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Acculturation, Gender, Depression, and Cigarette Smoking Among U.S. Hispanic Youth: The Mediating Role of Perceived Discrimination

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Abstract

Hispanic youth are at risk for experiencing depressive symptoms and smoking cigarettes, and risk for depressive symptoms and cigarette use increase as Hispanic youth acculturate to U.S. culture. The mechanism by which acculturation leads to symptoms of depression and cigarette smoking is not well understood. The present study examined whether perceived discrimination explained the associations of acculturation with depressive symptoms and cigarette smoking among 1,124 Hispanic youth (54% female). Youth in Southern California completed surveys in 9th–11th grade. Separate analyses by gender showed that perceived discrimination explained the relationship between acculturation and depressive symptoms for girls only. There was also evidence that discrimination explained the relationship between acculturation and cigarette smoking among girls, but the effect was only marginally significant. Acculturation was associated with depressive symptoms and smoking among girls only. Perceived discrimination predicted depressive symptoms in both genders, and discrimination was positively associated with cigarette smoking for girls but not boys. These results support the notion that, although Hispanic boys and girls experience acculturation and discrimination, their mental health and smoking behaviors are differentially affected by these experiences. Moreover, the results indicate that acculturation, gender, and discrimination are important factors to consider when addressing Hispanic youth's mental health and substance use behaviors.

Keywords

Acculturation; Gender; Perceived discrimination; Depression; Cigarette smoking; Hispanic youth

Introduction

Depression is one of the most burdensome diseases in the world (Andrade et al. 2003), and cigarette smoking is the leading cause of preventable death in the United States (U.S.) (CDC 2009). Research has demonstrated a significant association between depressive symptoms and cigarette smoking (e.g., Pratt and Brody 2010). Some studies suggest that depression causes youth to smoke as a means of self-medicating their depressive symptoms (e.g., Breslau et al. 1998), while other studies suggest the reverse, namely that smoking leads to depression by causing changes in brain chemistry (e.g., Quattrocki et al. 2000). Another line of research proposes that rather than being a causal relationship, depression and smoking are influenced by common factors (Kendler et al. 1993), and there is growing evidence that depression and smoking are linked to stress (Hammen 2005; Pomerleau and Pomerleau 1991). Depression and cigarette smoking can have serious consequences. It is important to understand the stressors associated with depressive symptoms and cigarette use in Hispanic youth.

Hispanic youth experience stress due to the acculturation process (De la Rosa 2002; Kam et al. 2010), and risk for depression and smoking increases as Hispanic youth acculturate to U.S. culture (Gonzales et al. 2006; Unger et al. 2009b). While the majority of past studies reported significant positive associations of acculturation with depression and smoking among Hispanics, not all studies revealed the same associations (Alegria et al. 2008; Bethel and Schenker 2005). The strength of these associations seems to depend on demographic and socio-cultural characteristics of the study population. This suggests that the associations of acculturation with depression and smoking are more complex than often suggested by research.

Acculturation has also been shown to predict perceived discrimination (Kam et al. 2010), and discrimination has been positively associated with depression and cigarette smoking among Hispanics (Cook et al. 2009; Kam et al. 2010). Therefore, it is possible that acculturation leads to depression and substance use through perceived discrimination, but these associations have not been studied empirically. Thus, the next logical step is to examine whether perceived discrimination qualifies as a mediating variable in the associations of acculturation with depression and cigarette smoking. In the current study, we used longitudinal data to examine the mediating role of perceived discrimination in the associations of acculturation with depressive symptoms and cigarette smoking among a large sample of Hispanic youth.

It is important to understand how acculturation leads to depression and cigarette smoking in Hispanic youth. Hispanic youth are at higher risk for depression and cigarette smoking than are youth from other races and ethnicities (Emslie et al. 1990; Johnston et al. 2009). They also belong to the largest and fastest-growing ethnic minority group in the U.S. (U.S. Census Bureau 2006), and nearly 40% of all Hispanics are under the age of 18 (Lara et al. 2005; U.S. Census 2006). Most smoking begins in adolescence (Prokhorov et al. 2006), and a large proportion of individuals experience depression for the first time before age 18 (Weersing and Brent 2006). Early onset of depression and early smoking initiation can lead to serious and chronic mental and physical health problems later in life (Prokhorov et al. 2006; Weersing and Brent 2006). Thus, to the extent that Hispanic youth are at risk for experiencing depressive symptoms and for smoking cigarettes, it is critical to prevent depression and smoking in Hispanic youth.

Acculturation, Enculturation, Depressive Symptoms, and Cigarette Smoking

Acculturation is the process that occurs when individuals acquire elements of another culture. This process encompasses cultural, social, and psychological changes in individuals

and groups of individuals (Schwartz et al. 2010). In U.S. Hispanic youth, acculturation has been viewed as the acquisition of cultural elements of the dominant U.S. culture (Schwartz et al. 2010), and Hispanic youth can experience changes in their practices, values, and identifications (Schwartz et al. 2010). Traditionally, acculturation has been viewed as a unidimensional process in which immigrants abandoned the practices, values, and identifications of their culture of origin to adopt those of the host culture (Cabassa 2003). More recently, scholars have begun to recognize that Hispanic youth can simultaneously acculturate and enculturate (Cabassa 2003; Sullivan et al. 2007). Enculturation is the process by which Hispanic families socialize their children to the practices, values, and identifications of their Hispanic culture. The term acculturation has been used to refer to acculturation and enculturation (Berry et al. 1986), and we use the term “acculturation” to refer to acculturation and enculturation.

Scholars propose that enculturation can be protective for Hispanic youth while acculturation increases risk for depression and substance use (De la Rosa 2002; Vega and Sribney 2008). Consistent with this notion, acculturation has been associated with risk for depression and cigarette smoking among Hispanics (Gonzales et al. 2006; Unger et al. 2009b) but less is known about the associations of enculturation with depression and cigarette smoking. Therefore, research is needed that examines whether enculturation is associated with less depressive symptoms and cigarette smoking in Hispanic youth.

Schwartz et al. (2010) further proposed that acculturation is multidimensional not only in terms of acculturation and enculturation but also with components of acculturation that are assumed to change (i.e., practices, values, and identifications). Previous studies have assessed orientations towards U.S. practices, and research is needed that also measures the associations of values and identifications with depression and smoking. Studies have shown that Hispanic females are more affected by the acculturation process than males, but limited information is available about why Hispanic females are more affected by the acculturation process than their male counterparts (Bethel and Schenker 2005; Vega and Sribney 2008).

Acculturation, Gender, Depressive Symptoms, and Cigarette Smoking

Studies suggest that Hispanic girls and boys have different acculturation experiences because of gendered socialization (Valenzuela 1999). Differential acculturation experiences may explain why Hispanic girls are more affected by acculturation than boys. Epstein et al. (1998) found that, among Hispanic adolescents, gender moderated the effect of acculturation on cigarette smoking. Acculturated Hispanic girls smoked more frequently than low acculturated Hispanic girls. For boys, acculturation was not associated with increased cigarette smoking. These findings support research with Hispanic adults where acculturation was positively associated with cigarette smoking for women but not men (Bethel and Schenker 2005). Research with Hispanic adults has revealed a positive association between acculturation and depression for women but not men (Vega and Sribney 2008), and research is needed that examines the moderating role of gender on the association of acculturation with depression in Hispanic youth. Moreover, research is needed that examines how the acculturation process varies as a function of gender (Pessar 1999). Thus, in the current study, we examined whether perceived discrimination qualified as a mediator in the associations of acculturation with depressive symptoms and smoking in the overall sample and separately for boys and girls.

