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## The Effects of Mexican origin family structure on parental monitoring and pre-adolescent substance use expectancies and substance use

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### Abstract

Substance use among Mexican origin, low-income youths is a serious, but under-studied problem. This study examines the relationship between the structure of Mexican origin families (i.e. nuclear, single-parent, blended or extended), and the parental monitoring, substance use expectancies, and substance use reported by pre-adolescents. Family structure did not differentiate the substance use prevalence, expectancies or parental monitoring among the 1224 low-income, Mexican-origin fifth grade participants. Parents from all family types demonstrated similar levels of parental monitoring. More importantly, family composition was not related to pre-adolescents' substance use. Other analyses showed that the relationship between substance use and certain demographic variables (e.g. gender, country of birth, language use) did not differ across family structures. The report concludes by discussing possible developmental and resiliency factors in Mexican origin families that would account for these findings.

### Keywords

Pre-adolescents; family structure; substance use

### Introduction

Pre-adolescence is a time during which youths begin trying and/or using substances such as alcohol, tobacco and other drugs (Fournet, Estes, Martin, Robertson, & McCrary, 1990; McDermott, Clark-Alesander, Westhoff, & Eaton, 1999). Research has shown that the vast majority of 10-year-old children express negative attitudes towards and little inclination to use substances (Cruz & Dunn, 2004). However, attitudes typically become more positive and intentions to use substances become stronger with age (Cruz & Dunn, 2004). Therefore,

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#### Authors' contributions

Michael Hecht was the PI, Elvira Elek was the Grant Coordinator, David Wagstaff was the Project Statistician and Jennifer Warren was a Research Assistant.

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the period between the ages of 10 and 12 presents a crucial time in the development of long-term substance use (Mason & Roehle, 1996). A number of factors may influence substance use attitudes and behaviour during this time period. This report examines two of them: family structure (i.e. single, blended, nuclear/intact and extended) and parental monitoring.

### **Pre-adolescents' family structure and substance use**

Research shows family structure may effect problem behaviours including delinquency (Demuth & Brown, 2004) and substance use (Wills, Sandy, Yaeger, & Shinar, 2001). Children raised in nuclear (i.e. biological parents and children) families appear less at risk than those raised in single-parent or blended families (i.e. having a step-parent; Hollist & McBroom, 2006; Sweeney, 2007), perhaps because they experience fewer of the stressors that increase the likelihood of a pre-adolescent engaging in risky behaviour (Barrett & Turner, 2005). Additionally, extended families, with additional relatives living in the home along with the primary family, can serve as a protective mechanism against the development of pre-adolescent problem behaviours (Sarkisian, Gerena, & Gerstel, 2006; Lonczak, Fernandez, Austin, Marlatt, & Donovan, 2007). These different family structures are likely to have an impact on children's behaviours through their effects on various family processes, including parental monitoring.

Parental monitoring influences many child outcomes (Stattin & Kerr, 2000) including reducing the likelihood of problem behaviours in adulthood (Amato & Fowler, 2002; Simons-Morton, Chen, Abroms, & Haynie, 2004). Interestingly, parental monitoring in single-parent homes appears to have more positive impacts on behaviour when compared with that in dual parent families (Etile, 2005). While supporting the importance of parental monitoring, especially in single-parent homes, these studies did not, however, assess whether these findings apply to families of various ethnic backgrounds in the United States. Such research forms a crucial component of substance use prevention knowledge, as pre-adolescent Hispanics seem particularly at risk for substance use. By the time Hispanic youths enter eighth grade, they report among the highest substance use rates for all US racial/ethnic groups for virtually every substance (Johnston, O'Malley, Bachman, & Schulenberg, 2005a,b).

### **Mexican origin pre-adolescents, parental monitoring and family structure**

Mexican origin individuals make up the largest proportion of Hispanics in the United States (US Census, 2000). Research has produced mixed results regarding parental monitoring effects on Mexican origin youths. The parental monitoring of pre-adolescents does not appear significantly different across nuclear and single-parent Mexican origin families (Longmore, Manning, & Giordano, 2001). However, Mexican origin youth raised in single-parent households do tend to initiate substance use earlier than those reared in two-parent families (Longmore et al., 2001; Amey & Albrecht, 1998). While there is little research on the monitoring occurring in blended Mexican origin families, the presence of extended kin (e.g. grandparents, etc.), who provide instrumental (i.e. housework, transportation) and childcare assistance, seems to act as a protective factor against substance use (Sarkisian et al., 2006).

