Discrimination and Mexican-origin Adolescents' Adjustment: The Moderating Roles of Adolescents', Mothers', and Fathers' Cultural Orientations and Values

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Abstract

Drawing on García Coll and colleagues' integrative framework and the risk and resilience model, this study examined the relationships between adolescents' perceived discrimination and psychosocial adjustment and the moderating roles of adolescents', mothers', and fathers' cultural orientations and values, and adolescent gender in a sample of 246 Mexican-origin families. Using multilevel modeling with data from mothers, fathers, seventh graders ($M = 12.8$; $SD = .57$) and older siblings ($M = 15.7$; $SD = 1.5$), findings revealed that perceived discrimination was positively associated to depression, risky behaviors, and deviant peer affiliations. In addition, parents' cultural orientations and values and adolescent gender moderated the relationships between perceived discrimination and some indicators of adjustment. These findings suggest that parents' cultural orientations and values can serve as protective and vulnerability factors in the associations between Mexican-origin adolescents' perceived discrimination and their psychosocial adjustment.

Experiences of discrimination are salient for Latino adolescents in the U.S., with studies indicating 30% to 83% of Latinos report discrimination (Kaiser Family Foundation, 2002; Perez, Fortuna, & Alegría, 2008). Research suggests that discrimination can have serious implications for Latino adolescents' well being. Adolescents who report high levels of discrimination report having poor mental health, for example (e.g., Romero & Roberts, 2003; Szalacha et al., 2003). Even though Latinos are the largest and fastest growing ethnic minority group in the U.S. (U.S. Census, 2008), and those of Mexican origin comprise two-thirds of the U.S. Latino population (Ramírez & de la Cruz, 2002), relatively little is known about the associations between discrimination and psychosocial adjustment for specific subgroups of Latino youth (e.g., Mexican-origin youth).

The goals of this study were threefold. The first goal was to examine the relationships between Mexican-origin adolescents' perceptions of discrimination and their adjustment, using an ethnic-homogeneous design. Guided by García Coll and colleagues' (1996) integrative model and the risk and resilience perspective, our second goal was to explore the potential moderating roles (e.g., protection/vulnerability) of adolescents', mothers', and fathers' cultural orientations (i.e., involvement in Anglo and Mexican cultures) and familism values between adolescents' perceived discrimination and adjustment. To our knowledge, no prior research has examined whether cultural orientations and values may moderate the relationships between perceived discrimination and adjustment *within* an ethnic group. In this way, we extend ethnic-comparative work on the correlates of discrimination for adolescents from diverse cultural and historical backgrounds (e.g., Greene, Way, & Pahl, 2006) to explore potential within-group variability in the relationships between discrimination and adjustment. Finally, our third goal was to examine adolescents' gender as a moderator of the associations among perceived discrimination, cultural orientations/values, and adjustment. We anticipated that different patterns or relationships may emerge for girls and boys given the role of gender in family socialization processes in Mexican-origin

families (Azmitia & Brown, 2002; Valenzuela, 1999). Findings will provide insights about cultural processes that are salient in ethnic minority families, particularly those of Mexican origin.

Relationships between Perceived Discrimination and Adolescent Adjustment

Research on discrimination among adolescents from a variety of ethnic backgrounds in the U.S. has provided evidence of a positive association between perceived discrimination and mental health problems (e.g., Deardorff, Gonzales, & Sandler, 2003; Szalacha et al., 2003). In studying inner-city adolescents from African, European, and Mexican backgrounds, Deardorff and colleagues (2003) found that stress, including peer discrimination, was positively associated with depressive symptoms for adolescents from all three ethnic groups. Discrimination may be related to ethnic minority youths' depression during adolescence because of the process of identity formation when adolescents become more aware, than in their earlier childhood years, of their native ethnic cultures via peers' opinions and values (Harter, 1999). When peers convey negative messages regarding their ethnicity, ethnic minority adolescents may internalize these perceptions (Williams-Morris, 1996); thus, these adolescents report more depressive symptoms (i.e., Deardorff et al., 2003). Examining the relationship between discrimination and depressive symptoms in a sample of Mexican-origin adolescents will provide theoretically important information about this population.

