Cultural Values Associated With Substance Use Among Hispanic Adolescents in Southern California

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Abstract

Cultural values can shape people's attitudes toward substance use and influence their risk of experimentation with drugs. This article examines the relationships between cultural values (familism, respeto, and machismo), fatalism (a culturally encouraged personality disposition), and substance use among Hispanic adolescents. In 2005, cross-sectional data were collected from 1,616 Hispanic ninth grade students in Los Angeles. Each cultural value was associated with lifetime substance use; however, these relationships depended on the type of substance and gender. Our findings suggest that it might be useful to incorporate the cultural values and address the personality trait of fatalism in prevention programs for Hispanic adolescents. The study's limitations are noted.

Keywords

cultural values; familism; respeto; fatalism; machismo; substance use; Hispanic; adolescence; bicultural competence

INTRODUCTION

The Hispanic population is the nation's largest ethnic minority group and experiences numerous health disparities (U.S. Census Bureau, 2008). Hispanics comprise over half of the population in California and in Los Angeles County, which is the largest of any county in the nation (U.S. Census Bureau, 2008). Research has shown that Hispanic adolescents engage in higher rates of certain risk behaviors than other ethnic groups (CDC, 2007; Frank & Lester, 2001). For example, Hispanic youth are at increased risk for some substance use behaviors (CDC, 2004; Glynn, Anderson, & Schwarz, 1991). According to a national survey completed by 9th–12th graders (CDC, 2000), Hispanics had the highest reported prevalence of lifetime and current alcohol use compared to both Blacks and Whites (CDC, 2007; *lifetime alcohol use*: 78% among Hispanics, 69% among Blacks, and 76% among Whites; *current alcohol use*: 48% among Hispanics, 35% among Blacks, and 47% among Whites). Moreover, Hispanic youth reported the second highest rates of lifetime and current cigarette use (CDC, 2007; *lifetime cigarette use*: 8% among Hispanics, 6% among Blacks, and 15% among Whites; *current cigarette use*, 17% among Hispanics, 12% among Blacks, and 23%

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The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

among Whites) and showed the second highest prevalence of lifetime marijuana use (39%) compared to Blacks (40%) and Whites (38%).

Studies conducted among Hispanic adolescents have identified numerous personal, behavioral, interpersonal, and environmental risk factors associated with substance use (Castro et al., 2006; Coombs, Paulson, & Richardson, 1991; Schinke, Moncher, Palleja, Zayas, & Schilling, 1988; Warner et al., 2006). These studies reveal that Hispanic adolescents are susceptible to many of these same risk factors as White adolescents (Ramirez et al., 2004; Strait, 1999); however, there may be cultural differences that place Hispanics at higher risk for substance use (Resnicow, Soler, Braithwaite, Ahluwalia, & Butler, 2000). Therefore, it is important to examine culture-based variables that may serve as protective or risk factors for substance use among adolescents.[1] Equally important are culturally encouraged personality characteristics such as fatalism. Although Hispanic cultural values have been well documented in the literature, little is known about how these cultural constructs are associated with adolescent substance use behaviors.

CULTURAL VALUES/CHARACTERISTICS AND SUBSTANCE USE

Cultural values can shape people's attitudes toward substance use and influence their risk of experimentation with drugs (Unger et al., 2004). Specific values such as familism, respeto, and machismo have been identified as being core cultural values to the Hispanic population (Antshel, 2002; Cuellar, Arnold, & Gonzalez, 1995; Freeman, Lewis, & Colón, 2002; Halgunseth, Ispa, & Rudy, 2006; Marín & Marín, 1991; Unger, Gallaher et al., 2002). Several studies show that traditional cultural values influence adolescents' attitudes and beliefs, which in turn influence their health risk behaviors (e.g., cigarette, alcohol, and drug use) (Beck & Bargman, 1993; Castro et al., 2007; Gil, Wagner, & Vega, 2000; Unger, Ritt-Olson et al., 2002; Unger et al., 2006). However, few studies exist showing how specific cultural values can be or operate as protection against substance use (Castro et al., 2007; Unger, Ritt-Olson et al., 2002, 2006). These cultural values are described in detail below.

