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Immigrant Generation, Selective Acculturation, and Alcohol Use among Latina/o Adolescents

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Abstract

Do alcohol use and binge drinking among Latina/o adolescents increase in the second and third generation? This study explores generational differences in alcohol use behaviors for three Latina/o ethnic groups. Using data from the National Longitudinal Study of Adolescent Health on 1504 Latina/o adolescents in secondary school, we found that the factors associated with alcohol use behaviors differed across the Latina/o groups. For Mexican and Cuban adolescents, but not Puerto Ricans, immigrant generation was associated with alcohol use. For Mexican, but not Cuban adolescents, acculturation mediated the effect of immigrant generation on alcohol use behaviors. Although generally social capital and a co-ethnic presence were protective factors against alcohol use behaviors, we found that some forms of social capital were actually risk factors for Cubans and Puerto Ricans. Our results provide support for segmented assimilation theory.

Keywords

Acculturation; Adolescents; Alcohol; Assimilation; Immigrants; Latina/os

1. Introduction

This research examines adolescent alcohol use behaviors among Latina/o ethnic groups guided by segmented assimilation theory.¹ Although recent research suggests that some long-term health benefits may accumulate from alcohol use in moderation (Mukamal et al. 2003), for adolescents the physical, social and psychological risks associated with alcohol use make it a major social problem. During late adolescence and early adulthood, drinking is often associated with risky and illegal behaviors, increasing emotional distress, and other negative psychological outcomes that may impact later life stages (Chassin, Pitts, and Delucia 1999; Schulenberg and Maggs 2002; Crosnoe, Muller, and Frank 2004). For recent immigrants or

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¹In previous work, many scholars have used the terms Latino/a and Hispanic interchangeably. The AddHealth survey asked respondents to indicate if they are "of Hispanic or Latino origin". In this paper, we use the term Latina/o, a convention increasingly adopted in most recent research.

the children of immigrant parents, these risks may be even more costly as families, often on the financial and social margins, lack the resources to protect their children if they get into trouble (Brindis, Wolfe, McCarter, Ball, and Starbuck-Morales 1995). Yet Schulenberg and Maggs (2002) argue that many teens view drinking as acceptable and even socially beneficial, providing evidence that “alcohol use and heavy drinking are culturally embedded in the experience of adolescence and the transition to young adulthood” in the United States (p. 54).² This is consistent with a growing body of research which has consistently illustrated an association between immigrant generation and health risk behaviors such as cigarette smoking (Brindis, Wolfe, McCarter, Ball, Starbuck-Morales 1995; Khoury, Warheit, Zimmerman, Vega, and Gil 1996), drug use (Velez and Ungemack 1989; Vega and Gil 1999), as well as alcohol use (Welte and Barnes 1995; Epstein, Dusenbury, Botvin, and Diaz 1996; Gil, Wagner, and Vega 2000; Stone and Meyler 2006).

The identification of adolescent alcohol use as both a problem behavior and a rite of passage among U.S. youth and the well documented relationship between immigrant generation and a host of health risk behaviors make it a particularly compelling phenomenon to explore within a segmented assimilation framework, which predicts that the longer the contact of a group with the host culture, the more likely they are to adopt the normative behaviors of that culture unless the family and community facilitate a process of selective acculturation (Portes and Rumbaut 2001). Similar to Gibson’s (1988) concept of multilinear acculturation, selective acculturation is a process whereby immigrant groups acquire certain cultural practices from the dominant culture, while maintaining their own (or elements of their own) ethnic culture. Portes and Rumbaut (2001) argued that this process of “selective acculturation” would help facilitate upward assimilation particularly for those in the second generation. We define assimilation as do Alba and Nee (2003) as a process whereby “ethnic origins become less and less relevant in relation to another ethnic group (typically, but not necessarily, the ethnic majority group), and individuals on both sides see themselves more and more alike” in such a way that cultural and social distinctions become less salient (p. 11).³

While valuable, extant research has yet to fully specify the complex relationships among immigrant generation, selective acculturation, and alcohol use behaviors among Latina/o adolescents. Single community samples or studies of individual Latino ethnic groups have offered important information, as have studies that explore multiple Latina/o groups without consideration of national origin, but research on nationally representative samples that permit comparisons across generation by ethnic group are needed to determine whether prior findings can be generalized or are unique to certain communities or ethnic groups. Additionally, studies of acculturation and health behaviors that collapse multiple Latina/o ethnic groups into one group (Abraido-Lanza, Chao, and Florez 2005) ignore both the cultural differences among the groups and the differences in the reception that groups from different countries encounter in the United States. Portes and Rumbaut (1996; 2001) make a strong case that immigrants from different countries confront varying governmental and societal responses based on country of origin, settlement patterns, and historical timing. They argue that these responses, in addition to differences in immigrant family and community resources, make possible different types of

²Recent research on adolescents in Mexico’s northern border states shows increasing rates of alcohol use among both males and females (Floyd, Latimer, Vasquez, and O’Brien 2005; McKinnon, O’Rourke, Thompson, and Berumen 2004) and provides some evidence that Schulenberg and Maggs (2002) argument may also be applicable across the border. However, evidence comparing New York born Puerto-Rican adolescents to their Puerto-Rican born peers in the U.S. or Puerto Rico found that the New York born adolescents were more at risk for alcohol use (Velez and Ungemack 1995). We found no research documenting the extent of alcohol use among Cuban born adolescents in Cuba.

³There is an ongoing debate about the utility and appropriate use of concepts such as assimilation and acculturation in health research and more generally. Please see Escobar and Vega (2000), Hunt, Schneider, and Comer (2004), or Alba and Nee (2003) for a careful consideration of some of the issues relevant to this debate and a discussion of the use of these concepts in social science research.

acculturation that may potentially facilitate or impede immigrant incorporation into the U.S. culture and economy.⁴

Guided by a segmented assimilation framework, this study addresses these gaps in the literature by exploring the associations among immigrant generation, selective acculturation, and alcohol use behaviors for a nationally representative sample of Mexican, Cuban, and Puerto Rican adolescents using data from the National Longitudinal Study of Adolescent Health (Udry 2003). The Add Health data provide a number of advantages over prior data. First, these data allow for a comparison of the drinking behaviors of adolescents from three different Latina/o ethnic groups. Second, they include data on the human and social capital of these adolescents so that we can explore the notion that selective acculturation may be protective for alcohol use for some immigrants. And third, these data include an in-school survey which can be used to aggregate the characteristics of the populations of students in the schools where Latina/os attend and therefore take into account the co-ethnic context that adolescents encounter at school.

