Ethnic Pride, Traditional Family Values, and Acculturation in Early Cigarette and Alcohol Use Among Latino Adolescents

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Abstract

A structural equations model examined the influence of three cultural variables of ethnic pride, traditional family values and acculturation, along with the mediating variables of avoidance self-efficacy and perceptions of the "benefits" of cigarette smoking, on cigarette and alcohol use in a sample of Latino middle school students in the Southwest. Girls ($N = 585$) and boys ($N = 360$) were analyzed separately. In both groups, higher ethnic pride and traditional family values exerted indirect effects on less cigarette smoking and alcohol use when mediated through greater self-efficacy and less endorsement of the "benefits" of cigarette smoking. Among the girls, greater ethnic pride also had a direct effect on less cigarette and alcohol use. Also, greater acculturation directly predicted more cigarette and alcohol use among the girls, but not among the boys. However, differences between the boys and girls were generally nonsignificant as revealed by multiple group latent variable models. These results offer implications for incorporating cultural variables into the design of culturally relevant prevention interventions that discourage cigarette and alcohol use among Latino adolescents.

Keywords

Ethnic pride; Acculturation; Traditional family values; Latino adolescents; Alcohol use; Tobacco use; Gender differences

Contemporary studies of Latino adolescents report the emergence of significant difficulties in adjustment faced by a new cohort of Latino youth. For example, recent evidence from the Youth Risk Behavior Survey 2007 presents new trends involving high prevalence rates of alcohol, tobacco and illegal drug use among young Latinos and Latinas (CDC 2008). Relative to their Black non-Hispanic and White non-Hispanic male peers, Latino males exhibited remarkably higher prevalence rates of *lifetime* cigarette use and of *lifetime* alcohol use, although lower rates of current cigarette use. Relative to their female peers, Latinas exhibited higher rates of *lifetime* cigarette and alcohol use, but lower rates of current cigarette use (CDC 2008). Furthermore, even more pronounced disparities have been observed between adolescent

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Latino males and females relative to their same-gender peers in higher lifetime and current prevalence rates in the use of cocaine, methamphetamine, heroin and ecstasy (CDC 2008). Generally, rates of substance use among Latino youth, relative to their same-gender peers, appear as higher *lifetime use* rates for certain substances, but lower rates of *current use*, although with some exceptions. These patterns signal recent increases in the use of alcohol, cigarettes and certain illegal drugs within this new young cohort of Latinos and Latinas, trends not evident among their parents two decades ago (Booth et al. 1990). Further study is thus needed to identify and understand the sociocultural mechanisms that may mediate these recently detected high rates of substance use among Latino adolescents (CDC 2008).

Several conventional and culturally relevant factors can inform our understanding of the etiology and motivational processes that affect substance use and its avoidance among various Latino youths. For adolescent Latinos and Latinas, among many factors, those of particular interest include three cultural factors: ethnic pride, traditional family values, and level of acculturation. In addition, among several etiological factors, two important factors observed within mainstream populations that are also relevant to Latino adolescents are self-efficacy for avoiding the use of substances and the perceived "benefits" of substance use. In addition, general factors that can affect patterns of substance use among Latino and other adolescent populations are age and gender. Towards this aim, for Latino youth in early adolescence, the present study examines a multivariate model of these specific cultural and conventional factors, as this analysis may advance our understanding of the sociocultural and motivational mechanisms affecting the early use of cigarettes and alcohol.

Cultural Factors and Substance Use

Ethnic Pride, Ethnic Identity, and Resilience

Ethnic pride constitutes an affirmation of dignity, affection and self-respect that is expressed towards one's ethnic or cultural heritage. Ethnic pride is a cognitive-emotional construct in which a person expresses his or her affiliation with their native ethnic or cultural group, along with high regard for this affiliation. In other words, particularly among ethnic minority people, expressing ethnic pride serves as recognition of their ethnic identity coupled with a loyal endorsement of that identity.

Models of ethnic identity development such as Phinny's three-stage model have described a developmental progression that consists of: (a) unawareness of own ethnicity, (b) early and unresolved ethnic identity development, and (c) conflict resolution and a mature (achieved) ethnic identity development (Phinney 1990, 1993). Thus, from a cultural strengths perspective, if ethnic pride reflects maturation in ethnic identity development, then ethnic pride may serve as a form of personal agency, a competency that empowers youth to resist and avoid pressures to use alcohol, tobacco, and illegal drugs (Corneille et al. 2005).

Prior research has offered little in-depth analysis and empirical evidence regarding the construct of ethnic pride among Latinos and on how it might operate as a source of personal agency (Bandura 1986). However, some recent research has provided preliminary insights on how ethnic pride might enhance refusal skills for avoiding the use of alcohol, cigarettes and illegal drugs. In a multiethnic school-based study, Marsiglia and colleagues (Marsiglia et al. 2004) found that positive ethnic identity, as indicated by strong ethnic identification, attachment and pride, was associated with less substance use and stronger anti-drug use norms. Similarly, a recent study by Wills and colleagues (2007) examined an ethnic pride variable, Positive Ethnic Esteem, and found it to be associated with lower substance use among Black non-Hispanic adolescents. In a structural equations model analysis of 670 Black non-Hispanic adolescents, parental endorsement of racial socialization (teaching their children racial consciousness) was associated with greater Positive Ethnic Esteem, which in turn was

associated with greater Substance Resistance Efficacy, and then with lower Youth Substance Use involving cigarette smoking and alcohol use. This analysis provides preliminary evidence for the possible protective effects of ethnic pride as observed among Black non-Hispanic adolescents, and as may occur within the context of other relevant factors.

Protective Effects of Traditional Family Values

Value of family traditions (family traditionalism) constitutes a cultural orientation that emphasizes adherence to conservative "old style" familial and other life norms including the acceptance of prescribed gender roles and expectations (Cuadrado and Lieberman 1998), and it often involves resistance to change and modernization. Within a cultural group, traditions serve as the group's most important beliefs and values—central tenets of the group's core culture and retained heritage. Cultural traditions survive and are transmitted from elders to children based often on their utility for promoting family and group survival and in maintaining an ethnic or cultural group's sense of "peoplehood" (McGoldrick and Giordano 1996). For immigrants, traditionalism may also involve adherence to old-time norms and values from the migrant's native country and/or ancestral heritage (Castro and Coe 2007; Castro and Gutierres 1997; Ramirez 1999). Traditional gender roles and expectations appear most prevalent within agrarian societies that endorse collectivistic family and social relations, as contrasted with more permissive lifeways and expectations observed within modern Westernized societies (Castro and Garfinkle 2003; Costa et al. 2001). In one sample of rural Latino women, level of acculturation to American society was negatively correlated with family traditionalism ($r = -.33$, $p < .01$), which suggests that family traditions tend to diminish or erode with increasing acculturation (Castro and Coe 2007).

Specific conservative cultural norms observed within Latino cultures, such as the strong collectivistic family orientation of *familism*, may exert protective effects based on normative expectations of responsibility to the family and restrictive norms that discourage the use of cigarettes and alcohol (Castro et al. 2007), especially among females. One study of Latino youth risk behaviors has shown that strong family ties and expectations discourage antisocial and risk taking behaviors including the early use of alcohol, tobacco and other drugs (Gil et al. 2000). These effects, however, may be more complex than initially apparent. In one study, Latino youth who espoused high ethnic pride and who also lived within permissive and non-traditional families reported *higher* levels of lifetime alcohol use, as contrasted with Latino youth who also espoused high ethnic pride but who lived within *traditional families* (Castro and Hernandez-Alarcon 2002). This interaction effect involving ethnic pride and family traditionalism indicates that ethnic pride can exert protective effects against alcohol use, although only within the context of a traditional family, perhaps because traditional parents impose restrictive norms against alcohol use within their family.