Familism has been defined as "a cultural value that involves individuals' strong identification with and attachment to their nuclear and extended families, and strong feelings of loyalty, reciprocity, and solidarity among members of the same family" (Marín & Marín, 1991, p. 13). Extended family may include close family friends as well as "adopted" aunts, uncles, and cousins who are not biological relatives (Unger et al., 2004). Familism is the most empirically supported core value dimension to the Hispanic culture (Villarreal, Blozis, & Widaman, 2005). It also has demonstrated to be a reliable protective factor for drug use and deviant behavior (Gil et al., 2000; Ramirez et al., 2004; Unger, Ritt-Olson et al., 2002). For example, in a study among 12th grade Hispanics, familism was associated with lower levels of lifetime marijuana use (Ramirez et al., 2004). In another study among Latinas, respondents with low familism scores were more likely to have tried smoking cigarettes (Kaplan, Nápoles-Springer, Stewart, & Pérez-Stable, 2001). Further, respondents in this study who perceived family members would react negatively to smoking were less likely to experiment with smoking and less likely to become regular smokers than those who perceived family members would not react negatively to smoking.

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[1]The reader is asked to consider that these two concepts represent a range of processes and are often noted in the literature, without adequately delineating their i dimensions (linear, non-linear), their "demands", the critical necessary conditions (endogenously as well as exogenously; from a micro to a macro level) which are necessary for either or both of them to operate (begin, continue, become anchored and integrate, change as de facto realities change, cease, etc.) or not to and whether their underpinnings are theory-driven, empirically-based, individual and/or systemic stake holder- bound, based upon "principles of faith" or what. Clarification of this is necessary if these terms are not to remain as shibboleths in a field of many stereotypes. Editor's note

Respeto refers to showing respect for others based on age, gender, and authority (Antshel, 2002). It emphasizes a child's duty to show respect for and obey the advice of parents (Garcia, 1996). Studies indicate that respeto is valued by Hispanic children and parents (Delgado-Gaiten, 1993; Phinney, Ong, & Madden, 2000; Valdes, 1996). In one study, adolescents who endorsed respect for adults were also at a lower risk of smoking (Unger et al., 2006). It was proposed that respeto can promote attitudes that are protective against substance use, especially for children of parents who advise against drug use. However, this cultural value may also be a risk factor if children respect adults who use substances and wish to imitate that behavior (Unger et al., 2006).

In Hispanic culture, gender roles involve the concepts of *machismo* and *marianismo* (Strait, 1999). Machismo often evokes negative connotations regarding traits and behaviors for men that are hypermasculine such as male dominance, sexual prowess, physical strength, chauvinism, and sexism (Anders, 1993; Cuellar et al., 1995; Neff, Prihoda, & Hoppe, 1991).

However, some researchers have proposed a second meaning of machismo, which includes positive characteristics such as dignity, hard work, facing adversity with courage, responsibility, and the protection of the family and its honor (Casas, Wagenheim, Banchero, & Mendoza-Romero, 1994; Mirandé, 1997; Neff, 2001). Marianismo can also represent both positive and negative aspects of female behavior. With substance use, the traditional female role (e.g., caretaker) is less likely to drink alcohol; therefore, it would be considered a negative reflection on the moral character for females to drink alcohol (Unger, Ritt-Olson et al., 2002). Because substance use is a rebellious trait that is consistent with the male role, adolescents from families that endorse differentiated gender roles might believe that experimentation with substance use is acceptable among boys but not among girls (Unger et al., 2004). Indeed, studies have found gender differences in the association between machismo and substance use, showing that male adolescents may use drugs as a way of asserting their masculinity and proving their power and fearlessness (Unger, Ritt-Olson et al., 2002, 2006).

Fatalism is a personality factor that comprises the belief that one's destiny is out of their control (Chavez, Hubbell, Mishra, & Valdez, 1997; Cuellar et al., 1995; Triandis, Marin, Lisansky, & Betancourt, 1984). Although fatalism is more of a personality trait than a cultural value, many traditional and collectivist cultures promote fatalistic beliefs because these beliefs lead to interdependence (Neff & Hoppe, 1993). This construct is similar to *external locus of control* whereby people believe that they have no control over life events, including the ability to prevent certain health conditions (Dettenborn, DuHamel, Butts, Thompson, & Jandorf, 2004). In comparison to many other cultures, Mexican culture is imbued with this fatalistic belief (Joiner, Perez, Wagner, Berenson, & Marquina, 2001). For example, in a study of U.S. youth aged 14–22 years, Jamieson and Romer (2008) found fatalists were significantly more likely to identify as Hispanic and have completed the survey in Spanish. To our knowledge, few studies have examined the influence of fatalism on substance use. In a study by Unger, Ritt-Olson et al. (2002), fatalism was not significantly associated with substance use among a multicultural sample of adolescents. However, in another study, fatalism was a risk factor for substance use (Somlai et al., 2000). If this is the case, adolescents high in fatalism may believe that they are destined to develop a disease or health problem regardless of their substance use behavior.

