



Published in final edited form as:

*Dev Psychol.* 2011 March ; 47(2): 527–537. doi:10.1037/a0021269.

## A Test of the Social Development Model During the Transition to Junior High with Mexican American Adolescents

**Mark W. Roosa,**

Prevention Research Center, School of Social and Family Dynamics, Arizona State University

**Katharine H. Zeiders,**

Prevention Research Center, School of Social and Family Dynamics, Arizona State University

**George P. Knight,**

Prevention Research Center, Psychology Department, Arizona State University

**Nancy A. Gonzales,**

Prevention Research Center, Psychology Department, Arizona State University

**Jenn-Yun Tein,**

Prevention Research Center, Psychology Department, Arizona State University

**Delia Saenz,**

Prevention Research Center, Psychology Department, Arizona State University

**Megan O'Donnell, and**

Prevention Research Center, School of Social and Family Dynamics, Arizona State University

**Cady Berkel**

Prevention Research Center, Arizona State University

### Abstract

Mexican American adolescents have higher rates of externalizing problems than their peers from other ethnic and racial groups. To begin the process of understanding factors related to externalizing problems in this population, this study used the Social Development Model and prospective data across the transition to junior high school from 750 diverse Mexican American families. In addition, we examined whether familism values provided a protective effect for relations within the model. Results showed that the SDM worked well for this sample. As expected, association with deviant peers was the primary predictor of externalizing behaviors. There was support for a protective effect in that adolescents with higher familism values had slower rates of increase in association with deviant peers from 5<sup>th</sup> to 7<sup>th</sup> grades than those with lower familism values. Future research needs to determine whether additional culturally appropriate modifications of the SDM would increase its usefulness for Mexican American adolescents.

### Keywords

Adolescents; familism; Mexican Americans; externalizing problems; protective factor; social development model

Latino adolescents are at greater risk of displaying externalizing symptoms than other adolescents. They are more likely than non-Latino adolescents to have carried a weapon on school property, to have used illegal drugs such as cocaine, ecstasy and heroin, and to have engaged in other delinquent behaviors (Bird et al., 2001; CDC, 2006; Eaton et al, 2008; Grant et al., 2004). Such findings raise additional concerns because externalizing behavior in adolescence is linked to substance abuse, sexual violence, criminal activity, and incarceration in adulthood (Hart & Hare, 1997; NIDA, 1998). Further, the Latino population is the largest ethnic minority group in the US (US Census, 2001) suggesting that the rate of externalizing problems experienced by Latino adolescents is a major problem for society at large. Mexican Americans, who constitute almost two-thirds of all US Latinos, are more at risk for these externalizing problems than other Latino groups and the risk is greater still for those Mexican Americans who are US-born (Alegria et al., 2007; CDC, 2006; Grant et al., 2004). It is not clear, however, why Mexican Americans in particular or Latinos in general would experience high rates of externalizing behaviors compared to other adolescents. In addition, we do not know if models that explain externalizing problems in other groups apply equally well to Mexican American adolescents. Are there group specific factors or processes that contribute to Mexican American adolescents' risk for externalizing problems, or provide protection from these risks? Research is needed that examines mechanisms that place Mexican American adolescents at risk for, and protect them from, developing externalizing problems.

Guided by the Social Development Model (SDM; Catalano & Hawkins, 1996), this study examined the roles that individual, family, school, and peer group factors play in the development of externalizing problems in Mexican American adolescents. We believe this is the first study to examine the utility of this theoretical model for explaining the extent of externalizing problems among Mexican American adolescents. In addition, given the strong cultural emphasis on familism and research showing that familism may protect Mexican Americans from some risks (e.g., Bettendorf & Fischer, 2009; McHale, Updegraff, Kim, & Cansler, 2009; German, Gonzales, & Dumka, 2009), we also examined whether familism was a protective (i.e., moderating) factor within this model reducing the strength of relationships between key variables in the model. Thus, this study took a step toward determining whether there are culturally specific factors involved in the development of externalizing behaviors among Mexican American adolescents.

The transition from elementary to junior high school long has been recognized as a period with important implications for development including school success, mental health, and delinquency (e.g., Azmitia & Cooper, 2001; Barber & Olsen, 2004; Seidman, Allen, Aber, Mitchell, & Feinman, 1994). For some students this transition is marked by signs of academic disengagement such as lower grades, increased behavior problems, reduced attendance, increased interaction with delinquent peers, and involvement in delinquent behavior. This transition may be more challenging for many Mexican Americans than early adolescents in general. Transitioning to junior high means joining a larger, more diverse student body, a more teacher-centered environment, and settings requiring much more independent (as opposed to group) work. For children used to the protective environment of elementary school and home (Halgunseth, Ispa, & Rudy, 2006), for immigrant children dealing with language challenges, for those with more collectivistic than individualistic orientations, and for those struggling academically, all of which are more common for Mexican Americans than most of their peers, this transition can contribute to poorer school performance and an increase in behavior problems (e.g., Azmitia & Cooper, 2001; Barber & Olsen, 2004; Eccles, 2004). Finally, the transition to junior high is a period when adolescents in general increase associations with deviant peers (Catalano & Hawkins, 1996). This occurs in part because of the increased opportunities for such associations because of a larger concentration of children and the increasing amount of unsupervised time children

spend with peers. Thus, testing the SDM across this transition should be particularly helpful to understanding increases in association with deviant peers and conduct problems among Mexican American children.

### The Social Development Model

The social development model (SDM) is an integrated theory about the development of prosocial and antisocial behavior patterns in children (Catalano & Hawkins, 1996). Very briefly, this model posits that children are socialized over time in numerous contexts defined by close relationships (e.g., family, peer group, school). Close relationships with prosocial people and institutions provide rewards to children for prosocial behaviors thus increasing the likelihood of reproducing those behaviors in the future. In addition, children in prosocial relationships are reluctant to get involved in antisocial behaviors because getting caught could threaten their prosocial relationships and reduce an important source of rewards. Similarly, close relationships with antisocial people and institutions provide a context in which antisocial behaviors are rewarded. When antisocial behaviors are rewarded and there is little chance of getting caught, bonds with these socializers are strengthened, making it difficult to refrain from further antisocial behaviors.

