Rethinking Acculturation: A Study of Alcohol Use of Korean American Adolescents in Southern California

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Abstract

Given the considerable variability in drinking practices among Asian American groups, the generalizations that suggest an increase in their alcohol use associated with acculturation need to be questioned. Also, the experience of children of immigrants growing up in the United States may be much more complex than a focus on acculturation can capture. Informed by the theory of segmented assimilation, this study addresses two research questions: 1) Is acculturation associated with alcohol use of Korean American adolescents? and 2) What other social, economic, and cultural forces influence their alcohol use? Survey data collected from 202 adolescents of Korean descent in Southern California were used. Multivariate regression analyses revealed that acculturation was not a significant predictor of most measures of alcohol use, while peer influence, scholastic achievement/aspirations, and current smoking were predictive. Gender and social class were unrelated to drinking. Findings suggest focusing research on an integrative approach to understanding drinking in complex social, economic, and social contexts may be useful.

INTRODUCTION

The purpose of this study is to investigate the role of acculturation and other influences in alcohol use among a sample of Korean American youth. Two research questions guide the study: 1) Is acculturation associated with alcohol use among Korean American adolescents, and 2) what other social, economic, and cultural forces influence alcohol use?

It has been noted that variability in drinking practices among Asian ethnic groups has been overlooked in past research and that this has resulted in inaccurate generalizations (Caetano et al., 1998). Two broad generalizations suggest that an increase in alcohol use is associated with acculturation: 1) Based mainly on the experience of Chinese Americans, the classic assimilation theory suggests that norms and behavioral patterns of immigrants are modified as a consequence of interaction with the host society (Gordon, 1964). Researchers have suggested that Chinese cultural values of conformity, harmony, and respect for authority,

which are believed to promote abstinence or moderate drinking (Sue *et al.,* 1985; Singer, 1974), are eroded as immigrants adapt to American culture (James *et al.*, 1997) and to a more permissive view of alcohol consumption (Makimoto, 1998). 2) Based mainly on research concerning South Asian immigrants, findings suggest that Asian immigrants may increase alcohol use to cope with psychosocial stressors and economic hardships as immigrants (Varma and Siris, 1996; Legge and Sherlock, 1991; Lin *et al.*, 1984; D'Avanzo *et al.*, 1994; Yee and Thu, 1987).

These generalizations, and the assumptions that underlie them, such as the assumption that all ethnic Asian cultures share others' cultural values, may not be valid for other groups of Asian Americans, for example Korean Americans. Drinking is prevalent in Korean culture. Korean drinkers have the highest rate of heavy drinking among ethnic groups in the United States (Parrish, 1995), and their lifetime prevalence rates of alcohol dependence are higher than those of the U.S. population (Helzer *et al.*, 1990; Lee, 1992). There is some evidence that Korean immigrants, especially males, may reduce drinking as they acculturate into American society (Chung *et al.*, 2002), but little research has been conducted on alcohol use among Korean Americans, especially among adolescents.

In investigating alcohol use of Korean American adolescents, our premise is that drinking behaviors take place in social, economic, and cultural environments, the complexity of which may not be fully understood when the focus is given primarily to acculturation. This premise is in accordance with views that stress the complexity of the experience of immigrants in relation to host cultures. One such view is that of orthogonal cultural identification theory, which argues that increasing identification with and preference for the host culture does not necessarily preclude retention of one's own ethnic culture (Oetting and Beauvais, 1990–91; Berry, 1980). Another is the social constructionist perspective, from which 'acculturation' of diasporic immigrant children is a dialogical process involving constant and contextual negotiations between different cultural positions (Bhatia, 2002; Verkuyten and de Wolf, 2002). Yet another, more specifically related to drinking, is the view that the drinking norms that govern immigrants represent the unique experience of immigrant life in the United States, combining elements of American culture with those of the ethnic culture of their homeland, and not just the reflection of one or the other (Caetano and Mora, 1988).

The theory of segmented assimilation informs this analysis. This theory suggests that children of immigrants, depending upon the economic, human, and social capital available to them and their parents, assimilate into specific segments of American society each with different sets of norms: While some of them may integrate easily into the white, middle-class, adopting the dominant societal values and norms, another group may assimilate into an underclass characterized by poverty, an adversarial stance towards mainstream institutions, and, implicitly, substance use. Still another group may achieve economic advancement while deliberately preserving the immigrant community's values and tight solidarity (Portes and Rumbaut, 2001; Rumbaut, 1994; Portes and Zhou, 1993). Central to this theory is a focus on the different ways in which children of immigrants adapt to their social, economic, and cultural environment and how they affect their behaviors.

