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The impact of intergenerational cultural dissonance on alcohol use among Vietnamese and Cambodian adolescents in the United States

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Abstract

Purpose—Rates of alcohol use may be increasing among Asian American adolescents. Among youth from Asian immigrant families, intergenerational cultural dissonance (ICD), a difference in acculturation between children and caregivers, is associated with adverse childhood outcomes. This study investigates the longitudinal association of ICD and alcohol use among youth from immigrant Vietnamese and Cambodian families in the U.S.

Methods—Two waves of annual data, wave 4 (baseline for this study) and wave 5 (follow-up), were obtained from the Cross Cultural Families project, a longitudinal study of 327 Vietnamese and Cambodian immigrant families in Washington State. The Asian American Family Conflicts Scale was used to measure ICD. Adolescent alcohol use was measured as any drinking in the past 30 days. A multiple logistic regression model was estimated with the outcome, alcohol use, measured at the follow-up visit and all predictors, including ICD, measured at baseline. Sex, nationality, nativity, and acculturation were tested as modifiers of the ICD-alcohol use relationship.

Results—Nine percent of adolescents (age range 13–18) reported alcohol use at baseline and this increased significantly ($p < .0001$) to 16% one year later. ICD was associated with increased odds

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of alcohol use at follow-up (OR: 1.57; 95% CI: 1.03, 2.41; $p=.04$). None of the interactions were statistically significant.

Conclusions—ICD is a significant predictor of alcohol use among Vietnamese and Cambodian adolescents. Interventions that should be targeted toward reducing ICD through enhancing parent-child communication and teaching bicultural competence skills may help prevent alcohol use problems among youth from immigrant families.

Keywords

Acculturation; intergenerational cultural dissonance; alcohol; adolescents; immigration; Asian American

Underage drinking is a widespread problem with multiple negative outcomes [1-2]. Despite a great deal of attention to underage drinking generally, Asian adolescent alcohol use is understudied, representing a significant gap in the literature [3-4]. Asians are the fastest growing racial population in the U.S. [5], and, although they have a lower prevalence of alcohol use than other groups (15.2% of Asians aged 12-20 reported past 30-day alcohol use, compared to 17.8% for Blacks, 20.6% for Hispanics, and 25.8% for Whites) [6], the prevalence of alcohol use problems may be increasing [7]. Similar to other racial groups, Asians experience a range of adverse outcomes from alcohol misuse [8].

Most studies characterize Asians as a singular group. This is imprecise because health outcomes, risk factors for those outcomes, historical context, culture, religion and drinking behaviors vary across Asian nationalities [4]. Alcohol use prevalence may differ substantially across Asian American adolescent sub-groups. Wong et al. (2004) reported variation of lifetime use among Asian high school students: (65% of Pacific Islanders, 56.9% of Filipino, 46.8% of Japanese, and 37.4% of Chinese youth) [9]. Iwamoto et al. (2012) found that Japanese and Filipino adolescents reported high rates of past three month binge drinking, similar to those of other non-Asian populations and higher than other Asian nationalities, including South Asian, Vietnamese, and Chinese [10].

Alcohol use among adolescents from Southeast Asian families, including Vietnamese and Cambodians, have been particularly understudied [3]. This is problematic because Southeast Asian immigrants may have an increased risk for correlates of alcohol misuse compared to other Asian groups, including lower socioeconomic status and history of traumatic events [3,4]. Vietnamese and Cambodians often arrived in the U.S. as refugees during the 1970's and 1980's after experiencing substantial trauma during prolonged violent conflicts in both countries [3,11]. Although a substantial amount of research has focused on health outcomes among these first generation immigrants, few studies have analyzed adjustment or health outcomes of their children [11].

