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## Associations Between Family Structure, Family Functioning, and Substance Use Among Hispanic/Latino Adolescents

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### Abstract

This study examined the role of family structure and functioning in predicting substance use among Hispanic/Latino adolescents, surveyed in 9<sup>th</sup> and 10<sup>th</sup> grade. The sample (N=1433) was half female, mostly of Mexican descent, and the majority was born in the U.S. Living with a single father was associated with less parental monitoring and less family cohesion ( $\gamma = -0.07, -0.06$ , respectively). Living with a single mother was associated with less parental monitoring ( $\gamma = -0.10$ ). Living with neither parent was associated with less communication ( $\gamma = -0.08$ ), less parental monitoring ( $\gamma = -0.09$ ), more family conflict ( $\gamma = 0.06$ ), and less family cohesion ( $\gamma = -0.06$ ). Less monitoring was associated with substance use at follow-up ( $\beta = -0.17$ ). Low rates of parental monitoring appear to mediate the association between parental family structure and substance use. Results suggest that improving basic parenting skills, and offering additional social support and resources to assist parents in monitoring adolescents may help prevent substance use. These interventions may be particularly beneficial for single parents.

### Keywords

Adolescents; Hispanic/Latino; Family function; Family structure; Structural Equation Modeling

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Understanding the mechanisms behind Hispanic/Latino adolescent substance use in the United States is a growing area of emphasis for substance use prevention researchers (Prado *et al.*, 2008). Data from the National Survey of Drug Use and Health indicate that in 2006, 40% of Hispanic/Latino adolescents aged 12–17 years reported lifetime use of alcohol, while almost 24% reported lifetime use of cigarettes, and 17% reported lifetime use of marijuana (Substance

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Abuse and Mental Health Services Administration, 2006). Given that Hispanic/Latino adolescents are part of the most rapidly growing ethnic minority group in the United States (Bernstein, 2005), research into the factors affecting substance use in this group is particularly important.

Ecodevelopmental Theory (Szapocznik & Coatsworth, 1999) examines the complex set of reciprocal influences on problem behaviors among adolescents, and can be used as a framework to inform an investigation of the factors associated with adolescent substance use. Ecodevelopmental Theory and other ecological theories of behavior (e.g., Bronfenbrenner, 1979) focus on three primary worlds of the adolescent (i.e., family, peers, and school) and identify four levels of influence: 1) macrosystems, or the cultural or societal ideals that define a society or culture, 2) exosystems, or the conditions in a parent's life that indirectly affect adolescents (e.g., work stress, social support), 3) mesosystems, or the linkages between the adolescents' worlds (e.g., parental involvement in school), and 4) microsystems, or the immediate social contexts that directly influence adolescents (e.g., family, school, and peers; Pantin *et al.*, 2003). These contexts also can interact with one another. For example, a supportive family or school environment can buffer the harmful effects of neighborhood disorganization, poverty, and violence on adolescent delinquency (Cicchetti & Aber, 1998).

According to Pantin and colleagues (2003), the family context has the greatest degree of influence over the adolescent, and aspects of family functioning such as family conflict, cohesion, and communication are among the most powerful predictors of developmental outcomes. Considering the central role of the family in Hispanic/Latino cultures (Miranda *et al.*, 2006), family characteristics may be especially important influences on substance use among Hispanic/Latino adolescents. Many Hispanic/Latino families in the United States also have unique characteristics that may influence parenting quality and effectiveness, including high residential mobility, family members immigrating to the United States at different times, and the challenges of parenting in an unfamiliar social and cultural environment and with limited social and economic resources. For the current report, we focus primarily on two aspects of the family context – parental family structure and characteristics of family functioning – in an investigation of substance use behavior among Hispanic/Latino adolescents. Family functioning (i.e., parental monitoring, communication, family cohesion, family conflict) represents one aspect of the microsystem of the family. Parental family structure may itself be a product of exosystem factors, which indirectly affect adolescents via more proximal or mediating influences. These factors are all contextualized within the larger macrosystem of cultural values and changes in cultural norms represented, in part, by the process of acculturation.

## Parental Family Structure

Though the reasons for the arrangement may vary, adolescents who live in an arrangement other than with two biological parents report more substance use than those who live with both parents (Blum *et al.*, 2000; Demuth & Brown, 2004; Flewelling & Bauman, 1990; Jenkins & Zunguze, 1998). For example, living with other than both biological parents was found to be prospectively associated with cigarette smoking in a sample of mostly white 10 to 17 year olds, even after controlling for characteristics of parenting style (Chassin *et al.*, 2005). Others have found an arrangement other than living with two biological parents to be associated with elevated DSM-IV substance abuse and dependence symptoms (Barrett & Turner, 2006), increased rates of daily cigarette smoking (Miller & Volk, 2002), and smoking initiation (Edelen *et al.*, 2007). Though, in the latter study, the presence of an adult or older sibling who smoked counteracted the protective effect of the nuclear family. Several explanations have been offered for this phenomenon. Single parents may be less able to provide consistent supervision and monitoring of their children, so youth from single parent households have

more opportunities to experiment with substance use and other delinquent behaviors compared to youth from two-parent households (Demo & Acock, 1996; Mack *et al.*, 2007). Other explanations include the mediating role of the use and approval of substances by peers, and exposure to stress (Barrett & Turner, 2006).

## Family functioning

The role of family functioning has also been investigated as both a correlate and predictor of adolescent substance use. Family processes act as a form of informal social control that can reduce the likelihood of delinquent adolescent behaviors, by reducing opportunities to engage in deviant behaviors, providing alternative prosocial activities, and promoting positive development (Amato & Fowler, 2002; Sampson & Laub, 1994). Studies have repeatedly found an inverse relationship between parental monitoring, defined as parents keeping track of their child's whereabouts (Cohen *et al.*, 1994), and adolescent substance use (Cohen *et al.*, 1994; Gorman-Smith *et al.*, 1998; Macaulay *et al.*, 2005; Parker & Benson, 2004; Steinberg *et al.*, 1994). For example, a longitudinal study of urban, mostly African-American adolescents found that those in the lower quartile of parental monitoring in middle childhood (8 to 10 years old) were about three times more likely to initiate use of cocaine, marijuana, and inhalant drugs four years later (Chilcoat & Anthony, 1996); family structure was not found to be a significant predictor of substance use. In a sample of 10 to 17 year old, mostly white youth, parenting style was significantly associated with increases in adolescent smoking (Chassin *et al.*, 2005). In the Chassin *et al.* (2005) study, adolescents from "disengaged" families (low levels of parental behavioral control and acceptance) were found to increase their level of smoking over the course of two years, compared to adolescents from families that displayed more control and more acceptance. Lower levels of parental support (e.g., perceived parental trust, understanding, fairness, and pride) were associated with increased adolescent use of alcohol, cocaine and marijuana in a large, ethnically diverse national survey (Parker & Benson, 2004). Another nationally representative survey has found that youth who reported high parental support and frequent communication were approximately half as likely to smoke and drink as their counterparts who reported infrequent communication and did not identify their parents as a source of support (Simantov *et al.*, 2006).