Factors of adolescent alcohol use identified in the literature include peer influence such as peer drinking (*e.g.*, Henry *et al.*, 2005; Jaccard *et al.*, 2005) or perceived level of peer drinking (*e.g.* Larimer *et al.*, 2004; Thombs *et al.*, 1997); family influence such as parental use of alcohol, family supervision, or family connectedness (*e.g.*, Epstein *et al.*, 2008; Abdelrahman *et al.*, 1998); neighborhood characteristics such as the extent of poverty, prevalence of violence and other crimes (*e.g.*, Choi *et al.*, 2006), or perceptions of such disorganization (*e.g.*, Lambert *et al.*, 2004; Wilson *et al*, 2005); support or connectedness in

school (Sale *et al.*, 2003) or educational achievement or aspirations (*e.g.*, Crosnoe, 2006; Abdelrahman *et al.*, 1998); and alcohol exposure opportunity (*e.g.*, Crum *et al.*, 1996). Although research is inconclusive as to the effects of socioeconomic deprivation on alcohol use (*e.g.* reviewed in Maggs *et al.*, 2008; Hansen and Chen, 2007), it has been noted that social class or socioeconomic characteristics of the neighborhood are mediated through school life (either connectedness or scholastic performance), peers, and family (Chuang, 2005; Scheier, *et al.*, 1999). While research has examined the effects of neighborhood, school, and family on adolescent alcohol use across racial and ethnic groups (*e.g.* Bersamin *et al.*, 2005; Wallace and Muroff, 2002; Rodgers and Fleming, 2004; Choi *et al.*, 2006), only a limited number of studies have investigated alcohol use in Asian American adolescents (Hahm *et al.*, 2003; Hahm *et al.*, 2004), and none has been reported specifically on Korean American adolescents.

Research findings indicate that alcohol and cigarette uses are associated with the accelerated development of each other (Duncan *et al.*, 1998) and that concurrent use of alcohol and cigarettes during adolescence is related to risk factors for later alcohol-related problems and dependence (Schmid *et al.*, 2007). However, race- or ethnicity-specific research (*e.g.*, Guerra *et al.*, 2000) on the concurrent use of alcohol and cigarettes in adolescents, especially among Asian Americans, has been limited, and no research has been reported on such use among Korean American adolescents.

In light of these findings and in an effort to help fill the gap, we included several key factors identified in the literature in addition to acculturation in our model: 1) peer drinking and scholastic performance/aspirations; 2) the amount of spending money; and 3) current smoking. Peer influence has been well-documented as key for adolescent's alcohol use (*e.g.*, Hahm *et al.*, 2004; Curran *et al.*, 1997; Oetting and Beauvais, 1990). The segment of young people with which an adolescent is affiliated may constitute a critical element of what shapes subsequent life courses. Educational attainment has also been used to measure the level of successful adaptation among children of immigrants (Zhou, 1997), and we examine whether the level of such adaptation affects risk-taking behaviors such as alcohol use. We also explore whether the amount of spending money affects alcohol use among Korean adolescents. Although we initially intended this variable to be a proxy of the adolescent social class, it is a poor one in that the amount of spending money may be as much a function of employment as income available to his/her family. Amount of spending money permits exploration of whether affordability of alcohol increases adolescent alcohol use as is assumed. Finally, we investigate whether cigarette use is related to drinking among Korean youth. Determining the extent of co-occurrence smoking and drinking among immigrant youth and contingent factors may serve to inform future prevention strategies.

METHOD

The Sample

The sample is drawn from one of the largest areas of Korean concentration in the nation. According to the 2000 Census, approximately one-third of all people of Korean descent in the United States reside in California, and about three-quarters of them (258, 580 out of 345, 675) live in the greater Los Angeles area.

Paper and pencil questionnaires were completed by 202 Korean-American adolescents in a number of teenage after school "hangouts" frequented by teenagers of Korean descent in Orange and Los Angeles counties between November 2004 and April 2005. Surveys were administered by a bilingual (Korean/English) student in the Graduate School of Public Health at San Diego State University and other bilingual research assistants. Questionnaire administration involved observing the number and location of potential respondents in each

establishment, approaching them individually or in small groups as the situation required, introducing the study and offering a small incentive (a coupon for a free boba tea). Upon securing informed consent, a clipboard with the questionnaire attached and pencil was handed to each person who agreed to participate. Surveys were conducted anonymously. All procedures were approved by the Institutional Review Board at San Diego State University.

