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Racial/ethnic Differences in the Influence of Cultural Values, Alcohol Resistance Self-efficacy, and Alcohol Expectancies on Risk for Alcohol Initiation

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Abstract

Prior research has reported racial/ethnic differences in the early initiation of alcohol use, suggesting that cultural values that are central to specific racial/ethnic groups may be influencing these differences. This one-year longitudinal study examines associations between two types of cultural values, parental respect (honor for one's parents) and familism (connectedness with family), both measured at baseline, and subsequent alcohol initiation in a sample of 6,054 (49% male; 18% non-Hispanic White, 4% non-Hispanic Black, 57% Hispanic, and 22% Asian) middle school students in Southern California. We tested whether the associations of cultural values with alcohol initiation could be explained by baseline measures of alcohol resistance self-efficacy (RSE) and alcohol expectancies. We also explored whether these pathways differed by race/ethnicity. In the full sample, adolescents with higher parental respect were less likely to initiate alcohol use, an association that was partially explained by higher RSE and fewer positive alcohol expectancies. Familism was not significantly related to alcohol initiation. Comparing racial/ethnic groups, higher parental respect was protective against alcohol initiation for Whites and Asians, but not Blacks or Hispanics. There were no racial/ethnic differences in the association between familism and alcohol initiation. Results suggest that cultural values are important factors in the decision to use alcohol and these values appear to operate in part, by influencing alcohol positive expectancies and RSE. Interventions that focus on maintaining strong cultural values and building strong bonds between adolescents and their families may help reduce the risk of alcohol initiation.

Keywords

Adolescents; cultural values; expectancies; alcohol initiation; resistance self-efficacy

INTRODUCTION

Cultural Values and Alcohol Initiation

Early initiation of alcohol use is important to study because it is associated with increased risk for use of illicit drugs, alcohol and other drug use disorders (Dawson, Goldstein, Chou, Ruan, & Grant, 2008; King & Chassin, 2007), low academic intentions Warner & White, 2003), and antisocial behavior (McGue, Iacono, & Krueger, 2006); early initiation also has potential long-term consequences for neurological development (Spear, 2000). The middle school years are a period of high risk for alcohol initiation (D'Amico et al., 2005; Johnston, O'Malley, Bachman, & Schulenberg, 2008; Wittchen et al., 2008), and research has shown

that family-related characteristics, such as parental monitoring and parent-child relationships, are often associated with alcohol initiation during this period (Donovan, 2004). This study adds to the literature on family-related factors by being the first to assess whether two cultural values, parental respect (which refers to honor for one's parents) and familism (which refers to the sense of obligation to family and connectedness with family) are prospectively associated with alcohol initiation during the middle school years and whether these associations may differ for adolescents of different racial/ethnic backgrounds.

Research has shown that there are racial/ethnic differences in alcohol initiation such that Asian American adolescents typically have delayed onset of alcohol use compared to non-Hispanic White or Hispanic adolescents (Kaplow, Curran, Angold, & Costello, 2001; Kosterman, Hawkins, Guo, Catalano, & Abbott, 2000), and cross-sectional studies have found that cultural values play a role in preventing adolescent alcohol use (Castro, Stein, & Bentler, 2009; Marsiglia, Kulis, Hecht, & Sills, 2004; Unger et al., 2002). Cultural values are values, conditions, and characteristics that a group considers important, and can influence individuals' behaviors, belief systems, and skills, and provide motivation behind individuals' actions (Castro, et al., 2009). Thus, cultural values that are central to specific racial/ethnic groups may be influencing the racial/ethnic differences that are often found for alcohol initiation.

Familism is a characteristic of many Hispanic cultures. Studies of Hispanic adolescents have found that closer family social relations and higher familism are related to lower risk of lifetime and past month alcohol use and less heavy drinking (Castro, et al., 2009; Gil, Wagner, & Vega, 2000; Wahl & Eitle, 2010). Parental respect, another cultural value that is often measured among adolescents, is a characteristic of many Asian cultures (Kaplan, Nápoles-Springer, Stewart, & Pérez-Stable, 2001; Unger, et al., 2002). Studies indicate that high school adolescents with higher parental respect have lower risk of lifetime alcohol use (Soto et al., 2011; Unger, et al., 2002), presumably because they are less likely to disobey their parents' rules related to alcohol use or have a stronger desire to avoid potentially angering their parents by drinking.

There are some notable limitations to the existing literature on cultural values and alcohol use. Most studies examining this association are cross-sectional, focus on retrospective reports of alcohol use, or have a wide age range of respondents that extends into the early twenties (Castro et al., 2009; Kaplan, et al., 2001; Marsiglia, et al., 2004; Unger, et al., 2002; Soto et al., 2011). Another issue is that a cultural value is not strictly applicable to the culture with which it is usually associated (Unger, et al., 2002) since interactions between ethnically diverse individuals may influence individuals' attitudes and beliefs acquired from their own culture. Yet, with a few exceptions (Marsiglia, et al., 2004; Unger, et al., 2002), studies to date that examine cultural values and alcohol use typically include only Hispanic adolescents. The current study addresses these limitations in the literature by conducting the first longitudinal examination of how cultural values may protect against subsequent alcohol initiation among a racially/ethnically diverse sample of middle school adolescents.