2. Racial and ethnic differences in adolescent alcohol use

Consistent with the literature on racial and ethnic differences in adult alcohol use, research on adolescent alcohol use has indicated that Latina/os have lower rates of alcohol and heavy drinking than whites but higher rates than blacks (Dawson 1998; Khoury, Warheit, Zimmerman, Vega, and Gil 1996; Wallace, Bachman, O'Malley, and Johnston 1995; Warheit, Vega, Khoury, Gil, and Elfenbein 1996). However, extant research does not provide consistent findings regarding national origin differences in adolescent alcohol use patterns across Latina/o groups. For instance, in a nationally representative study of high school seniors, Wallace and Bachman (1991) found that Mexican adolescents were more likely to drink and engage in heavy drinking than Puerto Ricans regardless of gender. In contrast, more recent research has found few differences in adolescent alcohol use across Latino groups (Khoury, Warheit, Zimmerman, Vega, and Gil 1996; Nielsen and Ford 2001).

Of the studies exploring the relationship between assimilation and alcohol use, most have measured assimilation only in terms of nativity. These studies found that second-generation Latina/os reported higher levels of alcohol use than first-generation Latina/os (Alva 1995; Khoury, Warheit, Zimmerman, Vega, and Gil 1996). Likewise, Velez and Ungemack (1995) found that New York born Puerto Rican adolescents are at a greater risk for alcohol use than their Puerto-Rican born peers in the U.S. or Puerto Rico. Overall, the available research on adolescents suggests that nativity matters in understanding Latina/o adolescent alcohol use patterns. However, we found no published studies that have explored whether the relationship between immigrant generation and adolescent alcohol use behaviors are mediated by acculturation or whether this process varies by nation of origin. To better situate these research questions we turn to segmented assimilation theory to frame our study.

3. Segmented-assimilation theory and adolescent alcohol use

Gordon's (1964) classical model of assimilation implies a linear generational process of cultural adaptation followed by social and economic integration. The longer the contact of a group with the host culture, the more acculturated the group becomes (Zhou and Kamo 1994; Logan, Alba, and Leung 1996). This suggests that immigrant youth are likely to adopt and engage in the normative behaviors of the host culture. In doing so, they are likely to adopt some behaviors that are undesirable yet common among American adolescents. Hence the consequences of acculturation may have adverse effects on groups with respect to such cultural

⁴See Gibson (1988) for a similar argument.

patterns as cigarette smoking (Wiecha 1996), drug use (James, Kim, Morse 1997), alcohol use (Kitano, Lubben, and Chi 1988), and mental health and family conflict (Mena, Padilla, and Maldonado 1987; Berry and Kim 1988). Gordon's analyses focused on the positive consequences of acculturation and emphasized the role of assimilation in the upward mobility that many immigrants have historically secured in the United States. While Gordon did not address negative consequences directly his perspective does not seem to preclude the possibility that acculturation could result in negative behaviors/outcomes to the extent that these are elements of the dominant culture.

Segmented-assimilation theory, which speaks more specifically to the possibility of both positive and negative assimilation trajectories, offers a useful framework for exploring the relationships among immigrant generation, acculturation, and alcohol use behaviors among adolescents. Studies that have explored the association between immigrant generation and health outcomes for a variety of ethnic groups show that overall, native born Latina/o and Asian adolescents are more at risk for all kinds of adverse behaviors than their immigrant counterparts (Gordon-Larsen, Harris, Ward, and Popkin 2003; Nagasawa, Qian, and Wong 2001; Rumbaut 1997b). Acculturation, in other words, may result in negative health consequences for adolescents. Conversely, evidence is mounting that selective acculturation, ethnic retention and family solidarity, buffer some Asian adolescents from negative behaviors such as drug use and delinquency that are not uncommon in the communities where recent immigrants and the children of immigrants often reside (Zhou and Bankston 1994; Nagasawa, Qian, and Wong 2001). Segmented-assimilation theory suggests that some ethnic retention in the family may protect immigrant groups from negative influences in their host culture and thus help to facilitate their upward economic assimilation. More broadly, this research also highlights the notion that the assimilation process may result in multiple forms of cultural adaptation.

Segmented-assimilation theory identifies three distinct forms of adaptation: (1) acculturation and integration into the middle-class, (2) acculturation into the "underclass" and downward assimilation, and (3) selective acculturation into middle-class society through the preservation of ethnic culture and community based ethnic ties (Portes and Rumbaut 2001). The identification of multiple forms of adaptation, including the possibility of acculturation with potentially negative outcomes, helps to conceptualize three factors relevant to Latina/o adolescent alcohol use: immigrant generation, selective acculturation, and school co-ethnic context. Segmented-assimilation theory suggests that the relationship between immigrant generation and various adverse behaviors depends upon the particular acculturation trajectory experienced by the adolescent and their family. Acculturation trajectories leading to upward assimilation are associated with human and social capital in the family and the community that potentially insulate some youth from the negative influence of the dominant adolescent culture. Families with higher levels of human and social capital are better able to support their children's selective adaptation to life in the U.S. because they are able to provide economic resources and adult attention and guidance (Portes and Rumbaut 2001). Such families can encourage bilingualism and academic achievement, characteristics often associated with selective acculturation.

In addition to human and social capital in the family, Portes and Rumbaut (2001) acknowledge the importance of the social context as a challenge that both immigrants and their children face when they attend schools and live in neighborhoods that "may promote a set of undesirable outcomes such as dropping out of school, joining youth gangs, or participating in the drug subculture" that are inconsistent with the values and norms of the dominant culture (p. 59). This work indicates that these challenges are most widely encountered in predominately minority inner city neighborhoods and schools. However, some negative outcomes such as alcohol use may be more common among white adolescents (Dawson 1998; Khoury, Warheit, Zimmerman, Vega, and Gil 1996; Wallace, Bachman, O'Malley, and Johnston 1995; Warheit,

Vega, Khoury, Gil, and Elfenbein 1996). Portes and Rumbaut have argued that resources such as the presence of a co-ethnic community may provide a filter to help immigrants confront obstacles such as discrimination. Similarly, Denner and her colleagues (2001) suggested that in more racially homogenous Latino communities, a greater sense of identity and connectedness, protected community members against negative youth outcomes. For Latino students, the presence of co-ethnics in the school may provide a supportive environment to resist behaviors like alcohol use and abuse that may have negative consequences.

Additionally, the settlement of Latina/o groups in varied demographic and geographic contexts may also account for differences in the types of behaviors Latina/o students encounter. For example, overall Latina/o students are much less likely than non-Latina/o whites to live in rural or suburban communities where alcohol use rates are highest, although settlement patterns vary by Latina/o groups (e.g. Puerto Ricans are the most likely to live in the Northeast, the region with the highest rates of adolescent alcohol use and heavy drinking). In summary, segmented-assimilation theory highlights the importance of the local ethnic context; adaptation tends towards the dominant cultural norms unless local ethnic and social resources operate to provide alternative forms of cultural adaptation.

The classical assimilation model suggests that each additional generation in the U.S. will experience further assimilation into the norms, practices, and institutions of American society and as Schulenberg and Maggs (2002) note for adolescents in the U.S. those norms include alcohol use and heavy drinking. Segmented-assimilation theory suggests that different types of acculturation may occur based upon differences in family resources, relations, and the context of reception. Based on these elements we offer the following hypotheses for Latina/os:

Hypothesis 1: First and second generation adolescents will be less likely to use alcohol or binge drink than third generation adolescents.