For instance, strong bonds with family members discourage individuals from participating in deviant behaviors because adolescents are regularly rewarded for maintaining these bonds. Fear of the loss of these family ties if, for instance, children's behavior violated accepted family norms, discourages children from getting involved with deviant peers or behavior. Similarly, adolescents who feel attached to school or school personnel (e.g., teacher, coach) are less likely to associate with peers who display deviant behaviors because of fear of compromising their relationships, and associated rewards, with school personnel or with peers who are attached to school (Catalano & Hawkins, 1996). Through such prosocial ties and reward structures, adolescents internalize the behavior norms of parents and schools thus guiding future behavior. On the other hand, adolescents with weak or no prosocial ties have little reason for avoiding misbehaving peers or deviant behavior (e.g., Catalano & Hawkins, 1996). Furthermore, extensive association with peers involved in deviant behaviors has its own reward structure that results in bonds with these peers and encourages joining in with deviant behaviors (Cleveland, Feinberg, Bontempo, & Greenberg, 2008; Dishion & Owen, 2002; Fleming, Catalano, Mazza, Brown, Haggerty, & Harachi, 2008; German et al., 2009). Not surprisingly, associating with deviant peers is the strongest predictor of externalizing behavior for adolescents (See Granic & Patterson, 2006 for a review). In this study, we examined the strength of emotional bonds in the family and the strength of the child's attachment to a 5<sup>th</sup> grade teacher to represent two primary prosocial influences on children's likelihood of involvement with deviant peers and externalizing behavior (See Figure 1).

In addition to bonds with socializing agents, the SDM takes into account individual difference and social structure influences. Individuals with temperament characteristics, such as high levels of impulsivity, generally have more difficulty than peers with lower levels of impulsivity in making decisions to avoid problematic peers or situations regardless of social ties (Catalano & Hawkins, 1996). Similarly, the SDM posits that an individual's position in the social structure (e.g., family socioeconomic status) also plays a role in associations with deviant peers. Students from low income families are more likely to struggle in school which can contribute to academic disengagement during the transition to junior high (Lopez, Gallimore, Garnier, & Reese, 1997). Adolescents from lower income families also may have more opportunities to interact with deviant peers in unsupervised circumstances because of the greater density of such individuals in their neighborhoods (Sampson, 2001). Perhaps more importantly, children from lower income families may perceive fewer costs from being involved with deviant peers or antisocial behaviors than

adolescents from higher income families. Although the SDM acknowledges the roles of constitutional and social structure factors such as impulsivity and family income on adolescents' risk for deviant behavior (e.g., Carroll et al., 2006; Tittle, Ward, & Grasmick, 2003), few studies have included such factors in tests of the model. Given the consistent link of impulsivity and family SES with externalizing behaviors, omitting these characteristics from tests of the SDM could result in model misspecification and overestimates of the roles of other variables. The model tested in this study included measures of both impulsivity and family income.

Several studies have supported the usefulness of the SDM in predicting antisocial behavior (e.g., Cleveland et al., 2008; Fleming et al., 2008). Although these tests have involved primarily European American adolescents, the model also has been examined with samples of African American and Asian Pacific Islander American adolescents (Choi, Hirachi, Gillmore, & Catalano, 2005) and Chinese adolescents (Deng & Roosa, 2007). The current study extended the SDM to Mexican American adolescents. The SDM could be particularly useful for understanding the behavior of Mexican American adolescents because of the cultural importance of the family in this ethnic group (Marin & Marin, 1991).

### **Familism as a Protective Factor**

The cultural value of familism could play an important role in how well the SDM predicts externalizing behaviors in Mexican American adolescents. Familism is the perspective one has about the importance of family, the obligations one has to the family, and how much a person looks to the family for guidance on what is appropriate as well as behaviors that accompany these beliefs (Marin & Marin, 1991). Those with strong familism beliefs see the family as more important than the individual and believe that family members not only defer their needs to those of the family but understand that their behaviors must not reflect badly on the family. Familism generally is stronger among Latinos than European Americans and tends to remain important and strong long after immigration (i.e., across generations; Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987). From a theoretical perspective, familism is thought to be part of a protective context for children in part because high familism provides children with dependable sources of social and emotional support (Azmitia, Cooper, & Brown, 2009; Rodriguez, Mira, Paez, & Myers, 2007). In addition, familism involves behavioral expectations to bring credit to the family as shown by research showing a positive correlation between familism beliefs and prosocial behaviors in early adolescents (Armenta, Knight, Carlo, & Ryan, in press). Learning to understand one's obligations to the family and place family needs above personal needs also includes elements of delay of gratification and frustration tolerance, part of effective coping behaviors (Gardner, Dishion, & Connell, 2008).

Research has shown that familism can play a protective role in the presence of risk factors. For instance, familism buffered the relationship of acculturation to eating disorders for Latinas (Bettendorf & Fischer, 2009). Similarly, McHale and colleagues (2009) showed that the relationship between television viewing time and involvement in risky behaviors was lower for Mexican American adolescents with high familism beliefs. Familism beliefs also reduced the relationship between discrimination experiences and adjustment problems (Berkel et al., 2010). Finally, German and colleagues (2009) showed that the relationship of association with deviant peers and externalizing behavior was weaker for Mexican American adolescents with strong familism values (German et al., 2009). Applied to the SDM, familism beliefs could be protective in at least two ways. Because familism is characterized by a sense of loyalty and solidarity (Diaz-Loving & Draguns, 1999), highly familistic adolescents might be less likely to leave their more prosocial peer groups during the transition to junior high regardless of whether others are increasing their association with deviant peers. Familism also might be protective in the relation between association with

deviant peers and externalizing behaviors (German et al., 2009). Despite hanging out with deviant peers, adolescents with high familism values might be less likely to exhibit externalizing behavior because of the obligation to avoid bringing shame to their families.

Although there is evidence of familism's protective function from multiple cross sectional studies, this process rarely has been examined prospectively with Mexican American adolescents particularly during the transition to junior high school (See Berkel et al., 2000 for an exception). It also is important to notice that we are differentiating between the emotional bonds among family members and familism beliefs. Although strong emotional bonds among family members by themselves are important to children's healthy development (e.g., Werner & Smith, 2001), we believe that a strong belief in familism places those bonds into context by spelling out the meaning of those bonds, one's duties and obligations. Therefore, this study includes a measure of the strength of family members' emotional bonds (family cohesion) as well as a measure of the degree of children's beliefs in familism values.

### Gender and Nativity Issues

Because US-born Mexican Americans are more likely to experience adjustment problems than Mexican immigrants (Grant et al., 2004; Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005), and boys typically exhibit more externalizing behavior than girls (e.g., Moffitt, Caspi, Rutter, & Silva, 2001), the question arises whether these mean differences are the result of different developmental processes. Is it possible that the SDM might do a better job of explaining the development of externalizing problems in this developmental period for some Mexican American subgroups than others? For instance, personal relationships are more important to girls' adjustment than to boys' (e.g., Rueger, Malecki, & Demaray, 2008). Given the centrality of personal relationships in the SDM, it is possible that the relationships between attachments to socializers and association with deviant peers could be stronger for girls than for boys. Similarly, differences in attitudes toward and relationships with schools of US-Born and Mexico-born children and their families (Valdes, 1996) could mean that attachments with teachers have much different influences on association with deviant peers and externalizing behaviors for these two groups. Therefore, after testing the SDM for the whole sample, we ran tests to see if it worked equally well for US- and Mexico-born adolescents and for boys and girls. That is, we examined whether the relations among variables in the SDM differed for Mexico-born and US-born youth and for boys and girls.