## The Role of Family Among Hispanic/Latino Adolescents

While the importance of the family in Hispanic/Latino culture has long been recognized (Amey & Albrecht, 1998; Miranda *et al.*, 2006; Sabogal *et al.*, 1987), most studies to date have included small proportions of Hispanic/Latino adolescents and have not fully examined the role of family structure and family functioning in adolescent substance use. Among those studies that have included more diverse samples, some have found important differences in the role of family based on race/ethnicity, and particularly among Hispanic/Latino families. For example, a large study of adolescents living in single-parent households in Florida found that living with a single father predicted increased marijuana use among Hispanic/Latinos, but not among African Americans or whites (Eitle, 2006). In a large study of adolescent boys (Gil *et al.*, 1998), the effects of family functioning characteristics on substance use also varied by ethnicity; low family pride, low family cohesion, high parent derogation, and low family communication all increased the risk for substance use initiation among U.S.-born Hispanic/Latinos, while low family pride and low family cohesion were significant predictors among foreign-born Hispanic/Latinos. No family functioning factors predicted substance use initiation among African Americans, while low family pride and low family communication predicted initiation among white adolescents. In a study that included urban, high-risk, male adolescents from three ethnic groups, parent-child involvement—defined as parent-child communication and time spent with parents—had a significant, negative association with delinquency for Hispanic/Latino youth but not for white and African American youths (Smith

& Krohn, 1995). Parental monitoring, on the other hand, was found to be protective against delinquency for white and African American youths but not for Hispanic/Latino youth. Others have found parental monitoring to be protective against deviant behaviors among Hispanic/Latino youth (e.g., Caldwell, 2006; Forehand *et al.*, 1997; Gorman-Smith *et al.*, 1996; Lamborn *et al.*, 1996).

In sum, research suggests that characteristics of the family such as certain types of functioning and the structure of the family may play both protective and exacerbating roles in adolescent substance use, and that the role of these characteristics may vary by ethnicity. Ecocultural Theory suggests that the family plays a central role in the development of maladaptive or problem behaviors such as substance use, and that several levels of influence should be explored. In the current study we explored a theoretical model that included measures of both family structure and functioning in a large sample of Hispanic/Latino adolescents (Figure 1). We hypothesized that parental family structure other than living with a two-parent household in 9<sup>th</sup> grade would predict adolescent substance use in the 10<sup>th</sup> grade. Further, we hypothesized that family conflict would be positively associated with substance use, while parent/child communication, parental monitoring, and, family cohesion would have protective effects. Finally, we hypothesized that the effects of family functioning would mediate the effects of parental family structure on substance use. Because macrosystem factors such as cultural norms and values are also theorized to be important predictors of substance use, the theoretical model also accounted for the role of acculturation and other sociodemographic factors.

## Method

Data were collected as part of Project RED (Reteniendo y Entendiendo Diversidad para Salud), a three-year study of the role of acculturation patterns and substance use among Hispanic/Latino adolescents in Southern California. Data from the first and second years of data collection (collected in Fall 2005 and 2006) were used for the current analysis. A detailed description of data collection procedures is provided elsewhere (Unger *et al.*, 2007).

Briefly, participants were initially enrolled when they were 9<sup>th</sup>-grade students attending seven public high schools in the Los Angeles area that contained at least 70% Hispanic/Latino students, as indicated by data from the California Board of Education. The larger sampling strategy included an emphasis on sampling 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 U.S. Census data. In 2005, all 9<sup>th</sup>-grade students in the school were invited to participate in the survey if they provided written or verbal parental consent and student assent. The University of Southern California Institutional Review Board approved all study procedures.

On the day of the survey, data collectors read the entire survey aloud during a single class period. Surveys were available in English and Spanish, though only 17 students (0.8%) chose to complete the survey in Spanish. This is consistent with our previous research and suggests that among adolescents attending schools with English-only instruction, their English reading ability is at least as high as their Spanish reading ability, even if their speaking ability is better in Spanish. Similar procedures were employed one year later, when the students were in 10<sup>th</sup> grade. Data collectors used contact information obtained in year one to telephone students who had transferred schools and attempted to survey them by telephone.

Across the seven schools, 3218 students were invited to participate in year one. Of those, 2420 (75%) provided parental consent and student assent. Of those, 2226 (92%) completed the survey in year 1. Because the aim of this analysis was to investigate the role of family among

Hispanic/Latino adolescents, we retained 1936 (87%) students who self-identified as Hispanic or Latino. Of those, 1701 (88%) completed surveys in both years one and two, and 1433 provided complete data on all variables used in this analysis. This represents 84% of Hispanic/Latino students who completed both years of the survey, or 74% of Hispanic/Latino students in the baseline sample. Our analytic sample did not differ from those who were lost to follow-up or excluded due to missing data in gender, acculturation, lifetime alcohol use or current use of cigarettes or alcohol ( $p$ 's  $>0.05$ ). However, compared to those who were lost or excluded, those who were retained were less likely to report living with neither parent ( $p<0.001$ ), less likely to report lifetime cigarette ( $p=0.03$ ) and marijuana use ( $p=0.02$ ), and less likely to report current marijuana use ( $p=0.02$ ).

## Measures

**Substance use**—The outcome of interest in the current analysis was a composite score representing current and lifetime substance use. Substance use items on the survey included lifetime and past-30 day use of alcohol, cigarettes, and marijuana, and past-30 day binge drinking, and were based on those items used in the Youth Risk Behavior Survey (Centers for Disease Control and Prevention, 2005). Dichotomous responses to the seven substance use survey items were summed to create the composite variable. Substance use was assessed in both years of data collection; past 30 day and lifetime substance use prevalence for both years are shown in Table 1.

**Parental family structure**—Parental family structure was coded into one of four categories, based on a single question that asked students who they live with: living with a single mother, living with a single father, living with neither parent, or living with both parents. Living with both parents was the reference category in the analysis. Parental family structure was assessed in year one.

**Family functioning**—Four measures of family functioning were included. Parent/child communication was assessed using four items that asked about perceived communication with their parents, rated on a four-point scale (e.g., 1=never, 4=very often; Cronbach's alpha = 0.85; Cohen et al., 1994). Parental monitoring was assessed using three items that asked about students' perceptions about their parents' keeping track of their activities, also rated on a four-point scale (e.g., 1=never, 4=very often; Cronbach's alpha = 0.61; Cohen et al., 1994). Family conflict (Cronbach's alpha = 0.63) and family cohesion (Cronbach's alpha = 0.79) were each assessed with six questions selected from the larger FACES-II scale (Olson *et al.*, 1982), rated on a five-point scale (1=almost never, 5=almost always). The FACES scale is one of the most widely used family assessment tools, and has been used in the U.S. and cross-culturally (Kouneski, 2000). The twelve items were selected because they had the highest factor loadings and best psychometric properties in a similar sample of adolescents who were enrolled in the pilot for the current study. In the event that students did not live with their parents, the instructions for the family functioning questions directed students to think about "the person or people who raised you," and included examples such as grandparents, aunts/uncles, stepparents, or legal guardians. All family functioning variables were assessed in year one.

**Demographics**—Gender was measured using a single self-report item. Socioeconomic status (SES) was estimated as ratio of the number of rooms to the number of people in the household, which is typically correlated with other SES indicators such as overcrowding and poverty (Bennefield & Bonnette, 2003; Myers *et al.*, 1996). Generational status was coded as first generation if the student and both parents were born outside the United States, second generation if the student was born in the United States but both parents were born outside the United States, and third generation if the student and at least one parent were born in the United States. Ethnicity was assessed using two questions. The first assessed whether students



identified as Hispanic/Latino using a check-all-that-apply question, which included a list of 15 possible ethnic identifications (e.g., American Indian/Alaska Native, Asian, Black, Hispanic, Latino, Native Hawaiian, White, Mexican, Central American, etc.). Any endorsement of Hispanic/Latino ethnicity was considered a “yes”. The second question asked whether any members of the students' families were born in a series of countries, including those in North, Central, and South America and the Caribbean.