Hypothesis 2: Adolescents who experience selective acculturation (bilingualism, strong family relations, and positive educational outcomes) will be less likely than their peers to use alcohol or binge drink.

Hypothesis 3: Adolescents attending schools with a greater proportion of Latina/o students will be less likely to use alcohol or binge drink than those attending schools with fewer co-ethnics.

Hypothesis 4: The effect of immigrant generation on alcohol use and binge drinking will be mediated by an adolescent's acculturation experience and the availability and access to social capital.

Hypothesis 5: Differences among Mexican, Cuban, and Puerto Rican adolescents in the relationships described in hypotheses 1-4 can be explained, in part, based on differences in these groups' context of assimilation.

4. Data and methods

4.1. Data

This study analyzes data from the National Longitudinal Study of Adolescent Health (Add Health), an ongoing nationally representative study of adolescents (7th-12th grade in 1994 when the study began), their schools, and their families. The Add Health sample is representative of schools in the U.S. with respect to region, urbanicity, school size, school sector, and racial composition (Harris et al. 2003).⁵ In this study, we link data on adolescents

⁵For information on the Add Health (i.e., the survey's response rate and details of its calculation), see Bearman et al., 1997.

surveyed in both the first and second waves of the adolescent In-Home Interview to data from the Parent Interview. We combine these individual-level data with school-level data from the In-School and Administrative Surveys. The In-School Survey included almost all students (approximately ninety thousand) from the study schools and provided contextual data on the racial composition of the schools for the current study. The Administrative Survey provided data on the types of schools (urbanicity, geographic region) Mexican, Cuban, and Puerto Rican students attend.

For our study sample, we selected adolescents from the In-Home sample based on the following criteria. First, we selected only those respondents who participated in both of the first two waves of the In-Home Interview and for whom a valid longitudinal sampling weight was available. Second, we included only those respondents who answered questions about alcohol use. Third, we included only those adolescents who responded that they were of Mexican, Puerto Rican, or Cuban ancestry.⁶ We also retained non-Latina/o third plus generation white students as a comparison group for the descriptive analyses.

4.2. Dependent variables

Two different measures of alcohol use from Wave II were used. The first measure, self-reported *alcohol use*, was a dummy variable indicating whether or not the adolescent reported having “a drink of beer, wine, or liquor—not just a sip or a taste of someone else’s drink—more than two or three times” since they had been interviewed in Wave I (approximately a year before). The second measure, self-reported *binge drinking*, was a dummy variable indicating whether or not the adolescent reported having five or more drinks in a row in one day over the past 12 months. Both of these measures captured drinking behaviors that are common in American adolescent culture and less common among new Latina/o immigrants and hence provide salient measures of the extent to which respondents were adopting behaviors common to the dominant adolescent culture.

4.3. Independent variables

All of the independent variables were measured at Wave I.

Ethnicity—Ethnicity was measured as country of origin and included adolescents that identified themselves as *Mexican*, *Cuban*, or *Puerto Rican*. Ethnicity also captured the ways in which the context of reception and settlement patterns differ among the three groups. The context of reception, as conceptualized in segmented assimilation theory, consists of official governmental policies towards, public attitudes and response to, and the resources and characteristics of the existing co-ethnic community for immigrants from specific nationalities (Portes and Rumbaut 2001). In this way ethnicity can be thought of “as a form or source of social capital because ethnic group membership is often a basis for systems of social relations [Portes 1987; Clark and Ramsay 1990; Fernandez-Kelly 1995; Furstenberg and Hughes 1995; Bankston and Zhou 1995; Bankston, Caldas, and Zhou 1997; Sun 1998; Hao and Bonstead-Bruns 1998; Zhou and Bankston 1998]” (Bankston and Zhou 2002, p. 289). However, this may vary by Latino ethnic group as some groups may be less concentrated and less able to establish the tight social relationships required to translate ethnicity into social capital. To explore the extent to which the three ethnic groups were able to translate these potential social relations into social capital, we also considered the effect of the co-ethnic context on alcohol use behaviors.

⁶Recent research has indicated that the self-reported ethnic identities of Latina/o adolescents include national origin, panethnic, hyphenated American, or American identities and that they differ within and between ethnicities and are not consistent over time. For consistencies sake we identify the adolescents in our study by their self reported ethnic origin.

Co-Ethnic Context—Consistent with prior research that has measured co-ethnic context using some measure of racial or ethnic composition (Perez 2001; Kasinitz, Battle, and Miyares 2001), we measured the co-ethnic context for Latina/o adolescents as the *proportion Latina/o students enrolled in the school* the adolescent attends.⁷ These data on school ethnic composition were aggregated to the school level using the self-reported ethnicity from all the respondents surveyed in the In-School Survey. Variations across ethnic groups in co-ethnic context were closely associated with immigrant settlement patterns. For example, 89 percent of the Cubans in our study resided in the southern U.S. (primarily South Florida), an area that is heavily populated by other first and second generation Latina/os (predominately Cubans). On average, Cuban students in our study attended schools that were 77 percent Latina/o. Sixty-two percent of the Puerto Ricans in our study resided in the northeastern U.S. and over ninety-nine percent reported living in either an urban or suburban area. On average, Puerto Rican students in our study attended schools that were 29 percent Latina/o. Meanwhile, 88 percent of the Mexicans in our study resided in the West or Southern U.S. (mostly the Southwest). While Mexicans in our sample were more likely to live in rural areas (6 percent) than Puerto Ricans or Cubans they were still predominately urban or suburban. On average, Mexican students in our study attended schools that were 42 percent Latina/o.

Immigrant Generation—Immigrant generation was measured as first, second, or third plus generation in the United States in order to capture the straight-line assimilation that reflects generation change as the force behind the assimilation process (Alba and Nee 2003). Adolescents who reported that they were foreign or Puerto Rican born were coded as *first generation immigrants*, adolescents who reported that they were born in the U.S. but that one or both of their parents were born elsewhere were coded as *second generation immigrants*, and adolescents who reported that they and both of their parents were born in the U.S. were coded as *third plus generation immigrants*. For analytic purposes U.S. born Cuban adolescents were collapsed into one group because the number of third plus generation Cubans in the sample limited the ability to detect statistically significant differences between this group and others.⁸