Alcohol is generally used moderately in traditional Cambodian and Vietnamese cultures and at rates lower than in the U.S. [6,12-13]. Intergenerational cultural dissonance (ICD) is thus a potential risk factor for alcohol use that may be shared among Vietnamese- and Cambodian-American adolescents with immigrant parents [11]. Also referred to as the *acculturation gap*, ICD occurs when there are differential acculturation experiences between

immigrant caregivers and their children [14,15]. According to Berry (1997), there are four acculturation strategies adopted by immigrants: 1) *assimilation*, in which U.S. cultural norms are adopted at the expense of traditional culture; 2) *traditionalism*, in which most aspects of traditional culture are adhered to; 3) *biculturalism*, in which traditional culture is retained while simultaneously adopting U.S. cultural norms and practices; and 4) *marginalization*, in which neither culture is embraced and an individual feels alienated from both [16].

ICD often occurs when adolescent children from immigrant families adopt Western cultural values, norms, and practices to a greater extent and/or more rapidly than their caregivers [11,14]. The differential acculturation strategies adopted by the caregiver and adolescent results in a cultural “clash” between the generations [4]. ICD increases miscommunication, misunderstanding, family conflict, feelings of alienation, and decreases parent-child bonding [11,15].

The cultural clash among Southeast Asian immigrant families is often over a discrepancy in collectivist (traditional) values vs. individualistic (Western) values [17]. Adolescent-caregiver discrepancies in several other intrinsic traditional cultural values, such as conforming to family norms, respecting elders, and education and career achievement may also be associated with increased levels of family conflict [18,19]. Differential parenting styles between Asian families (parents more likely to be authoritarian) and non-Asian families (parents more likely to be authoritative) in the U.S. can also lead to ICD [4]. Caregivers and adolescents from Asian immigrant families may have a “dual frame of reference,” in which the adolescents compare their caregivers to those of their non-Asian peers and the caregivers compare their children to those from their country of origin [20]. A cultural clash may occur when Asian adolescents observe this authoritarian caregiving style, which typically allows for more child independence, autonomy, and increased parent-child communication [4].

According to Phinney et al. (2000), intergenerational tension between caregivers and their children is common during the adolescent years [21]. This conflict in small amounts does not generally lead to adjustment problems [22]. The presence of a cultural clash with ICD, however, has been found to intensify intergenerational dissonance, leading to increased family conflict beyond the typical adolescent-caregiver tension [4]. ICD has been associated with several subsequent negative childhood outcomes among Asian American adolescents [11,15,17,23].

ICD may differ across several characteristics. Vietnamese and Cambodian families have previously reported a greater degree of ICD compared to other immigrant groups [21], although it is currently unknown whether there are differences in ICD between Vietnamese and Cambodians. A difference by sex has also been reported: girls may experience a greater degree of ICD with their caregivers than boys [15]. Children who are second generation (born in the U.S. to immigrant parents) or “1.5” generation (born outside the U.S. but immigrated with their parents at a young age) are more likely to experience ICD with their caregivers than those who immigrated to the U.S. with their caregivers at an older age [15].

Adolescents who have a greater degree of assimilation experience ICD at a higher rate than adolescents with a greater degree of traditional cultural identification [14].

Individual acculturation strategy has been associated with substance and alcohol use among Asian American adolescents [3,24]. Assimilated adolescents tend to drink more [24] and adolescents with a traditional cultural identification drink less [3]. Due to a lack of multidimensional acculturation measures in alcohol use studies, levels of drinking among bicultural and marginalized adolescents remain unknown. The impact of ICD on alcohol use among Asian youth is unclear. Although ICD has been associated with substance and alcohol use among Hispanic youth [25], it has not been explored as a risk factor for alcohol use among Asians.

Studies of adolescent alcohol use among Asians have been limited by: a failure to conduct sub-group analyses (i.e., by Asian nationality), limited attention to ICD, unidimensional acculturation measures, and cross-sectional designs. The present study aims to: 1) examine alcohol use prevalence among Vietnamese and Cambodian adolescents from immigrant families; 2) investigate whether ICD predicts alcohol use one year later; and 3) explore whether the ICD-alcohol relationship varies by sex, nationality, adolescent nativity, or acculturation. We hypothesize that higher levels of ICD will be associated with increased odds of adolescent alcohol use and that this relationship will be strongest among girls, adolescents born in the U.S., and assimilated adolescents.