**Acculturation**—Acculturation was assessed with the Acculturation Rating Scale for Mexican-Americans-II (Cuellar *et al.*, 1995). The ARSMA-II is one of the earliest and most widely used measures of acculturation. It was designed specifically for use with Mexican Americans but has also been used with other Hispanic/Latino groups. In keeping with a bidimensional understanding of acculturation, in which individuals may classify themselves as highly integrated into one culture, both, or neither (Berry, 1980), the ARSMA-II provides two scores for each respondent, indicating the degree of orientation to the U.S./Anglo culture (U.S. Orientation Scale Score) and Hispanic/Latino culture (Latino Orientation Scale Score). The ARSMA-II assesses the following cultural behaviors: language use and preference, ethnic identity and classification, cultural heritage and ethnic behavior, and ethnic interaction. Cronbach's alphas were 0.83 for U.S. Orientation and 0.88 for Latino Orientation. Consistent with a bidimensional theory of acculturation, there was a small, but statistically significant negative correlation between the U.S. and Latino orientation scales ( $r = -0.07$ ,  $p < 0.05$ ).

## Analysis

Univariate descriptive statistics were calculated for all variables of interest using SAS 9.1.3, and McNemar's chi-square tests were used to compare rates of current and lifetime substance use reported in years one and two.

**Structural Equation Modeling**—Initial confirmatory factor analysis of the variables representing the latent family functioning factors was performed using the EQS 6.1 computer software program (Bentler, 2004) to evaluate the adequacy of the measurement model. Some measurement errors were allowed to covary based on suggestions from the Lagrange Multiplier Test (Chou & Bentler, 1990). In order to be justifiable, covariances recommended by the Lagrange Multiplier Test had to be between error terms associated with items within the same scale (i.e., comprising the same factor). In total, two additional covariances were specified between parental monitoring items that were assessed as part of a single set of questions on the survey, and three covariances were specified between family cohesion items that were administered as part of a single set of questions on the survey.

Once the relationship between the latent factors and their indicators was established, the EQS program was used to test the hypothetical structural equation model by adding the hypothesized regression paths from independent variables, factors, and covariates to the dependent variable (substance use in year two). Independent variables were parental family structure (living with single mother, single father, or neither parent) mediated by four family functioning factors (parental monitoring, parent/child communication, family conflict, and family cohesion), all measured in year one. The family functioning factors were allowed to covary with each other. Gender, acculturation, SES, and year one substance use were included as covariates in the equations representing the direct and mediated effects, and were allowed to covary with each other and with the family structure variables. Due to the significant association between acculturation scores and generation in the U.S., we only controlled for acculturation. We calculated the Intraclass Correlation Coefficient (ICC) for the main outcome variable (substance use in year two) and sub-components of that variable (current cigarette, marijuana, and alcohol use) to address the potential clustering effect of students within the seven schools. All ICCs were less than 0.01, suggesting that school-level variance should have little effect on

the significance of path coefficients. Therefore, school is included in the structural equation model as a fixed effect. The hypothesized structural model is shown in Figure 1. Because the associations between covariates and substance use may inform future modeling efforts, we report the results for these variables. However, in order to preserve interpretability of the model, we do not depict the additional paths in the figure.

The criteria to establish mediation were informed by the work of Baron and Kenny (1986) and MacKinnon and colleagues (2002). The Product of Coefficients method, in which the unstandardized coefficients from regression path *a* (independent variable to mediator) and path *b* (mediator to dependent variable) are multiplied, divided by the standard error (Sobel, 1982), and compared to a standard normal distribution, was used to calculate estimates of mediated effects. Because SEM estimates regression paths with all the variables in the model simultaneously, we do not present information regarding path *c*, or the direct effect of the independent variable on the dependent variable without adjusting for the mediator. We also report the results of the EQS program for the indirect effects.

The Chi-square goodness-of-fit test statistic, comparative fit index (CFI), and root mean-square error of approximation (RMSEA) were used to evaluate the fit of the structural equation model. Because a large sample size tends to inflate the chi-square value, making it difficult to achieve a non-significant Chi-square statistic under any circumstances, the p-value of the Chi-square test was not considered the primary criterion for a good model fit. Instead, a CFI greater than 0.95 or RMSEA less than 0.06 were employed as an alternative standard to indicate goodness of model fit (Hu & Bentler, 1999).

## Results

Students (N=1433) were 53% female and mostly 14 years old, since they were recruited in the 9<sup>th</sup> grade. Demographic characteristics are shown in Table 1. All were Hispanic/Latino, and 85% were born in the U.S. The most commonly endorsed country of origin was Mexico (85%), followed by the United States (28%), El Salvador (9%), Guatemala (7%), Spain (1%), and Puerto Rico (1%). Other Central and South American countries were identified by less than 1% of students. Just over two-thirds (64%) identified a single country of origin, while 29% identified two countries, and 5% identified three countries. Most reported living with both their mother and father (74%). Fewer reported living with a single mother (15%), single father (2%) or with neither parent (8%). Frequencies of reported use of cigarettes, alcohol, and marijuana are also reported in Table 1. Significant increases in both lifetime and current substance use were observed from year one to year two (all *ps* <0.0001).

## Path analysis

Table 2 presents the ranges, means, standard deviations, and factor loadings for the measured variables that were used as indicators for the four family functioning factors, as well as the means and standard deviations for the latent factors. Table 3 reports the correlation matrix for all the variables included in the structural equation model, including independent variables, dependent variables, and covariates. The final overall fit of the structural equation model was adequate based on empirical fit indices (CFI = 0.95; RMSEA = 0.033, 90% CI 0.030, 0.036) with  $\chi^2 = 696.66$ , *df*=272, *p*<0.0001. Our conceptual model included paths from all the parental family structure variables through all the family functioning variables to year two substance use, controlling for gender, acculturation, school, SES, and year one substance use. The final model is shown in Figure 2, depicting only the family structure and functioning regression paths significant at the *p*<0.05 level (one-tailed). The Greek letter gamma ( $\gamma$ ) represents the regression of dependent variables on independent variables, while the Greek letter beta ( $\beta$ ) represents the regression of one dependent variable on another.

When controlling for family functioning characteristics and other covariates, living with neither parent was the only family structure variable to significantly predict substance use in year two ( $\gamma = 0.04$ ). While the other family structure variables did not have a direct effect on substance use, they were associated with family functioning characteristics. Living with a single father was associated with less parental monitoring and less family cohesion ( $\gamma = -0.07, -0.06$ , respectively). Living with a single mother was associated with less parental monitoring ( $\gamma = -0.10$ ). Living with neither parent was associated with less communication ( $\gamma = -0.08$ ), less parental monitoring ( $\gamma = -0.09$ ), more family conflict ( $\gamma = 0.06$ ), and less family cohesion ( $\gamma = -0.06$ ). Less monitoring was the only family functioning variable associated with substance use at follow-up ( $\beta = -0.17$ ).

In addition to family variables, the effects of cultural and sociodemographic characteristics were also investigated (data not shown). Male gender and higher scores on the U.S. orientation acculturation scale were significantly associated with greater substance use in year two ( $\gamma = 0.05, 0.05$ , respectively). Female gender was significantly associated with greater parental monitoring, and less family cohesion ( $\gamma = 0.17, -0.07$ , respectively). Higher scores on both the U.S. and Latino orientation scales were associated with greater parental monitoring ( $\gamma = 0.13, 0.12$ , respectively) and greater cohesion ( $\gamma = 0.11, 0.21$ , respectively), while higher scores on the Latino orientation scale were associated with less family conflict ( $\gamma = -0.09$ ).