Mechanisms of Effects of Cultural Values on Alcohol Initiation

Few studies have examined how cultural values may work to reduce the risk for alcohol initiation. However, there is some literature suggesting that the ability to resist pressures to use alcohol (i.e., alcohol resistance self-efficacy or RSE), as well as expectancies about the positive and negative consequences of alcohol use, may be mechanisms through which this occurs. Alcohol expectancies typically develop through socially shared beliefs about alcohol, adoption of parental alcohol expectancies (Donovan, Molina, & Kelly, 2009), and family modeling of alcohol use (Cumsille, Sayer, & Graham, 2000; Martino, Collins, Ellickson, Schell, & McCaffrey, 2006). These familial influences on adolescents' alcohol

expectancies may be driven by cultural values (Donovan, et al., 2009). For example, higher levels of familism may curb the increase in positive alcohol expectancies typically seen during this developmental period as these family values may be more influential for young adolescents compared to peers and the media (Cumsille, et al., 2000; Hipwell et al., 2005; Miller, Smith, & Goldman, 1990). In the case of alcohol RSE, stronger familism may protect against initiation through actual and perceived strong family support systems, which can provide a way to cope with stressors or peer pressure that might otherwise encourage initiation of alcohol (Unger, et al., 2002). In turn, both alcohol expectancies and RSE are important predictors of alcohol use during early adolescence (D'Amico & McCarthy, 2006; Oei & Morawska, 2004). To date, only one cross-sectional study has examined whether alcohol RSE explained the relationship between cultural values (traditional family values and ethnic identity) and alcohol use. This study found that both family values and ethnic identity were associated with greater alcohol RSE which in turn, was associated with less alcohol use (Castro, et al., 2009). We add to this scant literature by using prospective data on parental respect, familism, and alcohol initiation to understand whether these cultural values contribute to the formation of alcohol RSE and expectancies, which can help us understand whether strengthening cultural values can help prevent alcohol initiation.

Differential Effects of Cultural Values, Alcohol Expectancies and RSE on Alcohol Initiation by Race/Ethnicity

Although no research to date has examined whether the associations of familism or parental respect with alcohol initiation differ by racial/ethnic group, Marsiglia and colleagues (2004) found that having stronger ethnic identity was associated with less alcohol use among non-Hispanic White adolescents, but more alcohol use for Mexican American adolescents. Thus, we build on this literature to test whether there are racial/ethnic differences in the association between parental respect and familism and alcohol initiation.

Research has shown that there are racial/ethnic differences in alcohol RSE and expectancies such that positive alcohol expectancies are generally higher and alcohol RSE is generally lower for Hispanics, non-Hispanic Blacks, and non-Hispanic Whites compared to Asians (Hipwell, et al., 2005; Meier, Slutske, Arndt, & Cadoret, 2007). However, no study to our knowledge has examined whether racial/ethnic differences in alcohol RSE and expectancies may explain potential racial/ethnic differences in the association between cultural values and alcohol initiation. Marsiglia and colleagues (2004) found that having stronger ethnic identity was associated with stronger self-reported likelihood of refusing offers to use alcohol, cigarettes, and marijuana, and this association was stronger among non-Hispanic White compared to Mexican American adolescents. We add to this study's findings by prospectively examining whether there are racial/ethnic differences in how these factors explain the association between cultural values and alcohol initiation among a diverse group that includes Hispanic, Asian, and non-Hispanic White and Black adolescents.

The Present Study

In this paper, we conduct a partially cross-sectional mediation analysis to examine whether adolescents' baseline alcohol expectancies and RSE explain the prospective association of baseline parental respect and familism with alcohol initiation assessed over the subsequent year. We also test whether there are racial/ethnic differences in (1) the association between cultural values and alcohol initiation, and (2) the mediation of that association through alcohol expectancies and RSE. We hypothesize that higher familism and parental respect will be associated with lower risk of initiation and that RSE and expectancies will mediate these effects. Given results of previous research (Orlando, Ellickson, McCaffrey, & Longshore, 2005) we also expect that, compared to negative alcohol expectancies, alcohol RSE and positive alcohol expectancies may be more strongly related to alcohol initiation.

Although we expect familism and parental respect to be relevant for all adolescents, we hypothesize that familism will be most strongly associated with alcohol initiation for Hispanics, and parental respect will be most strongly associated with alcohol initiation for Asians.

METHODS

Participants

Sixth, seventh and eighth grade students in 16 middle schools across three school districts in southern California were recruited for the current study, which involved surveys and a voluntary after-school program, CHOICE, that targeted alcohol, marijuana, and cigarette use. CHOICE was piloted in a culturally diverse sample (D'Amico & Edelen, 2007; D'Amico, et al., 2005), and results from a large randomized controlled trial of the CHOICE intervention on alcohol use are reported elsewhere (D'Amico et al., *In press*). The recruited sample was comparable to the racial/ethnic composition of the relevant school populations based on published demographic information for the schools. Rates of alcohol use were comparable to national survey data on adolescent alcohol use (SAMHSA, 2008).