### Current Study

The current study applied the SDM to the prediction of externalizing problems in a diverse sample of Mexican American adolescents as they experienced the transition from elementary school to junior high. We tested a prospective mediational model (Figure 1) using data from a sample of 750 Mexican American adolescents at two time points: Time 1 (T1) when children were in 5<sup>th</sup> grade and Time 2 (T2) when they were in 7<sup>th</sup> grade. We examined the roles of T1 emotional bonds in the family (family cohesion), attachment to teacher, social structure (family income), and an individual constitutional characteristic (impulsivity) on adolescents' associations with deviant peers (T1 and T2) and externalizing behaviors (T2) controlling for externalizing behaviors (T1). We hypothesized that family cohesion, attachment to teacher, and income would be negatively related to association with deviant peers and that association with deviant peers would be positively related to externalizing behaviors. In addition, we hypothesized that impulsivity would be positively related to association with deviant peers. We also examined the possible moderating role of familism on both the change in association with deviant peers from 5<sup>th</sup> to 7<sup>th</sup> grade and the relation of T2 association with deviant peers and the change in externalizing over this

period. We expected that the T1 to T2 change in association with deviant peers, generally increasing in this age range (Catalano & Hawkins, 1996), would increase at a slower rate for adolescents with strong beliefs in familism. In addition, we expected that familism would moderate the relation between T2 association with deviant peers and changes in adolescents' externalizing behaviors over this period with this association being weaker for adolescents with strong familism beliefs (German et al., 2009).

## Method

### Participants

This study is a secondary analysis of data from a longitudinal study of the roles of culture and context in the lives of Mexican American families (Roosa et al., 2008). Participants were 750 Mexican American students and their families who met the following eligibility criteria: (a) they had a fifth grader attending a sampled school; (b) both mother and child agreed to participate; (c) the mother was the child's biological mother, lived with the child, and self-identified as Mexican or Mexican American; (d) the child's biological father was of Mexican origin; (e) the child was not severely learning disabled; and (f) no step-father or mother's boyfriend was living with the child. Eligibility criteria c, d, and e were chosen because of the focus on cultural influences, including ethnic socialization, on children's adaptation and the difficulty of studying such influences with parents of different cultural heritages. Because marriage outside one's ethnic group is rare among immigrants but increases across generations (e.g., Rosenfeld, 2002), one result of using these criteria is a sample that includes somewhat more immigrant parents than the general population of Mexican Americans in the targeted community.

In contrast to most studies of Mexican Americans, this sample is diverse on SES indicators and language. Incomes ranged from less than \$5,000 to more than \$95,000, with an average of \$30,000 – \$35,000. About 30% of mothers and 83% of adolescents were interviewed in English. The mean age of mothers when the study began was 35.9 years ( $SD = 5.81$ ) and mothers reported an average of 10.3 ( $SD = 3.67$ ) years of education. The mean age of adolescents (48.7% female) at 5<sup>th</sup> grade was 10.4 years ( $SD = .55$ ). Most mothers were born in Mexico (74.3%) while most adolescents were US-born (70.3%). Two years after Wave 1 data collection, 711 families were re-interviewed when most students were in 7<sup>th</sup> grade. Of the 39 families missing at Wave 2, 16 refused to participate. Attrition analyses showed no differences on mother or child demographic characteristics (i.e., marital status, gender, age, generation status, language of interview) and there was only one significant difference on variables included in this study: externalizing scores were lower for children who dropped out of the study than for those who remained in the study for both waves ( $t(704) = 2.09, p < .05$ ).

### Procedures

The complete research procedures are described elsewhere (Roosa et al., 2008). Here we summarize key features of these procedures.

The sampling process began by using multi-dimensional criteria to rank all elementary school attendance zones in the metropolitan area according to the degree to which they reflected or supported traditional Mexican lifestyles (Roosa et al., 2008). Then through a combination of random and purposive selection, 47 public, religious, and charter schools from throughout the metropolitan area were selected to represent the cultural, social, and economic diversity of the area. Recruitment materials in English and Spanish were sent home with all 5<sup>th</sup> grade children in these schools. These materials explained the project and asked parents to provide contact information if interested in participating. Over 85% of

those who returned contact information were Latinos and Computer Assisted Personal Interviews lasting about 2½ hours were completed with 750 families, 73% of those meeting all eligibility criteria. Interviews with family members were conducted concurrently in their homes and out of hearing of each other by trained interviewers. Interviewers read each question and response option aloud in participants' preferred language to reduce problems due to variations in literacy levels. Respondents were given a booklet with verbal and graphic representations of response options for each measure to assist in choosing responses. Each participant was compensated \$45 and \$50 at Wave 1 and 2, respectively.

## Measures

**Family cohesion**—The 16-item cohesion subscale of the Family Adaptability and Cohesion Evaluation Scale II (Olson, Portner, & Bell, 1982) was used to assess the emotional bonds that family members had toward one another. Mothers rated family cohesion (e.g., “Your family does things together”) on a Likert scale ranging from 1=Almost never to 5=Almost always. Cronbach's alpha was .81.

**Socioeconomic status**—Parents reported the family's total income in the past year using ranges from 1 (\$0–5000) to 20 (\$95,000 and above).

**Impulsivity**—The Weinberger Adjustment Inventory (WAI; Weinberger & Schwartz, 1990) was used to assess *impulse control* (e.g., “I say the first thing that comes into my mind without thinking enough about it”). Scores were coded so that high scores represented impulsivity, rather than impulse control. Children responded to the 8-item subscale on a Likert-type scale ranging from 1 (almost never) to 5 (almost always) regarding how often their behavior could be described by each item. Cronbach's alpha was .65.

**Attachment to teacher**—We used a 9-item scale adapted from the parent and peer attachment scale (Armsden & Greenberg, 1987) to assess children's attachments to their teachers. Children answered statements such as “A teacher respected your feelings” using a 1 (almost never) to 5 (almost always) response set. Cronbach's alpha was .86.

**Association with deviant peers**—Children responded to the 13-item Peer Delinquent Behavior scale constructed with items from well-known measures of delinquency (e.g., Dishion, Patterson, Stoolmiller, & Skinner, 1991; Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994). They answered statements like “How many of your friends have sold drugs?” on a 5-point Likert scale ranging from 1 “None of them” to 5 “All of them.” Cronbach's alpha was .79 for Time 1 and .89 for Time 2.