Using the calculation of indirect effects provided by EQS, significant indirect effects from all three categories of parental family structure to substance use in year two were detected ( $p < 0.05$ ; data not shown). Upon decomposition of the effects using the Product of Coefficients method, the effects of parental family structure appear to be mediated by their effects on parental monitoring (Table 4). The mediated effect was statistically significant for living with a single mother or neither parent, and marginally significant for living with a single father.

## Discussion

In this study we attempted to integrate the role of parental family structure and family functioning into a single theoretical model that could be used to help understand substance use among Hispanic/Latino adolescents. While the role of parental family structure has been well-documented as a correlate of substance use among adolescents (Blum et al., 2000; Chassin et al., 2005; Edelen et al., 2007; Eitle, 2004; Flewelling & Bauman, 1990; Hoffman & Johnson, 1998; Jenkins & Zunguze, 1998; Miller & Volk, 2002), less evidence exists to help explain the mechanisms through which family structure exerts its influence on substance use behavior. To further this understanding, we examined four types of family functioning as potential mediators of the association between parental family structure and adolescent substance use one year later. Previous studies have yielded fairly consistent findings in terms of the protective role of parental monitoring (Chilcoat & Anthony, 1996; Cohen et al., 1994; Gorman-Smith et al., 1998; Macaulay et al., 2005; Parker & Benson, 2004; Steinberg et al., 1994), support (Olvera et al., 2006; Simantov et al., 2006; Smith & Krohn, 1995), communication (Gil et al., 1998; Smith & Krohn, 1995), and cohesion (Gil et al., 1998). However, most previous studies have not focused on Hispanic/Latino families, and most have not examined whether these family functioning variables are mediators of the effects of family structure on substance use. It is important to understand why single-parent families are at greater risk for adolescent substance use, so that appropriate interventions can be developed to prevent substance use in families with diverse structures, backgrounds, and life circumstances. This is particularly important for Hispanic/Latino families, many of whom already face significant challenges that may undermine parenting effectiveness, such as acculturative stress, socioeconomic disadvantage, residential mobility, and lack of extended family support.



In this study parental monitoring appeared particularly important in predicting substance use in this sample of Hispanic/Latino adolescents. This finding supports those of others, and provides further evidence for the effect in a sample of mostly U.S.-born Hispanic/Latino adolescents. It has been noted elsewhere that specific parenting practices such as supervision and monitoring may be appropriate targets for interventions designed to assist parents in developing more effective techniques (Chilcoat & Anthony, 1996), and our findings support this view. This may be particularly important in acculturating families. For these families, differential patterns of migration, language barriers, and discrepancies in the rates of acculturation between parents and children may make it especially difficult for parents to easily monitor their children's activities (Pantin et al., 2003; Unger *et al.*, 2009; Wagner *et al.*, 2008a).

Ecodevelopmental Theory (Szapocznik & Coatsworth, 1999) describes an interaction between various levels of influence on adolescent problem behaviors. Our findings regarding the influence of family functioning characteristics, and the role of parental family structure, may represent the terminal end of a "cascade" of influences that are rooted in larger, more macro-level contexts (Pantin et al., 2003). While the family functioning characteristics operate at the most proximal, or microsystem level, our findings also suggest that macrosystem factors such as acculturation and gender norms are important influences that should be considered. In the SEM, female gender was significantly associated with less substance use, and also with greater parental monitoring and less family cohesion. Qualitative reports suggest that parents may behave more strictly with daughters than with sons, due at least in part to concerns about violating gender norms around premarital sexual intercourse and/or the risk of unintended pregnancy (Torres Stone & Meyler, 2007; Wagner *et al.*, 2008a). These concerns may lead to perceptions of enhanced monitoring, but may also potentiate greater resentment and possibly elevated conflict within the family.

The association between acculturation and substance use among Hispanic/Latino youth has been widely studied, and acculturation to the U.S. culture has generally been found to be associated with substance use (Szapocznik *et al.*, 2007). Similarly, our SEM results suggest that U.S. orientation is significantly associated with increased substance use in year two, even when controlling for measures of family functioning. Some have suggested that the acculturation process may exacerbate family conditions associated with substance use such as inconsistent parenting practices or family conflict (Pantin et al., 2003; Szapocznik et al., 2007), while the effect of discrepancies between parent and child acculturation levels on risk behavior has been found to be mediated by parenting practices (Martinez, 2006). In a study assessing patterns of adolescent and parent acculturation and family dynamics, adolescent U.S. cultural involvement was associated with increased family cohesion, and lower parent-adolescent conflict, while culture-of-origin involvement was also associated with increased family cohesion (Smokowski *et al.*, 2008). Similarly, in the current study both the U.S. and Latino orientation scales were associated with increased family cohesion and increased parental monitoring. More work is needed to understand the multi-dimensional influence of acculturation on family dynamics, and the mediating processes through which these macrosystem factors affect adolescent behavior.

### Limitations

The family functioning measures used here were gathered only as child self-report. In future studies, parental confirmation of family functioning characteristics will be an important validation check and will provide a more holistic picture of the family environment. However, it should also be noted that children's *perception* of how well their parents monitor their activities might actually be the more accurate predictor of behavior. In fact, the correlation between parent and child report of parenting styles has been found to be low, as has the

correlation between reports gathered from mothers and fathers (Chassin et al., 2005). Some have cautioned that more studies need to be done to evaluate the cross-cultural suitability of scales such as FACES-II (see Kouneski, 2000), particularly when employed for diagnostic purposes. In the current study we were not attempting to comment on the health of the family systems, though we do acknowledge that future studies may provide important information about tailoring such scales for use among culturally diverse families. In our study the internal consistency, measured using Cronbach's alpha, was low for some scales, though all the items had significant loadings on their factors.

Other limitations should be considered when evaluating the current findings. Parental family structure and family functioning were measured simultaneously only in year one of the study. While it is unlikely that characteristics such as low levels of parental monitoring or parent/child communication would *cause* the disruption of the two-parent household, it is likely that dysfunction in the family system or other factors such as migration preceded the absence of one or both parents. As such, future studies would benefit from longer-term observation of family systems in order to develop a more precise understanding of the order of precedence and to include other levels of influence (e.g., exosystem variables such as parental migration, substance use or mental health, microsystem variables such as peer influence) that could contribute to problems in family functioning or disruption of the family structure. Further, while the two waves of data in the current study can offer some support for a causal pathway, only a study using true experimental design could offer definitive evidence for causation.

Based on comparisons of demographic, family, and substance use variables, those retained in our analytic sample appear to be slightly lower risk students than those who were either lost to follow-up or excluded due to missing data. Given the limitations that these differences place on our ability to generalize to higher risk students, similar research should be undertaken in venues where these higher risk students may be encountered, such as continuation high schools or other non-traditional education and employment settings for adolescents (Sussman *et al.*, 1995). The importance of considering cultural variation within the Hispanic/Latino pan-ethnic group should not be underestimated (Prado et al., 2008). Here, our sample was predominantly Mexican or Mexican-American, therefore our results may not generalize to other samples of Hispanic/Latino adolescents.

Finally, particularly among Hispanic/Latino adolescents, the role of the larger family and other influential individuals living in the household should be considered in an assessment of family structure, since the presence of an additional adult relative may provide protective effects (Barrett & Turner, 2006), or could confer additional risk (Wagner *et al.*, 2008b). The measures of family functioning used in the current model predominantly refer to relationships with parents (e.g., parent-child communication, parental monitoring), therefore in order to present the most parsimonious model we have included only the parents in the measure of family structure. Future studies would benefit from including measures of function that assess relationships with the extended family, including siblings, grandparents, aunts, uncles, and unrelated people living in the household.