Acculturation and Substance Use

Acculturation is a worldwide and ages-old phenomenon (Rudmin 2003) that occurs when families or individuals migrate to a new sociocultural environment in quest of better living conditions (Portes and Rumbaut 1996; Rogler 1994). *Acculturative change* occurs during cross-national migration but also within a nation during migration from rural to urban environments (Castro and Gutierres 1997; Portes and Rumbaut 1996; Trimble 2003). Acculturative stress can develop upon exposure to acculturation-related adaptive challenges that can affect both immigrant and native-born non-immigrant youth, experiences that can include prejudice and discrimination (Clark et al. 1999; Walker 2007).

Acculturative change towards adapting American majority cultural values, beliefs, and practices is often a desirable goal among immigrants and "cultural outsiders," who wish to succeed within American society. Despite the apparent benefits of acculturation, some scholars

note that acculturative change towards adopting the lifeways of modernistic American mainstream society may erode the protective influences conferred by traditional values, beliefs and behaviors, including strong religious values, familial and kin networks, and a strong sense of spirituality (Lara et al. 2005; Walker 2007). Among Latino populations, higher level of acculturation towards mainstream American society have been associated with higher risks of substance use, particularly for Latinas (Caetano and Clark 2003).

Among U.S. immigrants, longer residence in the United States, later generation status, and higher acculturation levels have been associated with higher rates of psychiatric disorders (Alderete et al. 2000), including higher rates of substance use and abuse (Gil et al. 2000; Vega et al. 1998a). Overall, among Latino adults higher levels of acculturation have been associated with negative health outcomes involving substance use, dietary practices, and birth outcomes, although they also are associated with positive health outcomes involving access to health care and self-perceptions of health (Lara et al. 2005). Acculturation-related differences by gender in the effects of acculturation change on the likelihood of substance use may involve more liberal or permissive norms within the United States towards substance use among females, relative to such norms within Latin American countries (Caetano and Clark 2003). The aforementioned acculturative effects have not been clearly articulated for Latino adolescents, although from a systemic ecodevelopmental perspective the acculturative effects observed for Latino parents might also manifest themselves to some extent among their Latino children (Farver et al. 2002; Pantin et al. 2004).

Conventional Factors and Substance Use

Self-Efficacy and Substance Use

Self-efficacy and Health-related Behavior—Bandura (1986) originally defined self-efficacy as a capacity "to organize and execute courses of action required to attain designated types of performances," (p. 391). Thus, self-efficacy is a cognitive-affective construct that serves as an expression of self-confidence with one's abilities to attain a desired goal. Self-efficacy has been shown to be a predictor of motivation and persistence in health behavior. Using Self-efficacy Theory, Ramirez and colleagues examined youth empowerment in advocacy for tobacco control policy (Ramirez et al. 2006). In their study of Latino adolescents, non-smoking and low levels of cigarette use were associated with greater self-efficacy as measured by (a) self-efficacy for tobacco policy advocacy, (b) positive attitudes towards anti-tobacco policies, and (c) positive expectations towards policy advocacy. This study of youth advocacy and self-efficacy suggests that strong empowerment-oriented attitudes and motivations are associated with lower levels of cigarette smoking, with the strongest empowerment attitudes being associated with complete abstinence from cigarette smoking.

In a similar approach that utilized a longitudinal model to examine indicators of personal agency among inner-city adolescents, self-efficacy when mediated by psychological wellness was a predictor of low levels of alcohol use (Epstein et al. 2002). These findings for inner-city youth suggest that self-efficacy in conjunction with other aspects of *personal agency* can promote the avoidance of alcohol and cigarettes and, in some cases, complete abstinence. What remains less clear from such studies is how cultural variables relevant for Latino youth, such as ethnic pride, family traditionalism, and levels of acculturation, may relate to self-efficacy, potentially operating as protective or as risk- inducing factors regarding the use of tobacco and alcohol.

Perceived Benefits of Substance Use

Among adolescents, one of the most potent predictors of substance use is the perceived risk of harm resulting from the use of a given substance (Bachman et al. 2002). Based on survey

research studies and for a given cohort of youths, when perceived risks of harm from using a given substance are low, prevalence rates in the use of that substance increase. Conversely, in a subsequent era when youth perceptions of harm from use of that same substance are high, prevalence rates in the use of that substance decline. From this perspective, *positive outcome expectancies* regarding the perceived benefits from the use of a given substance are generally associated with higher prevalence rates in the use of that substance (Randolph et al. 2006). For example, when youths perceive that cigarette smoking will lead to desirable outcomes, such as making them, "look more grown up," or "more attractive," or helping them to "attract persons of the opposite sex," then they are more likely to smoke cigarettes to attain these desirable outcomes. Similarly, as youths have positive expectancies about alcohol use, that it will help them cope with negative emotions (anxiety, sadness) thus helping them to "feel better," they will be more likely to use alcohol for emotional self-regulation (Randolph et al. 2006; Schulenberg et al. 1996; Thrush et al. 2008).

In summary, for Latinos and other ethnic minority youth, cultural variables such as ethnic pride and family traditionalism may confer protection against certain health risk behaviors, within the context of other key factors including refusal self-efficacy and the perceived benefits of substance use. Accordingly, a well-specified systems model would be useful in providing a unified analysis of the sociocultural mechanisms that influence risk and protection among Latino youth (Pantin et al. 2004; Locke et al. 2005). The present study thus examines the inter-related effects during early adolescence of specific cultural variables on the occurrence of two risk behaviors, alcohol use and cigarette smoking, among Latino adolescents who live within a metropolitan community in the U.S. Southwest. This study is guided by Self-efficacy Theory, a subset of Social Cognitive Theory (Bandura 1986), as this theory is applied to health promotion (Baranowski et al. 2002) and the prevention of substance use.

Hypothesized Effects

Based on the aforementioned theoretical perspectives as applicable with Latino adolescents, four specific hypothesized effects are proposed (See Fig. 1). In general, cultural identity factors may operate as sources of cultural strength and are thus hypothesized to contribute to *lower* levels of cigarette and alcohol use (healthier outcomes). Specifically, for Latino youth, it is hypothesized that:

1. Higher levels of Ethnic Pride and higher levels of Traditional Family Values will be associated with *lower* levels of alcohol and cigarette use, suggesting the protective effects conferred by these cultural variables.

2. Higher levels of Acculturation will be associated with progressively *higher* levels of alcohol and cigarette use, suggesting the risk-inducing effects of acculturation.

3. Higher levels of Avoidance Self-Efficacy will be associated with *lower* levels of cigarette and alcohol use and will operate also as a mediator of the effects of cultural variables (Ethnic Pride, Traditional Family Values, Acculturation) on cigarette and alcohol use.

4. Higher levels of the perceived Benefits of Cigarette Smoking will be associated with *higher* levels of cigarette smoking and will mediate the effects of cultural variables (Ethnic Pride, Traditional Family Values, and Acculturation) on cigarette and alcohol use.

Methods

Participants

Participants in this study were 945 Latino youth from 14 middle schools located within an urban community of the Southwest. These schools were chosen for their large proportions of Latino youth. The current sample of Latino youth is part of a larger multiethnic sample of 1,453 2nd–5th grade (elementary school) students and 1,716 6th–8th grade (middle school) students (a total of 3,169 students) who participated in this *Healthy Lifestyles* program, a health promotion program focusing on tobacco education and prevention within a broader wellness context. The present cross-sectional study focuses on the sample of Latino middle school students drawn from these 14 middle schools and only uses baseline data that were obtained prior to their participation in this intervention program.