Selective Acculturation—In this study, *bilingualism*, *GPA*, and *family social relations* served as measures of selective acculturation, a process whereby adolescents selectively acquire some of the cultural characteristics of the dominant group while maintaining some elements of their ethnic culture. *Bilingualism* captured some element of ethnic retention with simultaneous English language proficiency. It was measured as a dummy variable that is equal to one if the adolescent indicated both that Spanish is the predominant language spoken in their home and that they earned an A or B in English during the last academic term. Fluent bilingualism has been associated with cognitive development, academic performance, academic attainment, and psychological well-being (Feliciano 2001). *GPA* was based on a 4.0 scale and calculated from the adolescents' self-reported grades earned in English, Mathematics, History/Social Science, and Science during their most recent grading period. The *family social relations index* was a six item index created to measure the extent to which the adolescent feels cared for and happy in their family life. The items in the index included, "your parents care about you," "people in your family understand you," "you and your family have fun together," "your family pays attention to you," "how close do you feel to your mother," and "how close

⁷Prior research has used more basic measures comparing foreign born to U.S. born individuals or more complex measures that consider such factors as whether one or both parents were immigrants or the age of immigration among foreign born individuals. Considering age of immigration would allow for a consideration of the 1.5 generation; those who were foreign born, but spent the majority of their childhood in the U.S. This would distinguish them from foreign born children who immigrated to the U.S. in their teenage years. These distinctions are potentially important but our relatively small samples of Mexican born, Cuban born, and Puerto Rican born individuals limit our ability to detect generational differences as we introduce more distinctions.

⁸Alternative measures of co-ethnic context (percent of 1st and 2nd generation Latino immigrants or percent of the specific Latino group) produced similar results.

do you feel to your father.” Responses were reverse coded where appropriate and ranged from 1 (not at all) to 5 (very much). The mean of the responses to the six items served as the final scale ($\alpha = .81$). Studies of second generation immigrants have found that families characterized by trusting family relations can encourage both bilingualism and academic achievement and better facilitate selective acculturation (Portes and Rumbaut 2001).

Family Social Capital—Family social capital was captured by two variables, *family structure* and *parent-child communication*. *Family structure* was measured by a dummy variable indicating whether the adolescent lives in a home with their two natural parents versus some other family structure. Children growing up in in-tact families have access to greater social and economic resources in the home and potentially greater social networks outside the home (Waters 1997). The *parent-child communication index* was an eight item index based on whether or not the student reports talking to their father and/or mother about personal or school issues. The items in the index were “yes” or “no” responses and included, “talked about someone you’re dating, or a party you went to,” “had a talk about a personal problem you were having,” “talked about your school work or grades,” and “talked about other things you are doing in school.” For those students who responded about both parents, the responses for the mother and father have been averaged. Research has provided evidence that family resources such as parental human and social capital are only valuable to children when they are accessible and that communication between the parent and child allow children to access these resources (Coleman and Hoffer 1987; Bankston and Zhou 2002).

Intergenerational Closure—An additional measure of social capital, *intergenerational closure*, was measured by the number of times parents spoke to their adolescent’s friends’ parents during the last four weeks. Coleman (1988) argued that intergenerational closure, a form of social structure within a community that facilitates the sharing of resources and binds children and their parents within a common network, ensures that children will learn the shared norms set by the community.

Control Variables—All analyses controlled for two demographic factors: *gender* (1 = female) and *age*. Additional controls included *parental alcohol use* (parent report of self and partner use from the Parent Interview, 0 = never in past year, 6 = nearly everyday) and *parental education* (parent or student report of whether either of the two parents graduated from high school). Parental alcohol use has been shown to be associated with adolescent alcohol use (Chassin, Pitts, and DeLucia 1996; Rose, Kaprio, Winter, Koskenvuo, and Viken 1999) and parental education captured an element of parental human capital which segmented assimilation theory has posited as important for facilitating certain types of acculturation (Portes and Rumbaut 2001). Since the use of the parental survey for our measure of parental alcohol use introduced additional missing cases, we used the impute procedure in Stata to estimate missing values on parental alcohol use based on other factors, such as marital status, employment status, age, education, that prior research has indicated are associated with adult alcohol use. A binary marker indicating imputation was included as an additional control variable in all models to check that this imputation method did not bias our results. Descriptive statistics for non-Latina/o whites and for each of the Latina/o groups by immigrant generation are compared in Table 1.

4.4. Analytic Strategy

The first set of logistic analyses in this study regressed the binary measure of alcohol use on the generation dummy variables and the four individual-level control variables for each of the three Latina/o groups. We then built on this model by adding the three measures of acculturation, the three measures of social capital, and the measure of school co-ethnic context. The second set of logistic analyses progressed in a similar fashion with the second outcome,

binge drinking. These analyses were meant to establish the basic relationship between generational status and the two alcohol use behaviors and to determine whether these associations were attenuated by the measures capturing selective acculturation, social capital, and school co-ethnic context.

Additional methodological issues require further explanation. The Add Health sample was based on a complex survey design and appropriate weighting was used to account for the design effects.⁹ In addition, we estimated all analyses with the survey procedure in the statistical package STATA (Statacorp 2005a). The survey procedure in STATA takes into account the clustered sampling design, where adolescents were sampled within schools and so are not independent observations. Similar to multilevel modeling techniques, the survey procedure in STATA produces robust standard errors and more accurate t-values based on the clustering of adolescents within schools (StataCorp 2005b) which is particularly important for investigating the relationship between school co-ethnic context and the two outcomes. Unless otherwise noted, we used listwise deletion to deal with missing data in all multivariate analyses.¹⁰ The resulting sample data used in this paper consisted of 6133 white students, and 1504 total Latina/o adolescents, including 882 Mexicans, 290 Cubans, and 332 Puerto Ricans.

5. Results

Alcohol use and binge drinking were not uncommon and sometimes varied by immigrant generation within ethnic groups. Consistent with the classical assimilation model, which argues that assimilation to the dominant cultural behaviors increase with each successive generation in the U.S., there were significant differences between the foreign-born immigrants and their more established co-ethnics. First generation Mexican adolescents (.31) were less likely to report alcohol use than second (.56) or third plus generation Mexican adolescents (.55) and first generation (foreign-born) Cuban adolescents (.20) were less likely than U.S. born Cuban adolescents (.43) to report alcohol use. Second and third plus generation Mexican and Cuban adolescents and all Puerto Rican adolescents reported alcohol use rates similar to non-Latina/o whites. For binge drinking, third plus generation Mexican adolescents were more likely than their first generation counterparts to binge drink (.41 compared to .22). First generation Puerto Ricans (.09) reported a much lower probability of binge drinking than their second and third plus generation counterparts (.24 and .31), although perhaps due to the small number of first generation Puerto Rican adolescents (n=30) this difference does not reach statistical significance. In comparison to non-Latina/o whites, only first generation Cubans have lower rates of binge drinking.

As anticipated, our major findings from the multivariate analyses indicated that immigrant generation, acculturation, social capital, and school co-ethnic context were associated with adolescent alcohol use among Latina/os, but these associations differed by ethnic group. Analyses revealed the following findings: a) immigrant generation was associated with alcohol use behaviors for Cubans and Mexicans, but we did not find evidence of such an association for Puerto Ricans; b) one or more of the measures of selective acculturation were associated with the two alcohol uses behaviors for all three of the Latina/o groups studied; c) social capital was associated with alcohol use behaviors, but the association varied by group; d) immigrant generation differences in alcohol use behaviors among Mexicans were fully or partially accounted for by differences in acculturation; and e) the school co-ethnic context was important for the alcohol use behaviors of Cuban and Puerto Rican adolescents.