Surveys

The baseline Wave 1 survey was completed in September-October 2008, the Wave 2 survey in May-June 2009, and the Wave 3 survey in September-October 2009. Surveys were administered on a pre-scheduled day during PE class and took 45 minutes to complete. Trained staff described the survey to students, reviewed confidentiality, and answered questions. Spanish speaking staff members were available to answer student questions and survey booklets were also available in Spanish and Korean. At baseline, 14,979 students were approached for parental consent and 92% (13,785) returned a consent form with approximately 71% (9,828) providing positive consent to participate. The number of valid surveys completed at Wave 1 (8,932, or 91% of those consented) was higher or comparable to other school-based survey completion rates with this population (Johnson & Hoffmann, 2000; Johnston, O'Malley, Bachman, & Schulenberg, 2009; Kandel, Kiros, Schaffran, & Hu, 2004). Approximately 88% (7,889) of students at Wave 1 also responded to Wave 2. Of the 6th and 7th grade students (5,839) who completed the Wave 1 survey (Wave 1 8th graders were not followed once leaving their middle schools during the next school year), 82% also completed the Wave 3 survey (4,791). The total number of Wave 1 survey respondents who were also surveyed at either Wave 2 or 3, or at both Waves 2 and 3 is 8,219. Survey responses are protected by a Certificate of Confidentiality from the National Institutes of Health. All materials and procedures were approved by the school districts, individual schools, and the institution's Internal Review Board.

Measures

Alcohol Initiation—Initiation of alcohol from Waves 1 to 2 or 3 (within the past school year) was indicated by no lifetime use at Wave 1, but lifetime use at Wave 2 or Wave 3. Lifetime frequency of alcohol use was assessed with well-established measures from the California Healthy Kids Survey (WestEd, 2008) and Project ALERT (Ellickson, McCaffrey, Ghosh-Dastidar, & Longshore, 2003). A “drink” was defined as one whole drink of alcohol (not including a few sips of wine for religious purposes).

Socio-demographic characteristics—The baseline survey asked students about their age, sex, grade-level, and race/ethnicity. Respondents initially classified themselves by ethnicity (Hispanic or not Hispanic) and were then asked about their race (US DHHS, 2001). We used this information to classify them into one of four racial/ethnic groups: Hispanic, non-Hispanic White, non-Hispanic Black, and Asian or Pacific Islander. Hereafter, we refer

to non-Hispanic Whites as Whites, non-Hispanic Blacks as Blacks, and Asians or Pacific Islanders as Asians. The survey also asked about which adults the student lived with, and nuclear family structure was defined as whether the student was living with both his/her mother and father (Ellickson, Tucker, Klein, & McGuigan, 2001).

Cultural values—We used two scales adapted from Unger et al. (2002) to measure familism and parental respect (Ho, 1994; Lac et al., 2011; Soto, et al., 2011) at Wave 1. Four familism items assessed the extent to which an adolescent and his/her relatives expect their relatives to help them, and general cohesiveness or supportiveness of the entire family (e.g., “If anyone in my family needed help, we would all be there to help them”). Four parental respect items assessed the importance of honoring, respecting, and caring for one's parent, as well as striving to be a good person (e.g., “I will take care of my parents when they are old”). See Appendix for a list of all of the items. Items were rated on a 4-point scale (from strongly agree to strongly disagree) and averaged such that higher scores indicated greater familism and parental respect (alphas = 0.82 for familism and 0.93 for parental respect at Wave 1).

Alcohol resistance self-efficacy and expectancies—Measures from the Project ALERT study of a large and ethnically/racially diverse cohort of middle school youth (Ellickson, et al., 2003) were used to assess RSE and expectancies at Wave 1. For alcohol RSE, students were asked: “Suppose you are offered alcohol and you do not want to use it. What would you do in these situations: A) your best friend is drinking alcohol; B) you are bored at a party; and C) all your friends at a party are drinking alcohol?” These three items were rated on a 4-point scale ranging from “I would definitely drink” to “I would definitely not drink” and scores were averaged to develop a single RSE scale (baseline alpha = 0.93). Higher scores indicated higher resistance self-efficacy (Wave 1 intraclass correlation of the total score within schools = 0.02).

Positive and negative alcohol expectancies were assessed with three items each that asked, for example, whether students thought that using alcohol would relax you, let you have more fun, or slow down your reaction time. Students used a four-point response scale (strongly disagree to strongly agree) and items were averaged to create overall positive (Wave 1 alpha = 0.84) and negative (Wave 1 alpha = 0.79) expectancy scores for alcohol (Orlando, et al., 2005). Higher scores indicated higher positive and negative alcohol expectancies (Wave 1 intraclass correlation of the total score within schools for positive expectancies = 0.01 and for negative expectancies = 0.01). These scales have not been found to exhibit differential item functioning by grade, sex, or ethnicity (McCarthy, Pedersen, & D'Amico, 2009). See Appendix for a list of all alcohol RSE and expectancy items.

Out of the 8,219 survey respondents, 23 had missing data on lifetime alcohol use at one or more of the three waves which precluded derivation of the initiation variable, and 1,286 had already reported using alcohol at Wave 1 and were therefore not included in the analytic sample. Individuals that were not White, Black, Hispanic, or Asian, and those of mixed race were not included in the analytic sample (n=744). Another 112 adolescents had missing socio-demographic information which yielded a total analytic sample for this study of 6,054.