The current sample includes Latino youth representing the entire range of acculturation. As shown in Table 1, one in six of these youths took the pretest survey in Spanish (18.4%). Sixty percent of these youths reported having parents who were born in Mexico; 34.3% of these youths were immigrants from Mexico and another 63.8% were U.S. native-born youth of Mexican heritage. Thus, acculturation scores ranged from the lowest score (1.00) to the highest score (4.00) as measured by the study's acculturation scale. Based on previously established criteria (Balcazar et al. 1995;Castro et al. 2007), the distribution by acculturation group was low-acculturated (22.0%), bicultural (37.6%) and high acculturated (40.4%) (see Table 1).

Instrumentation

The first program session consisted of an orientation and the administration of the baseline survey. The baseline "School Health Survey" was complied and developed with several items drawn from a previously developed tobacco prevention survey. Specifically, the items for the Benefits of Cigarette Smoking scale were used with permission from the Arizona Full Court Press tobacco prevention project. A single item regarding frequency of cigarette and alcohol use were also drawn from the Full Court Press prevention project.

The Ethnic Pride and Avoidance Self-Efficacy scales were developed during the Year 01 pilot phase of the *Healthy Lifestyles* project. They were tested for reliability and then examined for convergent and divergent validity with relevant criterion measures. In Year 02, they were used with slight modifications. The Acculturation and Traditional Family Values scales were developed previously and have been used with other adolescent samples based on their sound reliability and validity as reported in previous research (Castro et al. 2007). In this pilot phase, a core set of items and scales was incorporated into two parallel versions, one for middle school students and a shorter version for elementary school students. The current study only includes the middle school sample of youth.

In Project Year 01, English and Spanish language versions of the pretest (baseline) and posttest instruments were developed concurrently. The evaluation team consisted of four bilingual graduate students and two project staff who participated in back translations and in the rewording of unclear narratives. This was conducted under an iterative process to attain equivalence in meaning in both linguistic forms, English and Spanish (Geisinger 1994; Gonzalez et al. 1995).

Measures

The pretest survey consisted of several sections that measured the following variables used to test the proposed structural model. Table 2 presents the psychometric properties of study scales and the indicators of the model's latent factors, which are shown separately for the male and female models. Each scale and model factor is described in the forthcoming sections.

Ethnic Identification, Pride, and Affiliation—To orient middle school youths to the complex issues involved in cultural identification and ethnic identity development, this section began with introductory questions about the youth's family heritage. For the father, one question asked, "Where was your father born?" with the response choices of 0 = "I don't know," 1 = "United States," 2 = "Mexico," and 3 = "Other (write in)." A second question asked about the father's "cultural (ethnic) background," with six response choices that included, "Mexican, Mexican American, Hispanic or Latino," as well as four other racial/ethnic groupings that included, "White or Anglo" and "Other." These introductory questions provided a context for then answering items about the adolescent's own ethnic/cultural identity. This approach facilitated an assessment of the youth's ethnic identity and pride after reflecting on his/her parents' heritage. Thus, in a similar manner, these youth were then asked to report their own avowed ethnic or cultural identity using the same categories as used for their parents as noted above. Then these youth were asked four additional questions that related to ethnic group affiliation and pride.

From this section, the 4-item Ethnic Pride scale measured the youth's *affective orientation* towards his or her avowed ethnic culture in terms of pride and appreciation in belonging to their ethnic group and their motivation to learn more about their heritage. These four questions were (a) "About belonging to a cultural (ethnic) group, how do you feel?" Responses included: 0 = "Not proud—I hate it," to 4 = "Very proud—I really like it!" (See Table 2); (b) "How do you feel about your cultural (ethnic) background?" with response choices and scoring as follows: 0 = "I don't like it," to 4 = "I like it a lot!"; (c) "Would you like to learn more about the history and customs of your cultural (ethnic) group?" scored as: 1 = "No, I don't want to learn more," to 4 = "Yes, I want to learn a lot!"; and (d) "How many of your closest friends are from your cultural (ethnic) group?" scored as: 1 = "none of them," to 4 = "all of them." The first three items, which assess feelings of ethnic group affiliation and pride, were used as indicators of the Ethnic Pride latent variable. This set of three items exhibited a similar level of scale reliability ($\alpha = .74$) relative to the four-item scale ($\alpha = .68$) (See Table 2).

Traditional Family Values—Within the baseline survey, this section contained eight items that asked about "family ways of life," involving parental attitudes and behaviors and also the youth's own value of traditions (Castro et al. 2007). Three of these items focus specifically on traditional family values and these were used to identify the latent factor of Traditional Family Values. This construct captures aspects of a traditional family value orientation that emphasize the importance of family unity and the need to preserve family traditions. Specifically, these items were (a) "My parents are very traditional (believe in the 'old ways')," (b) "Traditions (the 'old ways' of culture) are good and should be kept," and (c) "Traditions are good because they help keep families close together." Each item was answered on a three-point scale of: 1 = "No (Disagree)," 2 = "Maybe," and 3 = "Yes (Agree)." Higher endorsement of these items indicated a stronger familial orientation towards traditional family values.

Level of Acculturation—Language-based level of acculturation was measured with three items that examined language as used within three different situations: "Do you mostly speak English or another language," in the following settings: (a) at home, (b) at school, and (c) with friends? The response choices for each item were: 1 = "Only Spanish (or another language)" to 4 = "Only English." Thus, higher scale scores indicated a higher level of acculturation as measured by language use across various settings. In parallel with an adult unidimensional scale of acculturation (Balcazar et al. 1995; Castro et al. 2007), relevant cut points were used to categorize these Latino youth as low acculturated, bicultural, and high acculturated (See Table 1). The total acculturation scale score was used as a single measured variable of acculturation within the structural model.

Demographics—A single item was used to elicit the youth's gender. The item read, "Are you a "boy" = 1, or a "girl" = 2. A single item was used to elicit the youth's age in years. Participants ranged between 10 and 17 years of age.

Avoidance Self-efficacy—This section contained 10 items that measure the youth's confidence and perceived capability for avoiding tobacco and/or for leadership advocacy in encouraging others to avoid tobacco. Each item had a stem that asked "In the next week can you…." followed by a specific action. For example, in the next week can you: "Say 'no' if a friend offers you a cigarette?" "Be a leader in speaking in front of a class to tell students not to smoke;" "Say 'no' to someone who is pushing you to do something that you don't want to do?" Each item was rated on a dimension of: 1 = "No I can't!" to 4 = "Yes I can!" Higher scores on this scale measure greater self-efficacy in avoiding tobacco and in encouraging others to do so. To avoid too many indicators of the Avoidance Self-Efficacy latent variable, the ten items were parceled into five indicators, which were the means of two randomly selected items (Little et al. 2002; Yuan et al. 1997). As coefficient alpha was high among the variables, there was only one large eigenvalue, which is the criterion for parceling. As noted in Table 2, the reliability coefficient for these five items ($\alpha = .80$) was good and similar to the reliability coefficient for the larger scale ($\alpha = .85$) (See Table 2).

Benefits of Cigarette Smoking—This section contained six items that examined the youth's *perceived benefits* of cigarette smoking. Each item was answered on a scale of: 1 = "No (Disagree)," 2 = "Maybe," and 3 = "Yes (Agree)." Three items from this set that focus on affect and emotional self-regulation as perceived "beneficial" outcomes of cigarette smoking were used to identify the latent factor of Benefits of Cigarette Smoking.