STUDY AIMS AND HYPOTHESES

The purpose of this study is to examine the associations between the cultural constructs described above (i.e., familism, respeto, machismo, and fatalism) and substance use (i.e., lifetime alcohol, cigarette, and marijuana use) among a sample of Hispanic adolescents in

Southern California. The researchers hypothesized that cultural values and fatalism will be associated with substance use in the following ways: (1) familism and respeto will negatively associate with substance use, (2) fatalism will positively associate with substance use, (3) machismo will positively associate with substance use among males, and (4) machismo will negatively associate with substance use among females. We hypothesized no other gender interaction effects.

METHODS

Subjects

Data were analyzed from 1,616 Hispanic ninth grade students attending seven high schools in the Los Angeles area as part of a larger substance use prevention project, Project RED (Retiendo y Entiendo Diversidad para Salud). Project RED is a longitudinal study of acculturation patterns and substance use among Hispanic/Latino adolescents in Southern California. Schools were invited to participate if they contained at least 70% Hispanic students. Of the 31 schools approached, eight agreed to participate. One school was eliminated because its schedule would have required half of the students to be surveyed in fall and half in spring, which could have introduced confounding. The remaining seven schools participated in the study. All ninth grade students at each school were invited to participate, which resulted in 3,218 invitees across the seven schools. Of those students, 2,418 (75%) provided parental consent and 283 (8%) provided parental refusal. In addition, 517 (16%) parents could not be contacted. Of those students who provided parental consent, 2,222 (92%) completed the survey. Of those, 1,818 (82%) self-identified as Hispanic and of those who were Hispanic, 1,616 (89%) had complete data for all variables of interest in this cross-sectional analysis.

Survey Procedure

In the fall semester of 2005, all ninth grade students at participating schools were invited to complete the survey. Trained research assistants visited the students' classrooms, explained the study to the students, and distributed English and Spanish versions of parental consent forms and student assent forms. All of the trained research assistants completed a one day in office training and two hours of field training at a school to observe and consent. During the field training, each research assistant was observed by the project manager and given feedback for quality assurance. With the informed consent procedure, students were informed about the study, how it was an opportunity to share their opinions and feelings, and that their responses were completely confidential. Students were allowed to participate if they provided both written parental consent and student assent. Parents who did not return the consent forms were telephoned in the evenings by a bilingual research assistant to obtain verbal consent or refusal. To increase the return rate of consent forms, each classroom was offered a pizza party if every student in the class returned the forms, regardless of whether parents gave permission to participate. The survey was a self-administered paper-and-pencil questionnaire that took approximately 50 min to complete (English or Spanish version).

Measures

Ethnicity—Ethnicity was self-reported. Students were asked to indicate "yes," "no," or "don't know" for each of the 15 ethnic groups (American Indian or Alaska Native; Asian; Black or African American; Hispanic; Latino or Latina; Native Hawaiian or Pacific Islander; White; Mexican; Central American; South American; Mexican-American; Chicano or Chicana; Mestizo; La Raza; and Spanish). For this analysis, Hispanic was recoded to 0 = non-Hispanic or 1 = Hispanic, where Hispanic included 10 subgroups (Hispanic; Latino or Latina; Mexican; Central American; South American; Mexican-American; Chicano or Chicana; Mestizo; La Raza; and Spanish).

Dependent Variables—Substance use was reported using lifetime use of alcohol, marijuana, and cigarette use measures from the Youth Risk Behavior Surveillance Survey (CDC, 2000). Lifetime alcohol use was measured with "During your life, on how many days have you had at least one drink of alcohol?" Seven response categories were available: 0 day; 1 or 2 days; 3–9 days; 10–19 days; 20–39 days; 40–99 days; and 100 or more days. Because of the skewness in data for this variable, lifetime alcohol was recoded to 0 = never and 1 = 1 or more days. Lifetime cigarette use was measured with "Have you ever tried cigarette smoking, even one or two puffs?" Two response options were "yes" or "no." Lifetime marijuana use was measured with "During your lifetime, how many times have you ever used marijuana?" Six response categories were available: 0 times; 1 or 2 times; 3–9 times; 10–19 times; 20–39 times; and 40 or more times. Because of the skewness in data for this variable, lifetime marijuana was recoded to 0 = never and 1 = 1 or more times.