## Conclusion

Our findings have implications for family-based interventions designed to prevent adolescent substance use among Hispanic/Latino adolescents. Qualitative reports suggest that Hispanic/Latino parents have a strong interest in preventing substance use in their children, emphasize the importance of monitoring their children's activities, and desire programs that can assist them in developing stronger parenting skills (Wagner et al., 2008a). Our current findings suggest that parents' emphasis on monitoring may be appropriate, and interventions to assist parents in strengthening their monitoring skills may be effective in helping to prevent

adolescent substance use. Findings also suggest that these interventions might be especially useful for single parents, who may be in need of more support and resources than parents in two-parent families. Unique demands are placed on single parents, which may pose multiple challenges to their abilities to appropriately monitor and supervise their adolescent children. For example, single parents who work long hours or multiple jobs likely do not have the time to provide the level of monitoring available in a two-parent household. Challenges unique to immigrant families such as disruptions due to migration and discrepancies in parent/child acculturation levels (Unger et al., 2009) are also an important consideration. Interventions that take these challenges into account and provide parents with alternatives such as reliance on members of the extended family or community members, or stronger connections with schools, churches, or community organizations that provide activities for youth could serve an important function in assisting parents and preventing substance use among Hispanic/Latino adolescents.

Recent reviews (e.g., Castro *et al.*, 2006; Prado et al., 2008; Szapocznik et al., 2007) have summarized findings from family-based substance use prevention interventions providing evidence of effectiveness among Hispanic/Latino adolescents. Interventions such as Familias Unidas, which is based in Ecodevelopmental Theory, attempt to address risk factors located in several domains (e.g., macrosystem, exosystem, mesosystem, microsystem) in order to provide support for parents and children. The success of these family-based interventions in preventing adolescent substance use suggests that effective strategies for intervention among Hispanic/Latino families exist, and that interventions that explicitly consider the role of culture and family are critical. The current findings support the continued need for the further development and dissemination of such intervention strategies among Hispanic/Latino adolescents and their families. This study extends previous research by identifying the family and parenting factors that are most strongly associated with substance use among Hispanic/Latino adolescents, especially those in acculturating families. Interventions could be strengthened by addressing these mediators and providing additional resources and assistance to single-parent families.

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## References

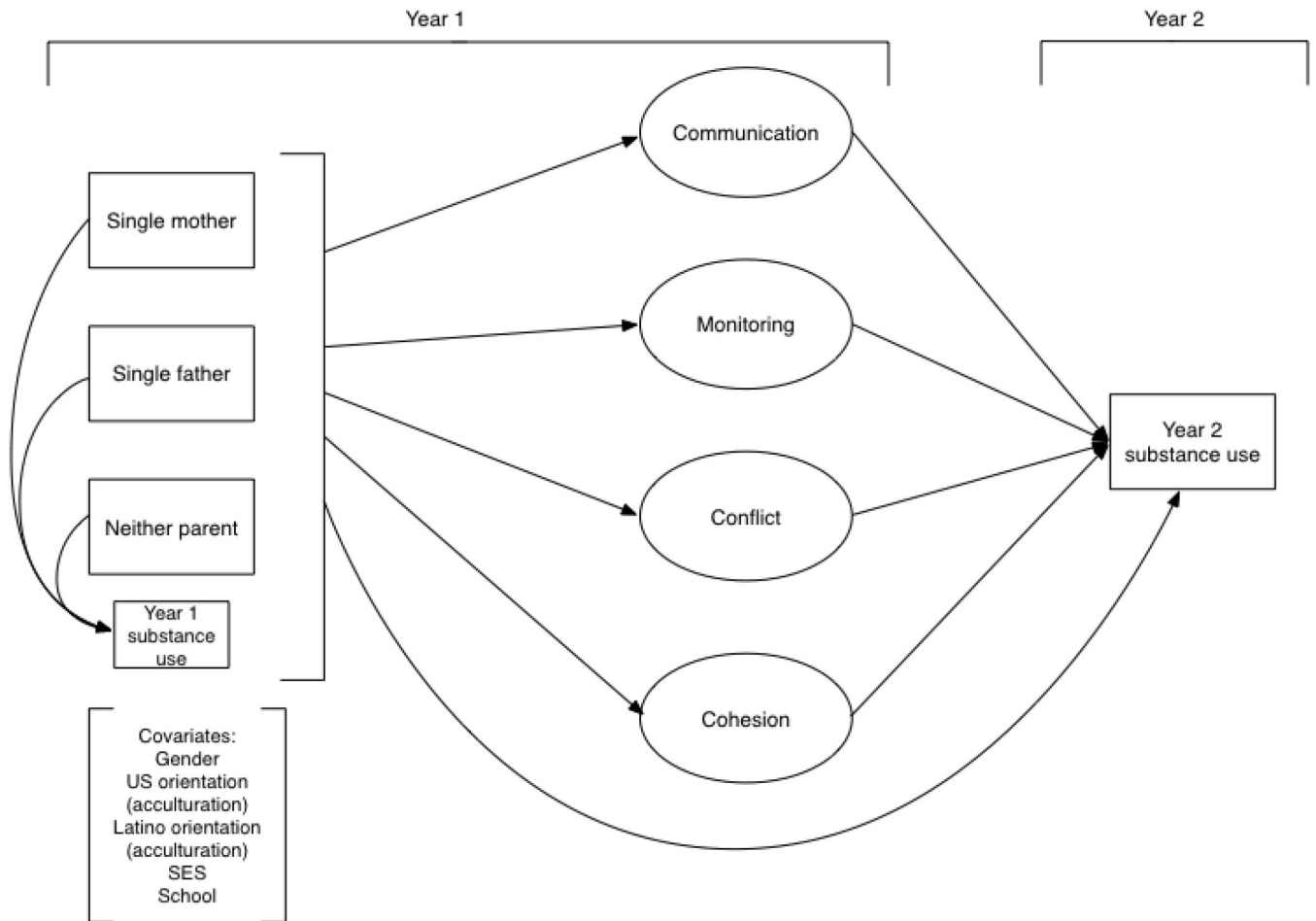
- Amato PR, Fowler F. Parenting practices, child adjustment, and family diversity. *Journal of Marriage and the Family* 2002;64:703–716.
- Amey CH, Albrecht SL. Race and ethnic differences in adolescent drug use: The impact of family structure and the quantity and quality of parental interaction. *Journal of Drug Issues* 1998;28(2):283–298.
- Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology* 1986;51(6):1173–1182. [PubMed: 3806354]
- Barrett AE, Turner RJ. Family structure and substance use problems in adolescence and early adulthood: Examining explanations for the relationship. *Addiction* 2006;101:109–120. [PubMed: 16393197]
- Bennefield, R.; Bonnette, R. Structural and occupancy characteristics of housing. Washington DC: US Census Bureau; 2003. Census 2000 Brief, C2KBR-32
- Bentler, PM. EQS 6 structural equation program manual. Encino, CA: Multivariate Software, Inc; 2004.