Externalizing behaviors are another potential correlate of perceived discrimination, although evidence of the relationships between discrimination and externalizing problems is limited (Gibbons et al., 2007). Some work suggests a positive relationship between discrimination and delinquent behaviors among American-Indian (Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001), African-American (e.g., Nyborg & Curry, 2003), and Mexican-origin adolescents (Umaña-Taylor, Updegraff, & Gonzales-Backen, under review). Recently, Gibbons and colleagues (2007), in their longitudinal study of African-American adolescents, found that experiences with racial discrimination were related to concurrent conduct disorders and to greater affiliations with friends who use drugs, which in turn was related to drug use five years later. Together, these findings underscore the importance of testing the relationship between discrimination and externalizing behavior problems among Mexican-origin youth.

Our first goal was to examine the relationships between discrimination and indices of externalizing and internalizing problems: risky behaviors, deviant peer affiliations, and depressive symptoms. In the current study we focus on peer discrimination at school because this type of discrimination has been specifically identified as a salient problem for Latino adolescents (Kaiser Family Foundation, 2002), particularly when compared to discrimination from adults or other sources (Romero & Roberts, 2003). Furthermore, school is the context where adolescents spend about half of their waking day (Csikszentmihalyi & Larson, 1984), and the adolescent peer group is comprised of those with whom they are spending increasingly more time as compared to family members or other adults (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). Examining discrimination in this specific context will provide crucial insights about the role of discrimination experiences in Mexican-origin youths' adjustment problems.

Cultural Orientations and Values as Moderators

The integrative model (García Coll et al., 1996) and the risk and resilience perspective suggest that the magnitude of the association between perceived discrimination and adjustment depends upon certain circumstances. In particular, cultural adaptation processes

may be the conditions under which discrimination poses more or less risk. Although studies on how cultural factors may shape reactions to or protect against risk are few, limited evidence points to this process. For instance, in a study of Mexican-origin adolescents, acceptance of Mexican cultural norms protected those who were exposed to risk factors (i.e., peer and family smoking) from engaging in risky behaviors (i.e., smoking; Morgan-Lopez, Castro, Chassin, MacKinnon, 2003). Similarly, Germán, Gonzales, and Dumka (2009) found Mexican-origin adolescents who were associated with deviant peers at school were protected against externalizing behavior problems when they and their parents strongly endorsed familism values. Thus, cultural orientations and values may, indeed, play an important moderating role in the relationship between discrimination and adjustment for Mexican-origin adolescents.

Most empirical work on cultural factors as moderators in associations of risk to adolescent adjustment has focused on *adolescents*' cultural characteristics. The work of Umaña-Taylor and Updegraff (2007) with Latino adolescents, for example, found adolescent boys' cultural orientations moderated the associations between perceived discrimination and both self-esteem and depressive symptoms. It is also important to consider *parents'* cultural orientations and values given their central role with regard to the socialization of youths' cultural values and practices (see Berkel et al., 2009). Consequently, we consider adolescents' as well as both mothers' *and* fathers' cultural orientations/values. Including the role of fathers is an important step given that fathers have been largely ignored in research with Latino and Mexican-origin adolescents (Gonzales, Knight, Morgan-Lopez, Saenz, & Sirolli, 2002; Updegraff, Delgado, & Wheeler, 2009). Directing our attention to the different sources of cultural adaptation and socialization within Mexican-American families may provide information about the roles of different family members in the relationship between discrimination and adjustment.