Analytic Plan

We used path analysis modeling (Baron & Kenny, 1986; Edwards & Lambert, 2007; Fritz & MacKinnon, 2007) to examine the association between familism or parental respect measured at Wave 1 with alcohol initiation measured from Wave 1 to Wave 3 (i.e. initiation at either Wave 2 or Wave 3). Familism and parental respect were tested in separate models. The outcome variable, alcohol initiation, was dichotomous and thus the path analysis model

was a logistic regression model. Each model adjusted for sex, grade, race/ethnicity, nuclear family structure, and an indicator for whether the adolescent attended an intervention school. For each of the models we simultaneously included three mediators measured at Wave 1: alcohol RSE, negative alcohol expectancies, and positive alcohol expectancies (see Figures 1a and 1b). Therefore, the pathway between familism (or parental respect) and mediator variables is cross-sectional, and the pathways from (1) each cultural value to alcohol initiation, and (2) alcohol RSE and expectancies to alcohol initiation are longitudinal. Models were estimated using Mplus 5.1 (Muthén & Muthén, 1998–2007) using weighted least squares with mean and variance correction estimation, with standard errors corrected for clustering via the complex samples procedure (which employs a sandwich estimator approach).

We report total effects, the direct effect, and the total indirect effect from the path analysis models. Total effects are the sum of indirect and direct effects. The direct effect can be described as the path coefficient from parental respect (or familism) to alcohol initiation. Indirect effects are the sum of the mediating pathways between parental respect and alcohol initiation through alcohol RSE, positive alcohol expectancies, and negative alcohol expectancies that do not include the direct effect. The total indirect effect is comprised of the sum of the individual indirect effects via three mediators. We report each of the three specific indirect effects through alcohol RSE, positive alcohol expectancies, and negative alcohol expectancies. The standard errors of the indirect effects of familism or parental respect were calculated using the delta method (see, for example, MacKinnon, 2008), using the Model Indirect command in Mplus. The Model Indirect command provides the statistical significance of indirect effects and is a test of mediation between familism (or parental respect) and initiation. A significant total effect is not necessary for mediation to occur (LeBreton, Wu, & Bing, 2008; Zhao, Lynch, & Chen, 2010), as the effects that comprise the total effect may be in opposite directions (e.g., summing a positive and a negative coefficient). Appropriate procedures for estimation in the presence of missing data were used to estimate the model parameters, which provide consistent and unbiased estimates in the presence of data which are missing at random or missing completely at random (Muthén & Muthén, 1998–2007).

To determine whether there was effect modification of the association between each cultural value and alcohol initiation by race/ethnicity, we ran multiple group comparison models in which each model was fit for Whites, Blacks, Asians, and Hispanics. Path coefficients for each pathway were freely estimated for each of the racial/ethnic groups. Wald tests of parameter constraints were used to determine whether there were significant differences in the total, total indirect, and specific indirect pathways by race/ethnicity. Model fit indices were not reported because each model is saturated and therefore fit is perfect in every case. We did not correct for multiple comparisons because the selection of an appropriate correction factor is debatable (Miles & Banyard, 2007), and as Bland and Altman (1995) suggest, when tests are correlated, the correction method is inappropriate and overly conservative.

RESULTS

Sample Characteristics

The sample was approximately 49% male, 57% Hispanic, 22% Asian, 18% non-Hispanic White, and 4% non-Hispanic Black (see Table 1). Most (62%) of the sample reported living with both parents. On a scale of 1–4, adolescents generally had low positive alcohol expectancies (mean = 1.38, SD = 0.71), high negative alcohol expectancies (mean = 3.06, SD = 1.07) and high levels of alcohol RSE (mean = 3.76, SD = 0.59). Approximately 15% of the analytic sample initiated alcohol use before Wave 3. Adolescents who were in 7th or

8th grade, self-identified as Hispanic, and did not have an intact nuclear family were more likely to initiate alcohol use from Wave 1 to Wave 2 or 3. In addition, initiation was more likely among adolescents who reported lower parental respect, lower RSE, and higher positive alcohol expectancies. Table 2 reports sample characteristics by race/ethnicity. Correlation matrices of the primary variables of interest are shown in Tables 3a–3e.

Cultural Values and Alcohol Initiation: Overall Sample

The model for the overall sample showed that the total effect of parental respect on alcohol initiation was statistically significant (odds ratio [OR] = 0.85; 95% C.I. = 0.78, 0.94) such that higher parental respect was associated with lower odds of initiation (Table 4). The total effect of familism on risk of alcohol initiation was not statistically significant (Table 4; OR = 0.95; 95% C.I. = 0.88, 1.02).