The challenges Mexican origin families face with acculturation and language can affect parenting practices (Martinez, 2006) and pre-adolescent substance use (Marsiglia, Kulis, Hecht, & Stills, 2004). Research suggests that traditional Mexican culture has a family-centred orientation, or *familismo*, as well as respect for one's parent, or *respecto*, which work to keep adolescents from risk behaviours, such as delinquency and substance use, while enhancing resiliency in the face of environmental difficulties (e.g. Suarez-Orozco & Suarez-Orozco, 1995; Chandler, Tsai, & Wharton, 1999; Denner, Kirby, & Coyle, 2001).

Through migration and acculturation, however, those resources may become unavailable. The more acculturated adolescents often reject the traditional Mexican norms, refuse to adhere to parental control, and lose respect toward their less-acculturated parents (Szapocznik & Kurtines, 1993; Samaniego & Gonzales, 1999).

Research also shows that parenting practices for Mexican origin adolescents in nuclear and single parent family structures vary according to time spent in the USA (Buriel, 1993), with the least acculturated families behaving more authoritarian and engaging in greater discipline and supervision in their parenting practices (Rodriguez & Olswang, 2003). Parents' ability to supervise and control their children's behaviour becomes particularly compromised when the adolescents learn English and build their own peer network outside the Mexican immigrant community (Wall, Power, & Arbona, 1993). As a result, families lose their ability to seek support through social networks and cannot provide sufficient protection for their children (Gilbert & Cervantes, 1986; Vega, Zimmerman, Warheit, Apospori, & Gil, 1997).

Few studies of parental monitoring and substance use focused on economically-disadvantaged, Mexican origin families in the United States, or on substance use and monitoring associated with blended or extended Mexican origin-family structure. This study addresses those deficits by posing the following research questions:

- *RQ1*: Do Mexican origin children from single-, blended-, nuclear- and extended families differ in their reports of parental monitoring, substance use and substance use expectancies?
- *RQ2*: Does the influence of gender, country of birth, language use, acculturation stress and parental monitoring on substance use differ among Mexican origin children from single, blended, nuclear and extended families?

## Method

### Study design

Study personnel was collected cross-sectional, self-report data over a 5-month period during the first half of the 2004–2005 school year. The data were provided by fifth grade students participating in the baseline assessment of an on-going, NIDA-funded, substance use prevention intervention. The students attended one of 29 public middle schools in Phoenix, Arizona that had agreed to participate in the parent study.

### Participants

Approximately 84% of the fifth grade students in the study schools provided parental consent, and of those, 96% ( $n=1934$ ) provided data at the parent study's baseline assessment. The present study reports on data provided by 1141 students who self-identified as Mexican or Mexican American, were classified as lower income based on participation in their school's reduced or free lunch programme, and could be classified in terms of their family structure: single parent ( $n=179$ ), nuclear, two-parent ( $n=755$ ), blended ( $n=77$ ) or extended-family ( $n=130$ ).

### Questionnaire

The data were collected with a 104-item questionnaire administered during a 45-min classroom session by trained research assistants. Students could complete the scannable questionnaires in Spanish or English (back-to-back forms; 9.6% completed the Spanish language version).