Various locations were selected to enhance social diversity among participants and communities in the greater Los Angeles area. Geographic areas ranged from Fullerton (3.0%) and Anaheim (25.2%) to Glendale (18.8%), and from Cerritos (15.3%) to Koreatown in Los Angeles (34.7%). Locations such as cafes (21.3%), malls (22.7%), and churches (25.2%) accounted for the greatest number of completions, with libraries (9.9%), markets (9.4%), high schools (6.9%), and bookstores (0.5%) accounting for most of the rest. Surveys were completed for 4.0% of participants using a telephone follow up after the initial informed consent contact.

The questionnaire was originally constructed in English and then translated into Korean by bilingual project staff members for whom Korean was their first language. It was then back translated and subjected to informal group discussion by professional bilingual interviewers to insure the fidelity of question wording. Items and response categories were typed in English and immediately followed by a Korean text for each question to facilitate response in either language while preserving the context of items in the questionnaire.

Measures

Alcohol Use—Six outcome measures of drinking were used. A binary variable indicating *current alcohol use* was constructed using the responses to the question, "Do you now drink alcohol every day, some days or not at all?" Any drinking was coded 1 and "not at all" was coded 0.

A *drinking frequency* variable was created using the responses to two open-ended questions, "During the past week, how many days did you have at least one drink of alcoholic beverage?" and "During the past month, how many days did you have at least one drink of alcoholic beverage?" Assuming that a month is typically four weeks, we multiplied the former by four to convert it into a measure equivalent to the latter and then computed the mean of the two to arrive at an indication of the drinking frequency per month. The mean of the former (Mean=1.22; SD=3.35) is somewhat higher than the latter (Mean=1.04; SD=2.65).

The *number of drinks* per drinking occasion was measured using the open-ended question, "On the days you drank, how many drinks did you drink on average?"

A variable indicating the *total number of drinks* consumed during the prior month was constructed by multiplying the average number of drinks per occasion and the drinking frequency per month described above.

The frequency of *drinking and driving* was measured by the open-ended question, "During the past 30 days, how many times have you driven when you've had perhaps too much to drink?

The *co-occurrence of drinking and smoking* was a binary variable indicating an affirmative response to the question, "When you drink alcohol, do you usually smoke at the same time?"

Peer Influence—Influence from peers was measured by open-ended responses to "Out of every 100 of your friends about how many do you think will drink alcohol?"

Acculturation to U.S. Society—The acculturation scale used in this study was adapted from the Suinn-Lew Asian self-identity acculturation to U.S. society scale (Suinn et al., 1987; Suinn et al., 1995). Likert-type items were designed to measure aspects of cultural proficiency and preferences involving language, music, food, and self-identification with the U.S. and Korea, and social linkages including ethnicity of peers and preferred associations.

The items were subjected to three factor extraction methods--principal component, principal axis, and maximum likelihood--each followed by varimax rotation. All three methods produced similar results, with similar eigenvalues and the same factor item composition implying robustness of the solution to the extraction method used. Varimax rotation was selected to result in factor-based scales having the greatest degree of orthogonality. To avoid redundancy in reporting only the results of the principal component analysis are provided here (Table 1). For reliability analyses, an item was included in a given scale if its loading exceeded 0.4 and was highest on the relevant factor. Two reliable latent dimensions emerged from the analysis using the customary eigenvalue of 1.0 as a cutoff. A cultural dimension explained 38.1% of the total variance among items (10 items; Cronbach α =.73), and a social dimension explained an additional 14.1% of the total variance (4 items; Cronbach α =.74). We deemed these two dimensions to be also conceptually valid in that the cultural dimension of acculturation (*i.e.*, the degree of cultural identification, proficiency, and preference for American culture) may generate different outcomes than the social dimension (*i.e.*, affiliation with non-Koreans). Therefore, we chose to include both dimensions, rather than using a single, unidimensional acculturation scale in order to assess the relationships between specific domains of acculturation and measures of alcohol (Phinney, 2002).

Scholastic Achievement and Aspirations—A school achievement/aspirations index was created by summing two binary variables: 1) Whether participants reported getting mostly A's or B's in school (coded 1 or 0); and 2) whether the participants plan to attend college (coded 1 or 0).

Amount of Spending Money—Spending money was measured by responses to "About how much money do you have each week to spend on yourself anyway you want?"