- Bernstein, R. Hispanic population passes 40 million, Census Bureau reports. 2005 [accessed January 10, 2007]. <http://www.census.gov/Press-Release/www/releases/archives/population/005164.html>
- Berry, JW. Acculturation as varieties of adaptation. In: Padilla, A., editor. *Acculturation: Theory, models and new findings*. Boulder, CO: Westview; 1980.
- Blum RW, Beuhring T, Shew ML, Bearinger LH, Sieving RE, Resnick M. The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *American Journal of Public Health* 2000;90(12):1879–1884. [PubMed: 11111260]
- Bronfenbrenner, U. *The ecology of human development*. Cambridge, MA: Harvard University Press; 1979.
- Caldwell RM. Brief report: An examination of the relationships between parental monitoring, self-esteem, and delinquency among Mexican American male adolescents. *Journal of Adolescence* 2006;29(3):459–464. [PubMed: 16125768]
- Castro FG, Barrera JM, Pantin H, Martinez C, Felix-Ortiz M, Rios R, et al. Substance abuse prevention intervention research with Hispanic populations. *Drug and Alcohol Dependence* 2006;84S:S29–S42. [PubMed: 16787713]
- Centers for Disease Control and Prevention. Youth Risk Behavioral Surveillance Survey, youth online: Comprehensive results. 2005. Retrieved April 30, 2008, from <http://apps.nccd.cdc.gov/yrbss/>
- Chassin L, Presson CC, Rose J, Sherman SJ, Davis MJ, Gonzalez JL. Parenting style and smoking-specific parenting practices as predictors of adolescent smoking onset. *Journal of Pediatric Psychology* 2005;30(4):333–344. [PubMed: 15863430]
- Chilcoat HD, Anthony JC. Impact of parent monitoring on initiation of drug use through late childhood. *Journal of the American Academy of Child & Adolescent Psychiatry* 1996;35(1):91–100. [PubMed: 8567618]
- Chou C-P, Bentler PM. Model modification in covariance structure modeling: A comparison among Likelihood Ratio, Lagrange Multiplier, and Wald Tests. *Multivariate Behavioral Research* 1990;25:115–136.
- Cicchetti D, Aber JL. Contextualism and developmental psychopathology. *Development and Psychopathology* 1998;10(02):137–141. [PubMed: 9635218]
- Cohen DA, Richardson J, LaBree L. Parenting behaviors and the onset of smoking and alcohol use: A longitudinal study. *Pediatrics* 1994;94(3):368–375. [PubMed: 8065865]
- Cuellar I, Arnold B, Gonzalez G. Cognitive referents of acculturation: Assessment of cultural constructs in Mexican Americans. *Journal of Community Psychology* 1995;23:339–356.
- Demo DH, Acock AC. Family structure, family process, and adolescent well-being. *Journal of Research on Adolescence* 1996;6:457–488.
- Demuth S, Brown SL. Family structure, family processes, and adolescent delinquency: The significance of parental absence versus parental gender. *Journal of Research in Crime and Delinquency* 2004;41:58–81.
- Edelen MO, Tucker JS, Ellickson PL. A discrete time hazards model of smoking initiation among West Coast youth from age 5 to 23. *Preventive Medicine* 2007;44:52–54. [PubMed: 17055040]
- Eitle D. The moderating effects of peer substance use on the family structure-adolescent substance use association: Quantity versus quality of parenting. *Addictive Behaviors* 2004;30:963–980. [PubMed: 15893092]
- Eitle D. Parental gender, single-parent families, and delinquency: Exploring the moderating influence of race/ethnicity. *Social Science Research* 2006;35:727–748.
- Flewelling RL, Bauman KE. Family structure as a predictor of initial substance use and sexual intercourse in early adolescence. *Journal of Marriage and the Family* 1990;52(1):171–181.
- Forehand R, Miller KS, Dutra R, Chance MW. Role of parenting in adolescent deviant behavior: Replication across and within two ethnic groups. *Journal of Consulting and Clinical Psychology* 1997;65(6):1036–1041. [PubMed: 9420365]
- Gil AG, Vega WA, Biafora F. Temporal influences of family structure and family risk factors on drug use initiation in a multiethnic sample of adolescent boys. *Journal of Youth and Adolescence* 1998;27(3):373–393.