Independent Variables—The questionnaire items for the cultural values were derived from published scales that have been pilot tested and validated in a multicultural sample of adolescents (Unger, Gallaher et al., 2002, 2006). Additionally, some of the items were modified or simplified from existing adult scales (Cuellar et al., 1995; Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987). Familism was assessed with five items, respeto was assessed with four items, fatalism was assessed with four items, machismo was assessed with seven items, and all the constructs had four response options that included: "definitely not," "probably not," "probably yes," and "definitely yes." To confirm construct validity, an exploratory factor analysis was conducted to confirm that the selected items were representative of the underlying cultural values or personality characteristic they were intended to measure. Based on the exploratory factor analysis, subscales were created by averaging the items together to form a single score for each construct. The items and their factor loadings are described in the results section and are shown in Table 3.

Covariates—The covariates included age, gender, socioeconomic status (SES), peer influence, adult modeling, and acculturation. Age was coded in years. Gender was recoded to 0 = females and 1 = males. SES was created from two questions: "How many people live in the home where you spent most of your time (including you)?" and "How many rooms does your house or apartment have (excluding kitchen and bathroom)?" SES was calculated by dividing the number of rooms in the home by the number of people living in the home. This "overcrowding index" is strongly correlated with SES (Myers, Baer, & Choi, 1996); thus, higher scores indicated higher SES. Peer influences and adult modeling were included as covariates because they have been associated with substance use in numerous previous studies (Ennett & Bauman, 1993, 2000; Kobus, 2003; Valente, 2003). To measure peer influence, students were asked to think of their five best friends at their school. For each friend, students were asked to answer three questions for a total of 15 responses: (1) "Have you ever smoked a cigarette with him/her?"; (2) "Have you ever drunk alcohol with him/her?"; and (3) "Have you ever done any drugs with him/her?" Response options were "yes" or "no." The results per question were summed, with a range of 0–5 where 0 = none of their five friends used and 5 = all five of their friends used respective substances (cigarette, alcohol, or drugs) with the participant. Adult modeling was measured with three questions: Think of the two adults that you spend the most time with, (1) "How many of them smoke cigarettes every day or most days?"; (2) "How many of them drink alcohol at least once per week?"; and (3) "How many of them use marijuana?" Response options included none or zero, one of them, and two of them. For analysis purposes, adult modeling was recoded to 0 = none and 1 = one or two of them. Acculturation was measured with the U.S. orientation subscale of the Acculturation, Habits, and Interests Multicultural Scale (AHIMSA) (Unger, Gallaher et al., 2002). Research has shown that acculturation may be an important predictor of substance use among Latino youth (Austin & Gilbert, 1989; Epstein, Botvin, & Diaz,

1998, 2001; Markides, Krause, & de Leon, 1988). The AHIMSA is an eight-item scale with four response options for each question: "the US" (indicating assimilation), "the country my family is from" (indicating separation), "both" (indicating integration), and "neither" (indicating marginalization). Scores for each of these four orientations range from 0 to 8.

Data Analyses

Chi-square and *t*-tests were conducted to determine significant gender differences in demographics, cultural values, fatalism, and substance use. Exploratory factor analysis with promax rotation was performed to determine whether the cultural value and fatalism questions can be grouped into the four hypothesized constructs (familism, respeto, machismo, and fatalism). Cronbach's alphas were used to evaluate the internal consistency reliability of each scale. Multilevel logistic regression (SAS Proc Glimmix) was used to examine the associations between each construct and substance use due to intraclass correlation of students clustered within schools. All continuous independent variables were standardized before performing the multilevel logistic regression. Interaction effects were also tested to examine gender differences in the relationship between cultural values, fatalism, and lifetime substance use. To explore the significant interactions in detail, the sample was stratified by gender, and the associations between each construct and substance use were analyzed separately by gender. All analyses were conducted with the Statistical Analysis System software (9.1 version; SAS Institute Inc., 2006).

RESULTS

Demographic Characteristics of Sample

Table 1 shows the demographic characteristics of our sample. There were more females (54%) than males (46%). The average age was 14 years old. Eighty-eight percent were born in the United States and 55% spoke English and another language equally. Table 2 details the descriptive statistics separately by gender for the variables used in the analyses. Males had significantly higher machismo beliefs than females, whereas females had significantly higher familism, respeto, and fatalism values than males. More males than females reported lifetime marijuana use, but lifetime alcohol and cigarette use did not differ significantly by gender.

Factor Structure of the Scales

Table 3 shows the mean, standard deviations, and Cronbach's alphas for each scale. An exploratory factor analysis with the Eigenvalue >1.0 criterion produced the expected four factors. Each factor had an acceptable Cronbach's alpha: 0.77 for familism, 0.89 for respeto, 0.77 for machismo, and 0.72 for fatalism.