Methods

Participants and Procedure

The Cross Cultural Families (CCF) Project was a five year longitudinal study that included 327 Cambodian and Vietnamese adolescents living in Washington State between 2001 and 2005. Participants were recruited via a stratified random sampling method from school district lists. Study participants included an adolescent in the family who was in 5th-7th grade upon enrollment and a caregiver of the child. There were five annual waves of data collection [26]. Interviews were conducted in-person, except for sensitive measures, which the adolescents were permitted to self-complete. The study instrument was translated into Khmer and Vietnamese and back-translated [11].

The current investigation focuses exclusively on waves four and five of the original study, hereafter referred to as baseline and follow-up, respectively, because ICD was only measured at these two time points.

The original data collection for CCF was approved by the University of Washington Human Subjects Committee. The current study was designated with exempt status by the Johns Hopkins Bloomberg School of Public Health Institutional Review Board.

Measures

Adolescent alcohol use was measured by one question: “in the past 30 days, on how many occasions have you had beer, wine, or liquor?” Response options included: 1) never; 2) 1-2

times; 3) 3-5 times; 4) 6-9 times and 5) 10 or more times. The variable was dichotomized into any versus no past 30-day alcohol use.

ICD was measured with the Asian American Family Conflicts Scale [27] (Table 1). An average ICD score was calculated, with a possible range of 1-5. A higher score reflected a higher level of ICD. Internal consistency of the ICD scale was very good ($\alpha=.86$).

Demographic characteristics included sex, age, nationality (Vietnamese/Cambodian), and nativity (born in the U.S. or outside).

Adolescent acculturation was measured through two scales: identification with U.S. culture (16 items; $\alpha=.75$) and identification with traditional culture (18 items; $\alpha=.84$). Items for these scales were drawn from: the General Ethnicity Questionnaire (9 items for the traditional and 7 items for the U.S. scale) [28], the Multigroup Ethnic Identity Measure (9 items for the traditional and 5 items for the U.S. scale) [29], and the Acculturation Scale for Vietnamese Adolescents (4 items for the U.S. scale) [30].

For both scales, participants were asked how much they agreed (Likert-type scale ranging from 1 “strongly disagree” to 4 “strongly agree”) with cultural items. An average score with possible range 1-4 was calculated for both scales with higher scores indicating a greater degree of identification with that particular culture (traditional or U.S., respectively).

Using two scales to measure acculturation provides the ability to measure a multidimensional acculturation construct. We followed a similar methodology as Lim et al. (2011) in using the two independent scale scores to assign participants to one of Berry's (1997) four acculturation strategies [3]. Those who had an average of 3 or above on both scales were categorized as *bicultural*. Those with a 3 or above on the traditional scale and below a 3 on the U.S. scale were categorized as *traditional*. Those with an average score below a 3 on the traditional scale and a 3 or above on the U.S. scale were categorized as *assimilated*. Those with average scores below 3 on both scales were considered *marginalized*.

Statistical Analysis

A multiple logistic regression model was estimated to assess the association between ICD and alcohol use. ICD and covariates (described above) were measured at baseline and alcohol use was measured at one-year follow-up to establish temporality of the relationships. Following estimation of the model, we investigated four potential interactions of the ICD-alcohol use relationship by separately inserting interaction terms into the model (ICD*sex, ICD*nationality, ICD*acculturation, and ICD*place of birth). These interaction terms were evaluated at a significance level of .0125 to account for the multiple tests. For all other tests, a threshold of .05 was used to indicate statistical significance.