Perceived Discrimination, Depressive Symptoms, Cigarette Use, and Acculturation

One type of acculturation-related stress Hispanic youth experience is perceived discrimination (Kam et al. 2010). Perceived discrimination has been defined as perceived daily experiences of unfair, differential treatment (Alegria et al. 2004). It is thought that,

over time, discrimination influences Hispanics' mental health and substance use through stress proliferation (Alegria et al. 2007). Discrimination against Hispanics exists (Pérez et al. 2008), and discrimination has been linked with depression and cigarette smoking in Hispanics (Cook et al. 2009; Wiehe et al. 2010). There is also growing evidence of an association between acculturation and discrimination (Cook et al. 2009; Kam et al. 2010). Among Hispanic adults, discrimination played an important role in the association of acculturation with depression (Cook et al. 2009). Research with Mexican-American youth has revealed a significant association between acculturation and perceived discrimination over time (Kam et al. 2010). In all, research suggests that acculturation may lead Hispanic youth to experience depressive symptoms and use cigarettes because they are subject to discrimination. Research is needed that examines whether perceived discrimination explains the associations of acculturation with depressive symptoms and cigarette smoking.

The Current Study

To fill the gaps in the literature, we examined whether perceived discrimination qualified as a mediating variable between acculturation and both depressive symptoms and cigarette smoking in a sample of Hispanic youth from Southern California. We also examined whether gender moderated the mediating role of perceived discrimination because research suggest that Hispanic males and females have different acculturation-related experiences. As such, the current study will provide a better understanding of why the acculturation process increases Hispanic youth's risk for depressive symptoms and cigarette smoking and why girls are more negatively affected by it than boys.

Consistent with multidimensional models of acculturation, we examined the associations of acculturation and enculturation with depressive symptoms, cigarette smoking, and perceived discrimination. Although, researchers have theorized about the multidimensional nature of acculturation, only limited empirical studies exist that assessed the associations of acculturation and enculturation, with depressive symptoms, cigarette smoking, and discrimination. We also included two different measures of acculturation and enculturation. The different measures tap into different dimensions of acculturation and enculturation. One measure taps into practices and the other into identifications. This is important because past studies have relied on English and Spanish proficiency as indicators of Hispanic youth's acculturation which has provided a fragmented understanding of the associations of acculturation with depressive symptoms and smoking.

We utilized data from a three-wave-longitudinal study. Wave one data was collected when students were in 9th grade, wave two data was collected when student were in 10th grade, and wave three data was collected in 11th grade. We used methods outlined by Baron and Kenny (1986) to examine the mediating role of perceived discrimination. We hypothesized that acculturation at wave 1 would predict depressive symptoms at wave 3. In light of previous research, we expected the association between acculturation and depressive symptoms to be significant for girls but not boys. Further we expected acculturation at wave 1 to predict perceived discrimination at wave 2, and perceived discrimination at wave 2 to be positively associated with depressive symptoms at wave 3. We also explored the moderating role of gender in the associations of acculturation with discrimination and in the association of discrimination with depression. Based on the above, we expected discrimination to qualify as mediator for girls but not boys.

Given the strong associations between depression and smoking, and the similarities in research on the associations of acculturation with depression and cigarette smoking, we posed similar hypotheses for smoking as we did for depressive symptoms. Therefore, we expected acculturation (wave 1) to predict smoking (wave 3), and acculturation to predict

smoking in girls but not boys. Moreover, we hypothesized acculturation (wave 1) to predict discrimination (wave 2), and discrimination (wave 2) to be positively associated with smoking (wave 3). We also explored the moderating role of gender, and as with depressive symptoms, we expected discrimination to qualify as mediator for girls but not boys.

Our decision to use wave 1 acculturation to be mediated by wave 2 discrimination to predict depressive symptoms and smoking at wave 3 was based on the notion that acculturation is a process that develops over time and influences Hispanic youth's well-being over time (Smart and Smart 1995). Moreover, scholars propose that discrimination influences Hispanics' mental health and substance use through exposure to stressful events over time (Alegria et al. 2007; Ong et al. 2009), and therefore, we examined the relationship of discrimination at wave 2 with depressive symptoms at wave 3. Studies have shown that acculturation predicted perceived discrimination at a later time (Kam et al. 2010), and as such we examined the associations of acculturation at wave 1 with perceived discrimination at wave 2.

Method

Participants

Participants included 1,124 students who participated in Project RED (Retiando y Entendiendo Diversidad para Salud) (Unger et al. 2009b). Project RED is a 3-wave study of acculturation patterns and substance use among Hispanic adolescents from Southern California. Fifty-four percent of the students were female, and 85% of the students were 14 years old. All students self-identified as Latino/a or Hispanic, and 86% of the students were born in the United States. Eighty-six percent of all students had either a parent, grandparent or great-grandparent who was born in Mexico, followed by the United States (27%), El Salvador (9%), Guatemala (7%), Honduras (1%), and Spain (1%). Over half of the students (56.3%) reported speaking "English and another language equally" at home, 16% of the students reported "speaking mostly English" at home, and 14% reported "speaking mostly another language" at home. Similarly, about 39% of the students reported speaking "mostly English" with their friends, 31% reported speaking "only English" with their friends, and 28% reported speaking "English and another language equally" with their friends. The final sample for the current study consisted of students who participated in Years 1, 2, and 3 and who had no missing values on any of the study variables. A comparison of the demographic characteristics assessed at time 1 between the final sample ($n = 1,124$) and the omitted sample ($n = 798$) revealed significant age and gender differences. Students in the final sample were slightly younger ($M = 13.98$, $SD = 0.44$) than students in the omitted sample ($M = 14.05$, $SD = 0.038$) ($p < 0.05$). The final sample included more females ($n = 614$) than males ($n = 510$). The opposite was true for the omitted sample that was composed of 380 males and 372 females, and this difference was significant ($p < 0.05$). We also compared the two samples in regards to our independent and dependent variables. Compared to the omitted sample, the final sample had significantly higher mean scores on Hispanic orientation ($M = 0.45$, $SD = 0.19$ and $M = 0.33$, $SD = 0.24$, respectively) ($p < 0.001$), U.S. orientation ($M = 0.65$, $SD = 1.35$ and $M = 0.63$, $SD = 1.58$, respectively) ($p < 0.001$), and the Latino way of life ($M = 3.25$, $SD = 0.91$ and $M = 3.12$, $SD = 1.01$, respectively) ($p < 0.05$). While the omitted sample included more lifetimes smokers ($n = 282$, $\% = 35.7$) than the final sample ($n = 248$, $\% = 22.3$) ($p < 0.001$), the final sample included more students who had friend smokers ($n = 396$, $\% = 44.0$) than the omitted sample ($n = 315$, $\% = 54.4$) ($p < 0.001$).

Data Source and Procedure

Adolescents were enrolled in the study when they were in 9th-grade, attending seven high schools in the Los Angeles area. Schools were invited to participate if they contained at least 70% of Hispanic students, as indicated by data from the California Board of Education. Sampling included an emphasis on schools with a wide range of socioeconomic characteristics. The median annual household incomes in the ZIP codes served by the schools ranged from \$ 29,000 to \$ 73,000, according to 2000 census data. Because students were sampled from seven schools, we tested for intraclass correlations (ICC) which were low and did not affect the results. ICC was calculated for depressive symptoms (ICC = 0.000), perceived discrimination (ICC = 0.007), U.S. orientation (ICC = 0.012), Hispanic orientation (ICC = 0.015), American way of life (ICC = 0.005), Latino way of life (ICC = 0.014), and age (ICC = 0.030).

The 9th grade survey (Year 1) was administered in the Fall of 2005, the 10th grade survey (Year 2) in the Fall of 2006, and the 11th grade survey (Year 3) in the Fall of 2007. In 2005, all 9th-graders attending selected schools ($n = 3,218$) were invited to participate in the survey. Of those, 75% ($n = 2,420$) provided parental consent and student assent. Of the 2,420 students who provided consent and assent, 2,222 (92%) completed the survey in 9th grade. Of the 2,222 students who completed the 9th grade survey, 1,773 (80%) also completed surveys in 10th and 11th grade with 182 (8%) students completing a survey in 10th grade but not in 11th grade, 50 students (2%) completing a survey in 11th grade but not in 10th grade, and 217 (10%) students were lost to attrition before the 10th grade survey. For the current study, we used data from Years 1, 2, and 3, and excluded all students who had missing values on any of the primary study variables. The final analytic sample consisted of 1,124 students who self-identified as either Hispanic, Latino or Latina, Mexican, Mexican-American, Chicano or Chicana, Central American, South American, Mestizo, La Raza, or Spanish on any of the questions asking students to indicate their ethnic identity.