**Externalizing behaviors**—Both mothers and children reported children's externalizing behavior using the Diagnostic Interview Schedule for Children (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000), a structured diagnostic instrument for use by nonclinicians. The indicators of externalizing behaviors used were adolescent conduct disorder (CD) and opposition defiant disorder (ODD) symptoms. Because CD and ODD often co-occur in this age group and CD is thought of as a precursor to ODD (Hinshaw & Zupan, 1997), these symptom counts were summed into a combined CD/ODD score. Mother and adolescent reports were averaged to obtain an externalizing score for each adolescent.

**Familism**—The Mexican American Cultural Values Scale was used to assess adolescents' levels of familism (Knight et al., in press). The 16-item familism scale assesses the importance of family (e.g., “parents should teach their children that the family always comes first”), obligations to the family (e.g., “if a relative is having a hard time financially, one should help them out if possible”), and family as a referent (e.g., “a person should always

think about their family when making important decisions”). Responses range from 1 (not at all) to 5 (completely). Cronbach’s alpha was .80.

## Results

### Preliminary analysis

Because the sampling process began by selecting diverse neighborhoods, then selecting multiple families within neighborhoods, there was a possibility of clustering at the neighborhood level. To test whether clustering affected the independence of scores, we conducted intraclass correlations (ICCs) for all study variables. ICCs ranged from .01 to .06 suggesting that no more than 6% of the variation in the variables was attributable to neighborhood clustering. Even so, possible clustering effects were accounted for in analyses (i.e., standard errors of path coefficients were adjusted) because ignoring clustering can lead to biased estimates (Enders & Tofighi, 2007). Descriptive statistics and correlations for all study variables are presented in Table 1 and 2. All correlations among study variables (Table 2) were in the expected direction with teacher attachment, family cohesion, and family SES negatively related to association with deviant peers and impulsivity positively related to association with deviant peers. The nonsignificant correlation between family cohesion and familism values supports the argument to consider these as independent concepts in the model. An examination of kurtosis and skewness values, as well as the distribution of scores, indicated that most did not violate the assumption of normality and were not characterized by extreme response sets (i.e., tendency to choose only high and low values while ignoring mid-level values) that has occurred in some studies with Latinos (Flaskerud, 1988; Hui & Triandis, 1989). Two variables (association with deviant peers T1 & T2), however, did fall outside of recommended range for skewness and kurtosis. To account for this, all analyses utilized maximum likelihood with robust standard errors, a procedure that is robust against data non-normality (Muthén & Muthén, 1998–2007).

To test study hypotheses, a series of analyses were examined. First, we tested the basic SDM prospective mediational model (only bolded paths in Figure 1). Next we tested the prospective mediational model *plus* the moderating role of familism (bolded and dashed paths in Figure 1). Finally, we examined the entire model (all paths in Figure 1) to see if paths differed by adolescent nativity (e.g., US born Vs Mexico born) or gender.

### SDM prospective mediational model

The prospective mediational model shown in Figure 1 (bolded paths only) was tested using structural equation modeling (SEM) with Mplus (Muthén & Muthén, 1998–2007). A major advantage of using SEM is that all paths in a theoretical model are estimated simultaneously while controlling for the influence of all other variables in the model. All variables were standardized to aid in interpretation; standardized path coefficients can be interpreted as the number of standard deviations change in the outcome for a 1 standard deviation change in the predictor. We examined how T1 variables (teacher attachment, family cohesion, family SES, and impulsivity) related to T1 association with deviant peers, T2 association with deviant peers, and externalizing, controlling for T1 externalizing. Mediation effects were tested using the product of coefficients method with the multivariate delta method of deriving the standard error (Sobel, 1982). Multiple fit indices (CFI, RMSEA, and SRMR) were used to evaluate fit because no single indicator is unbiased in all analytic conditions. Good (acceptable) model fit is reflected by a CFI greater than .95 (.90), RMSEA less than .05 (.08), and SRMR less than .05 (.08; Hu & Bentler, 1999; Kline, 2005).

The fit of the model was good [ $\chi^2(2) = 19.78, p < .001$ ; CFI = 0.96; RMSEA = 0.09; SRMR = 0.03]. As predicted, teacher attachment and family SES were negatively related to T1



association with deviant peers and impulsivity was positively related to T1 association with deviant peers (Figure 2). Family cohesion was negatively related to T2, but not T1, association with deviant peers. T1 association with deviant peers was positively related to T2 association with deviant peers. Finally, as expected, T2 association with deviant peers was positively related to T2 externalizing controlling for T1 externalizing.  $R^2$  estimates indicated that 39% of the variance in T2 externalizing was accounted for by the predictors in the model. Seventeen percent of the variance in T2 association with deviant peers and 7% of the variance in T1 deviant peers was accounted for by the model.

Significant mediation effects were found. Teacher attachment ( $z = -2.98, p < .01$ ) and family SES ( $z = -2.50, p < .05$ ) were negatively related to T2 externalizing through T1 and T2 association with deviant peers. Impulsivity was positively related to T2 externalizing through T1 and T2 association with deviant peers ( $z = 4.07, p < .001$ ). Association with deviant peers T1 and T2 did not mediate the relation between family cohesion and externalizing.

### Moderating Role of Familism

Next, we examined the moderating (protective) role of familism in the SDM prospective mediational analysis. Specifically, we examined whether familism moderated a) the relation between deviant peers at T1 and T2 and b) the relation between deviant peers at T2 and externalizing at T2. Interaction terms were created by computing the product of the two (standardized) variables of interest and using the product as a manifest variable in the model (Tein, Sandler, MacKinnon, & Wolchik, 2004).

The fit of the model was good [ $\chi^2(7) = 23.30, p < .001$ ; CFI = 0.953; RMSEA = 0.056; SRMR = 0.040]. All paths remained similar to those shown in Figure 2 with only small changes in some coefficients. Familism was a significant moderator of the relationship of association with deviant peers at T1 and T2 ( $\beta = .12, p < .01$ ), but did not moderate the relationship between deviant peers at T2 and externalizing at T2. To probe the significant interaction, we examined *simple regression slopes*, the relationship of association with deviant peers at T1 and association with deviant peers at T2 at varying levels of the moderator, familism (Aiken & West, 1991). Aiken and West recommend using 3 values of the moderator: the mean, 1 standard deviation (SD) above the mean, and 1 SD below the mean. However, because familism scores are positively skewed, scores at 1 SD below the mean are actually moderate levels of familism rather than low. Therefore, we plotted regression slopes at the mean, 1 SD above the mean and 2 SD below the mean of familism to represent a greater range of scores on this scale. The graph of these probes (Figure 3) showed that there was a stronger relation (greater stability) between T1 and T2 association with deviant peers when adolescents reported high familism ( $z = 7.17, p < .001$ ) than when they reported moderate (i.e., mean) familism ( $z = 5.05, p < .001$ ); this association was not significant when familism was low (i.e.,  $-2SD; z = 1.69, p = .09$ ).