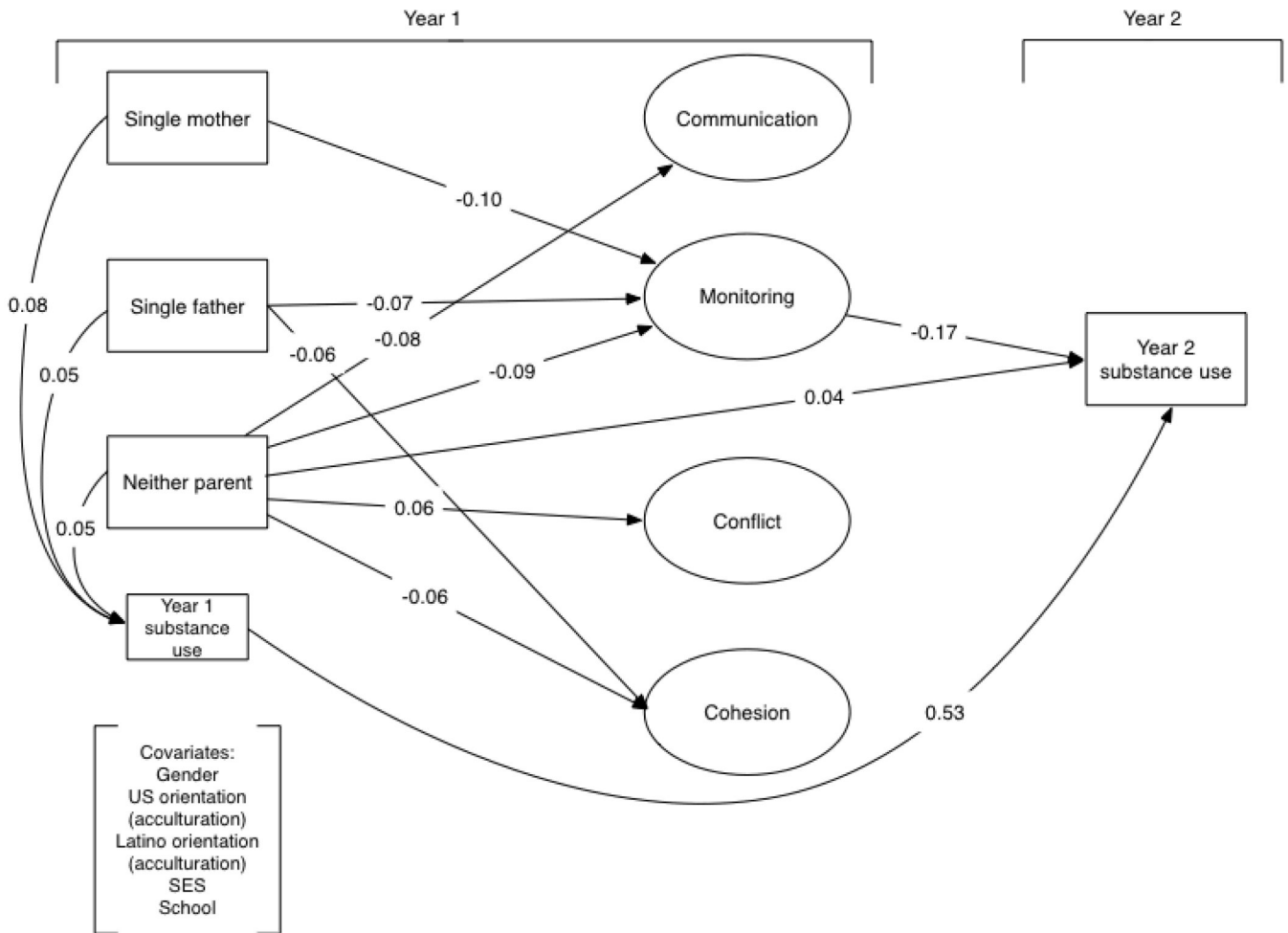
- Gorman-Smith D, Tolan PH, Loeber R, Henry DB. Relation of family problems to patterns of delinquent involvement among urban youth. *Journal of Abnormal Child Psychology* 1998;26(5):319–333. [PubMed: 9826291]
- Gorman-Smith D, Tolan PH, Zelli A, Huesmann LR. The relation of family functioning to violence among inner-city youths. *Journal of Family Psychology* 1996;10:115–129.
- Hoffman JP, Johnson RA. A national portrait of family structure and adolescent drug use. *Journal of Marriage and the Family* 1998;60(3):633–645.
- Jenkins JE, Zunguze ST. The relationship of family structure to adolescent drug use, peer affiliation, and perception of peer acceptance of drug use. *Adolescence* 1998;33(132):811–822. [PubMed: 9886009]
- Kouneski, EF. The Family Circumplex Model, FACES II, and FACES III: Overview of research and applications. 2000. Retrieved March 29, 2008, from [http://www.facesiv.com/pdf/faces\\_and\\_circumplex.pdf](http://www.facesiv.com/pdf/faces_and_circumplex.pdf)
- Lamborn SD, Dornbusch SM, Steinberg L. Ethnicity and community context as moderators of the relations between family decision making and adolescent adjustment. *Child Development* 1996;67:283–301.
- Macaulay AP, Griffin KW, Gronewold E, Williams C, Botvin GJ. Parenting practices and adolescent drug-related knowledge, attitudes, norms, and behavior. *Journal of Alcohol and Drug Education* 2005;49(2):67–83.
- Mack KY, Leiber MJ, Featherstone RA, Monserud MA. Reassessing the family-delinquency association: Do family type, family processes, and economic factors make a difference? *Journal of Criminal Justice* 2007;35:51–67.
- MacKinnon DP, Lockwood C, Hoffman JM, West SG, Sheets V. A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods* 2002;7(1):83–104. [PubMed: 11928892]
- Martinez CRJ. Effects of differential family acculturation on Latino adolescent substance use. *Family Relations* 2006;55(3):306–317.
- Miller TQ, Volk RJ. Family relationships and adolescent cigarette smoking: Results from a national longitudinal survey. *Journal of Drug Issues* 2002;32(3):945–972.
- Miranda AO, Bilot JM, Peluso PR, Berman K, Van Meek LG. Latino families: The relevance of the connection among acculturation, family dynamics, and health for family counseling research and practice. *The Family Journal* doi 10.1177/1066480706287805 2006;14(3):268–273.
- Myers D, Baer WC, Choi S-Y. The changing problem of overcrowded housing. *Journal of the American Planning Association* 1996;62:66–84.
- Olson, DH.; Portner, J.; Bell, RW. FACES II: Family adaptability and cohesion evaluation scales. St. Paul: University of Minnesota, Department of Family Social Sciences; 1982.
- Olvera N, Poston WSC, Rodriguez A. Parental socialization of smoking initiation in Latino youth. *Journal of Adolescent Health* 2006;39:758–760. [PubMed: 17046517]
- Pantin H, Schwartz SJ, Sullivan S, Coatsworth JD, Szapocznik J. Preventing substance abuse in Hispanic immigrant adolescents: A Ecodevelopmental, parent-centered approach. *Hispanic Journal of Behavioral Sciences* 2003;25(4):469–500.
- Parker JS, Benson MJ. Parent-adolescent relations and adolescent functioning: Self-esteem, substance abuse, and delinquency. *Adolescence* 2004;39(155):519–530. [PubMed: 15673227]
- Prado G, Szapocznik J, Maldonado-Molina MM, Schwartz SJ, Pantin H. Drug use/abuse prevalence, etiology, prevention, and treatment in Hispanic adolescents: A cultural perspective. *Journal of Drug Issues* 2008;38(1):5–36.
- Sabogal F, Marin G, Otero-Sabogal R, Marin BV, Perez-Stable EJ. Hispanic familism and acculturation: What changes and what doesn't? *Hispanic Journal of Behavioral Sciences* 1987;9(4):397–412.
- Sampson RJ, Laub JH. Urban poverty and the family context of delinquency: A new look at structure and process in a classic study. *Child Development* 1994;65:523–540. [PubMed: 8013238]
- Simantov E, Schoen C, Klein JD. Health-compromising behaviors: Why do adolescents smoke or drink? *Archives of Pediatrics and Adolescent Medicine* 2006;154:1025–1033. [PubMed: 11030855]
- Smith C, Krohn MD. Delinquency and family life among male adolescents: The role of ethnicity. *Journal of Youth and Adolescence* 1995;24(1):69–92.



- Smokowski PR, Rose R, Bacallao ML. Acculturation and Latino family processes: How cultural involvement, biculturalism, and acculturation gaps influence family dynamics. *Family Relations* 2008;57:295–308.
- Sobel, ME. Asymptotic intervals for indirect effects in structural equations models. In: Leinhardt, S., editor. *Sociological methodology*. San Francisco: Jossey-Bass; 1982. p. 290-312.
- Steinberg L, Fletcher A, Darling N. Parental monitoring and peer influences on adolescent substance use. *Pediatrics* 1994;93(6 Pt. 2):1060–1064. [PubMed: 8197008]
- Substance Abuse and Mental Health Services Administration. Results from the 2005 National Survey On Drug Use and Health: National findings. NSDUH series h-30, DHHS publication no. SMA 06–4194. Rockville, MD: Office of Applied Studies; 2006.
- Sussman S, Stacy AW, Dent CW, Simon TR, Galaif ER, Moss MA, et al. Continuation high schools: Youth at risk for drug abuse. *Journal of Drug Education* 1995;25(3):191–209. [PubMed: 7500223]
- Szapocznik, J.; Coatsworth, JD. An Ecodevelopmental framework for organizing the influences on drug abuse: A developmental model of risk and protection. In: Glanz, M.; Hartel, CR., editors. *Drug abuse: Origins and interventions*. Washington DC: American Psychological Association; 1999. p. 331-366.
- Szapocznik J, Prado G, Bulew AK, Williams RA, Santisteban D. Drug abuse in African American and Hispanic adolescents: Culture, development, and behavior. *Annual Review of Clinical Psychology* 2007;3:77–105.
- Torres Stone RA, Meyler D. Identifying potential risk and protective factors among non-metropolitan Latino youth: Cultural implications for substance use research. *Journal of Immigrant and Minority Health* 2007;9(2):95–107. [PubMed: 17136612]
- Unger JB, Ritt-Olson A, Soto DW, Baezconde-Garbanati L. Parent-child acculturation discrepancies as a risk factor for substance use among Hispanic adolescents in Southern California. *Journal of Immigrant and Minority Health* 2009;11:149–157. [PubMed: 17922232]
- Unger JB, Ritt-Olson A, Wagner KD, Soto DW, Baezconde-Garbanati L. A comparison of acculturation measures among Hispanic/Latino adolescents. *Journal of Youth and Adolescence* 2007;36:555–565.
- Wagner KD, Ritt-Olson A, Soto DW, Rodriguez YL, Baezconde-Garbanati L, Unger JB. The role of acculturation, parenting, and family in Hispanic/Latino adolescent substance use: Findings from a qualitative analysis. *Journal of Ethnicity and Substance Abuse* 2008a;7(3):304–327.
- Wagner KD, Ritt-Olson A, Soto DW, Unger JB. Variation in family structure among urban adolescents and its effects on drug use. *Substance Use and Misuse* 2008b;43(7):936–951. [PubMed: 18570026]



**Figure 1.** Hypothesized structural equation model depicting the role of family structure and family functioning in predicting substance use. Rectangles represent measured variables, while ovals represent latent constructs. Covariates include gender, acculturation (U.S. orientation), acculturation (Latino orientation), SES, and school. Hypothesized covariances amongst covariates, and amongst family functioning factors are not shown.