Mediation through Alcohol RSE and Expectancies: Overall Sample

The direct effect (OR = 0.93; 95% C.I. = 0.84, 1.02) between higher parental respect and lower alcohol initiation was not statistically significant ($p = 0.116$). However, the total indirect effect of parental respect through alcohol RSE and expectancies was statistically significant (OR = 0.92; 95% C.I. = 0.90, 0.94; see Table 4). This total indirect effect included significant indirect effects through positive alcohol expectancies and alcohol RSE. The specific path coefficients in these mediation pathways (see Figure 1a) indicated that higher parental respect was related to higher RSE, and higher RSE was associated with lower odds of initiation. Higher parental respect was also cross-sectionally related to lower positive alcohol expectancies; lower positive alcohol expectancies were then related to lower odds of initiation. Whereas parental respect was cross-sectionally related to negative alcohol expectancies, the direct association between negative alcohol expectancies and alcohol initiation was not statistically significant.

The direct effect of familism on alcohol initiation was not significant (see Table 4 and Figure 1b). However, the total indirect effect was significant (OR = 0.96; 95% C.I. = 0.94, 0.97). The estimation of specific indirect effects indicated significant mediation through positive alcohol expectancies and alcohol RSE (see Figure 1b). Higher familism was significantly related to higher RSE, which was associated with reduced probability of initiation. Higher familism was also associated with lower positive alcohol expectancies; lower positive alcohol expectancies were in turn associated with lower odds of initiation. Although higher familism was associated with higher negative alcohol expectancies, the direct pathway between negative expectancies and alcohol initiation was not significant.

Cultural Values and Alcohol Initiation by Race/Ethnicity

Table 5 shows the estimates of the total effect of parental respect and familism on alcohol initiation by racial/ethnic group. These models indicated a statistically significant difference in the total effect of parental respect on initiation by race/ethnicity, as indicated by the Wald test ($p = 0.038$). Among Whites (coefficient = -0.39 ; OR = 0.68) and Asians (coefficient = -0.33 ; OR = 0.72) there was a strong, protective total effect of parental respect. However, among Black and Hispanic adolescents, the total effect of parental respect on alcohol initiation was not statistically significant. Table 5 also shows the estimate of the total effect of familism on initiation by racial/ethnic group. There was no statistically significant difference in the total effect of familism on alcohol initiation by race/ethnicity ($p = 0.116$).

Mediation through Alcohol RSE and Expectancies by Race/Ethnicity

Multiple group analysis results in Table 5 revealed statistically significant racial/ethnic differences in whether alcohol RSE and expectancies mediated the association between

parental respect (or familism) and alcohol initiation. The total indirect effect of parental respect was significant for all racial groups, except for Blacks ($p = 0.057$). The relative strength of this association differed significantly by racial/ethnic group ($p < 0.001$). The total indirect effect of familism also exhibited racial/ethnic differences ($p < 0.001$); the total indirect effect association was only significant among Whites and Hispanics.

Mediation analyses that further examined the specific indirect pathways through which familism and parental respect were related to subsequent alcohol initiation demonstrated that the relative importance of alcohol RSE and expectancies as mediators of the association between cultural values and alcohol initiation differed by race/ethnicity. Specifically, positive alcohol expectancies and alcohol RSE both mediated the effect of parental respect for Whites, Hispanics, and Asians and alcohol RSE mediated the effects of parental respect for Blacks.

Positive alcohol expectancies mediated the effect of familism for Whites and Asians, and marginally so for Hispanics ($p = 0.099$). Positive alcohol expectancies did not mediate the effect of familism for Blacks ($p = 0.289$). Additionally, alcohol RSE mediated the effects of familism on odds of alcohol initiation for White and Hispanics. For both parental respect and familism, Wald tests indicated significant racial/ethnic differences in the strength of mediation of positive alcohol expectancies and alcohol RSE.

DISCUSSION

This is the first longitudinal study to examine the effects of cultural values on alcohol initiation in younger adolescents. Prior studies have examined family-related risk factors for alcohol initiation. However, these studies have mainly focused on factors such as family composition and parental monitoring (Donovan, 2004). This study examined cultural factors that address the general cohesiveness or supportiveness of the entire family (not just between parent and child), and the importance of honoring, respecting, and caring for one's parent.

As expected, higher parental respect was significantly associated with lower odds for alcohol initiation. We also found that whereas higher parental respect was generally protective against alcohol initiation for the overall sample, it was most strongly protective for Whites and Asians. This indicates that parental respect may be an important factor in determining alcohol use for non-Asian groups, particularly Whites.

Contrary to our hypothesis, higher familism was not significantly associated with alcohol initiation, suggesting that other factors that we controlled for in our models, including sex, grade-level, race/ethnicity, and nuclear family structure may have accounted for the association between familism and alcohol initiation. Contrary to our expectations, the race/ethnicity stratified analyses did not find that familism was most strongly associated with alcohol initiation for Hispanic adolescents. It may be that this sample of Hispanic adolescents is more acculturated to western cultures compared to more recent Hispanic immigrants, or may be interacting with adolescents of diverse backgrounds, leading to a dispersion of ethnicity-specific cultural values (Unger, et al., 2002).

As we expected, the mediation analyses for the whole sample found that alcohol RSE and positive alcohol expectancies most strongly explained the effects of parental respect and familism on alcohol initiation. We also found some racial and ethnic differences in how alcohol RSE and positive expectancies explained the association of cultural values with alcohol initiation. Specifically, parental respect appeared important in reducing alcohol initiation for most racial/ethnic sub-groups by gaining confidence and skills to resist alcohol and by reducing positive expectancies. By contrast, familism seemed to curb new alcohol

use by reducing positive beliefs about alcohol for White and Asian adolescents, and strengthening the ability to resist alcohol for White and Hispanic adolescents.