These items were (a) "Smoking cigarettes helps teenagers relax," (b) "Smoking helps teenagers feel better when they are in a bad mood," and (c) "Smoking makes teenagers feel more self-confident and sure of themselves." Higher scores from endorsing these items conveyed perceptions that smoking cigarettes is beneficial for regulating negative emotions involving anxious and depressed moods, as well as for increasing self-confidence. Conversely, disagreement with these items conveyed the perceptions that cigarette use is not useful for improving mood and building self-confidence.

Cigarette Use—The latent factor of Cigarette Smoking was identified by three items. One item examined *lifetime cigarette use* by asking (a) "Have you *ever* smoked cigarettes," with the response choices of: 0 = "I have never smoked a cigarette, not even a few puffs," to 4 = "I smoke almost every day." A second more detailed item examined *past month frequency* in days of cigarette smoking, by asking (b) "During the past month (30 days), on how many days did you smoke (even a puff)?," with the response choices of: 0 = "I have never smoked a cigarette," to 4 = "21 days or more." The third item assessed *quantity per day* of cigarettes smoked by asking (c) "During the past month (30 days), on the days you smoked, how many cigarettes did you smoke per day? Response choices were: 0 = "I do not smoke," to 6 = "More than 20 cigarettes per day."

Alcohol Use—The latent factor of Alcohol Use was identified with two items that measured self-reported levels of lifetime and past month use of alcohol. Regarding *lifetime alcohol use*, this item was (a) "During your whole life, how much have you drunk alcohol?" 0 = "I have never tasted alcohol," to 4 = "I have had more than 20 drinks." Regarding alcohol use during the *past month*, this item was (b) "During the past month (30 days), on how many days did you drink alcohol?" This item had the response choices of: 0 = "0 days, I didn't drink any alcohol," to 4 = "10 or more."

Data Analysis

Model Testing Approach—A structural model analysis was conducted with the EQS 6.1 structural equations program (Bentler in press). Using a theory-based model, the specific variables described above modeled a three-stage process with variables having the specified roles of predictors, mediators or outcome variables within this structural model (Cohen et al. 2003; MacKinnon 2008). The closeness of the hypothetical model to the empirical data was evaluated statistically through various goodness-of-fit indices. The Maximum Likelihood Chi-square (χ^2), the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA) were used to indicate fit (Bentler in press). Values approaching .95 or greater are desirable for the CFI (Bentler in press). The RMSEA indicates lack of fit per degrees of freedom, controlling for sample size, and values less than .06 indicate a close fitting model. Ninety-percent confidence intervals for the RMSEAs are also reported.

Missing Values—The missing values analysis available within the EQS program was used to conduct a diagnostic assessment of patterns of missing data (Bentler in press). The original dataset consisted of 951 Latino youth. A diagnostic assessment identified six cases that showed excessive or unusual patterns of missing data. These six cases were eliminated from the data file, yielding a new file that contained 945 cases. Given that some scattered missing data points remained, the full information maximum likelihood method (FIML) for dealing with missing data was used to estimate and test the model (e.g., Arbuckle 1996; Jamshidian and Bentler 1999; Schafer and Graham 2002). In addition, to determine whether youth with the various missing data patterns came from the same population, tests for homogeneity of means and covariances of the patterns were conducted (Kim and Bentler 2002). These tests verified that the data were homogeneous and hence that a single model would be appropriate. The distribution of the data was also evaluated for nonnormality using the Yuan et al. (2004) approach to multivariate kurtosis. This showed only minor deviation from normality, and hence statistics to adjust for nonnormality were not applied.

Preliminary Confirmatory Factor Analysis by Gender—The sample was split into girls ($n = 585$) and boys ($n = 360$). Examined separately by gender, an initial 8-factor confirmatory factor analysis (CFA) was conducted with each hypothesized latent construct predicting its proposed manifest indicators. All latent constructs and single-item variables were correlated without any presumption of temporal ordering. All possible covariances among the latent variables and the single-item variables of acculturation and age were included in this analysis, which assessed the adequacy of the proposed factor structure (measurement model) and relationships among the latent and single-item variables.

Structural Model—An 8-factor structural model was postulated that incorporates the theorized effects of (a) stable antecedent predictive factors: Ethnic Pride, Traditional Family Values, Acculturation, Age; (b) hypothesized mediators: Self-Efficacy, and Benefits of Cigarette Smoking; and (c) substance use outcomes: Cigarette Use, and Alcohol Use. Paths that were not significant were gradually dropped until only significant paths remained. Indirect effects were also determined.

Multisample Analyses—Multisample techniques were used to assess whether there were significant gender differences among the participants after examining an overall model that included both boys and girls. Hypotheses on various degrees of cross-sample equality were tested starting with an unrestricted model contrasting the confirmatory factor models in which no assumptions were made about the comparability of various parameters across the gender groups; increasingly restrictive equality constraints were gradually introduced including the hypotheses that their factor structures were similar, and then that the correlations between the constructs in the model were similar. The plausibility of the equality constraints was determined

with the goodness-of-fit indexes described above, chi-square difference tests, and results of the LaGrange Multiplier (LM) test (Bentler in press). The LM test provides information concerning which equality constraints are not reasonable and should be released. We also tested whether there were significant differences between the latent means of the boys and girls.

In addition, in the path model, there were some significant pathways that only appeared within one gender group. However, differences between the boys and girls may not themselves be significant even if a path is found to be significant for one group and not the other; this possibility was tested with further constrained models described in more detail below.

Results

Confirmatory Factor Analysis

Overall model fit for the entire sample was excellent: χ^2 (170, $N = 945$) = 475.14, $p < .001$; CFI = .96, RMSEA = .044, 90% CI = .039–.049). The analyses that examined the viability of the measurement model for each separate gender group yielded good fit statistics as well: Boys' χ^2 (162, $N = 360$) = 279.33; $p < .001$, CFI = .96, RMSEA = .045, 90% confidence interval = .036–.054; Girls' χ^2 (162, $N = 585$) = 366.00; $p < .001$, CFI = .95, RMSEA = .047, 90% confidence interval = .040–.053. The difference in degrees of freedom for the whole sample and the gender groups is due to having gender included in the overall model as a covariate. Table 2 reports summary statistics for this measurement model including the factor loadings for the boys and girls. Table 3 presents the bivariate correlations among the eight model factors. Boys' correlations are above the diagonal, girls' correlations below the diagonal. As anticipated, Alcohol Use and Cigarette Use were highly correlated for both boys (.80) and girls (.69). By contrast, Ethnic Pride and Acculturation were associated with less substance use among the girls but *not* among the boys. As hypothesized, Traditional Family Values and Self-Efficacy were associated with less substance use among the boys and girls. Also, increased age and perception of greater Benefits of Cigarette Smoking were associated with more substance use among both boys and girls.

Multisample Comparison of CFA Models

As described above, before it would be meaningful to contrast the male and female adolescents, we had to ascertain that there was reasonable factorial invariance between the two groups. A baseline model with no equality constraints between the two samples provided the benchmark for further comparisons. This model had an outstanding fit (ML χ^2 ($N = 945$) = 645.32; CFI = .96; RMSEA = .028). Adding the invariance constraint of equal factor loadings on the measurement model produced no significant decrement in fit (adjusted χ^2 – difference = 29.34/21 *df*); fit indexes remained excellent.

When the correlations among all of the latent variables and the measured variables of age and acculturation were constrained to equality along with the measurement model, again there was no significant decrement in overall fit (adjusted χ^2 – difference = 55.43/49 *df*). However, according to the LM test, there was only one individual correlation that was significantly different in the two groups, which was the correlation between Ethnic Pride and Cigarette Use (−.08, −.26 for the boys and girls, respectively). We also examined differences in latent means. The boys reported significantly more acculturation ($z = 2.41$, $p \le .05$), less Avoidance Self-Efficacy ($z = -3.49$, $p \le .001$), and more Alcohol Use ($z = 3.03$, $p \le .01$).