**Figure 2.** Structural equation model depicting the role of family structure and family functioning in predicting substance use (N=1433). Path coefficients are standardized and only paths significant at the  $p < 0.05$  level (one-tailed) are shown. Covariates (paths not shown) include gender, acculturation (U.S. orientation), acculturation (Latino orientation), SES, and school. Rectangles represent measured variables, while ovals represent latent constructs. Statistically significant associations amongst covariates, and amongst family functioning factors are not shown.

**Table 1**

Select demographic characteristics and drug use frequencies in a sample of Hispanic/Latino adolescents (N=1433)

	Year 1	
	n (%)	
Female	757 (52.8%)	
Country of Origin - Any family members born in:		
Mexico	1219 (85.1%)	
United States	404 (28.2%)	
El Salvador	129 (9.0%)	
Guatemala	95 (6.6%)	
Spain	21 (1.5%)	
Puerto Rico	16 (1.1%)	
Generation in U.S.		
1 <sup>st</sup> (Student born outside U.S.)	213 (14.9%)	
2 <sup>nd</sup> (Only student born in U.S.)	895 (62.5%)	
3 <sup>rd</sup> (Student and $\geq$ 1 parent born in U.S.)	325 (22.7%)	
Parental family structure – Living with:		
Single mother	221 (15.4%)	
Single father	34 (2.4%)	
Neither parent	116 (8.1%)	
Both parents	1062 (74.1%)	
	Year 1	Year 2
	n (%)	n (%)
Past 30 day substance use <sup>a</sup>		
Cigarettes <sup>***</sup>	105 (7.3%)	129 (9.0%)
Alcohol <sup>***</sup>	368 (25.7%)	498 (34.8%)
Marijuana <sup>***</sup>	166 (11.6%)	203 (14.2%)
Binge drinking <sup>***</sup>	181 (12.6%)	296 (20.7%)
Lifetime substance use <sup>a</sup>		
Cigarettes <sup>***</sup>	384 (26.8%)	479 (33.4%)
Alcohol <sup>***</sup>	711 (49.6%)	914 (63.8%)
Marijuana <sup>***</sup>	285 (19.9%)	395 (27.6%)

<sup>a</sup>McNemar's Test,

\*\*\*  
p<0.0001

**Table 2**

Factor loadings, response ranges, means, and standard deviations (SD) of family functioning variables (N=1433)

<b>Factor and measured variables</b>	<b>Range</b>	<b>Mean</b>	<b>SD</b>	<b>Factor Loading</b>
Communication (alpha = 0.85)	1-4	2.47	0.79	--
How often do you talk to your parents about what's on your mind?	1-4	2.57	0.94	0.82
How often do you ask your parents for advice?	1-4	2.56	0.95	0.81
How often do you tell your parents your secrets?	1-4	1.89	0.97	0.82
If you had a problem, would you be able to talk to your parents about it?	1-4	2.88	0.95	0.74
Monitoring (alpha = 0.61)	1-4	3.63	0.46	--
When you go out with your friends, do your parents ask where you're going?	1-4	3.71	0.58	0.80
How important is it to your parents to know where you are at all times?	1-4	3.67	0.59	0.77
How often do your parents really know where you are?	1-4	3.52	0.66	0.57
Conflict (alpha = 0.63)	1-5	2.21	0.74	--
Family members are afraid to say what is on their minds	1-5	2.34	1.22	0.67
Family members avoid each other at home.	1-5	1.88	1.14	0.66
Family members feel closer to people outside the family than to other family members.	1-5	2.27	1.21	0.60
It is hard to know what the rules are in our family	1-5	2.19	1.20	0.58
We have difficulty thinking of things to do as a family	1-5	2.35	1.10	0.59
Cohesion (alpha = 0.79)	1-5	3.30	0.84	--
In our family, everyone shares responsibility	1-5	3.55	1.20	0.76
Family members like to spend their free time with each other	1-5	3.13	1.27	0.73
Our family tries new ways of dealing with problems	1-5	2.83	1.23	0.64
Family members go along with what the family decides to do	1-5	3.13	1.13	0.64
Discipline is fair in our family	1-5	3.42	1.21	0.62
Family members feel very close to each other	1-5	3.71	1.20	0.64



**Table 3**  
 Bivariate correlations between all variables included in the structural equation model (N=1433)

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
I Year 2 substance use	1.00													
II Year 1 substance use	0.63**	1.00												
III Monitoring	-0.29**	-0.31**	1.00											
IV Communication	-0.25**	-0.23**	0.36**	1.00										
V Conflict	0.15**	0.16**	-0.13**	-0.26**	1.00									
VI Cohesion	-0.21**	-0.22**	0.33**	0.40**	-0.25**	1.00								
VII Both parents	-0.13**	-0.10**	0.12**	0.08**	-0.03	0.09**	1.00							
VIII Single mother	0.07**	0.08**	-0.05*	-0.03	0.02	-0.05	-0.72**	1.00						
IX Single father	0.06	0.04	-0.06*	-0.004	-0.01	-0.05*	-0.26**	-0.07*	1.00					
X Neither parent	0.07**	0.04	-0.08**	-0.08**	0.04	-0.06*	-0.50**	-0.16**	-0.05	1.00				
XI Female	-0.09**	-0.02	0.18**	0.11**	0.02	-0.01	-0.01	0.06*	-0.03	-0.05	1.00			
XII Acculturation: Latino orientation	-0.08**	-0.04	0.10**	0.20**	-0.06*	0.18**	0.07**	-0.05	-0.04	0.13**	1.00			
XIII Acculturation: U.S. orientation	-0.03	-0.06*	0.14**	0.02	0.02	0.10**	0.05	0.003	-0.04	-0.06*	0.16**	1.00		
XIV SES	0.03	0.11**	-0.01	-0.03	-0.04	-0.04	-0.07*	0.06*	-0.004	0.03	-0.06*	-0.15**	0.09	1.00

\* p&lt;0.05;

\*\* p&lt;0.01

Indirect effects of parental family structure on year two substance use, mediated by family functioning characteristics, calculated using Product of Coefficients method (unstandardized coefficients; N=1433)

**Table 4**

Parental family structure – Living with:	a	se(a)	b	se(b)	a*b	se(a*b)	a*b/se(a*b)
Single mother							
Communication	-0.90	0.06	-0.04	0.09	0.004	0.01	0.43
Monitoring	-0.06	0.02	-1.71	0.51	0.10	0.05	2.24*
Conflict	0.04	0.05	0.07	0.12	0.003	0.01	0.47
Cohesion	-0.09	0.06	-0.03	0.09	0.003	0.01	0.33
Single father							
Communication	-0.01	0.14	-0.04	0.09	0.00	0.01	0.07
Monitoring	-0.09	0.05	-1.71	0.51	0.15	0.10	1.59+
Conflict	-0.02	0.11	0.07	0.12	-0.001	0.01	-0.17
Cohesion	-0.26	0.14	-0.03	0.09	0.008	0.02	0.33
Neither parent							
Communication	-0.23	0.08	-0.04	0.09	0.009	0.02	0.44
Monitoring	-0.07	0.03	-1.71	0.51	0.12	0.06	1.92*
Conflict	0.12	0.06	0.07	0.12	0.008	0.02	0.56
Cohesion	-0.16	0.08	-0.03	0.09	0.005	0.01	0.33

+ p<0.10,

\* p<0.05 (one-tailed)