Current Smoking—Current smoking was measured by responses to "Do you now smoke cigarettes every day/some days (=1), or not at all (=0)?"

Demographic Variables—Age and gender were measured by self report.

Analysis

Data were analyzed using STATA (version 10.0) and mixed effects modeling with multivariate logistic regression procedures for binary outcomes (*i.e.* current alcohol use and the co-occurrence of drinking and smoking) and multivariate linear regressions for continuous outcomes (*i.e.*, drinking frequency, average number of drinks, and the total number of drinks per month) (Rabe-Hesketh and Skrondal, 2008). Given that surveys were administered at 8 different locations, standard errors were corrected for clustering using procedures outlined in (White, 1982; Rabe-Hesketh and Skrondal, 2008). The procedures provide unbiased standard errors although they may error slightly on the conservative side for hypothesis testing in some instances. Analysis suggested that clustering did not have a major effect on the outcomes reported below with ρ the intraclass correlation coefficient approximately .00.

RESULTS

Characteristics of the Sample

Respondents were aged 13–17, mean =15.5 (SD=1.44) with four 12-years and two 18years old. The mean grade in school was 10.2 (SD=1.41), and grade point average 3.3 (SD=0.90). About 29.5% reported spending $10 or less a week, 35, 5% over $10 to $30, and the rest more than $30, with the mean spending money available per week as $32.0 (SD=29.5). Mean hours worked per week for money was 2.4 (SD=5.4), and 74.2% indicated that they did not work for money, 20.3% reported working 10 hours or less, and only a small minority reported working more than 10 hours a week.

Korean youth reported high rates of drinking among friends. When asked, participants reported that a mean of 47.3 (SD=34.33) out of 100 friends drank alcohol. About 26.1% responded that up to 10 friends drank, and 8.0% reported that none drank. About 3.5% reported that 100% of their friends drank.

About half of the participants were male, 23.8% reported suspension from school in their lifetime, and 97.2% said they planned to attend college. About 38.5% reported being born in Korea, becoming part of the "1.5" generation, *i.e.*, born in another country but coming to U.S. as a child (Rumbaut, 1991). The rest were second generation, and no one reported being third generation.

As Table 2 shows, the sample tended to be proficient in English and to preferred American culture, with most means on those items higher than the midpoints on the scales on which a higher number indicates language proficiency or preference for American culture. However, participants identified as slightly more Korean than American, with a mean of 1.90 on a 1–4 scale). In terms of social affiliations, means ranged from 2.48 to 2.54, near the midpoint of 1–5 scale, indicating that participants were almost equally affiliated with Koreans and non-Koreans. These discrepancies suggest that acculturation involves complicated social, cultural, and behavioral processes, some of which may lag others and which may affect behaviors in a manner that is not consistent with one another.

Drinking

Only 37.1% of the sample (43.0 % of males and 33.7% of females) reported being drinkers (according to any of the alcohol measures). About 30.7% of the sample (33.7% of males and 27.7% of females) reported drinking during the prior month, substantially higher than the 17% of a national sample collected in the National Survey on Drug Use and Health in 2004 (SAMHSA, 2005). About 9.9% of males and 8.9% of females in our sample reported drinking on one day, 9.9% and 10.9% on two or three days, and 19.9% and 8.9% four or more days. The mean drinking days during the prior month was 1.4 times for males and 0.9 time for females.

About 6.9% of male and 7.9% female respondents said they had a part of one or one drink on the days they drank, while 0.9% of both males and females reported drinking two or three drinks, and 19.8% of males and 15.3% of females four or more drinks. The mean of the average number drinks per occasion was 1.59 for males and 1.01 for females.

As for the total number of drinks in the past month, about 75.3% of males indicated that they had two or fewer drinks, 6.0% 3–4 drinks, 4.0% 5–9 drinks, and 16.3% 10 drinks or more. About 22.6% of females indicated that they had two or fewer drinks, 7.9% 5–9 drinks, and 9.9% 10 drinks or more. The mean of the total number drinks in the past month was 5.2 (SD=19.8) for males and 3.7 (SD=12.1) for females.

About 5.9% of males and 3.0% of females reported that they had driven while drunk during the prior month. Smoking was common among drinkers with 46.5% of male drinkers and 42.9% of their female counterparts reporting smoking cigarettes when drinking.