Loss to follow-up in CCF was minimal. Of the original 327 participants in the first wave, 315 (96.3%) remained in the study for waves four and five (the waves included for analysis in this study). Dropout in wave five was not significantly associated with sex, baseline age, nationality, acculturation, or place of birth. Dropout was significantly associated with ICD

(OR = 0.33, 95% CI: 0.12, 0.94, $p=.04$); participants with lower levels of ICD were more likely to dropout than participants with higher levels. In order to prevent emigrative selection bias and to account for item-level missing data, multiple imputation using chained equations (10 datasets) was conducted before estimating the regression models. [31]. Analyses were conducted using Stata, Version 13 [32].

Results

The sample consisted of 164 Cambodian and 163 Vietnamese adolescents, 51% of whom were female and with an average age of 16 (Table 2). There were no statistically significant differences between the two nationalities in sex or age. More than a third (39.7%) had been born outside the U.S., a proportion attributable primarily to Vietnamese who were more likely than Cambodian adolescents to have immigrated to the U.S. with their caregivers than be born in the U.S. ($p<.0001$). The average ICD score was 2.84 (SD: 0.81), with no significant difference between the nationalities ($p=.13$). Acculturation differed significantly between the groups ($p<.01$) with Cambodian adolescents more likely to be bicultural and Vietnamese adolescents more likely to report traditional cultural identification.

Table 3 presents cross-sectional distributions of alcohol use by several key characteristics at baseline (left column) and at one-year follow-up (right column). Only 9.2% ($n=29$) of the sample reported any past 30-day alcohol use at baseline. The proportion increased significantly ($p<.0001$) one year later to 15.9% ($n=50$). There was no difference in alcohol use between males and females at baseline ($p=.70$). Among those who used alcohol at follow-up, 60% were male and 40% were female, however, this difference was also not significant ($p=.07$). There were no differences in drinking by nationality at baseline ($p=.07$) or follow-up ($p=.70$). There was also no difference in alcohol use between acculturation at baseline ($p=.12$) but there were differences across the groups at follow-up ($p<.01$). The majority of those who used alcohol at follow-up identified as marginalized (52%), followed by assimilated (22%), bicultural (14%), and traditional (12%).

Table 4 displays the results of the multiple logistic regression model, which included our primary predictor, ICD, and all covariates (sex, age, nativity, nationality, acculturation) measured at baseline and the alcohol use outcome measured one year later. Baseline ICD was significantly associated with increased odds of alcohol use at follow-up (AOR: 1.57; 95% CI: 1.03, 2.41; $p=.04$). None of the four interactions tested (ICD*nativity, ICD*acculturation, ICD*nationality, or ICD*sex) were significant.

Discussion

This study investigated ICD among Vietnamese and Cambodian adolescents and the relationship between ICD and adolescent alcohol use. A small proportion of the study sample reported alcohol use at baseline, although this increased significantly one year later. The low prevalence of alcohol use was consistent with national estimates of youth drinking by racial group [6]. There was no difference in use between the two nationalities. This finding is contrary to previous research with Asian Americans that indicated significant

differences between nationalities [9,10], although many previous studies have not included Cambodian adolescents.

Notably, among acculturation groups, those who were marginalized comprised over half of all adolescents who used alcohol, supporting the theory by Berry (1997) [16] and two studies with Hispanic adolescents [33,34] that among the four acculturation categories, marginalization would entail the highest risk of experiencing adverse outcomes. Although our regression model appeared to suggest an increased (although non-significant) odds of alcohol use among traditional adolescents, among those who were considered traditional at baseline (when acculturation was measured in the model), 83.3% had a change in acculturation category at follow-up including 41.7% who switched to marginalized. It is possible that these adolescents no longer had as strong of a traditional cultural identification when they reported drinking at follow-up and indeed many of them reported feeling marginalized.

Levels of ICD were similar to those among Asian American college students [35]. The significant association between ICD and alcohol use is in line with results from studies with Hispanic adolescents [25]. We found that adolescents reporting a greater degree of ICD at baseline had significantly greater odds of using alcohol one year later, and this was the case even after controlling for several covariates, including acculturation.