On the day of the survey, data collectors read the survey aloud during one class period in order to help students with low literacy skills. Surveys were available in English and Spanish, 99.2% of the students completed the survey in English. Similar procedures were used in Years 2 and 3, when the students were in 10th and 11th grade, respectively. The survey assessed substance use, acculturation, family and peer characteristics, psychological variables, and demographic characteristics. The Spanish translation of the survey was created by first identifying translated items published or recommended by the scales' authors. When translations of items were not available, one translator translated the items from English to Spanish after which the translation was checked by a translation team that included bilingual researchers from various Latin American countries. This translation was employed to ensure that translations reflected the idioms used among Mexican-Americans and other Hispanics living in Southern California. A more detailed description of data collection procedures have been described elsewhere (Unger et al. 2009a, b).

Measures

Adolescents' Acculturation—We used two distinct measures of adolescents' acculturation. We used a short form of the Revised Acculturation Rating Scale for Mexican Americans (ARSMA-II; Cuéllar et al. 1995), and the Way of Life Scale (Oetting and Beauvais 1990). The ARSMA-II taps into adolescents' orientations towards U.S. and Hispanic practices, and the Way of Life Scale taps into adolescent's orientations towards U.S. and Hispanic cultural identifications. In the ARSMA-II, adolescents responded to 12 items from the Revised Acculturation Rating Scale for Mexican Americans (ARSMA-II; Cuéllar et al. 1995). Seven items were selected from the Anglo orientation subscale and five from the Hispanic orientation subscale (Unger et al. 2009a). Adolescents were asked to

indicate on a Likert Scale, ranging from 1 (not at all) to 5 (almost always/extremely often), how much they did or enjoyed certain activities. The scores on each subscale were rescaled so that they ranged from 0 = lowest to 1 = highest. The Cronbach's alphas were 0.74 for the U.S. Orientation Scale and 0.87 for the Hispanic Orientation Scale.

The Way of Life Scale was taken from the Orthogonal Cultural Identity Scale which asks adolescents to rate the extent to which they follow the Latino/Hispanic way of life and the American way of life. Adolescents responded to two questions. One question asked about the Latino/Hispanic way of life and the other about the American way of life. Response options ranged from 1 = A lot to 4 = Not at All. The two questions were recoded so that higher scores represented higher levels on a given way of life.

Perceived Discrimination—Perceived discrimination was measured using a ten-item measure of adolescents' perceptions of experienced everyday discrimination (Guyll et al. 2001). Sample items included, "You are treated with less respect than other people," and "People act as if they're better than you." Adolescents indicated the frequency of each experience on a 4-point scale ranging from 4 = often to 1 = never. Higher scores represent more experiences of perceived discrimination and the Cronbach's α for our sample was 0.89. Because this scale can apply to various types of discrimination (e.g., based on race/ethnicity, gender, age, sexual orientation, physical handicaps, etc.), the scale was preceded by the following text: "Sometimes people feel that they are treated differently because of their ethnic or cultural background. How do people treat you?"

Depressive Symptoms—The Center for Epidemiological Studies Depression Scale (CES-D) was used to assess adolescents' depressive symptoms (Radloff 1977). The CES-D consists of 20 items. Adolescents were asked to rate on a scale ranging from 1 to 4, how often they had experienced any given symptom in the past week. Response choices were: 1 = less than 1 day or never; 2 = 1–2 days; 3 = 3–4 days; and 4 = 5–7 days. Sample items included: (1) I felt sad, (2) I could not get going, and (3) I felt lonely. The CES-D is a continuous measure with higher mean scores indicating more depressive symptoms (Cronbach's α = 0.88).

Lifetime Cigarette Smoking—We used a dichotomous measure to assess adolescent smoking. Adolescents responded to the following question; "Have you ever tried cigarette smoking, even one or two puffs?" (1 = yes and 0 = no).

Past-30-Day-Smoking—The following question assessed adolescents' past-30-day cigarette use; "During the past 30 days, on how many days did you smoke cigarettes?" Responses were rated on a 7-point scale ranging from "0 days" to "all 30 days." We recoded this question to 0 days versus all other responses due to skewed distributions.

Adult Smoking—We assessed whether important adults in adolescents' lives smoked cigarettes by asking adolescents one question; "Think of the two (2) adults that you spend the most time with. How many of them smoke cigarettes every day or most days?" Response options included "none or 0," "1 of them," and "2 of them." We recoded this question to none or 0 adults versus 1 or 2 adults. Adult smoking was measured because adult smoking is consistently associated with youth smoking. Not controlling for adult smoking in our analyses would not have allowed us to make confident statements about the associations of our independent variables with youth smoking (Tyas and Pederson 1998) due to possible confounding.

Friend Smoking—Adolescents were first asked to think of their five best friends at school. Next, they indicated whether any of their friends had ever tried smoking cigarettes. This variable was dummy coded as yes = 1 and no = 0. We assessed friend smoking because peer smoking is the most consistent predictor of youth smoking. Not controlling for friend smoking in our analyses would not have allowed us to make confident statements about the associations of our independent variables with smoking (Tyas and Pederson 1998) due to possible confounding.

Demographics—Age and gender were self-reported.

Results

Descriptive Statistics

First, we calculated descriptive statistics for the entire sample and for each gender. We also tested for gender differences in the study variables. *T* tests were used for continuous variables and chi-square tests for categorical variables. We used PASW Statistics 18 software (SPSS Inc. 2009) for all analyses.

Table 1 shows the demographic characteristics for the overall sample ($N = 1,124$), for girls ($N = 614$), and for boys ($N = 510$), separately. The sample was composed of 55% girls and 45% boys. The mean age was 14.0 years ($SD = 0.4$), and boys were slightly older ($M = 14.0$, $SD = 0.4$) than girls ($M = 13.9$, $SD = 0.4$) ($p < 0.001$). Girls had higher mean scores on U.S. and Hispanic Orientation than boys ($p < 0.001$). Girls also reported higher levels of Latino Way of Life than boys ($p = 0.05$). While girls had a higher mean score on the CES-D scale than boys ($p < 0.001$), boys had a higher mean score on the Perceived Discrimination measure ($p < 0.001$). More girls than boys reported having smoked in the last 30 days ($p < 0.001$), and more boys than girls reported having ever tried cigarettes, and this difference was marginally significant ($p = 0.076$).

Table 2 shows the correlations among all study variables included in the mediation analyses. Although many of these correlations were statistically significant, their magnitude was small to moderate, suggesting low multicollinearity. We also conducted a multicollinearity diagnostic test in PASW Statistics 18 and this test further indicated that multicollinearity was not a problem. The variance inflation factors (VIF) were relatively low, ranging from 1.02 to 1.17.

Mediation Results for Depressive Symptoms

Next, we evaluated the mediating role of perceived discrimination on the association between acculturation and depressive symptoms by running four adjusted multivariate linear regression models (Baron and Kenny 1986). Analyses were first conducted with the overall sample and then with girls and boys separately. In the first model, we tested the association between acculturation and depressive symptoms by not including the hypothesized mediator, perceived discrimination, in the model. As shown in step 1 of Table 3, none of the acculturation variables predicted depressive symptoms in the overall sample and in boys. In the analysis with girls, the American Way of Life was positively associated with depressive symptoms ($p < 0.05$), but none of the other acculturation variables predicted depressive symptoms.