Correlates of Drinking: Bivariate Analyses

Bivariate associations among the predictors and drinking behaviors are reported in Table 3. Reports of the number of friends who drink was correlated with current alcohol use (r=.53, p<.01) and weak but significant correlations with the rest of the outcomes. Current smoking was correlated with the co-occurrence of drinking and smoking (r=.75, p<.01). Current smoking was also correlated with current alcohol use (r=.48, p<.01) and frequent drinking (r=.42, p<.01) and also with the average number of drinks per occasion (r=.37, p<.01) and with the total number of drinks during the prior month (r=.30, p<.01). The rest of the predictors were not significantly correlated with outcomes.

Factors of Drinking: Multivariate Analyses

The cultural dimension of acculturation was not significantly associated with any measure of drinking in this analysis when other predictors were controlled. Peer influence remained a strong predictor of all outcomes, with the risks increasing with each friend who drank. The social dimension of acculturation was positively associated with the total number of drinks during the prior month when other predictors were controlled, indicating that those who affiliate with non-Korean peers are more likely to use a larger amount of alcohol according to the multivariate analysis reported in Table 4. Current smoking also turned out to be a consistently and positively associated with all outcomes. Low scholastic achievement/aspirations was associated with increased risk for current drinking and for the co-occurrence of drinking/smoking (ORs=4.29 & 3.77, respectively). Age was positively associated only with the co-occurrence of drinking/smoking. Amount of spending money was significantly associated with drinking frequency but not with other outcomes. Gender was not related to any of the outcomes. The intraclass correlation for these data was approximately .00.

Another set of multivariate analyses was computed an interaction term between the two most consistent risk factors—the number of friends who drink (recoded into a binary variable of up to 10 vs. more than 10) and current smoking—was added. A tabular version of these statistics is not reported but is available from the first author on request. Similar patterns as those reported in Table 3 were observed, albeit with slight variations: Current smoking and friends' drinking remained correlated with all measures of alcohol use, but the average number of drinks per occasion and low scholastic achievement were predictors of current alcohol use but not of other outcomes, and affiliation with non-Korean peers was positively correlated with the total number of drinks during the prior month but not with other outcomes. The interaction term was significantly associated with a greatly increased risk for current alcohol use (OR=4.94)—*i.e.,* current smokers who have more friends who drink are more likely to drink--but it was unrelated other outcomes.

To determine whether the more consistent predictors of drinking—friends drinking, educational achievement/aspirations, and current smoking—mediated between acculturation and alcohol use, the two dimensions of acculturation were regressed on these predictors. No significant associations between acculturation and these predictors were found. Therefore, it appears that none of these risk factors was a mediator between acculturation and alcohol use or the co-occurrence of drinking and smoking.

DISCUSSION

Findings from this study may be summarized as follows. Acculturation was not a significant predictor of most measures of Korean American adolescent drinking when other predictors were controlled, but peer influence, scholastic achievement/aspirations, and current smoking were. Those with more spending money were more likely to drink frequently. Gender was not significantly associated with any measure of alcohol use. Not surprisingly, older adolescents were more likely to drink and smoke.

Findings that peer influence was significantly associated with most measures of drinking are consistent with those of extant research that examined peer influence on alcohol and other substance use among immigrant adolescents (*e.g.*, Hahm et al., 2004; Curran *et al.*, 1997; Oetting and Beauvais, 1990). An investigation of peer influence should be integral to future research on drinking among children of immigrants. At the same time, the circumstances under which an adolescent affiliates her/himself with peers who tend to engage in alcohol and other substance use need to be better understood. One clue offered by our findings is that Korean American adolescents who associate with non-Korean peers are more likely to drink a greater number of drinks than those who associate with Korean American peers. There were no data that allowed us to determine the characteristics of these non-Korean peers, and it may be worth exploring how association with such peers may affect drinking.

Current smoking turned out to be a strong risk factor for Korean adolescents' alcohol use. Given the cross-sectional design of the present study, it is difficult to establish whether smoking precedes drinking or the other way around. Other research on the developmental stages of adolescent drug involvement suggests that the use of beer or wine precedes that of cigarettes and/or hard liquor, which in turn precedes marijuana and other illicit drugs (Kandel, 1975; Kandel and Faust, 1975). It may be that adolescents who are already using alcohol may begin to experiment with cigarettes. Either way, an important implication is that the exposure to one of these two drugs may induce the use of the other. The fact that almost half (44.9%) of the drinkers usually smoked cigarettes while drinking illustrates this point. Adolescents who use both alcohol and cigarettes (or other tobacco products) arguably constitute a high risk group that could degenerate into using illicit drugs subsequently. These findings suggest that an integrated intervention strategy that can address both drinking and smoking (and possibly other drugs) among immigrant adolescents is needed.