Adolescents', mothers', and fathers' Mexican culture involvement (i.e., Mexican orientations and familism values) may moderate the associations between adolescents' perceived discrimination and adjustment. The extent to which Mexican-American family members adopt the values and practices of Mexican cultural contexts is related to family socialization processes and adolescent adjustment (e.g., Coatsworth, Maldonado-Molina, Pantin, & Szapocznik, 2005) and may also play a role in discrimination-adjustment associations (García Coll et al., 1996). For instance, by incorporating the practices of their ethnicity in everyday life, Mexican-origin parents may actively ensure that their adolescents hold a positive view of their culture that could minimize the relationship between discrimination and adjustment. Further, familistic values are considered among the key values transmitted across generations among Mexican-origin families (Cauce & Domenech-Rodríguez, 2000; Parke & Buriel, 1998); thus, it is also important to examine the moderating role of familism values. Researchers have little heeded individual cultural *values* in studies of cultural adaptation (e.g., Gonzales et al., 2002). An exception is a study by Germán and colleagues (2009), who that found mothers', fathers', and adolescents' familism values buffered the effects of deviant peer affiliations on teacher reports of externalizing behavior. Similarly, we expect familism values and Mexican cultural orientation to protect from the negative effects of perceived discrimination on adjustment.

Another dimension of cultural orientation is Anglo culture involvement. Contrary to the potential protective role of Mexican culture involvement, evidence suggests that orientation toward the majority U.S. culture may intensify the relationships between discrimination and depressive symptoms among Mexican-origin adults (Finch, Kolody, & Vega, 2000). In a Midwestern sample of Latino adolescents primarily of Mexican-origin, Umaña-Taylor and Updegraff (2007) also found support for the vulnerability role of adolescents' orientations toward the mainstream culture in the relationships between perceived discrimination and

self-esteem (for boys and girls) and depressive symptoms (for boys only). Thus, in the present study, we expected that adolescents who perceived discrimination by peers would be more likely to exhibit depressive symptoms, engage in risky behaviors, and/or be more affiliated with delinquent peers when they or their parents displayed orientations toward Anglo culture.

Moderating Role of Adolescent Gender

Our third goal was to examine the moderating role of adolescent gender to explore whether different patterns emerged for girls versus boys. Recent research draws attention to gender differences in the associations between risk factors and adjustment (Berkel et al., 2009). In a study of Latino adolescents, for example, the relationships between discrimination and academic adjustment were significant for boys but not girls (Alfaro, Umaña-Taylor, Bámaca, Gonzales-Backen, & Zeiders, in press). Gender differences in the relationship between discrimination and adjustment may emerge as a result of Latino adolescent boys' (compared to girls') higher likelihood of exposure to outside influences, due to parents' efforts to encourage independence and exploration of the outside world among adolescent boys (e.g., Halgunseth, Ispa, & Rudy, 2006). These experiences may mean adolescent boys are more susceptible to the negative effects of discrimination because boys may encounter acts of discrimination more frequently. Conversely, perhaps boys are unaffected by these experiences as a result of becoming desensitized to the discriminatory acts they regularly experience. In the present study, we explored what patterns in the relationships between perceived discrimination and adjustment problems would be salient for Mexican-origin adolescent girls versus boys.

In addition, we considered the possibility that cultural orientations and values may play stronger moderating roles in the associations between perceived discrimination and internalizing/externalizing problems for girls versus boys. Indeed, research has shown that parents differentially socialize sons and daughters. Being more protective of girls than of boys, for example, is characteristic of Mexican-oriented parents, such that girls may be expected to be in the home more, assist their families more, and take on more responsibilities than boys (Valenzuela, 1999), as has also been found among the current sample of Mexican-origin adolescents (McHale, Updegraff, Shanahan, Crouter, & Killoren, 2005). Furthermore, Mexican-oriented mothers and fathers are likely to afford boys more freedom to learn more about the outside world than girls (Azmitia & Brown, 2000; Ramírez, 1998). Thus, when adolescents perceive discrimination, the moderating effects of parents' cultural orientations may be more pronounced for daughters than for sons because girls spend more time at home with their parents (Rafaelli & Ontai, 2004; Valenzuela, 1999), which may make parents' values particularly salient for them. For these reasons, we explore the moderating role of adolescent gender.