Next (model 2), we tested the association of demographic and acculturation variables with our mediating variable, perceived discrimination. As shown in step 2 of Table 3, none of the acculturation variables predicted perceived discrimination in the overall sample. Of the four acculturation variables, only the Latino Way of Life predicted perceived discrimination in

girls ($p < 0.05$), and this association was in the positive direction. Among boys, U.S. orientation was negatively associated with perceived discrimination ($p < 0.05$), and none of the other acculturation variables predicted discrimination. In step 3 of Table 3, we tested the association between perceived discrimination and depressive symptoms controlling for demographic covariates and excluding the acculturation variables. Perceived discrimination was significantly associated with depressive symptoms in the analyses with the overall sample, girls only, and boys only. Specifically, higher levels of perceived discrimination were associated with higher levels of depressive symptoms ($p < 0.001$). In the fourth model, we tested the same model as in step 1 but this time we added our mediating variable, perceived discrimination, to the model. As illustrated in step 4 of Table 3, gender and perceived discrimination were positively associated with depressive symptoms in the overall sample, and acculturation did not predict depressive symptoms. In the analysis with boys and girls, perceived discrimination was the only significant predictor of depressive symptoms, and perceived discrimination was positively associated with depressive symptoms. None of the acculturation variables predicted depressive symptoms. It is important to note that, in the analysis with girls, the American Way of Life no longer significantly predicted depressive symptoms after perceived discrimination was added to the model tested in step 1 of Table 3 ($p = 0.05$).

The presence of a mediational association would be supported if (a) acculturation was significantly associated with depressive symptoms in the first model, (b) if the effect of acculturation became non-significant after adding perceived discrimination in the fourth model, and (c) if perceived discrimination was significantly associated with acculturation in the second model.

Figures 1, 2, and 3 show the path diagrams for mediation results. As shown in Figs. 1 and 3, perceived discrimination did not qualify as a mediator for the association of acculturation with depressive symptoms in the overall sample and among boys. Among the overall sample, acculturation was not significant in predicting either depressive symptoms or perceived discrimination, and among boys, acculturation was not significant in predicting depressive symptoms. Figure 2 shows mediation results for girls in which perceived discrimination qualified as a mediating variable.

Mediation Results for Past-30-Day-Smoking

To test the mediating role of perceived discrimination on the association between acculturation and past-30-day-smoking, we ran the same set of regression models as before. This time, we used multivariate logistic regression in models 1, 3, and 4, and multivariate linear regression in model 2. Table 4 shows the results of four multivariate logistic regression models conducted with the overall sample, with girls, and with boys, separately. In step 1 of Table 4, we tested the association of acculturation with past-30-day-smoking controlling for demographics and covariates. As shown in step 1, none of the acculturation variables predicted past-30-day-smoking in the overall sample and among boys. Among girls, the Latino Way of Life was positively associated with past-30-day-smoking ($p < 0.05$), and none of the other acculturation variables predicted smoking in girls. Step 2 of Table 4 shows that none of the acculturation variables predicted perceived discrimination in the overall sample and among girls. Among boys, U.S. orientation was negatively associated with perceived discrimination ($p < 0.05$), and none of the other acculturation variables predicted perceived discrimination.

In step 3 of Table 4, we tested the association between perceived discrimination and past-30-day-smoking, controlling for demographics and covariates but excluding the acculturation variables. Perceived discrimination was not associated with past 30-day-smoking in the overall sample and among boys. However, the odds of past-30-day-smoking increased as

girls reported higher levels of perceived discrimination in the analysis with girls only. In step 4 of Table 4, we tested the same model as in step 1 but this time we added our mediating variable, perceived discrimination, to the model. As shown, none of the acculturation variables were significant predictors of past-30-day-smoking in the overall sample, among girls, and among boys. It is important to note that, among girls, the Latino Way of Life no longer significantly predicted past-30-day-smoking after perceived discrimination was added to the model in step 1 of Table 4.

The presence of a mediational association would be supported if (a) acculturation was significantly associated with past-30-day-smoking in the first model, (b) if the effect of acculturation became non-significant after adding perceived discrimination in the fourth model, and (c) if perceived discrimination was significantly associated with acculturation.

Figures 4, 5, and 6 show the path diagrams for mediation results. As shown in Figs. 4 and 6, perceived discrimination did not qualify as a mediator for the association of acculturation with past-30-day-smoking in the overall sample and among boys because acculturation was not significant in predicting past-30-day-smoking or perceived discrimination. Figure 5 shows mediation results for girls. Our results show evidence for a mediating effect, but the effect was not statistically significant.

Discussion

This study contributes to the literature on acculturation, gender, depressive symptoms, and cigarette smoking among U.S. Hispanic youth. Hispanic youth can experience stress due to the acculturation process (De la Rosa 2002), and they are at greater risk for experiencing depression and using cigarettes than are youth from other races or ethnicities (Emslie et al. 1990; Johnston et al. 2009). Past studies have demonstrated positive associations of acculturation with depression and cigarette smoking but the process by which acculturation leads to depression and smoking in Hispanic youth remains largely unexplained (Bethel and Schenker 2005). We advance this line of research by examining one possible pathway by which, over time, acculturation may lead to poor mental health and substance use in a large sample of Hispanic youth.

Based on recent developments in acculturation theory (Schwartz et al. 2010), we also assessed the associations of different acculturation measures with depressive symptoms, smoking, and perceived discrimination. The different acculturation measures employed in the current study tap into different dimensions of the acculturation process (i.e., values, identifications, and practices). Past studies have largely employed acculturation measures that tapped into practices only, and as a result, little information is available about the associations of values and identification with depressive symptoms and cigarette smoking in Hispanic youth (Schwartz et al. 2010). This understanding is important as it provides a more complete understanding about the associations of acculturation with depressive symptoms, cigarette smoking, and perceived discrimination.

Moreover, studies have shown that females are more negatively affected by acculturation than males (Bethel and Schenker 2005; Vega and Sribney 2008). Therefore, we considered the role of gender, and showed that gender is an important variable to consider when examining the influence of acculturation and acculturation-related experiences on the well-being of Hispanic youth. This is an important contribution to the literature because Hispanic males and females have different acculturation-related experiences (Valenzuela 1999) but limited information is available whether and how differential experiences increase Hispanic girls' risk for depressive symptoms and cigarette smoking. Overall, the present study provides a more complete understanding of the associations of acculturation with depressive

symptoms, cigarette smoking, and perceived discrimination, and in the following pages, we discuss our findings and their implications in greater detail.

Consistent with past research, acculturation was associated with increased depressive symptoms and cigarette smoking in females but not males (Epstein et al. 1998; Bethel and Schenker; 2005; Vega and Sribney 2008). More specifically, orientations towards U.S. identifications but not orientations towards U.S. practices predicted increased depressive symptoms in girls. While it is not clear from our study, why orientations toward U.S. identifications predicted depressive symptoms and cigarette smoking in girls, and orientations towards U.S. practices did not, the two measures of acculturation tap into different dimensions of the acculturation process. According to Schwartz et al. (2010), the various dimensions of acculturation can independently influence Hispanic's youth mental health and substance use, and as such, it makes sense that only one measure of acculturation predicted depressive symptoms and cigarette smoking in girls. Our results suggest that it is not participation in U.S. practices that increases Hispanic girls' risk for depressive symptoms, but that identification with U.S. culture predicts depressive symptoms and smoking in girls. It is possible that girls, who identify strongly with U.S. culture, identify less strongly with Hispanic culture. As a result, they may experience more difficulty and conflict when navigating aspects of the Hispanic culture. Research on ethnic identity has shown that bicultural individuals have better mental and physical health than individuals who more strongly identify with predominantly one culture (Schwartz et al. 2010) because they are better able to navigate both cultures. Our results may reflect a similar phenomenon, but more research is needed to better understand these associations. Our results do not provide insights into why orientations towards U.S. practices was not associated with depressive symptoms or cigarette smoking in Hispanic girls. Given that our study is one of the first to assess various dimensions of acculturation, research is needed to better understand which dimensions of acculturation predict depressive symptoms and cigarette smoking.