⁹More detailed documentation on the Add Health design can be found in Chantala (2006).

¹⁰Results of alternative analyses using imputation methods (mean or statistical imputation) resulted in similar findings.

Alcohol Use and Binge Drinking

Results for both alcohol use and binge drinking were fairly consistent and so we discuss them together, indicating any relationships that differ across outcomes. First we considered the association between immigrant generation and alcohol use behaviors for Mexican, Cuban, and Puerto Rican adolescents (See Tables 2 and 3, Models 1a, 1b, and 1c).¹¹ Being a first generation Mexican adolescent compared to a third plus generation Mexican adolescent reduced the odds of drinking and binge drinking by a factor .38 (Model 1a in Tables 2 and 3). Immigrant generation was also associated with alcohol use and binge drinking for Cubans.¹² First generation Cuban adolescents were significantly less likely to use alcohol and binge drink than U.S. born Cuban teens; according to Tables 2 and 3 (Model 2a), being a first generation immigrant reduced the odds of alcohol use by a factor of .17 and the odds of binge drinking by a factor of .27 compared to U.S. born Cuban teens. For Puerto Rican adolescents, unlike Mexicans and Cubans, immigrant generation was unrelated to alcohol use or binge drinking.

Consistent with our expectations, alcohol use and binge drinking were associated with selective acculturation (Tables 2 and 3, Models 2a, 2b, and 2c). However, group differences in these relationships were evident. Being bilingual reduced the odds of alcohol use and binge drinking, but only for Mexican students. Scoring higher on the family relations index was protective for alcohol use and binge drinking for Mexican and Puerto Rican adolescents, but was actually a risk factor for alcohol use for Cuban adolescents. While counterintuitive, this finding for Cuban adolescents was consistent with results from Pérez's (2001) analyses of data from the Children of Immigrants Study (CILS). He found that second generation Cuban immigrants had the highest rate of school dropout and lower than average GPAs when compared to other second generation immigrant ethnic groups. Pérez (2001) focused on the dynamics of the ethnic enclave to explain why such an advantaged immigrant group (Cubans) might experience such adverse outcomes. Such an explanation is potentially relevant for alcohol use behaviors as well. If Cuban adolescents expect to be successful and are provided added confidence in their ability to overcome adversity when they have strong family relations within an ethnic enclave where co-ethnics control the resources for upward mobility, then they are more likely than Cuban adolescents without these family and community resources to engage in risky behaviors like alcohol use. This idea of counting on your family to keep you out of trouble even when you engage in risky behaviors is consistent with popular models of health behavior which have suggested that decisions about alcohol use and other health behaviors are made based on individual perceptions of the potential for negative physiological, psychological, and social consequences (Weinstein 1993; Smith and Rosenthal 1995).

Alcohol use and binge drinking among all three Latina/o groups depended, to some extent, on social capital in the family, but not always as anticipated (Tables 2 and 3, Models 3a, 3b, and 3c). In contrast to our expectations, intergenerational closure was positively associated with alcohol use and binge drinking, but only for Mexicans. Scoring higher on the communications with parents index was associated with reduced odds of alcohol use and binge drinking, but again only among Mexicans. Living in a two-parent household compared to a single-parent or step-family household was associated with reduced odds of alcohol use for Cubans and reduced odds of binge drinking for Mexicans and Cubans. In contrast, living in a two-parent household was associated with increased odds of alcohol use and binge drinking for Puerto Rican adolescents. This is a particularly salient finding given that Puerto Rican adolescents have been documented to be less likely to live in two parent families than the other Latina/os (Landale and Oropesa 2001). So for Puerto Rican adolescents, many of whom do not live with both of

¹¹We control for gender, age, parental alcohol use, and GPA in all the models presented in Tables 2 and 3.

¹²The small sample size for Cuban adolescents and the particularly small number of third plus generation Cuban adolescents made it difficult to estimate differences between third plus generation adolescents and first or second generation Cuban adolescents. So in contrast to the Mexican and Puerto Rican models, first generation Cuban immigrants were compared to all other Cuban adolescents

their parents, not having one's father living at home (the dominant single-parent family type) was protective for binge drinking. This finding, which is inconsistent with segmented assimilation theories, may be related to the higher rate of heavy alcohol use among Puerto Rican men compared to other Latinos (SAMHSA 2005).

Finally, the proportion of Latina/o students enrolled in the school was protective for alcohol use and binge drinking for Cuban and Puerto Rican adolescents, but not for Mexican adolescents. As noted above, the fact that the measure of school co-ethnic context was sensitive to the settlement patterns of the different Latina/o groups and varied substantially by Latina/o group might explain why the effect was inconsistent across groups. Cubans were more likely to be attending predominately Latina/o schools with large numbers of other Cuban immigrants. Puerto Ricans were much less likely to be attending school with co-ethnics than Cubans, but when they did attend school with co-ethnics it was most often with non-Mexican Latina/os. In comparison, Mexicans were much more likely than any other group to be attending school with other Mexicans, who were among those Latina/o adolescents with the highest overall rates of alcohol use and binge drinking. So it seems that co-ethnics were only protective for alcohol use behaviors if the behaviors are uncommon among the group of co-ethnics.

Taken together, the hierarchical models for each group (Tables 2 and 3), clarified the relationship between immigrant generation and alcohol use behaviors for each of the three groups. Among Mexicans, the effect of being a first generation immigrant was accounted for by differences in acculturation between first and third-plus generation immigrants. After the inclusion of measures of bilingualism, GPA, and family relations in the models, differences in alcohol use and binge drinking by immigrant generation were reduced in size and were no longer statistically significant (Tables 2 and 3, Models 1a and 2a). For Cubans, the effect of being a first generation immigrant on both alcohol use measures remained large and statistically significant even after accounting for acculturation, social capital, and school co-ethnic context. Among Puerto Ricans, our analyses revealed no association between immigrant generation and alcohol use.

6. Conclusion

Previous research established some relationship between assimilation and alcohol use behaviors for adolescents, yet no published studies have explored whether the relationships between immigrant generation and alcohol use behaviors were mediated by acculturation, social capital, and school co-ethnic context. This study begins to fill the gap by using a nationally representative sample to show that 1) the associations between immigrant generation, acculturation, and alcohol use behaviors varied by Latina/o group, 2) differences in acculturation accounted for the relationship between immigrant generation and alcohol use behaviors for Mexicans but not for Cubans, 3) social capital was associated with alcohol use and binge drinking, but the direction of the relationship was not always consistent with segmented assimilation theory, and 4) for Cuban and Puerto Rican adolescents, attending schools with other Latina/os was a protective factor for alcohol use and binge drinking. While our results did not map neatly to our hypotheses, the differences we observed among the three Latino groups were compelling and contribute to the growing literature on the various Latina/o experiences in the U.S.