Our results have important implications for substance use prevention programs for this younger age group. Specifically, in addition to family interventions that focus on alcohol-specific parenting skills (Bauman et al., 2002; Park et al., 2000; Smit, Verdurmen, Monshouwer, & Smit, 2008; Spoth, Randall, Shin, & Redmond, 2005; Spoth, Redmond, & Shin, 2001; Werch et al., 2003), prevention programs that emphasize strengthening bonds between adolescents and their families and maintaining respect for their parents may also help prevent alcohol use initiation (Ary, James, & Biglan, 1999; Boyd-Ball, 2003; Elder et al., 2000; Moore, Rothwell, & Segrott, 2010; Riggs, Elfenbaum, & Pentz, 2006; Soto, et al., 2011). Given that parental respect and familism were found to operate through alcohol RSE and positive alcohol expectancies, interventions that focus on strengthening family bonds and connections and parental respect may also be a promising way to help younger adolescents build skills to resist peer pressure and have more realistic expectations about alcohol, thus decreasing the chances of alcohol initiation during this important developmental period.

This study capitalized on longitudinal data on over 6,000 racially/ethnically diverse middle school adolescents to examine the effects of cultural values on alcohol initiation. We note several limitations that should be considered when interpreting results. The associations between cultural values and the proposed mediators, alcohol RSE and expectancies, were cross-sectional and causal inferences are therefore limited. In addition, this study's focus on alcohol initiation necessitated the exclusion of adolescents who had already initiated prior to Wave 1. This exclusion may influence the generalizability of our results since adolescents who had already initiated alcohol tended to be older and had slightly lower levels of familism and parental respect compared to those who had not yet initiated. As with many studies, attrition over the course of the study follow-up period might have influenced results. However, we estimated associations using weighted least squares with mean and variance estimation, which we expect would minimize any bias in the associations reported. Although the sample was ethnically diverse, study participants were recruited from public schools in southern California, and the sample included a small proportion of Blacks (4%), which may limit the generalizability to the larger population of adolescents in the U.S. We also did not examine additional cultural factors such as acculturation or parent-child acculturation discrepancy (Unger, Ritt-Olson, Wagner, Soto, & Baezconde-Garbanati, 2009), or other risk and protective factors such as parental expectations or modeling of alcohol use, all of which may be associated with familism, parental respect, and alcohol initiation.

In summary, this research emphasizes that maintaining strong cultural values among family members is an important way to build resistance self-efficacy and reduce positive alcohol expectancies among younger adolescents. Addressing cultural values in prevention programming may also enhance the acceptability of interventions for youth of different racial/ethnic backgrounds, ultimately improving an intervention's efficacy (Castro, et al., 2009; Kellam & Langevin, 2003).

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Appendix. Cultural values, alcohol expectancy and resistance self-efficacy items

Positive and Negative Alcohol Expectancies *
Stem question: Here are some things kids your age have said about DRINKING ALCOHOL. How strongly do you AGREE or DISAGREE with each statement?
Relaxes you
Makes you do things you might regret
Lets you have more fun
Gets you into trouble
Helps you get away from your problems
Slows down the time it takes to react
Alcohol Resistance Self-efficacy [†]
Stem question: Suppose you are offered alcohol and you do not want to use it. What would you do in these situations?
Your best friend is drinking alcohol
You are bored at a party
All your friends at a party are drinking alcohol
Familism *
If one of my relatives needed a place to stay for a few months, my family would let them stay with us.
I expect my relatives to help me when I need them.
When a family makes an important decision, they should talk about it with their close relatives.
If anyone in my family needed help, we would all be there to help them.
Parental Respect *
I will take care of my parents when they are old.
It is important to honor my parents.
It is important to respect my parents.
I want to be a good person so that people know that my parents raised me right.

* Rated as strongly disagree, sort of disagree, sort of agree, or strongly agree

[†] Rated as I would definitely drink, I would probably drink, I would probably not drink, or I would definitely not drink

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Figure 1a.

Path analysis model: Mediation of parental respect on alcohol initiation by drinking resistance self-efficacy and alcohol expectancies

Figure 1b.

Path analysis model: Mediation of familism on alcohol initiation by drinking resistance self-efficacy and alcohol expectancies

Note: Covariance between residual variance of mediator variables not shown. Path models adjust for sex, grade, race/ethnicity, nuclear family structure, and intervention school status. Abbreviations: OR = odds ratio; ** = $p < 0.001$

Table 1

Baseline characteristics of the CHOICE sample by alcohol initiation status, N (%) or mean (SD)