Because a primary interest of this study was in mediation and we found significant moderation by familism, it was important to determine if the previously reported mediation effects were themselves affected by the moderator. That is, because of the moderation by familism it was possible that the mediation effects reported for the whole sample could be explained by relations for those with very low (or very high) familism scores. Therefore, we tested for *moderated mediation*, whether mediation differed at varying levels of the moderator (i.e., familism). Consistent with our graphing of simple slopes, we examined each significant mediation pathway at low levels of familism (2 SD below the mean), moderate levels of familism (the sample mean) and high levels of familism (1 SD above the mean). Teacher attachment was more weakly negatively related to T2 externalizing through T1 and T2 association with deviant peers at high levels of familism ( $z = -2.42, p < .05$ ) than at

moderate ( $z = -2.95, p < .01$ ) or low levels of familism ( $z = -1.91, p = .06$ ). The negative mediating relationship of family SES to T2 externalizing through T1 and T2 association with deviant peers was similar for high and moderate familism ( $z = -2.44, p < .05, z = -2.41, p < .05$ , respectively) but there was no significant mediation at low levels of familism ( $z = -1.49, p = .14$ ). Impulsivity was more strongly positively related to T2 externalizing through T1 and T2 association with deviant peers at high levels of familism ( $z = 4.37, p < .001$ ) than at moderate levels of familism ( $z = 3.60, p < .001$ ) but there was no significant mediation at low levels of familism ( $z = 1.58, p = .12$ ).

### Differences by Nativity and Gender

Finally, we tested to see if relationships among variables in the full model, including moderation by familism, differed by adolescent nativity (US-born versus Mexico-born) and adolescent gender. To do this, multi-group SEM analyses were conducted by first estimating an unconstrained model in which all parameters were allowed to vary across groups (i.e., nativity, gender) and then a model in which all parameters were constrained to be equal across groups. Given that we accounted for clustering effects in our data, we utilized log likelihood difference tests instead of chi-square difference tests to evaluate whether the constrained and unconstrained models fit the data differently. The chi-square difference test is not an appropriate test when utilizing MPLUS COMPLEX option (Muthen & Muthen, 1998–2007). The difference of the  $-2$  log likelihood ratios follows the chi-square distribution. There were no significant differences by adolescent gender [ $\Delta\chi^2$  (df $\Delta$ 20) = 20.90,  $p = .40$ ] or nativity [ $\Delta\chi^2$  (df $\Delta$ 20) = 12.42,  $p = .90$ ], indicating that pathways in our model did not significantly differ as a function of adolescent gender or place of birth.

### Discussion

This study provided a prospective test of the SDM during the transition from elementary to junior high school with a diverse sample of Mexican American early adolescents to begin the process of understanding high rates of externalizing behaviors in this population. Results showed that the SDM was useful for explaining externalizing behaviors for these early adolescents. Teacher attachment, family cohesion, family SES, and impulsivity explained 7% of the variance in association with deviant peers cross sectionally and made an indirect contribution (i.e., through mediators) to association with deviant peers at T2 and changes in externalizing from 5<sup>th</sup> to 7<sup>th</sup> grade. As predicted, attachment to teachers and higher family income were associated with a reduced level of association with deviant peers while impulsivity was related to greater association with deviant peers. Family cohesion was negatively related to association with deviant peers at both T1 and T2 in the zero-order correlations. However, when included in the model with the other variables (i.e., when the contributions of all other variables were controlled), family cohesion was related to association with deviant peers at T2 but not T1. Most importantly, family cohesion at T1 was negatively related to association with deviant peers at T2 in the model.

The SDM explained a small portion of variance in the cross sectional association with deviant peers. This was a bit surprising considering the breadth of predictors used: family and school bonds, family SES, and impulsivity. Despite the economic diversity of the sample, family SES had only a small relationship to association with deviant peers. Attachments to teachers and adolescents' levels of impulsivity were more strongly related to the levels of adolescents' associations with deviant peers. One possible explanation of this pattern of relations could be that the SDM may not adequately explain associations with deviant peers and externalizing behaviors for Mexican American adolescents at 5<sup>th</sup> grade. Instead, there may be other variables that are more important for this group at this age that are not included in the SDM. For instance, there is evidence that more traditional Mexican American parents may be very controlling and protective particularly in the preteen years,

consistent with their values regarding obligations to their family including protecting their children, and this may reduce adolescents' contacts with deviant peers (See Halgunseth et al., 2006 for a review). This possibility is supported by the relatively low level of, and slow growth in, adolescents' levels of association with deviant peers and their externalizing behaviors in this study. Similarly, to the extent that Mexican American adolescents live with or nearby extended family members, there may be multiple socialization agents providing monitoring functions that could reduce opportunities to associate with deviant peers. Furthermore, relations in the SDM may vary significantly for Mexican American adolescents living in ethnic enclaves dominated by immigrants, which are suspected to have high levels of shared responsibility for monitoring adolescent misbehavior, in contrast to peers living in more ethnically diverse neighborhoods (e.g., Moore & Pinderhughes, 1993; Sampson, 2001). It is not possible from these results to determine whether the reduced rate of involvement with deviant peers for adolescents with strong familism values was due to selective behaviors and decision making of the adolescents or to the intervention of parents who share similar values.

Adolescents' familism beliefs provided a protective benefit as hypothesized. In a developmental period when association with deviant peers is increasing generally (Catalano & Hawkins, 1996), as well as within this Mexican American sample (as shown in Table 1), adolescents with strong beliefs in familism showed greater stability (less increase) in their associations with deviant peers. In contrast, those adolescents with lower levels of familism beliefs accounted for most of the increase in association with deviant peers in the sample. Specifically, the results indicated that adolescents who had higher beliefs in familism had less change and, therefore, slower rates of growth in association with deviant peers, from 5<sup>th</sup> to 7<sup>th</sup> grades than peers with weaker beliefs in familism. Contrary to expectations, familism beliefs did not moderate the relationship of T2 association with deviant peers and changes in externalizing. Although German et al (2009) found support for familism buffering this relationship, theirs was a cross sectional study with level of externalizing as the outcome. In contrast, the current study had *change* in externalizing since T1 as the outcome providing a stronger test of this effect. Thus, it seems that stronger beliefs in the importance of family and obligations to family protected adolescents by reducing their interactions with deviant peers and the associated temptations for getting involved in deviant behaviors.