Structural Model

The final structural path models fit the data well for both groups: Boys' χ^2 (176, $N = 360$) = 291.71, $p < .001$; CFI = .96, RMSEA = .043, 90% CI = (.034–.051); Girls' χ^2 (172, $N = 585$) = 378.10, $p < .001$; CFI = .95, RMSEA = .046, 90% CI = (.039–.052). Figures 2 and 3 present

the final trimmed structural models. Each of the independent variables, Ethnic Pride, Traditional Family Values, Acculturation, and Age, contributed to the model in specific ways. Neither Ethnic Pride nor Traditional Family Values exerted a direct effect on Cigarette Use or on Alcohol Use for the boys, although Ethnic Pride directly impacted Cigarette and Alcohol Use among the girls. However, for the boys both cultural identity variables exerted a significant *indirect effect* on Alcohol Use ($p < .01$) and on Cigarette Use ($p < .001$), as mediated through Avoidance Self-Efficacy and through the perceived Benefits of Cigarette Smoking. Ethnic Pride and Traditional Family Values had significant indirect effects on Alcohol ($p < .01$) and Cigarette Use ($p < .001$) for the girls as well. Acculturation directly predicted more Cigarette and Alcohol Use among the girls and greater age was associated with more Cigarette Use and Alcohol Use for both the boys and the girls. Regarding interrelationships among the independent variables, observed associations were in the expected directions in both groups, where Ethnic Pride was positively associated with Traditional Family Values, and both Ethnic Pride and Traditional Family Values were negatively associated with Acculturation.

As direct effects, in both group's greater levels of the cultural variables Ethnic Pride and Traditional Family Values predicted greater Avoidance Self-efficacy. Also, greater Ethnic Pride for boys and girls predicted fewer perceived Benefits from Cigarette Smoking. And as anticipated, the mediator variable of Avoidance Self-Efficacy was a direct predictor of *less* Cigarette and Alcohol Use, whereas greater Benefits of Cigarette Smoking operated as a direct predictor of *greater* Cigarette and Alcohol Use. As noted, for both boys and girls, Acculturation was negatively associated with Ethnic Pride and with Traditional Values, and, as a direct effect, greater Acculturation predicted greater Cigarette Use and Alcohol Use only among the girls.

Pathways that were found to be significant in one group and nonsignificant in the other group were contrasted through imposing equality constraints. The only difference that was significant was the path between Ethnic Pride and Cigarette Use ($\chi^2 - \text{difference} = 9.20/1 \ df$), where greater Ethnic Pride is associated with less Cigarette Use for girls, but *not* for boys. This result is similar to the earlier finding regarding the constrained correlation matrix as reported above. In summary, there were only few substantive differences between the two groups including the latent mean differences reported above.

Discussion

Analysis of Hypothesized Effects

This section examines the evidence relevant to each of the four hypotheses.

Protective Effects of Ethnic Pride and Family Traditionalism—Hypothesis 1 postulated that the cultural identity factors of Ethnic Pride and Traditional Family Values would be associated with *lower* levels of cigarette and alcohol use. We found some partial support for this hypothesis: the bivariate correlations confirmed this effect for both Ethnic Pride and Traditional Family Values for girls, but only for Traditional Family Values for the boys. Moreover, in the path model, the influence of Ethnic Pride and Traditional Family Values was mediated through the cognitive mediators of Avoidance Self-Efficacy and perceptions regarding the Benefits of Cigarette Smoking, revealing some more complex effects that were also slightly different by gender.

Acculturation's Risk-augmenting Effects—Hypothesis 2 asserted that greater acculturation would be associated with greater substance use, and this hypothesis was confirmed for girls, but not for boys. In parallel with outcomes observed among Latino adults (Vega et al. 1998b), among these Latino adolescents, greater levels of acculturation directly predicted higher levels of cigarette and alcohol use, with stronger acculturation effects for females (Caetano and Clark 2003). This finding suggests that as early as adolescence, Latino

youth, and particularly females, experience socially induced risks that prompt substance use under the process of acculturation into the American mainstream culture.

Under a simplistic notion applied to Latino youth, acculturation into mainstream American society appears to be detrimental to their well being, based on the epidemiological associations of a greater likelihood of alcohol, tobacco, and illegal drug use with higher levels of acculturation. Relative to more conservative and restrictive Latino/Hispanic family environments, the contrast effect of a comparatively more permissive consumer-oriented sociocultural environment existing within mainstream American society exposes Latino youth to a stream of mass media messages that still glamorize the consumption of cigarettes and alcohol (Caetano and Clark 2003; Shadel et al. 2002). Beyond acculturation, the present study also identified the association, both for boys and girls, between stronger Traditional Family Values and a lower use of alcohol and cigarettes. Here again, relative to more traditional and restrictive Latino parental norms and home environments, core American values of individuality and freedom of choice offer a more permissive environment that includes more choices and opportunities for personal growth and experimentation, and as a mixed blessing, also more opportunities for the development of problem behaviors including the abuse of alcohol and tobacco.

Protective Effects of Avoidance Self-Efficacy—Hypothesis 3 was partially confirmed in that Avoidance Self-Efficacy was associated with *lower* levels of cigarette and alcohol use, for boys, although only with lower levels of cigarette use among girls. Avoidance Self-Efficacy operated as a mediator of the cultural variables (ethnic pride, family traditionalism, acculturation) on the substance use variables (alcohol and cigarette use). As expected, a youth's self-confidence in being able to enact refusal skills in avoiding pressure to use cigarettes was associated with lower rates of cigarette use.

Risk Effects of Perceived Benefits of Cigarette Smoking—Also, Hypothesis 4 was confirmed for both boys and girls where greater perceptions of the Benefits of Cigarette Smoking for emotional self-regulation were associated with higher levels of cigarette smoking, and this factor also mediated the influences of Ethnic Pride on the use of cigarettes and alcohol.

Within this context, the motivational effects of ethnic pride enhancement and of promoting cultural traditions would appear to operate as "value added" components that can be beneficial for Latino youth. An implication from these results is that a culturally enhanced prevention intervention may be effective in preventing cigarette and alcohol use among Latino adolescents, when it complements a core intervention that incorporates conventional evidence-based protective or risk factors. In the present case, these conventional factors are avoidance self-efficacy and perceptions regarding the "benefits" of cigarette smoking. In a culturally enhanced prevention intervention, the protective effects of these conventional factors might be augmented with the addition of cultural protective factors, such as ethnic pride and traditional family values. A randomized controlled community trial can thus be designed to evaluate the incremental benefits of a culturally relevant intervention, with the hopes that this culturally enhancement condition would significantly bolster program efficacy beyond the effects of the original intervention (Botvin et al. 1995; Castro et al. 2006). These benefits would be applicable to both genders.

In summary, this scenario involving the comparatively restrictive traditional Latino household norms, especially for Latino females (Latinas), offers a partial explanation for the comparatively higher rates of substance use observed among Latino adolescents with increasing levels of acculturation (Pantin et al. 2003) and apparently also with some erosion of traditional Latino values. Today, as traditional conservative and restrictive Latino cultural norms may be eroding, Latino youth, both females and males, may face new challenges

involving a greater range of choices associated with the relaxation of these restrictive traditional cultural norms. The view that greater acculturation is associated with greater freedom of choice but also with correspondingly greater risks of substance use (McQueen et al. 2003) should be further evaluated in more detailed analyses of Latino parental messages, familial norms, and youth decision-making processes.