Associations Between Cultural Constructs and Lifetime Substance Use

Table 4 shows the multilevel logistic regression analyses with cultural values/beliefs predicting substance use. After controlling for covariates, respeto was associated with a lower risk of lifetime alcohol (OR = 0.73 [0.64, 0.82]), marijuana (OR = 0.71 [0.64, 0.80]), and cigarette use (OR = 0.72 [0.63, 0.81]). Familism was associated with an increased risk of marijuana use (OR = 1.14 [1.01, 1.30]). Machismo was associated with a lower risk of alcohol use (OR = 0.86 [0.77, 0.97]). This effect varied by gender, as described below. Fatalism was associated with a higher risk of lifetime marijuana use (OR = 1.16 [1.03, 1.32]) and cigarette use (OR = 1.14 [1.01, 1.29]). The control variables, peer influences, and adult modeling were strongly associated with marijuana, alcohol, and cigarette use.

Gender Interactions

To investigate whether gender moderated the relationship between each construct and substance use, tests of interaction effects were conducted. There were significant interactions with machismo × gender (OR = 1.28 [1.01, 1.61]) and familism × gender (OR = 1.30 [1.03, 1.65]) on alcohol use. Additionally, the interaction with fatalism × gender on marijuana use was significant (OR = 0.77 [0.60, 0.99]). There were no significant gender interactions with cultural values, fatalism, and cigarette use.

Gender-stratified analyses were conducted to investigate the significant gender differences in the associations between cultural values, fatalism, and substance use. Familism was associated with an increased risk for alcohol use among males (OR = 1.28 [1.04, 1.57]) but not among females (OR = 0.94 [0.77, 1.14]). Machismo was associated with a lower risk of alcohol use among females (OR = 0.81 [0.67, 0.98]) but not among males (OR = 0.96 [0.79, 1.16]). Among females, fatalism was associated with marijuana use (OR = 1.31 [1.11, 1.54]) but not among males (OR = 1.02 [0.84, 1.23]). Respeto was significantly associated with a lower risk of alcohol, marijuana, and cigarette use among males and females.

DISCUSSION

Cultural values and personality dispositions may shape one's approach to substance use. In this sample of Hispanic adolescents from Southern California, cultural values (of familism, respeto, and machismo) and fatalism were significantly associated with substance use behavior after controlling for age, gender, SES, adult modeling, peer influences, and acculturation. Specifically, respeto served as a protective factor against all three types of substance use (alcohol, marijuana, and cigarette). Fatalism was a risk factor for marijuana and cigarette use. Machismo was a risk factor among males and a protective factor among females. Contrary to our hypothesis, familism was a risk factor for marijuana use in the overall sample and for alcohol use among males.

Respeto, a traditionally Hispanic value emphasizing that children should obey and respect their parents, was protective against substance use in this sample.[2] This finding is consistent with previous studies examining smoking behaviors among Hispanic adolescents (Unger et al., 2006) and substance use among multiethnic adolescents in California (Unger, Ritt-Olson et al., 2002). Additionally, respeto has been associated with lower levels of deviance and alcohol involvement (Gil et al., 2000), and substance use increases when acculturation erodes traditional family values such as respeto (Vega & Gil, 1998). Children who respect their parents may also attentively listen to the antidrug messages by their parents. Substance use prevention programs for Hispanic adolescents may be more effective and culturally relevant if they emphasize the importance of the respeto value.

The positive associations between familism and substance use (marijuana in the overall sample, alcohol among males only) were unexpected. Familism was hypothesized to act as a protective factor, as familism values include close proximity to the family and the use of family networks as sources of emotional and instrumental social support. One explanation is that the strong role of family values may inadvertently exacerbate drug use (Gloria & Peregoy, 1996). It could be the influence at social gatherings among Hispanic families such as birthday parties, *quinceaneras* (girls' 15th birthday celebrations), or family barbeques where alcohol is served and consumed even among those below the drinking age. Since in many Latin American countries the drinking age is lower than in the United States, drinking

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[2]The reader is referred to Hills's criteria for causation which were developed in order to help assist researchers and clinicians determine if *risk factors* were **causes** of a particular disease or **outcomes** or **merely associated**. (Hill, A. B. (1965). The environment and disease: associations or causation? *Proceedings of the Royal Society of Medicine 58:* 295–300.). Editor's note.

alcohol at a younger age, especially if in the presence of parents or adult family members, may not be necessarily seen as a problem. Large extended family networks increase the likelihood that older family members such as uncles, aunts, and older cousins might give young adolescents access to alcohol or even marijuana as a rite of passage. Further research on this cultural value deserves more attention. Substance use prevention efforts should consider the possible family influences for "protecting" or putting an adolescent at risk.