Interestingly, perceived discrimination was positively associated with depressive symptoms but not past-30-day-smoking in the overall sample and among boys. For girls, perceived discrimination predicted both depressive symptoms and cigarette smoking. This is interesting because boys reported more discrimination than girls, and thus, these findings indicate that girls are more vulnerable to discrimination than boys. It is not clear from our findings why discrimination leads to smoking in Hispanic girls but not in boys, and more research is needed to better understand these associations. It is possible that girls in the present study experience discrimination for being Hispanic and for being female. Perceived discrimination in the current study tapped into ethnic discrimination but not gender discrimination. Feminist scholars have long proposed that girls and women of color in the U.S. live at the intersection of race/ethnicity and gender (Crenshaw 1989). As a result, they experience discrimination based on their ethnicity and their gender. This also may be true for Hispanic girls. Hispanic families are thought to adhere to traditional gender role expectations in which girls have less freedom than boys (Gil and Vazquez 1996). Thus, girls may feel unfairly treated at home and be more susceptible to ethnic discrimination because it adds to the burden of gender discrimination in the home. Alternatively, it is possible that Hispanic boys and girls initiate smoking for different reasons. Sias et al. (2008) reported that women smoked when they felt anxious or worried, could not sleep, or wanted to feel thinner. Men were reported to smoke when drinking alcohol. Similar gender differences may be true for Hispanic youth. Future research should aim to understand why perceived discrimination leads to smoking in Hispanic girls but not in boys. This knowledge can aid in the development of cigarette smoking prevention messages and programs specifically designed for acculturating Hispanic girls.

As expected, acculturation predicted perceived discrimination, and gender moderated these associations. For girls, orientations toward Hispanic identifications was associated with increased perceived discrimination, and for boys, orientations towards U.S. practices was associated with less perceived discrimination. It is not clear from the current study why orientations toward Hispanic identifications mattered for girls and orientations towards U.S. practices mattered for boys. Moreover, it is not clear why the orientations toward Hispanic identifications predicted more discrimination in girls, and orientations towards U.S. practices predicted less discrimination in boys. Researchers have proposed distinct explanations for why acculturation is associated with perceived discrimination (Kam et al. 2010), and our results suggests that the way acculturation is associated with discrimination varies by gender.

One view suggests that acculturated youth experience less discrimination because they have better English skills and are more familiar with aspects of the dominant U.S. culture. As a result, they are better able to blend in and experience less discrimination. Similarly, less acculturated youth may experience more discrimination because of limited linguistic skills and limited familiarity with the dominant U.S. culture. Another view suggests that less acculturated youth report more discrimination because they have stronger ties to their Hispanic culture and identity, and as a result, they more easily recognize discrimination (Romero and Roberts 2003). Along the same lines, it is possible that acculturated youth experience discrimination but do not recognize it because they are entrenched in U.S. culture.

Therefore, it is possible that, compared to boys who are less oriented towards U.S. practices, boys who are more oriented towards U.S. practices may experience less discrimination because of better English skills and familiarity with U.S. culture. Alternatively, boys who are more oriented towards U.S. practices may no longer recognize discrimination because they are entrenched in U.S. culture. For girls, orientations towards Hispanic identifications may be associated with more discrimination because they may have stronger ties to Hispanic culture and identity, and as such they may be more likely to recognize discrimination (Romero and Roberts 2003) than girls who are less oriented towards Hispanic identifications. Alternatively, girls who identify highly with Hispanic culture may have limited English skills and familiarity with U.S. culture, leading them to experience more discrimination.

Gendered socialization is common in Hispanic culture (Valenzuela 1999), and the different ways boys and girls are raised may lead girls and boys to experience discrimination for different reasons and to be differentially affected by it. Scholars have shown that Hispanic girls spent more time at home assisting relatives with tasks that can be completed at home, while boys spent more time outside the home assisting relatives with tasks that need to be completed outside the home (Valenzuela 1999). Thus, it is possible that, although they may experience discrimination, boys and girls may experience it for different reasons because of gendered socialization.

In the present study, perceived discrimination qualified as a mediator in the association of acculturation and depressive symptoms among girls but not boys. We also found evidence for mediation in the association of acculturation and cigarette smoking among girls, but the effect was not statistically significant. Although perceived discrimination qualified as a mediator in the association of acculturation with depressive symptoms among girls, the effect was relatively small, and it is likely that other acculturation-related factors in addition to perceived discrimination influence feelings of depression and cigarette smoking in Hispanic girls. Therefore, studies should continue to address this gap in knowledge by examining the influence of additional acculturation-related experiences.

Scholars have proposed that Hispanic females experience more acculturative stress than males (Espin 1987). For example, in addition to perceived discrimination, Hispanic males and females experience family cultural conflict (Sarmiento and Cardemil 2009). Evidence suggests that, although Hispanic male and females experience equal amounts of family conflict, females are more affected by it (Sarmiento and Cardemil 2009). Scholars propose that family cultural conflict is a result of changes in traditional gender role expectations during the acculturation process (Sarmiento and Cardemil 2009). It is thought that Hispanic females acculturate faster than Hispanic males, creating a mismatch in gender role expectations between males and females, ultimately leading to family cultural conflict (Espin 1987; Sarmiento and Cardemil 2009). It is possible that due to changes in traditional gender role expectations, Hispanic females experience gender discrimination in the home. More research is needed that examines why females are more affected by the acculturation process than males. One possible way to study these gender effects is to investigate the additive effects of multiple acculturation-related stressors on Hispanic girls' mental health and substance use. Thus, future studies should test integrative models that examine the simultaneous influences of perceived discrimination, gender discrimination, and family cultural conflict on the associations of acculturation with depressive symptoms and cigarette smoking in Hispanic girls.

As with any research, there are limitations to this study. First, Hispanic youth in the current study were not homogenous in terms of cultural origin. Several researchers caution towards lumping Hispanic subgroups into one large group as Hispanics differ in several cultural domains (Umaña-Taylor and Fine 2001). Therefore, it is important to extend this study to adolescents of various Hispanic groups. This will allow for the examination of differences and similarities among Hispanic sub-groups. The absolute number of the different Hispanic populations was relatively small and did not allow us to examine within Hispanic group differences. Second, all data were obtained via youth self-report, which prevented us from examining parents' and teachers' evaluations of youths' psychological well-being and cigarette use. Students may have underreported their depressive symptoms and cigarette use. Thus, future studies should collect data from various informants to avoid this self-report bias.

Lastly, adolescents were recruited from schools located in predominantly Hispanic neighborhoods. Acculturation-related experiences such as discrimination, depression, and substance use depend on the larger socio-cultural context of acculturating Hispanic youth. Our results may not generalize to Hispanic youth who reside in more heterogeneous neighborhoods.

Notwithstanding these limitations, this study contributes to research on the process of acculturation in Hispanic youth. We not only replicated the associations of acculturation with depressive symptoms and cigarettes smoking, but also extended this line of research by examining one possible mechanism theorized to lead to depressive symptoms and cigarette smoking over time, namely perceived discrimination. We also considered the role of gender by examining how this process differed for Hispanic boys and girls. Moreover, consistent with recent acculturation theory, we assessed the associations of multiple acculturation measures with depressive symptoms, cigarette smoking, and perceived discrimination. As such, our results contribute to the literature on the multidimensional nature of acculturation by providing insides into which aspects of acculturation are linked with depressive symptoms, smoking, and perceived discrimination. We have also shown how these associations differ for boys and girls. These findings are important for the development of more effective intervention, prevention, and policy-making strategies tailored to the needs of Hispanic girls and boys. Hispanic youth are at high risk for depression and cigarette smoking (Gonzales et al. 2006; Johnston et al. 2009), and Hispanics are the largest and

fastest growing immigrant group in the U.S. Thus, it is necessary to advance our understanding of why more acculturated Hispanic youth experience depressive symptoms and use cigarettes.