Study Limitations

The present study is limited by its use of cross-sectional data for testing the hypothesized effects of model variables in accord with the postulated temporal sequence. Other configurations of the data are also plausible. Also, all evidence obtained including youth perceptions of the traditionality of parents and households were based on youth self-reports and may not necessarily capture the actual traditional or conservative characteristics of parental norms and familial environments. Also, our abbreviated measurement of acculturation focused on the principal component of language usage and used the older unidimensional approach, in contrast with the more recent two-factor "orthogonal" approach (Berry 2003; Cuellar et al. 1995; Marin and Gamboa 1996; Oetting and Beauvais 1991).

In addition, this study sample consisted mostly of Mexican American and immigrant Mexican youth, the ethnic group most prevalent within the Southwest region of the United States. Accordingly, these results may not generalize to other Latino youth such as Puerto Ricans and Cubans who reside in other regions of the US. By contrast, this study adds to the literature by using gender-specific structural models to examine and test hypothesized relationships involving the effects of specific cultural factors: ethnic pride, traditional family values, and acculturation on the use of alcohol and cigarettes. In addition, these cultural factors were examined jointly in ways not previously examined and within a structural model of multiple influences, thus providing insights into sociocultural mechanisms that can affect the use of tobacco and alcohol among both male and female Latino adolescents.

Implications for Designing Culturally Sensitive Prevention Interventions

Building onto Evidence-Based Components—The present study suggests that an intervention that relies solely on enhancing certain cultural factors, e.g., ethnic pride and traditional family values, in the absence of influencing other conventional factors, e.g., self-efficacy and perceptions of the effects of substance use, may *not* necessarily be effective in preventing early tobacco and alcohol use among Latino youth, particularly among males. Thus, these cultural factors, although potentially protective for Latino youth, should be presented as complements to a core program for the development of self-efficacy and refusal skills for avoiding tobacco and alcohol (Wynn et al. 2000). Within this context, the addition of cultural variables such as ethnic pride and a traditional family values is expected to add value and enhance the cultural sensitivity and appeal of a prevention intervention for Latino youth, ideally also increasing youth involvement and participation, and thus ultimately augmenting the intervention's efficacy or effectiveness (Kellum and Langevin 2003).

One related question is whether enhancing ethnic pride among Latino adolescents may operate as a culturally specific form of self-efficacy enhancement. From clinical observations, the value of ethnic pride enhancement for minority youth has been lauded as an intervention approach for building resilience against prejudice and discrimination among Latino youths (Carranza 2007). As a form of personal agency, strong ethnic pride may constitute a source of personal strength, dignity and self-respect, which could aid in asserting refusal skills to resist pressure or to deflect discriminatory messages that are imposed by others.

Also, based on somewhat diverging sociocultural attitudes and issues that have emerged within contemporary adult American society regarding the consumption of tobacco and alcohol, a

question arises about how best to address such issues among adolescents—whether to develop separate and distinct messages or a single message regarding the consumption of these substances. Given that the consumption of both tobacco and alcohol are prohibited for adolescents, it would appear that youth refusal skills training should best adopt a single and unified approach that discourages equally the use of tobacco and alcohol among adolescents. As was demonstrated in our analyses, attitudes about "benefits" of smoking generalized not only to more smoking behaviors but also to more alcohol use indicating that these behaviors and attitudes are not isolated from each other.

Promoting Adaptive Acculturation—As one intervention quandary for Latino youth, the apparent risk-inducing effects of increasing levels of acculturation suggests that low-acculturated youth should be discouraged from acculturative integration into mainstream American society. This implication raises challenges regarding best ways to frame pro-social health education messages and prevention interventions, especially for low-acculturated Latino adolescents, to help them avoid early tobacco and alcohol use in the presence of acculturative stressors and related cultural conflicts. In this regard, recent studies on the adaptation of immigrant youth and their parents within American society suggest that the integrative (bicultural) form of acculturation is the most adaptive of the four modes of acculturative adaptation (integration, separation, assimilation, marginalization) (Benet-Martinez and Haritatos 2005; Berry 2005; Carranza 2007; Farver et al. 2002). One resolution to this acculturation dilemma for Latino adolescents involves promoting prosocial bonding with their Latino parents, as well as with American schools and other social institutions, as strategies for *adaptive acculturation* into mainstream American society (Berry 2005; Lara et al. 2005), strategies that encourage a retention of links with their Latino culture under a bicultural approach to Latino youth development (Benet-Martinez and Haritatos 2005). Latino adolescents can be advised that this greater freedom of choice is a byproduct of the individual rights attained with greater acculturation into mainstream American society. Furthermore, Latino youths can also be advised that benefiting from these American cultural ideals requires sociocultural awareness and education and learning culturally relevant skills and strategies for such adaptive acculturation (Berry 2003, 2005). This skills development can be attained through a culturally sensitive heath education program that promotes drug-free lifestyles despite exposures to these permissive sociocultural contexts.

Promoting Healthy Lifestyles; Discouraging Substance Use to Feel Better—The central nervous system (CNS) stimulatory effects of tobacco and the CNS disinhibiting effects of alcohol (Julien et al. 2008) may produce short-term reinforcing "feel good" effects for some adolescents, thus reinforcing and motivating the continued use of these substances for their perceived "beneficial" effects. Especially for high-risk youth who enjoy the immediate reinforcing effects of tobacco and/or alcohol use and who perceive these substances to be "beneficial," it appears necessary to teach these youth age-appropriate critical thinking for making healthy life choices, aided by building refusal skills and thus self-efficacy in avoiding tobacco and alcohol. Similarly, a related strategy is to provide these youth with culturally grounded resistance and social skills for coping effectively with cultural conflicts and other difficult life situations, while also offering correct normative information and promoting anti-drug attitudes (Hecht et al. 2003) that challenge any misperceptions that tobacco and alcohol provide truly desirable benefits for emotional self-regulation in efforts to cope with emotionally painful situations.

Directions for Future Research

Building Theory for Understanding Acculturation and Cultural Identity Development—The current study illustrates the need for well conceptualized and theory-driven research and well specified structural models that allow testing of specific hypotheses

regarding the effects of conventional and of cultural factors for preventing early substance use among Latino youth (Guilamo-Ramos et al. 2005). For Latino youth, such models can aid in understanding the complex, indirect, conditional and contextual effects introduced by the process of acculturation (Fergus and Zimmerman 2005; McQueen et al. 2003). Future research can contribute to the field by describing (deconstructing) the specific elements of factorially complex constructs such as ethnic pride and traditional family values (Castro and Coe 2007), as these may build self-efficacy and resilience. As noted, success in American society generally requires some form of adaptive acculturation and cultural identity formation, i.e., behavioral and identity changes that incorporate mainstream Euro-American beliefs, attitudes and values (Portes and Rumbaut 1996). A future challenge involves developing ecologically valid study designs and related temporal models of the *acculturation process* (Cabassa 2003) and of Latino youth identity development as these relate to adaptive acculturation and resilient personal growth (Fosados et al. 2007).

Integrative Mixed-methods Research Approaches—Future research may benefit from integrative mixed-methods study designs that utilize quantitative and qualitative methods under a unified study design (Castro and Coe 2007; Hanson et al. 2005; Tashakkori and Teddle 2003). The analysis of detailed qualitative text narratives can offer greater explanatory power from distilling greater meaning for understanding factorially complex constructs such as ethnic pride, family traditionalism, and acculturation processes, and their relationship to drug use and other maladaptive outcomes (Smith-Hoerter et al. 2004). Presently we know little about the deeper meanings of the construct of ethnic pride as expressed by Latinos and Latinas and how strong ethnic pride may influence health outcomes and promote healthy behavior change. A qualitative analysis of the nuanced meanings of ethnic pride and its influence on ethnic identity development and on health-related behaviors could uncover its role as a factor for initiating and sustaining healthy behavior change. Such mixed-methods designs could also aid in disentangling complex yet distinct acculturative trajectories (patterns of acculturation across time) (Caetano and Clark 2003; Lara et al. 2005) in a manner that informs future research studies while accounting for gender differences. Ideally, when used within longitudinal study designs, such studies would yield stronger and more accurate predictions of future risks, based on more specific and ecologically valid models that capture the influences of several cultural factors on specific health-related outcomes.