In general, we found that U.S. born Mexican and Cuban adolescents drink more than their foreign-born counterparts. In addition, the effects of immigrant generation were, in the case of Cubans, direct, consistent with theories of assimilation and with prior research that has explored differences in substance use based on immigrant generation. For Mexicans, the effects of immigrant generation on alcohol use and binge drinking were indirect and operated through acculturation. Certainly our findings suggested that something about this process differs by

ethnicity, as immigrant generation was not associated with alcohol use or binge drinking for Puerto Rican adolescents.

While our findings contribute to an understanding of Latina/o alcohol use patterns and potentially to a better understanding of the complex assimilation process for Latina/os in the U.S, our study was limited in the following ways. First, the Add Health in-home survey data include only adolescents who were enrolled in school at the time of the surveys and the use of wave I and wave II data in this analysis means that the sample is biased towards those who were registered for school at both those time points. This potentially biased our sample towards those with more stable educational careers and away from those who frequently drop in and out of school. This is important as it may lead to an underestimation of alcohol use behaviors as those who are less stable and perhaps more likely to engage in such behaviors are less likely to be part of our sample. In addition, school dropout rates differ by ethnic group and adolescents in school may have different alcohol use rates than their counterparts who have left school, this may limit the generalizability of our study.¹³ Second, our data do not allow us to measure whether adolescents are experiencing consonant or dissonant acculturation in their family (see Portes and Rumbaut 2001 for a more complete discussion of these concepts) and research from the CILS has shown that intergenerational patterns may lead to very different types of acculturation at least among second generation immigrants. Third, the sample sizes for both Puerto Ricans and Cubans, made it impossible or difficult to detect generational differences using our measure of immigrant generation and impossible to explore more nuanced measures of this concept such as the impact of the 1.5 generation (those who are first generation immigrants, but immigrated to the U.S. when they were young children and have spent most of their lives as U.S. residents).

Future studies should target the collection of nationally representative data for adolescent Latina/o ethnic groups, including those who leave school early, in sufficient numbers to be able to fully capture the complexity of the distinct experiences of these rapidly growing groups. As is the case among non-Hispanic white adolescents the family and its social resources are very important for understanding alcohol use behaviors among Latina/o adolescents and family characteristics in conjunction with more nuanced measures of immigrant generation should be considered. Foner (1999) discusses the dynamic ways that new immigrants go about constructing and reconstructing their family lives based on an interaction between cultural and social practices from their home countries and the context of their new environment. This suggests that group differences in the relationships among immigrant generation, acculturation, social capital, school co-ethnic context and alcohol involvement may be related to differences in how Mexican, Cuban, and Puerto Rican families are adapting their family lives as they assimilate to life in the U.S. More research is necessary to explore this process and its association with a range of health related outcomes among Latina/o adolescents.

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¹³See Portes and Rumbaut (2001) for data on the variation in dropout rates across various Latina/o ethnic groups.

References

- Abraído-Lanza AF, Chao MT. Do healthy behaviors decline with greater acculturation?: Implications for the latino mortality paradox. *Social Science & Medicine* 2005;61:1243–1255. [PubMed: 15970234]
- Alba, R.; Nee, V. *Remaking the american mainstream Assimilation and contemporary immigration*. Harvard University Press; Cambridge, MA: 2003.
- Alva SA. Psychological distress and alcohol use in hispanic adolescents. *Journal of Youth and Adolescence* 1995;24:481–497.
- Bankston CL, Caldas SJ, Zhou M. The academic achievement of vietnamese american students: Ethnicity as social capital. *Sociological Focus* 1997;30:1–16.
- Bankston CL, Zhou M. Religious participation, ethnic identification, and adaptation of vietnamese adolescents in an immigrant community. *The Sociological Quarterly* 1995;36:523–535.
- Bearman PS, Jones J, Udry JR. *The national longitudinal study of adolescent health*. 1997
- Berry, JW.; Kim, U. Acculturation and mental health. In: Dasen, PR.; Berry, JW.; Sartorius, N., editors. *Health and cross-cultural psychology Toward applications*. Sage; Beverly Hall, CA: 1988.
- Brindis C, Wolfe AL, McCarter V, Ball S, Starbuck-Morales S. The associations between immigrant status and risk-behavior patterns in latino adolescents. *Journal of Adolescent Health* 1995;17:99–105. [PubMed: 7495832]
- Chantala, K. *Guidelines for analyzing add health data*. Carolina Population Center, University of North Carolina at Chapel Hill; Chapel Hill: 2006.
- Chassin L, Pitts SC, DeLucia C. The relation of adolescent substance use to young adult autonomy, positive activity involvement, and perceived competence. *Development and Psychopathology* 1999;11:915–932. [PubMed: 10624732]
- Clark EE, Ramsey W. The importance of family and network of other relationships in children's success in school. *International Journal of Sociology of the Family* 1990;20:237–254.
- Crosnoe R, Muller C, Frank K. Peer context and the consequences of adolescent drinking. *Social Problems* 2004;51:288–304.
- Dawson DA. Beyond black, white and hispanic: Race, ethnic origin and drinking patterns in the united states. *Journal of Substance Abuse* 1998;10:321–339. [PubMed: 10897287]
- Denner J, Kirby D, Coyle K, Brindis C. The protective role of social capital and cultural norms in latino communities: A study of adolescent births. *Hispanic Journal of Behavioral Sciences* 2001;23:3–21.
- Epstein JA, Dusenbury L, Botvin GJ, Diaz T. Language use and initiation of alcohol use among new york city hispanic adolescents. *Journal of Child & Adolescent Substance Abuse* 1996;5:63–80.
- Escobar JI, Vega WA. Mental health and immigration's aas: Where are we and where do we go from here? *The Journal of Nervous and Mental Disease* 2000;188:736–740. [PubMed: 11093375]
- Fernandez-Kelly, P. Social and cultural capital in the urban ghetto: Implications for the economic sociology of immigration. In: Portes, A., editor. *The economic sociology of immigration*. Russell Sage Foundation; New York: 1995. p. 213-247.
- Floyd LJ, Latimer WW, Vasquez M, O'Brien M. Substance use among school-based youths in northern mexico. *The American Journal on Addictions* 2005;14:464–470. [PubMed: 16257883]
- Foner, N. The immigrant family: Cultural legacies and cultural change. In: Hirschman, C.; Kasinitz, P.; Dewind, J., editors. *The handbook of international migration The american experience*. Russell Sage Foundation; New York: 1999. p. 257-264.
- Furstenberg F, Hughes ME. Social capital and successful development among at-risk youth. *Journal of Marriage and Family* 1995;57:580–592.
- Gibson, M. *Accommodation without assimilation Sikh immigrants in an american high school*. Cornell University Press; Ithaca, NY: 1988.
- Gil AG, Wagner EF, Vega WA. Acculturation familism, and alcohol use among latino adolescent males: Longitudinal relations. *Journal of Community Psychology* 2000;28:443–458.
- Gordon, MM. *Assimilation in american life The role of race religion and national origins*. Oxford University Press; New York: 1964.