The association between machismo and substance use differed by gender in the hypothesized direction. Among females, lower levels of machismo were associated with lower levels of alcohol use. Interestingly, among males no association between machismo and alcohol use were found. The expectation that Hispanic men are supposed to be drinkers and still provide for their families positively influences alcohol use behavior (Rebach, 1992). If youth observe this type of behavior among their own male family members, they may model the same behavior or perceive it as normal behavior. In contrast, the concept of marianismo mandates that a woman has family duties and her role is to be at home, sacrificing her needs and desires for the good of her children and spouse (Gil & Vasquez, 1996; Kulis, Marsiglia, Lingard, Nieri, & Nagoshi, 2008). Girls who believe in differentiated gender roles are less likely to engage in rebellious behaviors such as alcohol drinking, because rebellious behaviors are inconsistent with the traditional female role; hence this study's finding that females were at a lower risk to alcohol use. Hispanic men by contrast are known for "fiesta drinking" or consuming large quantities on special occasions (Vega, Alderete, Kolody, & Aguilar-Gaxiola, 1998). Similar findings in other studies have shown that machismo differs by gender, therefore, machismo beliefs serve as a potential protective factor for females and as a potential risk factor for males (Unger, Ritt-Olson et al., 2002, 2006). Program and prevention efforts to curb the high rates of substance use should include the machismo and marianismo cultural value, especially if the youth embrace these concepts.

In this study, fatalism was positively associated with lifetime marijuana and cigarette use. To our knowledge, few studies have examined associations between fatalism and substance use. Moreno (2007) found that fatalism emerged as a common theme in the Latino culture that disempowers both men and women from taking action to reduce risky behaviors, particularly for HIV. This can shed light on the belief that one is controlled by the forces of fate and can influence the risky behavior to use drugs. Therefore, substance use prevention programs for Hispanic adolescents could address fatalism by highlighting health locus of control, or the sense that one has control over one's health. Programs that emphasize negative health consequences of tobacco and marijuana use may be ineffective for those who do not associate personal health care with overall health.

These unique findings suggest several different strategies that could be useful to incorporate familism, respeto, machismo, and fatalism into substance use prevention programs for Hispanic adolescents. First, a prevention program could discuss students' cultural values, discuss similarities and differences, and explore the ways in which specific values are inconsistent with substance use. For example, drug use can interfere with family functioning and respect for parents and elders, and it can bring legal and economic problems to the family. Similarly, there are more effective ways for boys to assert their masculinity than to use drugs. Second, a prevention program can acknowledge the stress that many bicultural adolescents face in their efforts to navigate two cultures simultaneously, and it can teach coping strategies that are more effective than drug use.

Our previous research has shown that many ethnic minority adolescents are bicultural. They identify with both the U.S. culture and their cultures of origin. In this sample, the majority of the adolescents were children of immigrants, so they are being raised by at least one foreign-

born parent, typically in a neighborhood and school context that contains a substantial immigrant presence. The challenge for them is to learn how to be successful in the U.S. culture while retaining positive aspects of their cultures of origin that connect them to their family and heritage. Indeed, previous studies have found that bicultural competence, the ability to function in both cultural contexts, is most protective against problem behaviors (LaFromboise, Coleman, & Gerton, 1993). We also believe that for prevention programs to be most effective, they should be relevant to the adolescents' everyday reality, which includes navigating between two or more cultures. We believe that addressing this issue and helping adolescents cope with it will be more effective than ignoring it.

It is important to note that the results showed the peer and the adult substance use had a greater effect than the cultural and fatalism values. For over 30 years, substance use prevention programs have attempted to protect adolescents from the influences of peers and adults. Despite these successful approaches, numerous adolescents still experiment with substance use. Therefore, new innovative approaches are needed, especially as the U.S. population becomes more diverse. The existing programs are valuable, but perhaps they can be made even more effective by incorporating cultural values. Specifically, culturally targeted substance use prevention programs for Hispanics could emphasize the beneficial elements of Hispanic cultural values to strengthen the youths' affective connections with family to promote well-being (Castro et al., 2007). Additionally, they could incorporate a sense of identification and belonging that helps members of a cultural group to bind together as "a people" (Castro & Alarcón, 2002). This also points to the need for further culturally relevant research that incorporates cultural and personality variables into prevention programs.