Involving Latino Parents in the Prosocial Development of their Children—
Although adolescents undergo the process of individuation and identity development to separate from their parents, most adolescents are still primarily under the direct supervision and influence of their parents and need the support and guidance of caring parents (Kumpfer and Alvarado 2003). For Latino adolescents, capabilities for developing ethnic identity and pride, self-efficacy for avoiding risk behaviors, and for emotional self-regulation are complex tasks that are best negotiated with the investment, guidance and support of their parents (Pantin et al. 2003). Despite this, many Latino parents, both native-born and immigrant, face new concerns and challenges regarding the most adaptive ways to protect their children from drugs, gangs, and violence, and also regarding the best ways to socialize and support their children within the contemporary multiethnic American society (Perreria et al. 2006). Latino adolescents face these same issues, although from the perspective of who they will become within American society, and whether they will be afforded the same life opportunities that are enjoyed by their mainstream and more affluent American peers (Carranza 2007). As a final note, future studies can add much to our understanding of the complex challenges facing various Latino adolescents and their parents, when guided by culturally relevant theory and as informed by culturally informed structural models. Such models should include cultural factors such as ethnic pride, traditional family values, acculturation and other cultural factors, along with conventional factors, as examined jointly for both Latino children and their parents.

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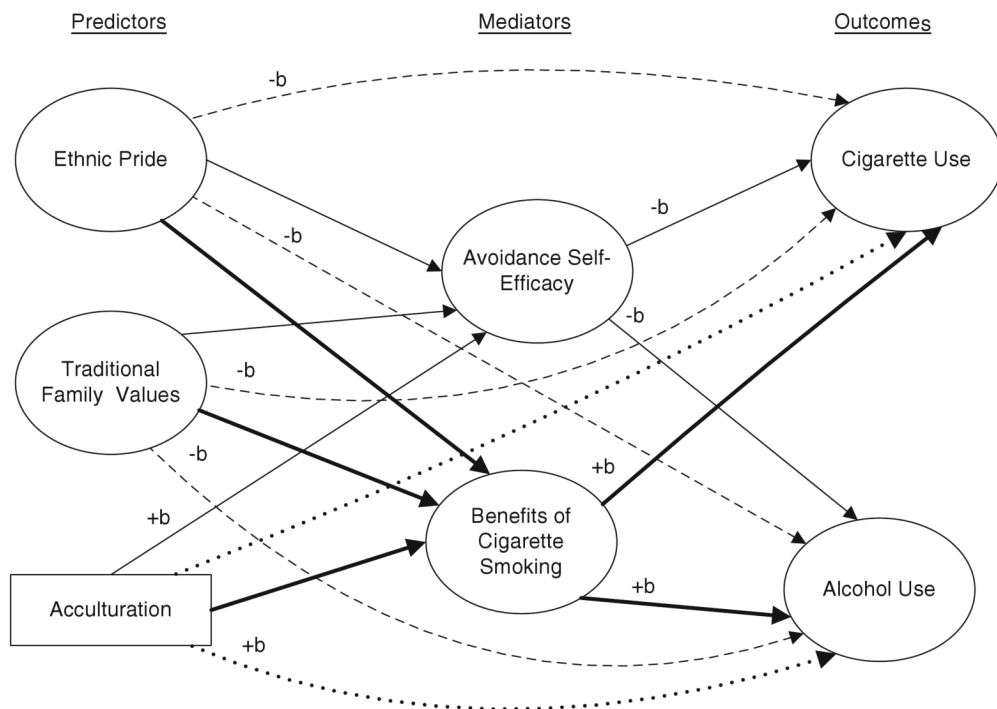
Fig. 1.
Hypothesized Structural Model. Large circles designate latent variables; rectangles represent single-indicator items. The model pathways constitute effects predicted by the four research hypotheses, and pathways are keyed to their respective hypothesis as indicated in the legend. The valences of the regression coefficients (b's) show the hypothesized direction of effect. Pathways not marked by a regression coefficient denote a pathway not explicitly predicted by a hypothesis, although the pathway serves as part of a mediated effect

Boys

Fig. 2.
Final Structural Model of Predictors of Alcohol and Cigarette Use for Boys. Large circles designate latent variables; rectangles represent single-indicator items; small circles represent residual variances. Double-headed arrows represent correlations; single-headed arrows represent regressions. * $p < .05$; ** $p < .01$; *** $p < .001$
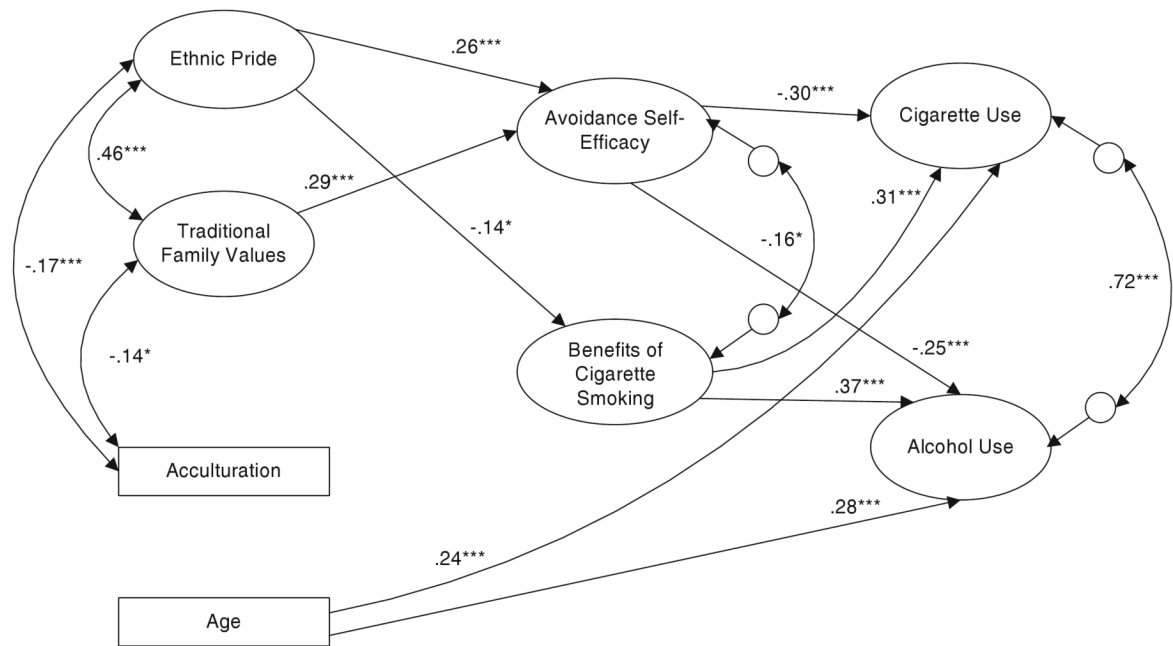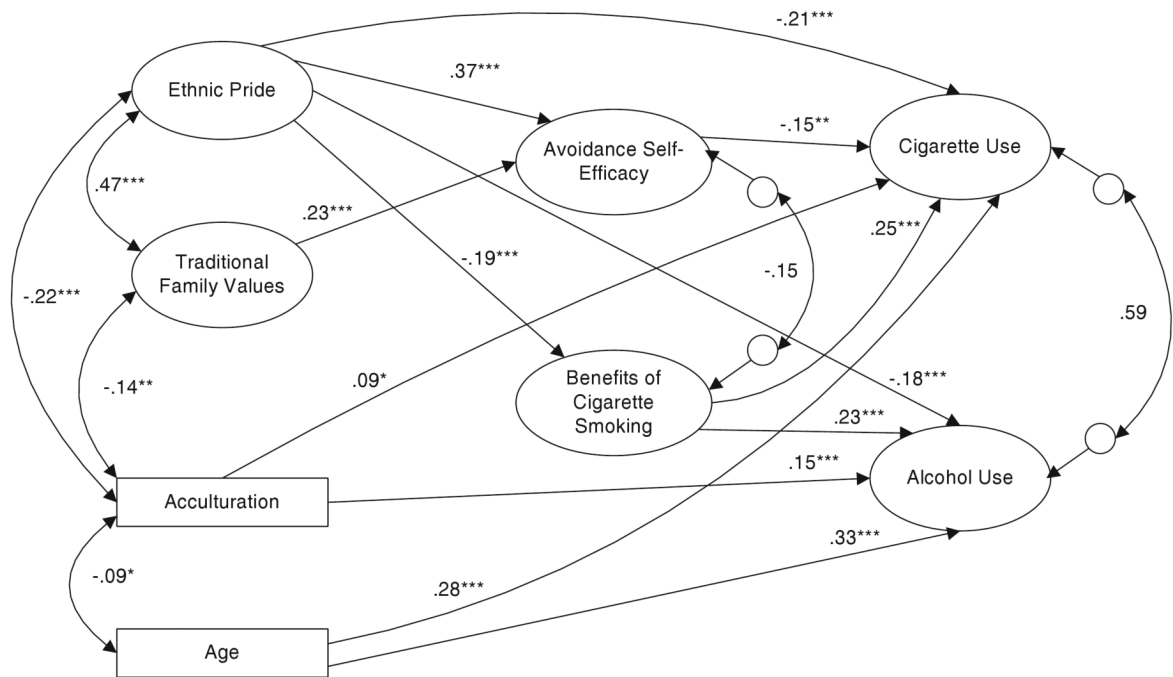
Fig. 3.
Final Structural Model of Predictors of Alcohol and Cigarette Use for Girls. Large circles designate latent variables; rectangles represent single-indicator items; small circles represent residual variances. Double-headed arrows represent correlations; single-headed arrows represent regressions. * $p < .05$; ** $p < .01$; *** $p < .001$

