated	-0.329	-0.033
	Assimilated	-0.294	0.127 (0.015–0.239)*
	Integrated (ref)		
Smoking in past 90 days	Marginalized	0.480	0.268
	Separated	-0.134	-0.037
	Assimilated	-0.236	0.144 (0.018–0.271)*
	Integrated (ref)		
Sexual activity in past 90 days	Marginalized	0.892	0.190
	Separated	-0.160	-0.026
	Assimilated	-0.402*	0.101 (0.002–0.200)*
	Integrated (ref)		
Condom use 90 days	Marginalized	-0.261	-0.273
	Separated	-0.179	0.036
	Assimilated	0.177	-0.142 (-0.254, -0.030)*
	Integrated (ref)		

\*  $p < 0.05$