The Present Study

In sum, there were three goals for the present study. The first goal of this study was to test the relationships between Mexican-origin adolescents' perceptions of discrimination and three indicators of adjustment: risky behaviors, affiliations with delinquent peers, and depressive symptoms. We expected perceptions of discrimination to be positively associated with risky behaviors, affiliations with delinquent peers, and depressive symptoms. The second goal was to explore adolescents', mothers', and fathers' cultural orientations toward Mexican and Anglo cultures and familism values as moderating roles in the associations between perceived discrimination and adjustment. Specifically, we expected Anglo orientation would be a vulnerability factor and Mexican orientation and familism values would be protective factors in these relationships. The final goal was to explore how these

processes may differ for girls versus boys; we expected that the relationships from the discrimination and cultural orientations/values interactions to adjustment may be stronger for girls than for boys. These three goals will offer new insights about the relationships among discrimination, cultural orientations and values, and adjustment among Mexican-origin youth.

Method

Participants

The data for this study came from the first wave of an ongoing study of Mexican-origin families raising adolescent siblings (author citation). Participants included 246 seventh graders, their older siblings, their mothers, and their fathers. Participants were recruited through school districts in and around a southwestern-U.S. metropolitan area. The criteria for families' participation were as follows: (a) mothers were of Mexican origin; (b) seventh graders were living in the home and were not learning disabled; (c) an older sister/brother (under age 21) also was living in the home and not learning disabled; and (d) biological mothers and biological or long-term adoptive fathers (i.e., greater than 10 years) were living in the home. Although only mothers were required to be of Mexican descent, 93% of fathers also were of Mexican origin.

Mothers and fathers were more likely to be born in Mexico (66% and 67%, respectively) than in the U.S., whereas seventh graders (62%) and their older siblings (54%) were more likely to be born in the U.S. than in Mexico. Mothers and fathers were more likely to complete the interview in Spanish (68% and 70%, respectively) in contrast to 13% of seventh graders and 16% of their older siblings. Younger siblings (i.e., seventh graders) averaged 12.8 years of age ($SD = .57$), with slightly more girls (51%; $n = 125$) than boys ($n = 121$) participating. Older siblings were 50% girls and an average of 15.7 ($SD = 1.5$) years of age. Mothers were 38.8 years old on average ($SD = 4.63$; range = 29 – 56 years). Fathers averaged 41.5 years old ($SD = 5.78$; range = 29 – 61 years). Mothers and fathers completed an average of 10.3 ($SD = 3.7$) and 9.8 years of education ($SD = 4.4$), respectively. The median annual family income was $40,000 for a two-parent household with an average of 3.39 children (range = $3000 to over $100,000 per year).

Procedures

To recruit families, English and Spanish letters and brochures were mailed to families of Latino seventh graders ($N = 1,856$) in five school districts and five parochial schools. Schools were selected to represent a range of socioeconomic situations, with the proportion of students receiving free/reduced lunch varying from 8% to 82% across schools. Schools also differed in the percentage of students who were Latino (range = 6% to 63% for the public junior high schools). Follow-up phone calls were conducted by bilingual project staff to screen families for eligibility and to confirm interest in participation in the project. For 438 families (24%), the contact information was incorrect and repeated attempts to find updated information were unsuccessful. An additional 42 (2%) families moved between the initial screening and final recruitment contact, and 148 (8%) refused to be screened for eligibility. Eligible families included 421 families (23% of the initial rosters and 32% of those we were able to contact and screen). Of those who were eligible ($n = 421$), 284 (or 67%) agreed to participate, 95 (23%) refused, and we were unable to re-contact the remaining 42 families (10%) who were eligible. Interviews were completed by 246 families (58% of eligible families). Those who agreed but did not participate in the final sample ($n = 38$) were families whom we were unable to locate to schedule the home interview or who were unwilling to participate or not home for repeated interview attempts. Because we had met our target sample size (i.e., 240 families) we did not continue to recruit the latter group.