Table 1

Sample characteristics

Variable	*n*	Percent
Gender		
Males	360	38.1
Females	585	61.7
Grade		
6	446	47.2
7	203	21.5
8	296	31.3
Ages		
10	1	0.1
11	236	25.0
12	273	28.9
13	250	26.5
14	157	16.6
15	24	2.5
16	2	0.2
17	1	0.1
Survey language		
English	771	81.6
Spanish	174	18.4
Level of acculturation		
Low (1.00–2.00)	208	22.0
Bicultural (2.01–3.00)	341	37.6
High (3.01–4.00)	368	40.4
Father born		
Don't know	91	9.7
United States	243	25.9
Mexico	570	60.8
Other	33	3.5
Mother born		
Don't know	33	3.5
United States	313	33.4
Mexico	566	60.3
Other	26	2.8
Youth born		
United States	603	63.8
Mexico	323	34.3
Other	18	1.9

Note: The question on father's place of birth was, "Where was your father born?" with the response choices of: (0) = "I don't know, (1) = United States, (2) = Mexico, and (3) = Other (write in). This same format was used for the question for mother: "Where was your mother born?"

Table 2

Summary statistics and factor loadings in the measurement model

Factor	Items[b]	Alpha[b]	Boys		Girls		Factor loadings	
			Mean	SD	Mean	SD	Boys[a]	Girls[a]
1. Ethnic pride (range = 0–4)[c]	4 (3)	.68 (.74)						
Proud of belonging			2.80	1.20	2.70	1.17	.67	.66
Like being from ethnic culture			2.90	1.01	3.06	0.91	.63	.61
Desire to learn more			2.70	1.17	2.70	1.17	.80	.86
2. Traditional family values (range = 1–3)	8 (3)	.55 (.57)						
Traditions should be kept			2.30	0.71	2.26	0.66	.59	.56
Parents are very traditional			2.04	0.73	2.01	0.74	.48	.40
Traditions keep families together			2.50	0.62	2.54	0.60	.70	.62
3. Acculturation (range = 1–4)	4	.86						
Speak Spanish/English			2.98	0.82	2.84	0.85	1.00	1.00
4. Age (years, range = 10–17)	1	–	12.44	1.12	12.44	1.14	1.00	1.00
5. Avoidance self-efficacy (range = 1–4)	10 (5)	.85 (.80)						
In the next week can you:								
Say "no" to cigarettes; encourage quitting			3.22	0.92	3.35	0.85	.74	.70
Avoid cigarette smoke; encourage quitting			3.33	0.82	3.55	0.72	.79	.74
Avoid being pressured; leadership against tobacco			3.30	0.85	3.41	0.75	.79	.72
Avoid smoking; speak to others on health			3.12	0.85	3.27	0.78	.73	.82
Help others quit; speak to prevent smoking			2.88	0.95	3.07	0.87	.70	.74
6. Benefits of cigarette smoking (range = 1–3)	6 (3)	.61 (.72)						
Helps to relax			1.78	0.72	1.67	0.74	.69	.69
Helps feel better when depressed			1.86	0.75	1.86	0.72	.71	.79
Builds self-confidence			1.60	0.64	1.62	0.67	.52	.63
7. Cigarette use (range = 0–4)	4 (3)	.80 (.91)						
Lifetime cigarette smoking			0.60	0.89	0.49	0.83	.94	.92
Days smoked past month			0.49	0.84	0.41	0.73	.88	.85
Cigarettes smoke per day (range = 0–6)			0.36	0.78	0.31	0.73	.83	.85

Factor	Items[b]	Alpha[b]	Boys		Girls		Factor loadings	
			Mean	SD	Mean	SD	Boys[a]	Girls[a]
8. Alcohol use (range = 0-4)	2 (2)	.75 (.75)						
Lifetime alcohol use			1.05	1.18	0.81	1.10	.83	.90
Days of alcohol use in past month			0.47	1.03	0.34	0.81	.74	.71

[a]All factor loadings significant, $p < .001$

[b]Values for Items and Alpha are for the original scale, and those in parenthesis are for the indicators of the respective latent factor

[c]The noted ranges involve standardizing the total score and dividing by the number of items. This allows better interpretation of the scores

Table 3

Correlations among model factors

Model factor	1	2	3	4	5	6	7	8
1. Ethnic pride	–	.41***	-.13*	.02	.31***	-.11	-.08	-.12
2. Traditional values	.39***	–	-.16**	.03	.41***	-.06	-.15*	-.18**
3. Acculturation	.09*	-.14**	–	-.07	-.03	.09	.06	.05
4. Age	.02	-.10	-.08	–	-.08	-.07	.24***	.28**
5. Self-efficacy	.42***	.40***	-.05	-.08	–	-.19**	-.38***	-.35***
6. Benefits of cigarette smoking	-.15**	-.14*	.05	.07	-.22***	–	.35***	.39***
7. Cigarette use	-.26***	-.21***	.13***	.30***	-.35***	.34***	–	.80***
8. Alcohol use	-.14**	-.19***	.17***	.33***	-.22***	.29***	.69***	–

Note: Boys above the diagonal; girls below the diagonal.

*
$p < .05$,

**
$p < .01$,

***
$p < .001$