Acknowledgments

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Biographies

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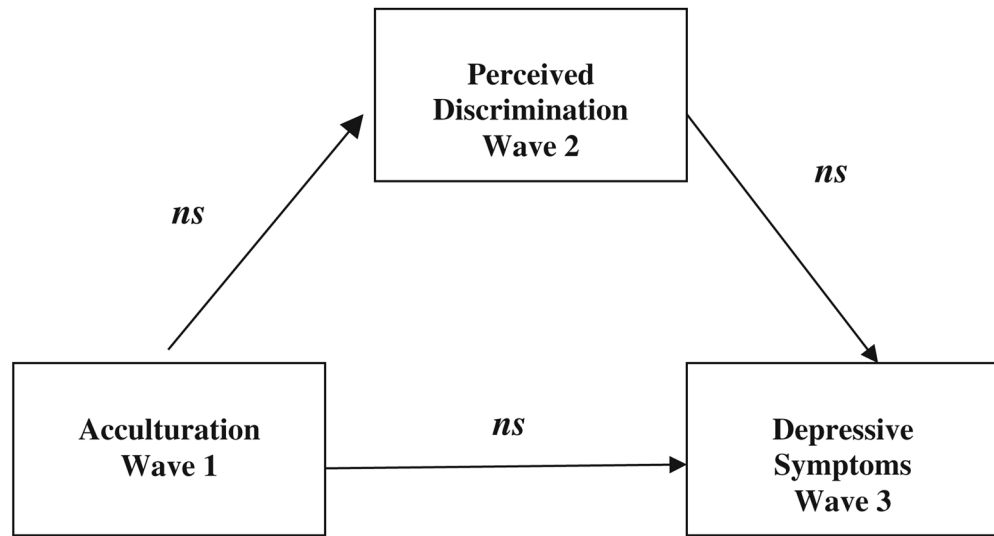


Fig. 1.
Mediation results for depressive symptoms in the overall sample

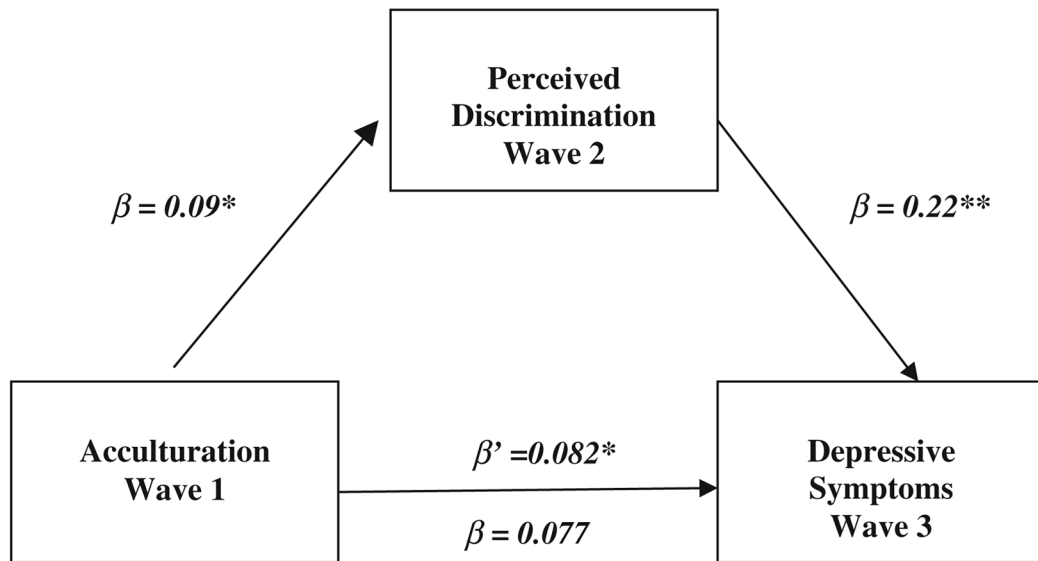


Fig. 2. Mediation results for depressive symptoms among girls. *Note:* β' corresponds to step 1; β corresponds to step 4