Bilingual interviewers conducted separate in-home interviews using laptop computers with seventh graders, older siblings, mothers, and fathers. Due to variability in parents' and adolescents' reading levels, all items were read aloud. Home interviews averaged two hours for adolescents and three hours for parents. Informed consent and assent were obtained from family members prior to the interview. Families were paid a $100 honorarium for their participation.

Measures

All measures were forward- and back-translated for the local dialect used by Mexican-origin individuals (Foster & Martinez, 1995). Discrepancies between translators were then resolved and, as a final step, an independent third bilingual individual reviewed all instructions and items. Preliminary pilot and measurement work was conducted to ensure that measures selected for this sample were reliable and valid in both Spanish and English and for Mexican-origin individuals.

Background information—_Socioeconomic status_ (SES) was assessed using parents' reports of their annual family income. A log transformation was applied to correct for positive skewness. Parents also reported places of birth for parents and adolescents and number of years living in the U.S.

Perceptions of discrimination—Adolescents' perceptions of discrimination from peers in school were assessed using a 4-item subscale on Adolescents' Experiences with Racism (author citation). Each item (e.g., How often have kids at school called you names because you are [Mexican OR Mexican-American]?) was rated on a 4-point scale (i.e., from 1 = Never to 4 = Often). Cronbach's alphas were .70 for seventh graders and .76 for older siblings.

Cultural orientations—Adolescents, mothers, and fathers rated their cultural orientations using the Acculturation Rating Scale for Mexican-Americans-II (ARSMA-II; Cuéllar, Arnold, & Maldonado, 1995). The ARSMA-II measures cultural orientation toward the Mexican culture and the Anglo culture independently through two subscales, a 13-item Anglo Orientation Subscale (e.g., I enjoy listening to music in English) and a 17-item Mexican Orientation Subscale (e.g., I enjoy reading in Spanish). Participants responded to items using a 1 (not at all) to 5 (extremely often or almost always) scale. Cronbach's alphas ranged from .82 to .91 for adolescents, mothers, and fathers.

Familism values—Adolescents', mothers', and fathers' familism values were assessed using the familism scale of the Mexican-American Cultural Values Scale (Knight et al., in press). The 16-item measure assessed three conceptual domains: (a) support and emotional closeness; (b) obligations; and (c) family as referent. Adolescents and parents responded to items (e.g., When it comes to important decisions, the family should seek advice from close relatives) on a scale of 1 (strongly disagree) to 5 (strongly agree). Cronbach's alphas ranged from .80 to .90.

Adolescent adjustment—Adolescents' _risky behaviors_ were assessed by their reports of how frequently they engaged in 21 problem behaviors (e.g., In the past year, how many times have you stayed out all night without your parents' permission) using a measure developed for ethnically diverse adolescents (Eccles & Barber, 1990). Items were rated on a four-point scale (_never_ to _more than 10 times_). Higher scores indicated more delinquent behavior. Cronbach's alphas were .91 for seventh graders and .90 for their older siblings.

Deviant peer affiliations were assessed using a 5-item peer delinquency scale for multiethnic samples (see Barrera et al., 2001). On a 5-point scale ranging from *none* to *almost all*, adolescents rated items such as how many of your friends have used force (e.g., threats or fighting) to get things from people? Higher scores reflected a higher rating of peer delinquency. Cronbach's alphas were .74 for seventh graders and .75 for their older adolescents.

Adolescents' *depressive symptoms* were measured using the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1991). The 20-item measure (i.e., I did not feel like eating; my appetite was poor) provides an index of cognitive, affective, and behavioral depressive features; respondents rate the frequency with which these symptoms have occurred (ranging from 0 = Rarely or none of the time to 3 = Most of the time) with higher scores indicating higher levels of depressive symptoms. The CES-D has been tested and shown to be reliable for adolescents and for Mexican-Americans (e.g., Moscicki, Rae, Regier, & Locke, 1987). Cronbach's alphas were .85 for seventh graders and .86 for their older siblings.