Variable	Total Sample n=6,054	No Alcohol Initiation n= 5,163 (85.3%)	Alcohol Initiation n=891 (14.7%)	P-value
<u>Covariates</u>				
Male	2,939 (48.55)	2,531 (49.02)	408 (45.79)	0.07
Grade-level				<0.01
6 th	2,166 (35.78)	1,927 (37.32)	239 (26.82)	
7 th	2,136 (35.28)	1,767 (34.22)	369 (41.41)	
8 th	1,752 (28.94)	1,469 (28.45)	283 (31.76)	
Race/ethnicity				<0.01
White	1,069 (17.66)	940 (18.21)	129 (14.48)	
Black	221 (3.65)	198 (3.83)	23 (2.58)	
Hispanic	3,457 (57.10)	2,788 (54.00)	669 (75.08)	
Asian	1,307 (21.59)	1,237 (23.96)	70 (7.86)	
Nuclear family structure	3,726 (61.55)	3,269 (63.32)	457 (51.29)	<0.01
Attended intervention school	2,929 (48.38)	2,515 (48.71)	414 (46.46)	0.22
<u>Independent Variables</u>				
Familism	3.59 (0.60)	3.60 (0.60)	3.54 (0.61)	0.86
Parental respect	3.84 (0.49)	3.85 (0.47)	3.75 (0.55)	<0.01
<u>Mediating Variables</u>				
Positive alcohol expectancies	1.38 (0.71)	1.33 (0.67)	1.67 (0.89)	<0.01
Negative alcohol expectancies	3.06 (1.07)	3.07 (1.07)	3.00 (1.03)	0.18
Alcohol resistance self-efficacy	3.76 (0.59)	3.81 (0.53)	3.46 (0.78)	<0.01

Notes: Initiation is defined as any lifetime use reported at Waves 2 or 3 that was not reported at Wave 1; p-values indicate statistically significant differences by alcohol initiation status. Nuclear family structure was indicated if an adolescent lived with both his/her father and mother. Intervention school was indicated if an adolescent attended a school that was randomized to the CHOICE intervention.

Table 2

Baseline characteristics of the CHOICE sample by race/ethnicity, N (%) or mean (SD)

Variable	White n = 1,069	Black n = 221	Hispanic n = 3,457	Asian n = 1,307
<u>Covariates</u>				
Male	529 (49.49)	133 (60.18)	1672 (51.63)	668 (51.11)
Grade-level				
6 th	357 (33.40)	76 (34.39)	1,297 (35.72)	436 (33.36)
7 th	412 (38.54)	74 (33.48)	1,209 (34.97)	441 (33.74)
8 th	300 (28.06)	71 (32.13)	951 (27.51)	430 (32.90)
Nuclear family structure	743 (69.50)	85 (38.46)	1,961 (56.73)	937 (71.69)
Attended intervention school	570 (53.32)	111 (50.23)	1,597 (46.20)	651 (49.81)
<u>Independent Variables</u>				
Familism	3.66 (0.47)	3.51 (0.70)	3.53 (0.70)	3.64 (0.49)
Parental respect	3.83 (0.42)	3.80 (0.52)	3.81 (0.57)	3.89 (0.35)
<u>Mediating Variables</u>				
Positive alcohol expectancies	1.37 (0.67)	1.28 (0.61)	1.40 (0.76)	1.33 (0.62)
Negative alcohol expectancies	3.28 (0.97)	3.04 (1.08)	2.92 (1.11)	3.25 (0.95)
Alcohol resistance self-efficacy	3.77 (0.54)	3.80 (0.53)	3.72 (0.64)	3.83 (0.47)
<u>Outcome Variable</u>				
Alcohol initiation	129 (12.07)	23 (10.41)	669 (19.35)	70 (5.36)

Notes: Initiation is defined as any lifetime use reported at Waves 2 or 3 that was not reported at Wave 1; p-values indicate statistically significant differences by race/ethnicity. Nuclear family structure was indicated if an adolescent lived with both his/her father and mother. Intervention school was indicated if an adolescent attended a school that was randomized to the CHOICE intervention.

Tables 3a–3e

Pearson's correlations overall, and by race/ethnicity

Table 3a. Overall Sample						
	1.	2.	3.	4.	5.	6.
1. Familism	1.00					
2. Parental respect	0.59	1.00				
3. Positive expectancies	-0.07	-0.12	1.00			
4. Negative expectancies	0.15	0.13	0.17	1.00		
5. Resistance self-efficacy	0.10	0.15	-0.41	0.00	1.00	
6. Alcohol initiation	-0.03	-0.07	0.17	-0.02	-0.21	1.00

Table 3b. Whites						
	1.	2.	3.	4.	5.	6.
1. Familism	1.00					
2. Parental respect	0.53	1.00				
3. Positive expectancies	-0.11	-0.23	1.00			
4. Negative expectancies	0.08	0.08	0.10	1.00		
5. Resistance self-efficacy	0.17	0.25	-0.39	0.08	1.00	
6. Alcohol initiation	-0.08	-0.13	0.17	-0.07	-0.20	1.00

Table 3c. Blacks						
	1.	2.	3.	4.	5.	6.
1. Familism	1.00					
2. Parental respect	0.51	1.00				
3. Positive expectancies	-0.12	-0.06	1.00			
4. Negative expectancies	0.02	0.01	0.17	1.00		
5. Resistance self-efficacy	0.16	0.23	-0.31	0.00	1.00	
6. Alcohol initiation	0.00	-0.12	0.19	0.06	-0.22	1.00

Table 3d. Hispanics						
	1.	2.	3.	4.	5.	6.
1. Familism	1.00					
2. Parental respect	0.65	1.00				