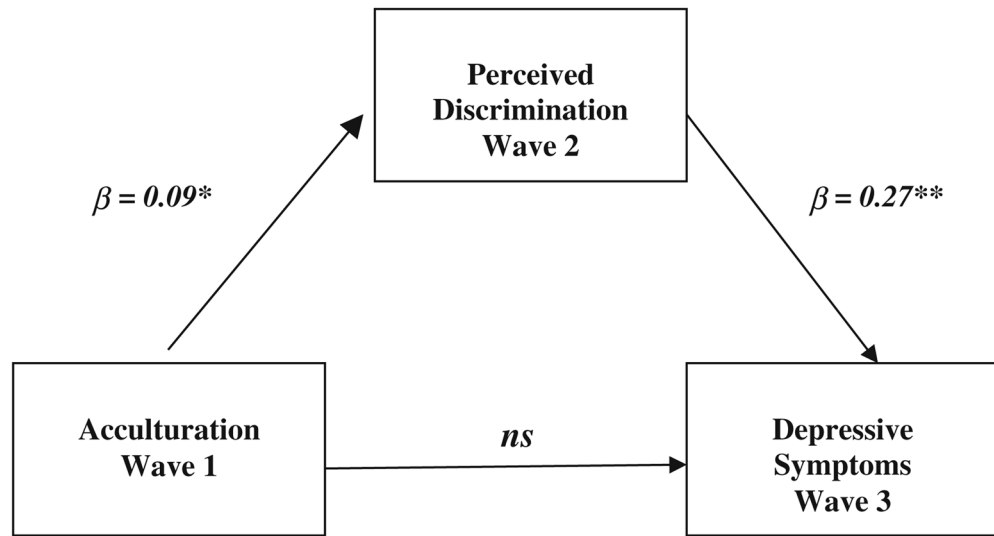


Fig. 3.
Mediation results for depressive symptoms among boys

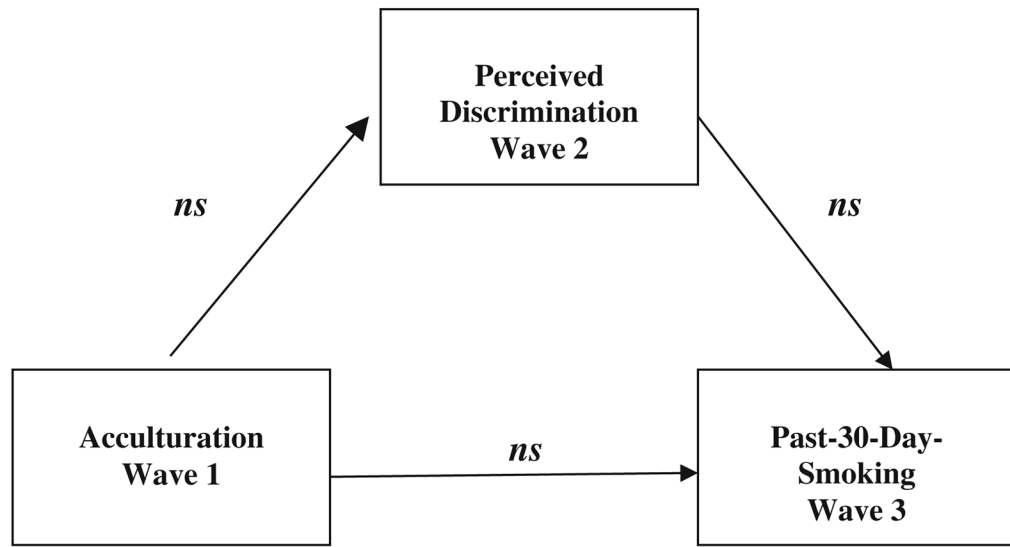


Fig. 4.
Mediation results for past-30-day smoking the overall sample

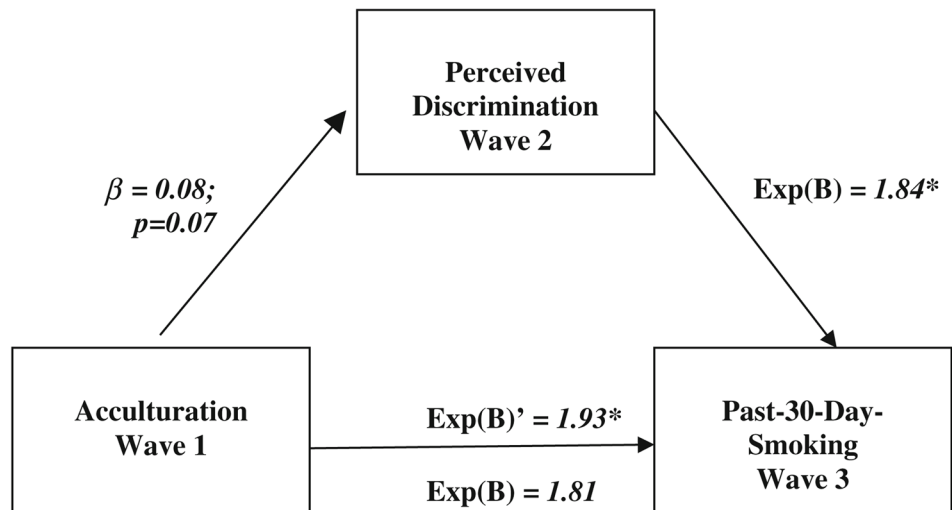


Fig. 5. Mediation results for past-30-day-smoking among girls. *Note.* $\text{Exp}(B)'$ corresponds to step 1; $\text{Exp}(B)$ corresponds to step 4

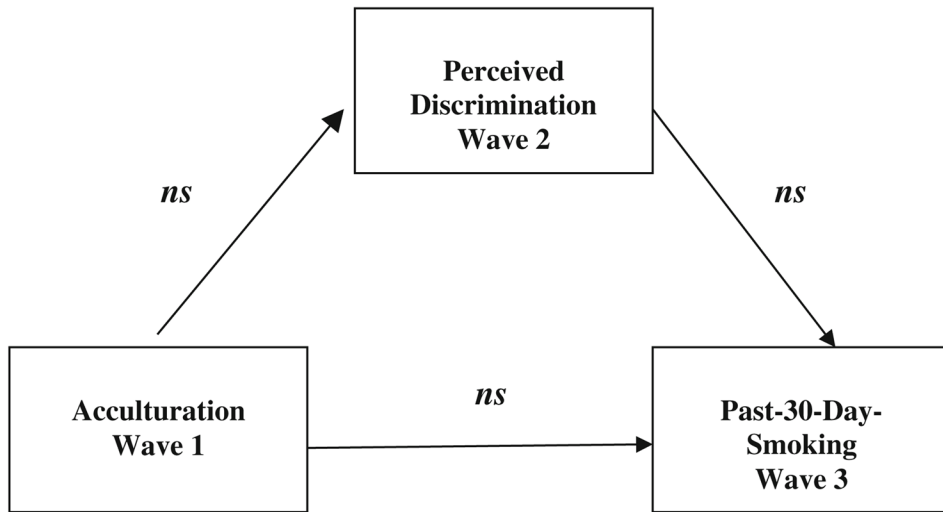


Fig. 6.
Mediation results for past-30-day-smoking among boys

Table 1

Descriptive characteristics for overall sample, girls, and boys

Variables	Overall sample		Girls		Boys	
	(n = 1,124)		(n = 614)		(n = 510)	
	N (%) of M (SD)	N (%) of M (SD)	N (%) of M (SD)	N (%) of M (SD)	N (%) of M (SD)	N (%) of M (SD)
Age (in years)						
12 years or younger	1.0	0.1	1	0.2	0.0	0.0
13 years	89.0	7.9	54	8.8	35.0	6.9
14 years	963.0	85.7	531	86.5	432.0	84.7
15 years	68.0	6.0	27	4.4	41.0	8.0
16 years	1.0	0.1	0	0	1.0	0.2
Missing	2.0	0.2	1.0	0.2	1.0	0.2
Nativity						
U.S. born	963.0	85.7	531	86.5	432.0	84.7
Foreign born	130.0	11.6	69	11.2	61.0	12.0
Missing	31.0	2.8	14	2.3	17.0	3.3
Acculturation						
U.S. orientation	0.65	0.14	0.68	0.13	0.62	0.14
American way of life	1.56	0.86	1.52	0.84	1.60	0.88
Hispanic orientation	0.45	0.19	0.47	0.19	0.42	0.20
Latino way of life	3.25	0.91	3.30	0.88	3.19	0.94
Perceived discrimination	1.54	0.56	1.49	0.52	1.61	0.59
CES-D	1.76	0.52	1.85	0.54	1.65	0.48
Lifetime smoking	248	22.1	123	20.0	125	24.5
Past-30-day-smoking						
0 days	1,061	94.4	578	94.1	483	94.7
1 or 2 days	34	3.0	20	3.3	14	2.7
3–5 days	10	0.9	6	1.0	4	0.8
6–9 days	3	0.3	1	0.2	2	0.4
10–19 days	6	0.5	3	0.5	3	0.6
20–29 days	1	0.1	1	0.2	0	0.0

Variables	Overall sample (n = 1,124)	Girls (n = 614)	Boys (n = 510)
	N (%) of M (SD)	N (%) of M (SD)	N (%) of M (SD)
All 30 days	3 0.3	1 0.2	2 0.4
Missing	6 0.5	4 0.7	2 0.4
Adult smoking			
None or 0	789 70.2	436 71.0	353 69.2
1 of them	260 23.1	141 23.0	119 23.3
2 of them	71 6.3	35 5.7	36 7.1
Missing	4 0.4	2 0.3	2 0.4
Friend smoking	396.0 35.2	210 34.2	186 36.5

Table 2

Intercorrelations between all study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	–											
2. Gender	–0.08**	–										
3. U.S. orientation	–0.02	0.19**	–									
4. American way of life	0.01	–0.05	0.13**	–								
5. Hispanic orientation	–0.06	0.12**	–0.12**	–0.17**	–							
6. Latino way of life	–0.06*	0.06	–0.01	0.03	0.28**	–						
7. Perceived discrimination	0.03	–0.11**	–0.07*	0.01	0.05	0.06*	–					
8. CES-D	–0.02	0.19**	0.08**	0.04	–0.01	–0.03	0.22**	–				
9. Lifetime smoking	0.01	–0.05	–0.04	0.05	–0.03	0.03	0.14**	0.10**	–			
10. Past-30-day-smoking	0.01	–0.13**	–0.04	0.04	–0.06*	0.02	0.10**	0.06*	0.27**	–		
11. Adult smoking	0.02	–0.02	0.02	0.00	–0.03	0.00	0.05	0.06*	0.18**	0.09**	–	
12. Friend smoking	0.02	–0.03	0.02	0.07*	–0.08*	0.07*	0.13**	0.05	0.37**	0.17**	0.14**	–

Continuous measures: U.S. orientation, American way of life, Hispanic orientation, Latino way of life, perceived discrimination, CES-D

Categorical measures: age, gender, lifetime smoking, past-30-day-smoking, adult smoking, friend smoking

* $p < 0.05$;** $p < 0.01$

Table 3
Results of multivariate regression analyses predicting depression and perceived discrimination