## Measures

- *Demographic characteristics* were assessed through seven items measuring respondent's gender, age, country of birth, race/ethnicity, time spent in the USA, language spoken at home with family members, and participation in the school's reduced or free lunch programme.
- *Family composition* was operationalized by responses to the question 'Who lives with you at home now? (*Mark everybody who lives with you*)'. Students indicated if they lived with their 'Mother', 'Father', 'Stepmother or Stepfather', or 'Grandmother or Grandfather'. Students were classified as being reared in a single-parent home if they reported that they lived with only one adult who was either their 'Mother' or their 'Father'. Students were classified as being reared in a two-parent home if they reported that they lived with two adults who were their 'Mother' and their 'Father'. Students were classified as being reared in a blended family if (a) they reported that they lived with two adults who were their 'mother' or their 'father' and a 'step-parent' or (b) they reported that they lived with three adults who were their 'mother', 'father' and a 'step-parent'. Students were classified as being reared in an extended family if (a) they reported that they lived with two adults who were their 'mother' and a 'grandparent', (b) they reported that they lived with two adults who were their 'father' and a 'grandparent', or (c) they reported that they lived with three adults who were their 'mother', 'father' and a 'grandparent'.
- *Lifetime substance use prevalence* was assessed through four items. The students were asked 'Which of the following have you tried, even if it was only once or only a little? (Mark all that apply)'. The response choices were: 'Alcohol (beer, wine, and liquor)', 'Cigarettes or tobacco', 'Marijuana (pot, weed)' and 'Inhalants (sniff glue or paint)'. A student was classified as having ever used a substance if he or she reported using any one of four substances: alcohol, tobacco, marijuana and/or inhalants.
- *Positive substance use expectancies* were measured by three items (e.g. 'Drinking alcohol makes parties more fun'; Hecht, Marsiglia, Elek, Wagstaff, Kulis, Dustman, & Miller-Day, 2003). Scale scores were calculated by taking the mean and increasing values indicated more positive substance use expectancies. Cronbach's alpha was 0.81.
- *Parental monitoring behaviour* was assessed with five items. Each item had the same stem, which was 'How often does your mom or dad ...', followed by a monitoring action such as '... know what you do with your free time?' Scale scores were calculated by taking the mean of the items, with increasing scale values indicating more frequent parental monitoring behaviour. Cronbach's alpha was 0.86.
- *Acculturation stress* was assessed with two family-related items ('I get upset at my parents because they don't know American ways' and 'My family thinks I'm becoming "too American"'). Scale scores were calculated by taking the mean of the two items, with increasing scale values indicating increased levels of stress. The point estimate of Pearson's  $r$  was 0.30.

## Statistical analyses

We used Stata programs for complex survey samples (Stata, 2003) to obtain summary statistics (e.g. means and standard errors), calculate measures of association, and determine whether an association varied across the levels of a third variable like family type. More

specifically, we used Student *t*-tests for complex survey samples to assess mean differences (e.g. to determine if the mean calculated for the data reported by students reared in single-parent homes was equal to the mean reported by students reared in two-parent homes); we used the appropriate Chi-square tests to assess homogeneity of proportions among students classified by family type, and we use logistic regression models for complex survey samples to assess the association between students' substance use and our categorical/ordinal explanatory variables like gender, language used to complete the questionnaire, and parental monitoring. Stata's complex survey sample routines allowed us to account for the fact that we had obtained data from intact groups of students who were attending 29 different schools. It allowed us to address statistical dependence within the sample and prevent standard errors that are under-estimated, test statistics that are inflated and *p*-values that are smaller than they would be if an inappropriate statistical method had been used (see Korn & Graubard, 1999). The complex survey sample approach exploits the theory and methods that survey statisticians have developed to address the analytic challenges that arise when observational units are sampled from a finite population and the study design involves the selection of clustered units (LaVange, Koch, & Schwartz, 2001).

## Results

When we compared the four groups of our participating Mexican/Mexican American middle school students ( $n=1141$ ) with respect to selected sociodemographic characteristics, we found few statistically significant group differences (see Table I). In particular, our complex survey sample Chi-square tests for homogeneity of proportions indicated that the four groups (i.e. students reared in a single- or two-parent, blended or extended family household) did not differ from one another with respect to their proportion female, age distribution, proportion participating in their school's free lunch program, proportion completing the questionnaire in English, or proportion using English/Spanish when at home and speaking with family members. However, our Chi-square tests did detect significant group differences with respect to their proportion born in the USA (versus Mexico or another country) and time (years) spent in the USA. Proportionately fewer of the students reared in two-family households were born in the USA than were students reared in single-parent households or students reared in blended-family households and students reared in two-family households reported that they had spent fewer years in the USA than did the students reared in blended family households.

More importantly, we failed to detect mean differences across the four family types when we compared our pre-adolescent students' reports of their positive substance use expectancies, lifetime substance use prevalence and parental monitoring (see Table II).

Next, we used separate logistic regression models to estimate odds ratios predicting substance use prevalence from gender, country of birth, language used to complete the questionnaire, language used at home with family members, acculturation stress and parental monitoring, and determine if these ratios varied across the levels of a third variable, family type. We used caution in interpreting findings for our two-item acculturation stress measure because it exhibited poor internal consistency. In addition, it should be noted that the analyses of single-parent blended and extended families were under-powered relative to that of nuclear families.