The findings that low educational achievement/aspirations was a risk factor for drinking and smoking lends credence to the segmented assimilation theory. An adolescent's striving for and attaining good scholastic performance represents the belief in the American achievement ideology and an acceptance of schooling as a requisite for making it in society (Clark, 1983). A relatively high degree of scholastic achievement/aspirations by the children of immigrants thus constitutes a crucial first step toward successful adaptation to American society (Zhou, 1997) which may also insulate them from substance use. Given that the overwhelming majority of our respondents reported receiving mostly A's or B's in school and plan to attend college, Korean American adolescents may be a homogeneous and more conforming group with regard to scholastic achievement and aspirations. The effect of educational attainment may be more pronounced when adolescents of different ethnic groups, potentially with a greater variability in educational attainment, are included in a study.

At the same time, there is no indication that the adolescent's socioeconomic status affects their alcohol use. In a way, this may be due to the inadequacy of the variable we used—the amount of weekly spending money—as a proxy for social class. Whether those who have more spending money are from more affluent families is unknown in this study. The

correlation between the spending money and family income, as well as that between the amount of spending money and the hours the adolescent work for money per week, were both low (p=.19 & .22, respectively). All were reported by adolescents without independent verification. More refined measures of the adolescent's socioeconomic status should be used in future research that attempts to incorporate the insights of segmented assimilation theory in the investigation of adolescent substance use.

The finding that the amount of spending money was positively associated with the frequency of drinking suggests that adolescents who can afford alcohol are likely to drink more often. Consistent with findings of previous research that affordability of alcohol may increase the risk of drinking for adolescents since lack of money is a barrier (*e.g.*, Chaloupka *et al.*, 2002), this finding has a policy implication that adolescent drinking may be reduced through higher alcohol prices.

We found that gender was not significantly associated with any outcomes. It has been long noted how acculturation affects alcohol use in male and female immigrants differently, especially among those of Mexican descent (*e.g.*, Caetano and Mora, 1988; Caetano and Clark, 2003). Generally, Asian American females have been known to consume less (or no) alcohol than males (Kitano and Chi, 1989; Chi *et al.*, 1989), but new findings are emerging that there are no gender differences in alcohol and other substance use among young people, both in the general U.S. population (Keyes *et al.*, 2008) and among Asian Americans (Hahm *et al.,* 2003). It will be worth investigating why the gender gap is closing among American adolescents and young adults.

The findings that the two dimensions of acculturation were not significantly associated with most measures of alcohol use among Korean American adolescents (when other potential predictors were controlled) and that none of the significant risk factors served as mediators between acculturation and drinking point to the need to rethink the acculturation-focused approach in investigating alcohol use of adolescents of Korean descent and other recent immigrant groups. The Korean adolescent experience may be much more complex than can be explained by adherence to the values and norms prevalent in their ethnic culture or in wider American culture. At the same time, the finding that affiliation with non-Korean peers is a significant predictor of the total amount of alcohol consumed during the prior moth suggests that different aspects of the experience children of immigrants undergo in American society may produce different outcomes in alcohol and other substance use. To better understand their experience, different aspects of acculturation need to be clearly specified and their unique effects investigated.

Limitations

One major limitation of this study is that variables for family influence on the adolescent's alcohol use were unavailable and thus not included in our models. Research has suggested that familism can be a protective mechanism for immigrants and their children from negative environmental influences (Gill and Vega, 1999) or, specifically, from alcohol use (Hahm *et al.*, 2003). Limited findings provided by previous research suggest that Asian American students who do well in school are likely to have a strong orientation toward traditional family values of obedience, industriousness, and mutual obligation to family members (Zhou and Bankston, 1994). How family dynamics and social capital from the ethnic community can protect adolescents from alcohol and substance should be an integral part of future research. In addition, given the high proportion of Christians among first-generation Korean immigrants—more than 75% according to one study (Kwon *et al.*, 2001) —and the role of churches as the centers of social lives in the Korean American communities that also offer fellowship and provide status rewards (Kwon *et al.*, 1997)—it

might be worth incorporating the religious affiliation and practices of family members as potential factors that affect adolescent drinking behaviors.