It is theorized that ICD works as an effect modifier of the natural tension between adolescents and caregivers, interacting with pre-existing intergenerational conflict to increase the amount of misunderstanding and miscommunication experienced in the typical relationship [11,14-15, 21]. The communication problems can lead to overt and intensified family conflict, lower amounts of parental involvement, and reduction in parental authority [25,36]. These factors may then coalesce to increase the risk for adolescent alcohol use.

Due to the few studies that have explored ICD and alcohol use among adolescents, it is unclear whether the relationship varies by certain factors. We explored possible effect modification by sex, nationality, nativity, and acculturation but found no difference in the ICD-alcohol use relationship across any of these characteristics.

Sex—Chung (2001) found that ICD was more pronounced among female than male adolescents, but this was only the case with regard to dissonance related to romantic relationships [15]. The ICD scale used in our study included domains of dissonance beyond relationships and dating and could explain the lack of an observed difference by sex.

Nationality—Previous reports have indicated that adolescents from Southeast Asian families have a greater degree of conflict with their parents than youth from other racial groups [31], however, it does not appear that the effect of ICD on alcohol use differed between Vietnamese and Cambodian adolescents. In a previous study with CCF data, Choi et al. (2008) found that there was no difference in the impact of ICD on child problem behaviors between Vietnamese and Cambodian youth [11]. It is possible that similarities between the groups (e.g., reasons for migration and parenting styles) contributed to comparable effects of ICD on alcohol use between the two nationalities. Qualitative

investigation into how ICD is perceived by adolescents from Vietnamese and Cambodian families would be helpful in further assessing the null effect of nationality.

Nativity—Some ICD literature has suggested that the effects of generational conflict are most prominently felt among adolescents who were born in the U.S. to first generation immigrant parents [15]. In our study, the adolescents not born in the U.S. had lived there for an average of 14 years at baseline, which means they arrived as very young children. Perhaps the effect of nativity is not as pronounced as it might have been had the adolescents immigrated to the U.S. with their caregivers at an older age. The non-statistical significance of the nativity interaction term is consistent with the only previous study that analyzed the potential moderating role of nativity on an ICD-substance use relationship [25].

Acculturation—The effect of ICD on alcohol use did not vary according to adolescent acculturation. This suggests that ICD can impact drinking behavior regardless of individual acculturation level. For example, a child might believe that he/she is traditionally culturally oriented but his/her traditional orientation might not be *traditional enough* for the caregiver, resulting in significant ICD even with both caregiver and child reporting a high degree of traditionalism on individual acculturation scales.

Limitations

This study included a regional sample of Vietnamese and Cambodian families living in Washington State and so the generalizability of the findings to other parts of the U.S. may be limited [11,26]. Our measure of ICD was validated for use with Asian American populations but did not allow report of ICD from the caregiver's perspective. Our follow-up period of one year is a limitation given the likely dynamic nature of both ICD and alcohol use throughout adolescence.

The limited measure of alcohol consumption for adolescents prevents the ability to suggest diagnoses of alcohol abuse or dependence and we had no measure of drinking quantity or binge drinking. The measure of past 30-day alcohol use, however, is an important indicator and has implications for future health: research has demonstrated that early age initiation of drinking alcohol is a consistent predictor of alcohol use problems later in life [2].

Although our sample size was larger than previous studies of ICD among Asian American adolescents, we were limited in our ability to test for moderating effects of the ICD-alcohol use relationship. Furthermore, the number of adolescents who reported any alcohol use was low and resulted in certain cells of covariates (e.g., acculturation) having small numbers, and so the interpretation of these covariates should be made cautiously. Our analyses should be replicated in larger samples.