Results

Analytic Strategy

First, to address the first goal of examining relationships between adolescents' perceptions of discrimination and adjustment, the main effects of adolescents' perceived discrimination were examined using multilevel modeling (MLM) with data from four family members, controlling for family SES, adolescent gender, and adolescent age. MLMs were conducted using the PROC MIXED program in SAS version 9.1, an approach that extends multiple regression to incorporate nested data (i.e., individuals within families; Raudenbush & Bryk, 2002). Degrees of freedom were calculated using the Satterthwaite method, given that prior simulation work has shown that approximate degrees of freedom are preferred to exact degrees of freedom in mixed models (Schaalje, McBride, & Fellingham, 2001). Level-1 variables (i.e., adolescent gender, age and discrimination) were group-mean centered and level-2 variables were centered at the grand mean (i.e., family income and mother nativity; Enders & Tofighi, 2007). Three models were tested, predicting risky behaviors, deviant peer affiliations, and depressive symptoms separately.

Second, to address the second goal, Level-1 interactions (i.e., Adolescent Cultural Variable X Adolescent Perceived Discrimination) and cross-level interactions (i.e., Parent Cultural Variable X Adolescent Perceived Discrimination) were included to examine adolescents', mothers', and fathers' Anglo and Mexican orientations and familism values as moderators between adolescents' perceived discrimination and adjustment. Two-level models were tested in which variance was partitioned into (a) within-family and (b) between-family (see Appendix A, Equations 1 and 2). At Level-1 of the mother and father models, adolescents' perceptions of discrimination, adolescents' age, and dummy codes for adolescent gender were included (0 = girl, 1 = boy); at Level-2, SES, parent nativity, parents' cultural orientations and values were included. For adolescent models, only SES and parent nativity were included at Level-2. All models were specified with random intercepts only, in which intercepts randomly vary across the Level-2 units and in which the slopes are assumed constant. Models were tested for adolescents' reports of risky behaviors, delinquent peer affiliations, and depressive symptoms. Given confounds between culture and social class (McLoyd, 1998), these analyses controlled for SES. Other controls were adolescents' gender and age.

Third, to address the third goal, Adolescent Gender X Adolescent Perceived Discrimination and Adolescent Gender X Adolescent Perceived Discrimination X Cultural Variable

interactions were included in the models to test for differences between adolescent girls and boys. Only significant interactions were retained in the final models because retaining higher-order non-significant interactions contributes to an increase in standard errors (Aiken & West, 1991). Follow-up analyses for interactions were conducted according to Aiken and West's (1991) guidelines. See Table 1 for means and standard deviations and Table 2 for correlations among study variables. Level-1 and Level-2 variance components, τ_{00} and σ^2, respectively, are displayed in Tables 3 and 4. The proportion of variance explained was calculated by comparing the adolescents' pooled residual variance in a baseline model without any predictors to adolescents' pooled residual variance resulting from the explanatory models (also see Tables 3 and 4). The proportion of variance explained can be interpreted in the same way as a squared multiple correlation in traditional regression models.

Risky Behaviors

The MLM main effect model for risky behavior revealed significant main effects for family income, mother/father nativity, adolescent gender, age, and perceived discrimination (see Table 3). Specifically, adolescent boys reported more risky behaviors than adolescent girls, older adolescents reported more risky behaviors than did younger adolescents, and experiences of discrimination were associated with higher levels of risky behaviors. For our second goal, we added Anglo and Mexican orientations, familism values, and interaction terms to examine Cultural Variable X Adolescent Perceived Discrimination interactions. Separate adolescent, mother, and father models were tested. As described above, final models included controls, main effects, and significant interactions.