Adolescents with high levels of familism may have been more hesitant about getting involved with deviant peers because of concerns that this would reflect badly on their families (Marin & Marin, 1991). On the other hand, adolescents with high familism values may have come from more traditional families that were more protective of their children (i.e., stronger monitoring and less unsupervised time with peers; Halgunseth et al., 2006) which reduced the adolescents' opportunities to associate with deviant peers and get involved in delinquent behavior. The results also showed, however, that once these early adolescents associated frequently with deviant peers, familism values did not provide protection by reducing the strength of the relationship between association with deviant peers and externalizing behaviors. Consistent with many other studies, our results showed a strong relationship between association with deviant peers and externalizing symptoms which explained almost 40% of the variance in externalizing (Granic & Patterson, 2006). According to the SDM, frequent association with deviant peers strengthens bonds between adolescents and these peers, increases rewards from such associations, and increases the costs of displeasing these peers, countering influences from prosocial settings (Catalano & Hawkins, 1996). The implications for prevention programming seem clear: (a) early intervention is important to keep associations with deviant peers low and to slow its growth; and (b) one method to accomplish the latter goal might be to reinforce the importance of familism beliefs.

A strength of the current study was that it used a large and heterogeneous sample of Mexican American families providing the foundation for a strong test of the hypothesized model. In addition, this study used a prospective panel design with data when children were in 5<sup>th</sup> and 7<sup>th</sup> grades, a developmental period spanning the transition to junior high school and from childhood to early adolescence with important implications for later development. Another strength of the current study is the use of school, family, and individual level variables as predictors in the SDM and the use of data from both parent and adolescent reports instead of being limited to influences from a single source or data from a single reporter.

This study had its limitations as well. Despite the advantages of a prospective design, conclusions about causal directions among variables cannot be made confidently without more than two data points (Cole & Maxwell, 2003; Cummings, Davis, & Campbell, 2000; Rogasa, 1995). Longitudinal tests of the SDM with Mexican Americans and multiple data points would increase confidence in the results. This study was a secondary analysis of an existing data set which did not contain all the variables needed for a more comprehensive test of the SDM. For instance, adolescents' peers can have prosocial as well as antisocial influences on behavior (e.g., Azmitia & Cooper, 2001; Stanton-Salazar & Spina, 2005) but no measure of prosocial peer involvement was available. Similarly, the data set did not include measures of sibling socialization influences, another important source of both prosocial and antisocial influences (e.g., Kornreich, Hearn, Rodriguez, & O'Sullivan, 2003; Moser & Jacob, 2002). The results showing a protective effect of familism are promising but it was impossible to determine whether these results came about because familism beliefs affected children's decision making and behavior or because children with high familism beliefs came from more traditional, and therefore more protective, families whose efforts reduced associations with deviant peers. Additional research will be needed to determine the source of protection for adolescents with strong familism beliefs. Finally, we think that future tests of the SDM with Mexican Americans would be strengthened if familial influences were assessed at a broader level, the extended family, to take into consideration the broader support systems that many of these adolescents may have had.

Overall, this study provided support for the utility of the SDM to explain Mexican American adolescents' growth in externalizing behaviors across the important transition from elementary to junior high school. This study also provided evidence suggesting that strong familism beliefs for Mexican American adolescents may be protective by keeping the level of association with deviant peers relatively stable during this important developmental period. In addition, this test of the SDM demonstrated the importance of examining the influences of both emotional bonds in a family and beliefs about the importance of the family. These concepts were not significantly related to one another but both contributed to less association with deviant peers. Importantly, the results showed that the SDM was equally effective at explaining externalizing behaviors for boys and girls as well as for US-born and Mexico-born adolescents increasing generalizability. Although this test of the SDM included one component intended to make the model more culturally appropriate for Mexican Americans (i.e., familism), the model might benefit from further culturally relevant modifications. For instance, future tests of the SDM may want to account for the protective parenting practices of more traditional Mexican American families and for the possible assistance in monitoring adolescent misbehavior from extended family members or supportive neighbors. Future research should consider these and other culturally relevant adjustments to the SDM to improve its utility for this population. Finally, this study showed that the SDM was useful for understanding processes related to increases in externalizing behavior for Mexican American early adolescents; future research should extend tests of the model to middle and late adolescence when externalizing behaviors reach their peak for most.

## Acknowledgments

Work on this paper was supported, in part, by grant RO1 MH 068920 (Culture, context, and Mexican American mental health), grant T-32-MH18387 to support training in prevention research, and the Cowden Fellowship program of the School of Social and Family Dynamics at Arizona State University. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Mental Health or the National Institutes of Health. The authors are thankful for the support of Marisela Torres, Jaimee Virgo, the La Familia Community Advisory Board, consultants, and interviewers, and the families and teachers who generously participated in the study.

## References

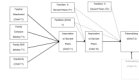
- Aiken, L.S.; West, S.G. *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publications; 1991.
- Alegria M, Mulvaney-Day N, Torres M, Polo A, Cao Z, Canino G. Prevalence of psychiatric disorders across Latino subgroups in the United States. *American Journal of Public Health* 2007;97:68–75. [PubMed: 17138910]
- Armenta BE, Knight GP, Carlo G, Jacobson RP. The relation between ethnic group attachment and prosocial tendencies: The mediating role of cultural values. *European Journal of Social Psychology*. in press.
- Armsden GC, Greenberg MT. The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence* 1987;16:427–454.
- Azmitia M, Cooper CR. Good or bad? Peer influences on Latino and European American adolescents' pathways through school. *Journal of Education for Students Placed at Risk* 2001;6:45–71.
- Azmitia M, Cooper CR, Brown JR. Support and guidance from families, friends, and teachers in Latino adolescents' math pathways. *Journal of Early Adolescence* 2009;29:142–169.
- Barber BK, Olsen JA. Assessing the transitions to middle and high school. *Journal of Adolescent Research* 2004;19:3–30.
- Berkel C, Knight GP, Zeiders KH, Tein J-Y, Roosa MW, Gonzales NA, Saenz D. Discrimination and adjustment for Mexican American adolescents: A prospective examination of the benefits of culturally-related values. *Journal of Research on Adolescence*. 2010
- Bettendorf SK, Fischer AR. Cultural strengths as moderators of the relationship between acculturation to the mainstream U.S. society and eating- and body-related concerns among Mexican American women. *Journal of Counseling Psychology* 2009;56:430–440.
- Bird HR, Canino GJ, Davies M, Zhang H, Ramirez R, Lahey BB. Prevalence and correlates of antisocial behaviors among three ethnic groups. *Journal of Abnormal Child Psychology* 2001;29:465–478. [PubMed: 11761281]
- Carroll A, Hemingway F, Bower J, Ashman A, Houghton S, Durkin K. Impulsivity in juvenile delinquency: Differences among early-onset, late-onset, and non-offenders. *Journal of Youth and Adolescence* 2006;35:519–529.
- Catalano, R.F.; Hawkins, J.D. The social development model: A theory of antisocial behaviour. In: Hawkins, J.D., editor. *Delinquency and crime: Current theories*. New York: Cambridge University Press; 1996. p. 149-197.
- Centers for Disease Control and Prevention. *Surveillance Summaries*. MMWR 2006 June 9;55(No SS-5)
- Choi Y, Harachi TW, Gillmore MR, Catalano RF. Applicability of the Social Development Model to urban ethnic minority youth: Examining the relationship between external constraints, family socialization, and problem behaviors. *Journal of Research on Adolescence* 2005;15:505–534.
- Cleveland MJ, Feinberg ME, Bontempo DE, Greenberg MT. The role of risk and protective factors in substance use across adolescence. *Journal of Adolescent Health* 2008;43:157–164. [PubMed: 18639789]
- Cole DA, Maxwell SE. Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology* 2003;112:558–577. [PubMed: 14674869]