Our findings are presented in Table III. Only two of the 24, family-specific odds ratios were statistically different from 1; both the odds ratio for acculturation stress and the odds ratio for parental monitoring were statistically different from 1 among the pre-adolescents reared in two-parent families. For that family type, as acculturation stress increases, the likelihood

of ever having used substances significantly increased, and as parental monitoring increases the likelihood of ever having used substances significantly decreased.

Female pre-adolescents were as likely to report lifetime substance use as were their male counterparts and the odds that a female would report any substance use did not vary across the four family types. Likewise, the tabled values for country of birth indicated that pre-adolescents who were born in the USA were as likely as the pre-adolescents who were not born in the USA to report lifetime substance use, and the odds that a USA-born pre-adolescent would report any lifetime substance use did not vary across the four family types. This interpretation holds for the remaining explanatory variables shown in Table III.

## Discussion

This study suggests that there are few consistent differences related to family structure in the demographics, parental monitoring, or substance use of lower-income Mexican origin pre-adolescents. Mexican origin pre-adolescents reared in single, blended, nuclear, and extended families appear to report similar levels of parental monitoring, similar substance use expectations, and a similar prevalence of lifetime substance use. These data do not agree with previous research on the general US population (Demuth & Brown, 2004) or among Mexican origin families (Amey & Albrecht, 1998) that demonstrated deficits in single parent families and differences by family structure in the substance use rates of pre-adolescents. The present findings indicated that pre-adolescents report relatively limited substance use and negative expectations about use regardless of their family structure. Further analyses showed that pre-adolescents from the different family structures did not differ significantly with respect to the relationship between lifetime substance use prevalence and a number of potential explanatory variables including gender, country of birth, language use, acculturation stress or parental monitoring.

A number of factors may play a role in the failure to identify differences between Mexican origin pre-adolescents reared the diverse family structures in this sample. First, the lack of variation in their responses regarding substance use and expectancies may have contributed to the lack of statistically significant differences. It may be that family structure effects will emerge as participants' age and use rates increase and diversify (Fox & Solis-Camara, 1997). In addition, parental monitoring and family structure changes may occur over time, and increasing acculturation is likely for this sample, each of which could impact substance use.

Secondly, Mexican origin pre-adolescents and their families may call upon protective factors from their culture that transcend family structures and/or are not reflected in the assessed family practices. Values such as *familismo* and *respecto* (Mayers, Kail, & Watts, 1993) may result in greater family closeness. This closeness may bring about a form of psychological monitoring, where the pre-adolescent is aware of the parents rules even when not in the presence of their parents (Rankin & Kern, 1994). Moreover, the presence of extended family member in the children's lives, even if they do not live with them in their home, may deter their development of substance use behaviours.

Thirdly, the lack of difference may stem from the fact that mothers are more likely to be the predominant caretaker, even in homes where other adults are present. For example, 96% of our single-parent households were headed by mothers. Mexican origin mothers tend to be the parent monitoring Mexican origin male and female adolescents (Baer, 1999). Thus, the presence of mothers and mother surrogates in all family structures may account for the lack of differences since they are likely to be equally present in all family structures.



## Conclusion

In conclusion, this study contributes to our knowledge of substance use by individuals in an understudied group that is at high risk for use and abuse, namely Mexican origin pre-adolescents in low income families. While it appears that family structure does not impact parental monitoring or substance use for the included pre-adolescents, the same may not be true as the individuals mature into adolescence. Future studies might also take other factors into account, including the greater responsibility taken on by pre-adolescents in less acculturated Mexican origin nuclear families and other culturally-based within group differences, such as with regards to religiosity, the local presence of extended family and the influences of acculturation.