Conclusions

Our study builds on the literature linking ICD with adverse childhood outcomes and indicates that ICD is a significant predictor of alcohol use among Vietnamese and Cambodian youth in the U.S. Intervention strategies for alcohol use among Asian adolescents should focus on ICD rather than solely on individual acculturation given the

likelihood that ICD is a more proximal risk factor for childhood outcomes [23]. Measurement of ICD is particularly important with Southeast Asian American youth, among whom ICD may be more highly prevalent than other racial groups [21].

Measurement of individual acculturation strategy remains important. Our findings suggest that alcohol use may be most prevalent among adolescents who feel marginalized or alienated from both their family's traditional culture and U.S. culture. Additional research is needed among this potentially higher-risk group; currently there is scant information about marginalization in the acculturation health literature.

As discussed by Unger et al. (2009), for adolescents reporting high amounts of ICD, family-based interventions that focus on enhancing communication and teaching bicultural competence skills may help in reducing miscommunication and subsequent adverse outcomes [25,37]. The results of our exploratory analyses indicated that ICD impacts alcohol use to a similar extent regardless of sex, acculturation, nativity, or nationality among Vietnamese and Cambodian youth. This similarity across demographic strata may be helpful in informing and targeting interventions [11]. Rigorous testing of these types of interventions in the form of randomized controlled trials is warranted among Asian populations.

Future studies would benefit from prospective designs that span the length of adolescence and instruments that capture both adolescent and caregiver perspectives on ICD. The ICD-childhood outcome pathway is complex. Previous studies have found that parenting practices [23], family conflict [11], and parental bonding [11] were significant mediators of ICD-childhood outcome pathways. Future research should continue to tease apart this relationship by testing mediators and moderators of ICD-childhood outcome relationships, which may be useful in targeting intervention points.

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Abbreviations

ICD Intergenerational cultural dissonance

Implications and Contribution

Research has linked intergenerational cultural dissonance (ICD) with several adverse outcomes among youth from immigrant families. This study found that ICD was a risk factor for alcohol use among Vietnamese- and Cambodian-American adolescents. Future studies should tease apart the complex ICD-childhood outcome pathways by testing for mediators and identifying intervention points.

Table 1
Items in Asian American Family Conflicts Scale used to measure ICD

How likely is this type of situation to occur in your family...
1) Your parents tell you what to do with your life but you want to make your own decisions
2) Your parents tell you that a social life is not important at this age, but you think it is
3) You have done well in school, but your parent's academic expectations exceed your performance
4) Your parents want you to sacrifice personal interests for the sake of the family but you feel this is unfair
5) Your parents always compare you to others but you want them to accept you for being yourself
6) Your parents argue that they show you love by housing, feeding, and educating, but you wish they would show more physical and verbal signs of affection
7) Your parents don't want to bring shame upon the family, but you feel your parents are too concerned with saving face
8) Your parents expect you to behave as a typical Asian male or female but you feel your parents are being too traditional
9) You want to state your opinion but your parents consider it disrespectful to talk back
10) Your parents demand that you always show respect for elders, but you believe in showing respect only if they deserve it

Item response options: 1) Never; 2) Seldom; 3) Sometimes; 4) Often; 5) Almost always

Table 2

Baseline characteristics of study sample (n=327)

	Total Sample (n=327) ^a	Cambodian (n=164) ^a	Vietnamese (n=163) ^a	Independent samples <i>t</i> -Test/ χ^2	<i>p</i>
	mean (SD)				
Age	15.19 (1.13)	15.20 (1.13)	15.20 (1.14)	-0.05	.96
Intergenerational cultural dissonance	2.84 (0.81)	2.91 (0.79)	2.77 (0.83)	-1.51	.13
	n (column %)				
Sex					
Male	159 (48.6)	81 (49.4)	78 (47.9)	0.08	.78
Female	168 (51.4)	83 (50.6)	85 (52.2)		
Place of birth					
U.S.	190 (60.3)	136 (87.7)	54 (33.8)	95.89	<.0001
Outside the U.S.	125 (39.7)	19 (12.3)	106 (66.3)		
Acculturation strategy					
Traditional	47 (14.9)	15 (9.7)	32 (20.0)		
Bicultural	96 (30.5)	60 (38.7)	36 (22.5)	13.79	<.01
Assimilated	71 (22.5)	30 (19.4)	41 (25.6)		
Marginalized	101 (32.1)	50 (32.3)	51 (31.9)		

^aTable includes all available data. Imputation not conducted for data presented in this table.