LIMITATIONS

This study has some limitations that should be noted. Data were obtained from respondent self-report, which is subject to social desirability bias and recall bias. However, confidentiality was assured, so social desirability bias may have been minimized. The results are based on analyses using cross-sectional data, thus inferences of causality cannot be made. The "Hispanic" ethnic category includes numerous subgroups that may differ in their cultural values. Most of the participants in this study were Mexican American, and larger samples would be needed to detect differences by country of origin. These findings also might not generalize to other Hispanic populations outside Southern California. Further longitudinal research is needed to determine how cultural values affect the initiation and escalation of substance use over time, and how cultural values change over time as adolescents become more acculturated to the American culture.

Acknowledgments

GLOSSARY

Familism	Includes the nuclear and extended family where family members are closely tied by sentiments of respect, loyalty, and unity. The interest and well being of the group takes priority over those of the individual
Fatalism	A personality trait verses a cultural value. It is a view where one is powerless to do anything other than what one actually does

Hispanic	Hispanic or Latinos are a very diverse group of people. They can be a person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin
Machismo	Includes both positive and negative characteristics for men in the Hispanic traditional culture. Negative connotations can roughly translate as "sexism" or "male chauvinism." Positive characteristics can include dignity, hard work, facing adversity with courage and protection of family
Marianismo	Emphasizes a woman's role in the Hispanic traditional culture to be pure, compliant, and unassertive but also provide moral strength to the family
Respecto	Emphasizes respect for elders, clergy and authority. A child's duty is to show respect and obey the advice of parents

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Biographies

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Lourdes Baezconde-Garbanati, Ph.D., is an associate professor in Preventive Medicine and Sociology at the Keck School of Medicine, University of Southern California. She teaches and mentors undergraduate and graduate students on culture and health, culturally engages in language-specific health promotion and disease prevention interventions, and is also into public health and behavioral research. She is the Director of the Global Health Track in the MPH program and conducts independent research on the role of culture in the elimination of health disparities. Dr. Baezconde-Garbanati speaks multiple languages and has five academic degrees from Europe, Latin America, and the United States. She has a strong record of publications and of extramural funding with an emphasis on Hispanic population health disparities, in particular as related to drug use, tobacco prevention, and cancer control. She is a well-recognized leader in her field and the recipient of multiple prestigious awards, including the 2006 Community Activism Award from the American Legacy Foundation and of a Distinguished Career Award from the American Public Health Association, Latino Caucus. She is a member of the National Hispanic Science Network and of the Tobacco and Health Disparities Research Network.

Daniel W. Soto, MPH, is the project manager for three NIH-funded longitudinal research studies that focus on Latino adolescent drug use, social networks, and acculturation. He recently earned a master's degree in Public Health (MPH) from the Keck School of

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TABLE 1

Demographic characteristics of sample $N = 1{,}616$

	N	*%*
Age (years)[a]		
13	112	7%
14	1,377	85%
15	123	8%
Gender		
Female	866	54%
Male	750	46%
Ethnicity		
Hispanic	861	68%
Latino or Latina	829	67%
Mexican	905	72%
Central American	76	7%
South American	32	3%
Mexican-American	931	72%
Chicano or Chicana	316	27%
Mestizo	15	1%
La Raza	114	10%
Country born in[b]		
United States	1,373	88%
Other	188	12%
Language spoken at home[c]		
Only English	193	12%
Mostly English	270	17%
English and another language equally	888	55%
Mostly another language	201	13%
Only another language	57	3%
Mother—Highest grade completed[d]		
Less than high school (HS)	638	40%
HS graduate	287	18%
Some college or advance degree	285	18%
Don't know	387	24%
Father—Highest grade completed[e]		
Less than high school (HS)	587	37%
HS graduate	268	17%
Some college or advance degree	240	15%
Don't know	499	31%
Eligible for free/reduced[f]		
Yes	1,210	77%

	N	%
No	370	23%

Note: Respondents had the option to check more than one ethnic category.

[a]One respondent was 12 years old and three respondents were 16 years old.

[b]Fiftyfive missing.

[c]Seven missing.

[d]Nineteen missing.

[e]Twenty-two missing.

[f]Thirty-six missing.