Table 3d. Hispanics

	1.	2.	3.	4.	5.	6.
3. Positive expectancies	-0.05	-0.08	1.00			
4. Negative expectancies	0.18	0.15	0.21	1.00		
5. Resistance self-efficacy	0.09	0.12	-0.43	-0.02	1.00	
6. Alcohol initiation	0.00	-0.03	0.17	0.01	-0.21	1.00

Table 3e. Asians

	1.	2.	3.	4.	5.	6.
1. Familism	1.00					
2. Parental respect	0.43	1.00				
3. Positive expectancies	-0.07	-0.12	1.00			
4. Negative expectancies	0.11	0.06	0.12	1.00		
5. Resistance self-efficacy	0.05	0.16	-0.40	0.00	1.00	
6. Alcohol initiation	-0.02	-0.08	0.14	0.01	-0.14	1.00

Note: Bolded values indicate statistical significance at $p < 0.05$.

Table 4

Path analysis coefficients and odds ratios for associations between cultural values and alcohol initiation

	Estimate	S.E.	Odds Ratio	95% C.I.	P-value
Total, direct, and indirect effects of parental respect					
Total effect	-0.158	0.049	0.85	0.78, 0.94	0.001
Direct effect	-0.077	0.049	0.93	0.84, 1.02	0.116
Total indirect effect	-0.081	0.011	0.92	0.90, 0.94	<0.001
Specific Indirect effects					
<i>Positive alcohol expectancies</i>	-0.027	0.005	0.97	0.96, 0.98	<0.001
<i>Negative alcohol expectancies</i>	-0.005	0.007	1.00	0.98, 1.01	0.454
<i>Alcohol resistance self-efficacy</i>	-0.049	0.009	0.95	0.94, 0.97	<0.001
Total, direct, and indirect effects of familism					
Total effect	-0.048	0.037	0.95	0.88, 1.02	0.195
Direct effect	-0.002	0.035	1.00	0.93, 1.07	0.964
Total indirect effect	-0.046	0.008	0.96	0.94, 0.97	<0.001
Specific Indirect effects					
<i>Positive alcohol expectancies</i>	-0.013	0.004	0.99	0.98, 0.99	0.001
<i>Negative alcohol expectancies</i>	-0.008	0.006	0.99	0.98, 1.00	0.200
<i>Alcohol resistance self-efficacy</i>	-0.026	0.004	0.97	0.97, 0.98	<0.001

Abbreviations: RSE = resistance self-efficacy; S.E. = standard error. Bolded values indicate p-value < 0.05. Note: Path analysis model adjusts for sex, grade, race/ethnicity, nuclear family structure, and intervention school status.

Table 5

Path analysis coefficients and model fit statistics for multiple group comparisons: Cultural values on alcohol initiation

	Parental Respect				Familism			
	Estimate	S.E.	p-value	Multiple group p-value	Estimate	S.E.	p-value	Multiple group p-value
Total effect								
Whites	-0.389	0.105	<0.001	0.038	-0.236	0.079	0.003	0.116
Blacks	-0.334	0.277	0.228		0.005	0.266	0.984	
Hispanics	-0.078	0.054	0.148		-0.015	0.044	0.728	
Asians	-0.331	0.166	0.046		-0.047	0.139	0.733	
Total indirect effect								
Whites	-0.210	0.032	<0.001	<0.001	-0.129	0.020	<0.001	<0.001
Blacks	-0.106	0.056	0.057		-0.067	0.063	0.290	
Hispanics	-0.058	0.019	0.003		-0.038	0.014	0.008	
Asians	-0.087	0.032	0.006		-0.030	0.020	0.132	
Indirect effect through								
Positive alcohol expectancies								
Whites	-0.092	0.024	<0.001	0.012	-0.045	0.010	<0.001	0.001
Blacks	-0.019	0.045	0.669		-0.025	0.024	0.289	
Hispanics	-0.014	0.006	0.014		-0.008	0.005	0.099	
Asians	-0.037	0.015	0.018		-0.017	0.008	0.030	
Indirect effect through								
Negative alcohol expectancies								
Whites	-0.016	0.012	0.196	0.576	-0.015	0.009	0.112	0.682
Blacks	0.014	0.036	0.695		0.015	0.027	0.585	
Hispanics	-0.008	0.012	0.500		-0.008	0.009	0.342	
Asians	0.006	0.011	0.626		0.000	0.016	0.979	
Indirect effect through								
Alcohol resistance self-efficacy								
Whites	-0.102	0.026	<0.001	0.014	-0.069	0.017	<0.001	0.023
Blacks	-0.101	0.027	<0.001		-0.057	0.036	0.113	

	Parental Respect			Familism		
	Estimate	S.E.	p-value	Estimate	S.E.	p-value
Hispanics	-0.036	0.008	<0.001	-0.022	0.006	0.001
Asians	-0.056	0.019	0.003	-0.013	0.009	0.160

Note: Path analysis model adjusts for sex, grade, nuclear family structure, and intervention school status. Bolded values indicate p-value < 0.05. Multiple group p-values indicate statistically significant difference in effect by racial/ethnic group.