- Gordon-Larsen P, Harris KM, Ward DS, Popkin BM. Acculturation and overweight-related behaviors among hispanic immigrants to the us: The national longitudinal study of adolescent health. *Social Science & Medicine* 2003;57:2023–2034. [PubMed: 14512234]
- Greenman E, Xie Y. Is assimilation theory dead? The effect of assimilation on adolescent well-being. *Social Science Research* 2008;37:109–137. [PubMed: 19255601]
- Hao L, Bonstead-Bruns M. Parent-child differences in educational expectations and the academic achievement of immigrant and native students. *Sociology of Education* 1998;71:175–198.
- Harris KM, Florey F, Tabor J, Bearman PS, Jones J, Udry JR. The national longitudinal study of adolescent health: Research design. 2003
- Hunt LM, Schneider S, Comer B. Should “Acculturation” Be a variable in health research? A critical review of research on us hispanics. *Social Science & Medicine* 2004;59:973–986. [PubMed: 15186898]
- James WH, Kim GK, Moore DD. Examining racial and ethnic differences in asian adolescent drug use: The contributions of culture, background and lifestyle. *Drugs-Education Prevention and Policy* 1997;4:39–51.
- Khoury EL, Warheit GJ, Zimmerman RS, Vega WA, et al. Gender and ethnic differences in the prevalence of alcohol, cigarette, and illicit drug use over time in a cohort of young hispanic adolescents in south florida. *Women & Health* 1996;24:21–40.
- Kitano HH, Lubben JE, Chi I. Predicting japanese american drinking behavior. *International Journal of the Addictions* 1988;23:417–428. [PubMed: 3384511]
- Landale NS, Oropesa RS. Father involvement in the lives of mainland puerto rican children: Contributions of nonresident, cohabiting and married fathers. *Social Forces* 2001;79:945–968.
- Logan JR, Alba RD, Leung S-Y. Minority access to white suburbs: A multiregional comparison. *Social Forces* 1996;74:851–881.
- McKinnon SA, O'Rourke KM, Thompson SE, Berumen J. Alcohol use and abuse by adolescents: The impact of living in a border community. *Journal of Adolescent Health* 2004;34:88–93. [PubMed: 14706410]
- Mena FJ, Padilla AM, Maldonado M. Acculturative stress and specific coping strategies among immigrant and later generation college students. *Hispanic Journal of Behavioral Sciences* 1987;9:207–225.
- Mukamal KJ, Conigrave KM, Mittleman MA, Camargo CAJ, Stampfer MJ, Willett WC, Rimm EB. Roles of drinking pattern and type of alcohol consumed in coronary heart disease in men. *New England Journal of Medicine* 2003;348:109–118. [PubMed: 12519921]
- Nagasawa R, Qian ZC, Wong P. Theory of segmented assimilation and the adoption of marijuana use and delinquent behavior by asian pacific youth. *Sociological Quarterly* 2001;42:351–372.
- Nielsen AL, Ford JA. Drinking patterns among hispanic adolescents: Results from a national household survey. *Journal of Studies on Alcohol* 2001;62:448–456. [PubMed: 11513223]
- Perez, L. Growing up in cuban miami: Immigraiton, the enclave, and new generations. In: Rumbaut, RG.; Portes, A., editors. *Ethnicities Children of immigrants in american*. University of California Press; Berkeley, CA: 2001. p. 91-125.
- Portes A. The social origins of the cuban enclave economy of miami. *Sociological Perspectives* 1987;30:340–372.
- Portes, A.; Rumbaut, RG. *Legacies The story of the immigrant second generation*. Russell Sage Foundation; New York: 2001.
- Portes, A.; Rumbaut, RG. *Immigrant america A portrait*. University of California Press; Berkeley: 1996.
- Rose RJ, Kaprio J, Winter T, Koskenvuo M, Viken RJ. Familial and socioregional environmental effects on abstinence from alcohol at age sixteen. *Journal of Studies on Alcohol* 1999:63–74.
- Rumbaut RG. Assimilation and its discontents: Between rhetoric and reality. *International Migration Review* 1997;31:923–960. [PubMed: 12293210]
- Rumbaut RG. Paradoxes (and orthodoxies) of assimilation. *Sociological Perspectives* 1997;40:483–511.
- Schulenberg JE, Maggs JL. A developmental perspective on alcohol use and heavy drinking during adolescence and the transition to young adulthood. *Journal of Studies on Alcohol Suppl* 2002; (Suppl14):54–70.

- Smith AMA, Rosenthal DA. Adolescents' perceptions of their risk environment. *Journal of Adolescence* 1995;18:229–245.
- StataCorp. Stata statistical software Release 9. StataCorp LP; College Station, TX: 2005.
- StataCorp. Survey data reference manual release 9. Stata Press; College Station, TX: 2005.
- Stone RAT, Meyler D. Identifying potential risk and protective factors among non-metropolitan latino youth: Cultural implications for substance use research. *Journal of Immigrant Health* 2007;9:95–107.
- Sun Y. The academic success of east-asian-american students: An investment model. *Social Science Research* 1998;27:432–456.
- Udry, JR. The national longitudinal study of adolescent health (add health), waves i & ii, 1994-1996; wave iii, 2001-2002 [machine-readable data file and documentation]. Carolina Population Center, University of North Carolina at Chapel Hill; Chapel Hill, NC: 2003.
- Vega WA, Gil AA. A model for explaining drug use behaviors among hispanic adolescents. *Drugs and Society* 1999;14:57–74.
- Velez CN, Ungemack JA. Psychosocial correlates of drug use among puerto rican youth: Generational status differences. *Social Science & Medicine* 1995;40:91–103. [PubMed: 7899926]
- Wallace JM, Bachman JG. Explaining racial/ethnic differences in adolescent drug use: The impact of background and lifestyle. *Social Problems* 1991;38:333–357.
- Wallace, JM.; Bachman, JG.; O'Malley, PM.; Johnston, LD. Racial/ethnic differences in adolescent drug use: Exploring possible explanations. In: Botvin, GJ.; Schinke, SP.; Orlandi, MA., editors. *Drug abuse prevention with multiethnic youth*. Sage; Thousand Oaks, CA: 1995. p. 59-90.
- Warheit GJ, Vega WA, Khoury EL, Gil AA, Elfenbein PH. A comparative analysis of cigarette, alcohol, and illicit drug use among an ethnically diverse sample of hispanic, african american, and non-hispanic white adolescents. *Journal of Drug Issues* 1996;26:901–922.
- Weinstein ND. Testing four competing theories of health-protective behavior. *Health Psychology* 1993;12:324–333. [PubMed: 8404807]
- Welte JW, Barnes GM. Alcohol and other drug use among hispanics in new york state. *Alcoholism Clinical and Experimental Research* 1995;19:1061–1066.
- Wiecha JM. Differences in patterns of tobacco use in vietnamese, african-american, hispanic, and caucasian adolescents in worcester, massachusetts. *American Journal of Preventive Medicine* 1996;12:29–37. [PubMed: 8776292]
- Zhou M, Bankston CL. Social capital and the adaptation of the 2nd generation: The case of the vietnamese in new-orleans. *International Migration Review* 1994;28:821–845.
- Zhou, M.; Bankston, CL. *Growing up american How vietnamese children adapt to life in the united states*. Russell Sage Foundation; New York: 1998.
- Zhou M, Kamo Y. An analysis of earnings patterns for chinese, japanese, and non-hispanic white males in the united states. *The Sociological Quarterly* 1994;35:581–602.