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**Table 1**

Selected demographic characteristics by family type

Characteristics	Levels	Family type Single-parent (n=179)	Nuclear (n=755)	Blended (n=77)	Extended (n=130)	Combined (n=1141)
Gender	Female	50.3	49.0	50.6	59.2	50.5
	Male	49.7	50.9	49.4	40.8	49.4
	Missing	0.0	0.1	0.0	0.0	0.1
Age (years)	Mean	10.4	10.4	10.3	10.4	10.4
	Std Error	(0.051)	(0.025)	(0.060)	(0.066)	(0.025)
Country of birth	U.S.	78.2	66.5	84.4	71.5	70.1
	Mexico	20.1	32.1	15.6	25.4	28.3
	Other	0.6	0.5	0.0	0.0	0.4
Time in USA	Missing	1.1	0.9	0.0	3.1	1.1
	1=Less than 1 year	5.0	3.8	3.9	3.8	4.0
	2=Between 1 and 5 years	12.8	14.6	7.8	13.8	13.8
	3=Between 6 and 10 years	16.2	19.7	7.8	13.1	17.6
	4=More than 10 years	5.0	9.0	5.2	5.4	7.7
Language Spoken at home	5=All my life	58.7	49.3	74.0	60.8	53.7
	Missing	2.2	3.6	1.3	3.1	3.2
	English	19.6	8.9	19.5	12.3	11.7
	Mostly English	6.7	4.5	5.2	5.4	5
	Both English and Spanish	48	51.1	51.9	52.3	50.8
	Mostly Spanish	14.5	13.9	7.8	13.1	13.5
	Spanish	8.4	19.5	14.3	13.8	16.7
	Some other language	1.1	0.3	0	0	0.4
	Missing	1.7	1.9	1.3	3.1	1.9
	English	90.5	90.1	93.5	90.0	90.4
Language used to complete instrument	Spanish	9.5	9.9	6.5	10.0	9.6
	Free	87.7	80.8	81.8	84.6	82.4
Lunch programme	Reduced	12.3	19.2	18.2	15.4	17.6

**Table II**

Lifetime substance use, expectancies, and parental monitoring by family type

<b>Outcome Variable</b>	<b>Summary Statistic</b>	<b>Family type Single-parent (n=179)</b>	<b>Nuclear (n=755)</b>	<b>Blended (n=77)</b>	<b>Extended (n=130)</b>	<b>Combined (n=1141)</b>
Lifetime substance use prevalence	Probability	0.3	0.3	0.3	0.2	0.3
	SE	0.04	0.02	0.05	0.04	0.02
Positive substance use expectancies	Mean	1.5	1.4	1.4	1.3	1.4
	SE	0.07	0.02	0.07	0.07	0.02
Parental monitoring	Mean	3.4	3.3	3.4	3.4	3.4
	SE	0.06	0.03	0.08	0.06	0.03

*Note.* Positive substance use expectancies were measured on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*) and parental monitoring was measured on a scale from 1 (*never*) to 4 (*always*).

**Table III**

Family type-specific odds of lifetime substance use

Predictor of lifetime use	Family type	Single-parent (n=179)	Nuclear (n=755)	Blended (n=77)	Extended (n=130)	Combined (n=1141)
Gender	OR	0.63	0.80	0.51	0.47	0.70
	SE	0.22	0.15	0.29	0.19	0.10
	LL	0.32	0.54	0.17	0.21	0.53
	UL	1.24	1.16	1.56	1.06	0.92
Country of birth	OR	1.29	1.27	0.54	1.95	1.28
	SE	0.58	0.23	0.33	0.94	0.20
	LL	0.54	0.89	0.16	0.75	0.95
	UL	3.10	1.82	1.78	5.03	1.73
Language completed survey	OR	0.52	0.52	3.90	0.61	0.61
	SE	0.35	0.19	3.76	0.53	0.16
	LL	0.14	0.26	0.59	0.11	0.36
	UL	1.95	1.05	25.77	3.37	1.03
Language spoken at home	OR	1.00	0.94	1.34	1.02	0.97
	SE	0.14	0.08	0.42	0.17	0.06
	LL	0.76	0.80	0.72	0.73	0.85
	UL	1.32	1.10	2.46	1.41	1.10
Acculturation stress	OR	1.07	1.58*	3.12	1.70	1.53*
	SE	0.50	0.22	2.08	1.08	0.17
	LL	0.41	1.18	0.80	0.46	1.22
	UL	2.80	2.10	12.23	6.25	1.92
Parental monitoring	OR	1.24	0.65*	0.62	0.82	0.72*
	SE	0.29	0.08	0.17	0.18	0.08
	LL	0.77	0.51	0.35	0.53	0.58
	UL	2.00	0.84	1.10	1.28	0.90

Note. OR (Odds Ratio); SE (standard error); LL (lower limit) 95% confidence interval; UL (upper limit) 95% Confidence Interval.

\*  $p < 0.05$ .