Variable	Overall sample			Girls			Boys		
	B	SEB	β	B	SEB	β	B	SEB	β
Step 1: Depression with demographic covariates and acculturation variables as predictors									
Constant	1.65	0.16		1.94	0.24		1.57	0.21	
Age	-0.01	0.04	-0.01	-0.05	0.06	-0.03	0.02	0.05	0.02
Gender	0.19	0.03	0.18**	-	-	-	-	-	-
U.S. orientation	0.13	0.12	0.03	0.18	0.18	0.04	0.08	0.16	0.02
American way of life	0.03	0.02	0.04	0.05	0.03	0.08*	-0.00	0.02	-0.01
Hispanic orientation	-0.02	0.09	-0.01	-0.15	0.12	-0.05	0.12	0.12	0.05
Latino way of life	-0.02	0.02	-0.04	-0.02	0.03		-0.03	0.02	-0.05
Step 2: Perceived discrimination with demographic covariates and acculturation variables as predictors									
Constant	1.47	0.17		1.34	0.23		1.48	0.26	
Age	0.03	0.04	0.02	-0.02	0.06	-0.01	0.08	0.07	0.05
Gender	-0.12	0.03	-0.11**	-	-	-	-	-	-
U.S. orientation	-0.21	0.13	-0.05	-0.01	0.17	0.00	-0.41	0.19	-0.09*
American way of life	0.01	0.02	0.01	0.01	0.03	0.02	0.01	0.03	0.01
Hispanic orientation	0.12	0.09	0.04	0.01	0.12	0.00	0.26	0.14	0.09
Latino way of life	0.03	0.02	0.05	0.05	0.02	0.09*	0.01	0.03	0.02
Step 3: Depression with demographic covariates and perceived discrimination as predictors									
Constant	1.33	0.13		1.59	0.18		1.28	0.16	
Age	-0.01	0.04	-0.01	-0.03	0.06	-0.02	0.01	0.05	0.00
Gender	0.22	0.03	0.21**	-	-	-	-	-	-
Perceived discrimination	0.22	0.03	0.24**	0.23	0.04	0.22**	0.22	0.03	0.27**
Step 4: Depression with demographic covariates, acculturation variables, and perceived discrimination as predictors									
Constant	1.31	0.16		1.62	0.24		1.25	0.21	
Age	-0.02	0.04	-0.01	-0.04	0.06	-0.03	0.00	0.05	0.00
Gender	0.22	0.03	0.21**	-	-	-	-	-	-
U.S. orientation	0.18	0.11	0.05	0.18	0.17	0.04	0.17	0.15	0.05

Variable	Overall sample			Girls			Boys		
	B	SEB	β	B	SEB	β	B	SEB	β
	American way of life	0.02	0.02	0.04	0.05	0.03	0.08	-0.00	0.02
Hispanic orientation	-0.05	0.08	-0.02	-0.15	0.12	-0.05	0.07	0.11	0.03
Latino way of life	-0.03	0.02	-0.05	-0.04	0.03	-0.06	-0.03	0.02	-0.06
Perceived discrimination	0.23	0.03	0.25**	0.24	0.04	0.23**	0.22	0.04	0.27**

* $p < 0.05$;

** $p < 0.001$

Table 4
Results of logistic regression analyses predicting past-30-day-smoking and perceived discrimination

Variable	Overall sample			Girls			Boys		
	B	SE	Exp(B)	B	SE	Exp(B)	B	SE	Exp(B)
Step 1: Past-30-day-smoking with demographic covariates and acculturation as predictors									
Constant	-2.21	1.23	0.11	-6.32	2.47	0.00	-1.33	1.45	0.27
Lifetime smoking	1.52	0.26	4.59**	1.98	0.46	7.21**	1.33	0.32	3.78**
Age	-0.17	0.31	0.84	-0.49	0.58	0.61	-0.04	0.36	0.96
Gender	-0.87	0.25	0.42**	-	-	-	-	-	-
Friend smoking	0.61	0.26	1.83*	0.44	0.46	1.55	0.70	0.33	2.02*
Adult smoking	0.14	0.25	1.15	0.65	0.40	1.92	-0.18	0.32	0.83
U.S. orientation	-0.30	0.88	0.74	3.06	1.89	21.24	-1.48	1.06	0.23
American way of life	0.03	0.13	1.03	-1.79	1.15	0.17	0.09	0.16	1.09
Hispanic orientation	-1.09	0.67	0.34	-0.03	0.24	0.97	-0.74	0.83	0.48
Latino way of life	0.13	0.14	1.14	0.66	0.32	1.93*	-0.07	0.17	0.94
Step 2: Perceived discrimination with demographics and acculturation as predictors									
Constant	1.45	0.18		1.26	0.24		1.52	0.27	
Lifetime smoking	0.13	0.04	0.10*	0.19	0.06	0.14*	0.08	0.07	0.06
Age	0.02	0.04	0.01	-0.02	0.06	-0.01	0.06	0.07	0.04
Gender	-0.11	0.04	-0.10*	-	-	-	-	-	-
Friend smoking	0.11	0.04	0.09*	0.08	0.05	0.07	0.14	0.06	0.11*
Adult smoking	0.02	0.04	0.01	0.08	0.05	0.07	-0.05	0.06	-0.04
U.S. orientation	-0.22	0.13	-0.05	0.01	0.17	0.00	-0.45	0.20	-0.11*
American way of life	0.00	0.02	0.01	0.00	0.03	0.00	0.01	0.03	0.01
Hispanic orientation	0.15	0.09	0.05	0.06	0.12	0.02	0.28	0.15	0.09
Latino way of life	0.03	0.02	0.05	0.05	0.03	0.08	0.01	0.03	0.01
Step 3: Perceived discrimination with demographics, acculturation, and smoking as predictors									
Constant	1.45	0.18		1.26	0.24		1.52	0.27	
Lifetime smoking	0.13	0.04	0.10*	0.19	0.06	0.14*	0.08	0.07	0.06
Age	0.02	0.04	0.01	-0.02	0.06	-0.01	0.06	0.07	0.04
Gender	-0.11	0.04	-0.10*	-	-	-	-	-	-
Friend smoking	0.11	0.04	0.09*	0.08	0.05	0.07	0.14	0.06	0.11*
Adult smoking	0.02	0.04	0.01	0.08	0.05	0.07	-0.05	0.06	-0.04
U.S. orientation	-0.22	0.13	-0.05	0.01	0.17	0.00	-0.45	0.20	-0.11*
American way of life	0.00	0.02	0.01	0.00	0.03	0.00	0.01	0.03	0.01
Hispanic orientation	0.15	0.09	0.05	0.06	0.12	0.02	0.28	0.15	0.09
Latino way of life	0.03	0.02	0.05	0.05	0.03	0.08	0.01	0.03	0.01

Variable	Overall sample			Girls			Boys		
	B	SE	Exp(B)	B	SE	Exp(B)	B	SE	Exp(B)
Step 3: Past-30-day-smoking with demographic covariates and perceived discrimination as predictors									
Constant	-2.88	0.99	0.06	-3.87	1.65	0.02	-2.78	1.19	0.06
Lifetime smoking	1.50	0.26	4.47**	1.81	0.46	6.09**	1.36	0.32	3.89**
Age	-0.17	0.31	0.84	-0.42	0.54	0.65	-0.02	0.37	0.98
Gender	-0.90	0.25	0.41**	-	-	-	-	-	-
Friend smoking	0.64	0.26	1.89*	0.48	0.46	1.61	0.71	0.32	2.03*
Adult smoking	0.12	0.25	1.13	0.62	0.40	1.87	-0.20	0.32	0.82
Perceived discrimination	0.30	0.19	1.35	0.61	0.30	1.84*	0.06	0.25	1.06
Step 4: Past-30-day-smoking with demographic covariates, acculturation, and perceived discrimination as predictors									
Constant	-2.66	1.26	0.07	-6.45	2.45	0.00	-1.43	1.51	0.24
Lifetime smoking	1.49	0.26	4.43**	1.87	0.47	6.52**	1.32	0.32	3.76**
Age	-0.18	0.31	0.83	-0.63	0.59	0.53	-0.04	0.36	0.96
Gender	-0.85	0.25	0.43*	-	-	-	-	-	-
Friend smoking	0.56	0.26	1.76*	0.34	0.47	1.41	0.70	0.33	2.00*
Adult smoking	0.14	0.25	1.15	0.62	0.41	1.86	-0.18	0.32	0.84
U.S. orientation	-0.27	0.89	0.76	2.94	1.93	18.83	-1.45	1.06	0.23
American way of life	0.04	0.13	1.04	-0.03	0.25	0.97	0.09	0.16	1.09
Hispanic orientation	-1.18	0.67	0.31	-2.02	1.16	0.13	-0.76	0.83	0.47
Latino way of life	0.12	0.14	1.13	0.62	0.32	1.85	-0.07	0.17	0.94
Perceived discrimination	0.33	0.19	1.39	0.60	0.31	1.81	0.06	0.25	1.06

* $p < 0.05$;

** $p < 0.001$