Other limitations of this study should also be noted. The sampling did not involve standard probability procedures and may entail sampling biases, although adolescents from different socioeconomic backgrounds were purposely included. Also, administering surveys at teenage hangouts, though appropriate for recruiting a hard-to-reach population, may also have led to a sampling bias in that more adolescents who are more sociable and potentially under less parental supervision may have been included in the sample. So far as can be determined, no major group of Korean adolescents was omitted. Further, given the diversity of the sample and the fact that no associations by cluster were discerned, it appears that social or lifestyle biases were less likely.

In addition, the cross-sectional design of the study that makes it difficult to establish causal relationships is another limitation. For example, it is not clear whether smoking precedes drinking or *vice versa*. Also, there may be complex pathways that involve the predictors and alcohol use, which the cross-sectional design does not allow to be teased out. For example, adolescents who do not perform well academically may turn to peers who tend to engage in substance use and other deviant behaviors and develop similar behaviors, during which they may also lose the family support. Relying on self-reports and being unable to verify the responses was another limitation. Lastly, wording of some questions was ambiguous and may have led to a reporting bias. For example, the question about "the number of friends out of every 100 friends" who drank may have meant to the respondent a very large group of acquaintances, not close friends. Also, the question on the co-occurrence of drinking and smoking—if the respondent usually smokes when drinking alcohol—may also have led to over- or under-reporting, depending upon how "usually" was interpreted.

Future Research

Contrasting findings reported in this study with other research concerning adolescents highlights the need to conduct research within specific cultural groups. "Asians" do not constitute a cultural group and, indeed, Asians in America represent a multitude of highly diverse cultures. This diversity has been underestimated in numerous studies. Although most Korean adolescents have a good command of English this is not true of their parents and English only studies can seriously bias findings (Hofstetter *et al.*, 2004). It is likely that similar problems are reflected in any recent immigrant group. Thus, appropriate language of observation must be an important consideration of the design of research instruments in sociological and health studies of such populations.

Overall, a more integrative approach in investigating alcohol and other substance use among children of immigrants might be useful. A longitudinal design is justified in efforts to establish causal relationships but, more importantly, qualitative research that helps better understand forces and situations that encourage or discourage alcohol and other substance use among children of immigrants (or other adolescents in the United States) is needed.

Acknowledgments

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Table 1

Principal Component Analysis of Acculturation to U. S. Society Items.[a]

Item	Cultural	Social
Where were you raised? (High=US entire life)..........	**.824**	−.063
When writing, do you write only Korean, write Korean better than English, write both Korean and English equally well, write English better than Korean, or write only English? (High=English only)..........	**.734**	.234
Where were you born? (High=Korea)..........	**−.726**	.123
When reading, do you read only Korean, read Korean better than English, read both Korean and English equally well, read English better than Korean, or read only English? (High=English only)..........	**.710**	.301
Which language do you prefer to speak? (High=English only)..........	**.672**	−.279
Do you speak Korean only, mostly Korean with some English, Korean and English equally well, mostly English, or English only? (High=English only)..........	**.649**	.309
What contact have you had with Korea? (High=none)..........	**.644**	−.122
How do you identify yourself? (High=American)..........	**.530**	.237
What is your music preference? (High=non-Korean)..........	**.520**	.486
What is your movie preference? (High=only English)..........	**.455**	.362
Who do you associate within the community now? (High=Almost exclusively non-Koreans)..........	.055	**.869**
What is the ethnic origin of the friends and peers you have now? (High=Almost exclusively non-Koreans)..........	.147	**.782**
If you could pick, whom would you prefer to associate within the community? (High=Almost exclusively non-Koreans)..........	−.053	**.653**
What was the ethnic origin of the friends and peers you had, as a child up to about 6? (High=Almost exclusively non-Koreans)..........	.445	**.473**
Percent Total Variance Explained	**38.1**	**14.1**

[a]Item scale assignment for reliability analyses indicated by loadings in bold.