- Cummings, EM.; Davis, PT.; Campbell, SB. *Developmental psychopathology and family process*. New York, NY: Guilford Press; 2000.
- Deng S, Roosa MW. Family influences on adolescent delinquent behaviors: Applying the social developmental model to a Chinese sample. *American Journal of Community Psychology* 2007;40:333–344. [PubMed: 17924187]
- Diaz-Loving, R.; Draguns, JG. Culture, meaning, and personality in Mexico and in the United States. In: Lee, YT.; McCauley, CR.; Draguns, JG., editors. *Personality and person perception across cultures*. Mahwah, NJ: Erlbaum; 1999. p. 103-126.
- Dishion TJ, Patterson GR, Stoolmiller M, Skinner ML. Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. *Developmental Psychology* 1991;27:172–180.
- Dishion TJ, Owen LD. A longitudinal analysis of friendships and substance use: Bidirectional influence from adolescence to adulthood. *Developmental Psychology* 2002;38:480–491. [PubMed: 12090479]
- Eaton DK, Kann L, Kinchen S, Shanklin S, Ross J, Hawkins J, Harris WA, Lowry R, McManus T, Chyen D, Lim C, Brener ND, Wechsler H. *Youth Risk Behavior Surveillance --- United States, 2007*. *MMWR Surveillance Summaries* 2008 June 6;57(SS04):1–131.
- Eccles, JS. Schools, academic motivation, and stage-environment fit. In: Lerner, RM.; Steinberg, L., editors. *Handbook of adolescent psychology*. 2. Hoboken, NJ: Wiley; 2004.
- Enders CK, Tofighi D. Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods* 2007;12:121–138. [PubMed: 17563168]
- Flaskerud JH. Is the Likert scale format culturally biased? *Nursing Research* 1988;37:185–186. [PubMed: 3368361]
- Fleming CB, Catalano RF, Mazza JJ, Brown EC, Haggerty KP, Harachi TW. After-school activities, misbehavior in school, and delinquency from the end of elementary school through the beginning of high school: A test of Social Development Model hypotheses. *Journal of Early Adolescence* 2008;28:277–303.
- Gardner TW, Dishion TJ, Connel AM. Adolescent self-regulation as resilience: Resistance to antisocial behavior within the deviant peer context. *Journal of Abnormal Child Psychology* 2008;36:273–284. [PubMed: 17899361]
- German M, Gonzales NA, Dumka L. Familism values as a protective factor for Mexican-origin adolescents exposed to deviant peers. *Journal of Early Adolescence* 2009;29:16–42.
- Granic I, Patterson GR. Toward a comprehensive model of antisocial development: A dynamic systems approach. *Psychological Review* 2006;113:101–131. [PubMed: 16478303]
- Grant BF, Stinson FS, Hasin DS, Dawson DA, Chou SP, Anderson K. Immigration and lifetime prevalence of DSM-IV psychiatric disorders among Mexican Americans and non-Hispanic whites in the United States. *Archives of General Psychiatry* 2004;61:1226–1233. [PubMed: 15583114]
- Halgunseth LC, Ispa JM, Rudy D. Parental control in Latino families: An integrated review of the literature. *Child Development* 2006;77:1282–1297. [PubMed: 16999798]
- Hart, SD.; Hare, RD. Psychopathy: Assessment and association with criminal conduct. In: Stoff, DM.; Breiling, J.; Maser, J., editors. *Handbook of antisocial behavior*. Hoboken, NJ: Wiley; 1997. p. 22-35.
- Hinshaw, SP.; Zupan, BA. Assessment of antisocial behavior and children and adolescents. In: Stoff, DM.; Breiling, J.; Maser, JD., editors. *Handbook of antisocial behavior*. New York: John Wiley & Sons; 1997. p. 36-59.
- Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling* 1999;6:1–55.
- Hui CH, Triandis HC. Effects of culture and response format on extreme response style. *Journal of Cross-Cultural Psychology* 1989;23:498–509.
- Kline, RB. *Principles and practice of structural equation modeling*. 2. New York: Guilford; 2005.
- Knight GP, Gonzales NA, Saenz DS, Bonds D, German M, Deardorff J, Roosa MW, Updegraff KA. The Mexican American Cultural Values Scale for adolescents and adults. *Journal of Early Adolescence* 2010;30:444–481. [PubMed: 20644653]