TABLE 2

Descriptive statistics for substance use and cultural values separated by gender

	Females (*n* = 840)	Males (*n* = 776)	Test for difference between genders[a]
Outcomes	*N* (%)	*N* (%)	*p*-value
Alcohol	479 (26%)	395 (22%)	*ns*
Marijuana	180 (10%)	199 (11%)	+
Cigarette	251 (14%)	254 (14%)	*ns*
Predictors			
Machismo (mean ± *SD*)	1.95 (± 0.54)	2.46 (± 0.59)	**
Familism (mean ± *SD*)	3.38 (± 0.56)	3.26 (± 0.64)	**
Respeto (mean ± *SD*)	3.68 (± 0.55)	2.19 (± 0.62)	**
Fatalism (mean ± *SD*)	3.00 (± 0.68)	2.19 (± 0.62)	**
Covariates			
Age (mean ± *SD*)	13.99 (± 0.40)	14.04 (± 0.42)	*
SES high (mean ± *SD*)	0.16 (± 0.37)	0.19 (± 0.39)	*
Adult alcohol	506 (28%)	459 (25%)	*ns*
Adult marijuana	87 (5%)	80 (4%)	*ns*
Adult cigarette	362 (17%)	344 (16%)	*ns*
Peer alcohol	230 (13%)	181 (11%)	*
Peer drugs	107 (6%)	104 (6%)	+
Peer cigarette	106 (6%)	217 (7%)	*ns*
USA (acculturation)	2.43 (± 2.27)	2.62 (± 2.35)	**

Note:

[a]Chi-square tests were used for categorical variables. *t*-tests were used for continuous variables.

**
$p < .01$;

*
$p < .05$;

+
$p < .10$.

TABLE 3

Factor loadings for cultural value items with Cronbach's alpha for scales

Cultural values	Factor loading
*Familism (*mean = 3.32, *SD* = 0.60, *α* = 0.77)	
If one of my relatives needed a place to stay for a few months, my family would let them stay with us.	0.638
I expect my relatives to help me when I need them.	0.688
When a family makes an important decision, they should talk about it with their close relatives.	0.713
If anyone in my family needed help, we would all be there to help them.	0.643
*Respeto (*mean = 3.71, *SD* = 0.52, *α* = 0.89)	
I will take care of my parents when they are old.	0.723
It is important to honor my parents.	0.791
It is important to respect my parents.	0.797
I want to be a good person so that people know that my parents raised me right.	0.758
*Fatalism (*mean = 2.96, *SD* = 0.68, *α* = 0.72)	
It's more important to enjoy life now than to plan for the future.	0.738
People can't really do much to change what happens in life. You just have to accept things.	0.743
I live for today because I don't know what will happen in the future.	0.725
I don't plan ahead because most things in life are a matter of luck.	0.682
*Machismo (*mean = 2.19, *SD* = 0.62, *α* = 0.77)	
Boys should not be allowed to play with dolls and other girls' toys.	0.632
Parents should maintain stricter control over their daughters then their sons.	0.566
There are some jobs that women simply should not have.	0.707
A wife should never contradict her husband in public.	0.740
Men are more intelligent than women.	0.653
No matter what people say, women really like dominant men.	0.635
Some equality in marriage is a good thing, but the father ought to have the main say in family matters.	0.694

TABLE 4

Odds ratios and 95% confidence intervals for main effects of cultural values and substance use

	Marijuana			Alcohol			Cigarette		
	OR	Lower CI	Upper CI	OR	Lower CI	Upper CI	OR	Lower CI	Upper CI
Predictor									
Familism	**1.14**	**1.01**	**1.30**	1.10	0.98	1.23	1.09	0.95	1.24
Respeto	**0.71**	**0.64**	**0.80**	**0.73**	**0.64**	**0.82**	**0.72**	**0.63**	**0.81**
Fatalism	**1.16**	**1.03**	**1.32**	1.08	0.97	1.20	**1.14**	**1.01**	**1.29**
Machismo	0.98	0.86	1.11	**0.86**	**0.77**	**0.97**	0.90	0.79	1.02
Covariates									
Age	0.96	0.86	1.08	0.91	0.82	1.01	1.01	0.90	1.13
Gender	1.27	0.99	1.64	0.94	0.75	1.17	1.14	0.88	1.48
SES	1.26	0.95	1.67	**1.32**	**1.02**	**1.72**	1.09	0.82	1.46
Adult-alcohol	**1.30**	**1.03**	**1.64**	**1.98**	**1.61**	**2.42**	**1.71**	**1.34**	**2.17**
Adult-marijuana	**2.73**	**2.01**	**3.70**	**1.75**	**1.15**	**2.65**	**2.11**	**1.49**	**2.98**
Peer-alcohol	**1.42**	**1.28**	**1.56**	**3.49**	**2.88**	**4.22**	**1.40**	**1.26**	**1.57**
Peer-drugs	**3.68**	**3.21**	**4.21**	**1.19**	**1.01**	**1.41**	**1.98**	**1.72**	**2.28**
Acculturation	1.01	0.90	1.13	0.90	0.81	1.00	1.03	0.91	1.15
N	1,608			1,615			1,613		

*
Odds ratios in bold are significant at $p < 0.05$.