Table 2

Distributions of Items included in the Acculturation Scale

Item	Means (SD)	Range
Where were you raised? (High=US entire life)..........	4.60 (1.20)	1–5
When writing, do you write only Korean, write Korean better than English, write both Korean and English equally well, write English better than Korean, or write only English? (High=English only)..........	3.85 (.87)	1–5
Where were you born? (High=US)..........	.66 (.47)	0–1
When reading, do you read only Korean, read Korean better than English, read both Korean and English equally well, read English better than Korean, or read only English? (High=English only)..........	3.74 (.81)	1–5
Which language do you prefer to speak? (High=English only)..........	2.72 (.66)	1–3
Do you speak Korean only, mostly Korean with some English, Korean and English equally well, mostly English, or English only? (High=English only)..........	3.41 (.78)	1–5
What contact have you had with Korea? (High=none)..........	2.61 (1.42)	1–5
How do you identify yourself? (High=American)..........	1.90 (.71)	1–4
What is your music preference? (High=non-Korean)..........	3.61 (1.21)	1–5
What is your movie preference? (High=only English)..........	3.64 (.95)	1–5
Who do you associate within the community now? (High=Almost exclusively non-Koreans)..........	2.54 (.96)	1–5
		1–5
What is the ethnic origin of the friends and peers you have now? (High=Almost exclusively non- Koreans)..........	2.48 (.97)	1–5
If you could pick, whom would you prefer to associate within the community? (High=Almost exclusively non-Koreans)..........	2.69 (.91)	1–5
What was the ethnic origin of the friends and peers you had, as a child up to about 6? (High=Almost exclusively non-Koreans)..........	2.49 (1.18)	1–5

Table 3

Association of Drinking Status, Drinking Frequency, Amount of Drinking, and Co-occurrence of Drinking and Smoking on Selected Predictors among Korean Adolescents.[a]

	Current Alcohol Use Yes/No	Drinking Frequency/Month	Average Number of Drinks	Total Number of Drinks/Month	Smoke When Drinking
Culture	−.18[*]	−.12	−.08	−.04	.02
Social affiliation	−.08	−.05	−.09	.07	−.18[*]
No. of peers who drink	.53[**]	.36[**]	.36[**]	.25[**]	.31[**]
Low school achievement	.18[*]	.003	.13	−.04	.13
Spending money	.23[**]	.25[**]	.16[*]	.11	.15
Age	.20[**]	.09	.17[*]	.05	.23[**]
Female	−.10	−.09	−.12	−.05	−.07
Current smoking	.48[**]	.42[**]	.37[**]	.30[**]	.75[**]

[a]Entries are product-moment correlation (continuous) or Phi (discrete) coefficients.

[*] p <.05

[**] p <.01

Table 4

Multivariate Linear and Logistic Regression Analyses of Drinking Status, Frequency, Amount and Volume of Drinking, and Co-occurrence of Drinking and Smoking among Korean Adolescents (Adjusted for clustering)

Predictor	Current Alcohol Use Yes/No.[a] OR (95% CI)	Drinking Frequency/Month.[b] β (95% CI)	Average Number of Drinks.[b] β (95% CI)	Total Number of Drinks/Month.[b] β (95% CI)	Smoke When Drinking.[a] OR (95% CI)
Culture	.82 (.54, 1.26)	−.07 (−.44, .30)	−.11 (−.45, .23)	−.02 (−2.54, 2.50)	1.09 (.70, 1.70)
Social affiliation	.85 (.55, 1.33)	.14 (−.23, .52)	−.04 (−.38, .30)	3.29 * (1.77, 5.81)	.71 (.43, 1.16)
No. of peers who drink	1.04 ** (1.02, 1.05)	.02 ** (.01, .03)	.02 ** (.01, .03)	.12 ** (.04, .21)	1.02 * (1.00, 1.04)
Low school achievement	4.29 * (1.38, 13.30)	−.19 (−1.08, .70)	.38 (−.43, 1.20)	−4.68 (−10.69, 1.33)	3.77 * (1.17, 12.09)
Spending money	1.01 (1.00, 1.02)	.01 * (.00, .02)	.003 (−.01, .01)	.01 (−.05, .07)	1.00 (.99, 1.01)
Age	1.12 (.76, 1.65)	−.16 (−.46, .13)	.01 (−.26, .27)	−1.69 (−3.67, .28)	1.81 * (1.12, 2.91)
Female	.52 (.19, 1.41)	−.22 (−1.00, .56)	−.54 (−1.24, .17)	−.39 (−5.63, 4.85)	.44 (.16, 1.22)
Current smoking	4.11 ** (1.47, 11.49)	2.11 ** (1.16, 3.05)	1.30 ** (.44, 2.16)	12.49 ** (6.15, 18.83)	-
Constant	-	2.04 (−2.42, 6.51)	.11 (−3.96, 4.18)	23.39(−6.71, 53.49)	-
	rho=0	rho=0	rho=0	rho=0	rho=0

[a] Adjusted odds ratios with 95% confidence intervals in parentheses.

[b] Regression coefficients with 95% confidence intervals in parentheses.

*
p <.05

**
p <.01