- Kornreich JL, Hearn KD, Rodriguez G, O'Sullivan LF. Sibling influence, gender roles, and the sexual socialization of urban early adolescent girls. *Journal of Sex Research* 2003;40:101–109. [PubMed: 12806535]
- Lara M, Gamboa C, Kahramanian MI, Morales LS, Bautista DEH. Acculturation and Latino health in the United States: A review of the literature and its sociopolitical context. *Annual Reviews of Public Health* 2005;26:367–397.
- Lopez EM, Gallimore R, Garnier H, Reese L. Preschool antecedents of mathematics achievement of Latinos. *Hispanic Journal of Behavioral Sciences* 1997;29:456–471.
- Marin, G.; Marin, BV. *Research with Hispanic populations*. Thousand Oaks, CA, US: Sage Publications; 1991.
- McHale SM, Updegraff KA, Kim J, Cansler E. Cultural orientations, daily activities, and adjustment in Mexican American youth. *Journal of Youth and Adolescence* 2009;38:627–641. [PubMed: 19636760]
- Moffitt, TE.; Caspi, A.; Rutter, M.; Silva, PA. *Sex differences in antisocial behavior: Conduct disorder, delinquency and violence in the Dunedin Longitudinal Study*. Cambridge, UK: Cambridge University Press; 2001.
- Moore, J.; Pinderhughes, R. *In the barrios: Latinos and the underclass debate*. New York: Russell Sage Foundation; 1993.
- Moser RP, Jacob T. Parental and sibling effects in adolescent outcomes. *Psychological Reports* 2002;91:463–479. [PubMed: 12416840]
- Muthén, LK.; Muthén, BO. *Mplus user's guide*. Los Angeles: Muthén and Muthén; 1998–2007.
- National Institute on Drug Abuse. *Drug use among racial/ethnic minorities*. U.S. Department of Health and Human Services. National Institute of Health; 1998.
- Olson, DH.; Portner, J.; Bell, R. *FACES II: Family adaptability and cohesion evaluation scales*. In: Olson, DH.; McCubbin, HJ.; Barnes, H.; Larsen, A.; Muxen, M.; Wilson, M., editors. *Family inventories*. St. Paul: University of Minnesota Press; 1982. p. 5-24.
- Rodriguez N, Mira CB, Paez ND, Myers HF. Exploring complexities of familism and acculturation: Central constructs for people of Mexican origin. *American Journal of Community Psychology* 2007;39:61–77. [PubMed: 17437189]
- Rogasa, D. Myths about longitudinal research. In: Gottman, JM., editor. *The analysis of change*. Mahwah, NJ: Erlbaum; 1995.
- Rosenfeld MJ. Measures of assimilation in the marriage market: Mexican Americans 1970–1990. *Journal of Marriage and the Family* 2002;64:152–162.
- Roosa MW, Liu F, Torres M, Gonzales N, Knight G, Saenz D. Sampling and recruitment in studies of cultural influences on adjustment: A case study with Mexican Americans. *Journal of Family Psychology* 2008;22:293–302. [PubMed: 18410216]
- Rueger SY, Malecki CK, Demaray MK. Gender differences in the relationship between perceived social support and student adjustment during early adolescence. *School Psychology Quarterly* 2008;23:496–514.
- 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;9:397–412.
- Sampson, RJ. How do communities undergird or undermine human development. Relevant contexts and social mechanisms. In: Booth, A.; Crouter, AC., editors. *Does it take a village? Community effects on children, adolescents, and families*. Mahwah, NJ: Lawrence Erlbaum; 2001. p. 3-30.
- Seidman E, Allen L, Aber JL, Mitchell C, Feinman J. The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development* 1994;65:507–522. [PubMed: 8013237]
- Shaffer D, Fisher P, Lucas CP, Dulcan MK, Schwab-Stone ME. NIMH Diagnostic Interview Schedule for Children Version IV: Description, differences from previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry* 2000;39:28–38. [PubMed: 10638065]

- Sobel, ME. Asymptotic confidence intervals for indirect effects in structural equation models. In: Leinhardt, S., editor. *Sociological methodology* 1982. Washington, DC: American Sociological Association; 1982. p. 290-312.
- Stanton-Salazar RD, Spina SU. Adolescent peer networks as a context for social and emotional support. *Youth and Society* 2005;36:379–417.
- Tein JY, Sandler IN, MacKinnon DP, Wolchik SA. How did it work? Who did it work for? Mediation and mediated moderation of a preventive intervention for children of divorce. *Journal of Consulting and Clinical Psychology* 2004;72:617–624. [PubMed: 15301646]
- Thornberry TP, Lizotte AJ, Krohn MD, Farnworth M, Jang SJ. Delinquent peers, beliefs, and delinquent behavior: A longitudinal test of interactional theory. *Criminology* 1994;32:47–83.
- Tittle CR, Ward DA, Grtasmick HG. Gender, age, and crime/deviance: A challenge to self-control theory. *Journal of Research on Crime and Delinquency* 2003;40:426–453.
- U.S. Census Bureau. *The Hispanic Population: Census 2000 brief*. Washington, D.C: U.S. Department of Commerce, Economics and Statistics Administration; 2001.
- Valdes, G. *Con respeto. Bridging the distances between culturally diverse families and schools; An ethnographic portrait*. New York: Teachers College Press; 1996.
- Weinberger DA, Schwartz GE. Distress and restraint as superordinate dimensions of self-reported adjustment: A typological perspective. *Journal of Personality* 1990;58:381–417. [PubMed: 2213473]
- Werner, EE.; Smith, RS. *Journeys from childhood to midlife: Risk, resilience, and recovery*. Ithaca, N.Y: Cornell University Press; 2001.

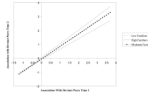




**Figure 1.**  
Hypothesized SDM Prospective Model



**Figure 2.**  
SDM Prospective Model Results



**Figure 3.** Interaction of T1 association with deviant peers and familism on T2 association with deviant peers.

Table 1

Descriptive statistics for the sample (n = 750)

	%	Range	Skewness	Kurtosis	Mean	SD
Age of mother		25–54	0.55	-0.22	35.86	5.81
Age of children		9–12	0.33	-0.64	10.42	0.55
Family income (X\$5,000)		1–20	1.29	1.27	6.73	4.40
Mothers' years of education		1–19	-0.52	-0.20	10.34	3.67
Two parent household	77.07					
Mothers born in US	25.73					
Children born in US	70.27					
Mothers interviewed in English	30.17					
Children interviewed in English	82.77					
Female children	48.70					
Teacher attachment		1–5	0.88	-1.02	3.98	0.81
Family cohesion		1.94–5	0.49	-0.76	4.00	0.56
Impulse control		1.50–5	-0.17	-0.27	3.43	0.68
Familism		2.75–5	0.56	-0.69	4.53	0.37
Association w/deviant peers – T1		1–3.71	12.29	2.90	1.22	0.32
Association w/deviant peers – T2		1–4.43	10.08	2.63	1.34	0.44
Externalizing – T1		0–11.50	2.97	1.64	1.81	1.99
Externalizing – T2		0–13.00	2.21	1.41	2.45	2.42

Table 2

Correlations of study variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Teacher attachment										
2. Family cohesion	.08*									
3. Family SES	-.08*	.14**								
4. Impulsivity	-.11**	-.04	-.06							
5. Familism	.36**	.04	.04	.04						
6. Association w/Deviant Peers – T 1	-.15**	-.08*	-.08*	.21**	-.07*					
7. Association w/Deviant Peers – T 2	-.12**	-.12**	-.03	.14**	-.01	.42**				
8. Externalizing – T 1	-.16**	-.09*	.07*	.28**	-.07*	.26**	.24**			
9. Externalizing – T 2	-.11**	-.14**	.08*	.21**	-.01	.23**	.42**	.56**		
10. Adolescent gender <sup>a</sup>	.02	.00	.02	.17**	-.05	.06	.03	.14**	.07	
11. Adolescent nativity <sup>b</sup>	.07	.03	-.33**	.05	-.01	.03	-.03	-.07	-.11**	.05

Note. Sample size ranges from 733 to 750 for variables.

\* p<.05,

\*\* p<.01

<sup>a</sup> For gender, 1 = female, 2 = male.

<sup>b</sup> For nativity, 1 = US, 2 = Mexico