Table 3
Adolescent alcohol use at baseline and one-year follow-up (n=315)^a

	Baseline		One-year follow-up		χ^2 <i>p</i>
	Alcohol use ^b (n=29)	No alcohol use ^b (n=286)	Alcohol use ^b (n=50)	No alcohol use ^b (n=265)	
	N (column %/row %)		N (column %/row %)		
Sex					
Male	15 (51.7/9.9)	137 (47.9/90.1)	30 (60.0/19.7)	122 (46.0/80.3)	3.28
Female	14 (48.3/8.6)	149 (52.1/91.4)	20 (40.0/12.3)	143 (54.0/87.7)	.07
Nationality					
Cambodian	19 (65.5/87.7)	136 (47.5/12.3)	26 (52.0/16.7)	130 (49.0/83.3)	0.15
Vietnamese	10 (34.5/6.3)	150 (52.5/93.7)	24 (48.0/15.1)	135 (51.0/84.9)	.70
Nativity					
Born in U.S.	22 (75.9/11.6)	168 (41.3/88.4)	31 (64.6/16.7)	155 (59.6/83.3)	0.42
Born outside U.S.	7 (24.1/5.6)	118 (58.7/94.4)	17 (35.4/13.9)	105 (40.4/86.1)	.52
Acculturation strategy					
Traditional	1 (3.5/2.1)	46 (16.1/97.9)	6 (12.0/15.8)	32 (12.1/84.2)	
Bicultural	9 (31.0/9.4)	87 (30.4/90.6)	7 (14.0/7.7)	84 (31.7/92.3)	12.11
Assimilated	5 (17.2/7.0)	66 (23.1/93.0)	11 (22.0/13.1)	73 (27.5/86.9)	<.01
Marginalized	14 (48.3/13.9)	87 (30.4/86.1)	26 (52.0/25.5)	76 (28.7/74.5)	

^aTable includes all available data at each wave. Imputation not conducted for data presented in this table.

^bUse in past 30 days

Table 4
Baseline predictors of adolescent alcohol use at one-year follow-up (n=327)

	OR ^b	95% CI	p	AOR ^c	95% CI	p
Intergenerational cultural dissonance	1.49	1.01, 2.18	.04	1.57	1.03, 2.41	.04
Acculturation (REF=Marginalized)						
Marginalized	1.00	REF	REF	1.00	REF	REF
Assimilation	1.13	0.50, 2.51	.78	1.73	0.69, 4.39	.24
Biculturalism	0.45	0.19, 1.11	.08	0.75	0.28, 2.01	.57
Traditional	1.75	0.72, 4.26	.22	2.08	0.76, 5.70	.16
Sex						
Female	1.00	REF	REF	1.00	REF	REF
Male	1.75	0.94, 3.25	.08	2.29	1.11, 4.81	.03
Age	2.29	1.67, 3.16	<.0001	2.34	1.68, 3.29	<.0001
Nationality						
Vietnamese	1.00	REF	REF	1.00	REF	REF
Cambodian	1.09	0.60, 1.99	.77	0.94	0.41, 2.18	.89
Nativity						
Born outside the U.S.	1.00	REF	REF	1.00	REF	REF
U.S.-born	1.20	0.63, 2.27	.58	1.80	0.73, 4.44	.20
F(8, 17042.9) = 4.34, p < .0001 ^d						

^a Data from all participants used in regression models following multiple imputation

^b Unadjusted odds ratio

^c Adjusted odds ratio

^d F-statistic and corresponding p value are for the adjusted logistic regression model