Table 1

Univariate Statistics for Alcohol Use Outcomes, Acculturation Characteristics, Social Capital, and School Co-Ethnic Context by Race/Ethnicity and Immigrant Generation

	Non-Latino/a White	Mexican			Cuban		Puerto Rican		
		1 st Gen.	2 nd Gen.	3 rd Plus Gen.	1 st Gen.	U.S. Born	1 st Gen.	2 nd Gen.	3 rd Plus Gen.
Alcohol Use and Abuse									
Alcohol Use	.52 ^a	.31 ^{cd}	.56 ^a	.55 ^a	.20 ^d	.43 ^{abc}	.48 ^{abcd}	.50 ^a	.56 ^a
Binge Drinking	.33 ^{ab}	.22 ^{bc}	.33 ^{ab}	.41 ^a	.12 ^c	.20 ^{bc}	.10 ^{bc}	.24 ^{abc}	.31 ^{abc}
Acculturation									
Bilingual	---	.55	.33	.04	.46	.32	.15	.20	.07
GPA	2.88	2.60	2.65	2.72	2.73	2.54	2.43	2.54	2.43
Family relations	4.16	4.26	4.16	4.18	4.30	4.12	4.15	4.24	4.21
Family Social Capital									
Two-parent household	.62	.63	.69	.53	.53	.63	.40	.39	.38
Communication with parents	1.82	1.42	1.48	1.69	1.75	1.34	2.34	1.82	1.88
Other Social Capital									
Intergenerational closure	4.34	2.08	2.61	3.49	2.23	3.81	3.97	3.26	3.33
School Co-Ethnic Context									
Proportion Latina/o students enrolled in school	.08	.54	.46	.30	.81	.75	.25	.31	.28
<i>N</i>	6133	172	416	294	130	160	30	121	181

Notes: Statistically significant ($p < .05$) differences in proportions across the various groups on the two alcohol use measures are indicated by different superscripts, as determined by one-way analyses of variance with posthoc Duncan tests. An "a" indicates the highest mean, "b" the second highest, and so forth.

Table 2

Logistic Regression of Alcohol Use on Immigrant Generation, Acculturation, Family Social Capital, and Other Social Capital for Mexican, Cuban, and Puerto Rican Adolescents

	Mexican				Cuban				Puerto Rican			
	Model 1a	Model 2a	Model 3a	Model 4a	Model 1b	Model 2b	Model 3b	Model 4b	Model 1c	Model 2c	Model 3c	Model 4c
Immigrant Generation												
First generation	.38**	.50	.53	.55	.17*	.13**	.13*	.14†	1.28	1.22	1.20	1.12
Second generation	1.13	1.30	1.40	1.42†	---	---	---	---	1.14	1.18	1.14	1.21
Acculturation												
Bilingual		.47†	.48†	.48†		1.01	.88	1.18		.39	.36	.47
GPA		.86	.84	.84		.76	.88	.74		1.27	1.28	1.22
Family relations		.63*	.68*	.67*		1.77†	1.78*	2.00*		.54*	.50**	.59*
Family Social Capital												
Two-parent household			.75	.76			.52*	.48*			1.79*	1.83*
Communication with parents			.87*	.87*			.89	.77			1.09	1.10
Other Social Capital												
Intergenerational closure			1.12*	1.12*			.91	.86			.95	.95
School Co-Ethnic Context												
Proportion Latina/o students enrolled in school				.85				.17*				.12**
N	882	882	882	882	290	290	290	290	332	332	332	332
df	7,122	10,119	13,116	14,115	6,123	9,120	12,117	13,116	7,122	10,119	13,116	14,115
F-adjusted ^a	6.04	9.64	8.22	8.55	137.47	168.73	164.41	130.19	8.25	14.34	18.08	18.08

Note: All models control for age, gender, parental education, and parental alcohol use.

[†] indicates $p < .1$.

* indicates $p < .05$.

** indicates $p < .01$.

*** indicates $p < .001$ (two-tailed tests).

^a Reports results of an F-adjusted mean residual test used to assess goodness of fit for a design-based logistic regression model.

Table 3

Logistic Regression of Binge Drinking on Immigrant Generation, Acculturation, Family Social Capital, and Other Social Capital for Mexican, Cuban, and Puerto Rican Adolescents

	Mexican				Cuban				Puerto Rican			
	Model 1a	Model 2a	Model 3a	Model 4a	Model 1b	Model 2b	Model 3b	Model 4b	Model 1c	Model 2c	Model 3c	Model 4c
Immigrant Generation												
First generation	.38**	.53	.55	.57	.27**	.32**	.27***	.31**	.69	.67	.72	.65
Second generation	.73	.83	.93	.94	---	---	---	---	1.28	1.33	1.34	1.47
Acculturation												
Bilingual		.42*	.42*	.42*		.60	.50 [†]	.93		.48	.43	.64
GPA		.85	.83	.83		1.31	1.57	1.05		.77	.74	.68
Family relations		.66*	.75	.74		.94	1.02	1.14		.48**	.43**	.51*
Family Social Capital												
Two-parent household			.50**	.50**			.26***	.17***			2.69*	2.64*
Communication with parents			.88 [†]	.88 [†]			.85	.69*			.98	.98
Other Social Capital												
Intergenerational closure			1.11*	1.11*			.99	.95			1.02	1.00
School Co-Ethnic Context												
Proportion Latina/o students enrolled in school				.84				.06***				.06*
N	882	882	882	882	290	290	290	290	332	332	332	332
df	7,122	10,119	13,116	14,115	6,123	9,120	12,117	13,116	7,122	10,119	13,116	14,115
F-adjusted ^a	13.53	22.97	16.76	17.00	61.43	71.01	86.40	90.17	19.04	17.26	27.02	26.29

Note: All models control for age, gender, parental education, and parental alcohol use.

[†] indicates $p < .1$,

* indicates $p < .05$,

** indicates $p < .01$,

*** indicates $p < .001$ (two-tailed tests).

^a Reports results of an F-adjusted mean residual test used to assess goodness of fit for a design-based logistic regression model.