In the *adolescent model*, family SES, adolescent gender, adolescent age, and perceived discrimination remained significant; in addition, mother nativity was negatively related to risky behaviors (see Table 4). No significant interactions involving cultural factors were found for our second goal; however, for our third goal, in which we added (a) two-way interactions involving gender (i.e., Adolescent Gender X Adolescent Perceived Discrimination and Adolescent Gender X Adolescent Cultural Factors [i.e., Mexican/Anglo orientations and familism values]) and (b) three-way interactions involving gender (i.e., Adolescent Gender X Adolescent Perceived Discrimination X Adolescent Cultural Factors), two significant interactions emerged in predicting risky behaviors. Significant interactions included (a) a two-way interaction, Adolescent Gender X Adolescent Perceived Discrimination, and (b) a three-way interaction, Adolescent Gender X Adolescent Perceived Discrimination X Adolescent Anglo Orientation (see Table 4). The two-way follow-up analyses revealed perceived discrimination positively predicted risky behaviors for boys ($t = 5.82$, $p < .01$) but not for girls $t = 0.54$, *ns*). The analyses for the three-way interaction revealed the Adolescent Anglo Orientation X Perceived Discrimination interaction predicting risky behaviors was significant and positive for boys ($\gamma = -.41$, $SE = .17$, $p < .05$), but not for girls ($\gamma = -.01$, $SE = .19$, *ns*). For boys, there was a positive relationship between discrimination and risky behaviors for those with low levels of Anglo orientations ($t = 2.57$, $p < .05$), but not high levels of Anglo orientations ($t = .09$, *ns*).

Similar to the adolescent model, in the *mother* model, main effects remained significant when entering interaction terms and mother nativity emerged as a negative predictor of risky behaviors (see Table 4). Furthermore, no significant interactions involving cultural factors were found, but in addressing the third goal, a significant two-way interaction, Adolescent Gender X Adolescent Perceived Discrimination, emerged. Follow-up analyses revealed a significant positive association between perceived discrimination and risky behaviors for boys ($t = 6.00$, $p < .01$) but not for girls ($t = .36$, *ns*).

For the second goal in the *father* model, all main effects but father nativity remained significant when entering interaction terms, but no interactions involving culture emerged (see Table 4). Similar to the adolescent and mother models, for our third goal, the Adolescent Gender X Adolescent Perceived Discrimination revealed a significant positive association between perceived discrimination and risky behaviors for boys ($t = 6.01$, $p < .01$) but not for girls ($t = 0.48$, *ns*).

Deviant Peer Affiliations

For our first goal, the analyses predicting deviant peer affiliations revealed significant main effects for adolescent age and perceived discrimination (see Table 3), with age being positively associated with deviant peer affiliations, and with perceived discrimination and deviant peer affiliations also being positively related. In the *adolescent* model, only adolescent age remained significant when entering interaction terms (see Table 4). For our second goal, one significant interaction emerged in the adolescent model: Adolescent Anglo Orientation X Adolescent Perceived Discrimination. The relationship between adolescents' perceived discrimination and deviant peer affiliations was stronger for adolescents who scored low on Anglo orientation ($t = 5.30$, $p < .01$) than for those who scored high on Anglo orientation ($t = 2.03$, $p < .05$). For our third goal, in which we added interactions involving gender in the adolescent model, Adolescent Gender X Adolescent Perceived Discrimination X Adolescent Mexican Orientation also emerged as significant; however, follow-up tests were not significant.

In the *mother* model, main effects remained significant when entering interaction terms (see Table 4). When examining Mother Cultural Variable X Adolescent Perceived Discrimination interactions, Mother Anglo Orientation X Adolescent Perceived Discrimination and Mother Familism Values X Adolescent Perceived Discrimination emerged as significant. The relationship between adolescents' perceived discrimination and deviant peer affiliations was positive and significant when mothers reported high Anglo orientation ($t = 3.24$, $p < .01$), but not when mothers reported low Anglo orientation ($t = -.11$, *ns*). The relationship between perceived discrimination and deviant peer affiliations was positive and significant when mothers reported high familism values ($t = 3.60$, $p < .01$) but not when mothers reported low familism values ($t = -0.89$, *ns*).

In predicting deviant peer affiliations from interactions involving gender to address the third goal, the Adolescent Gender X Mother Anglo Orientation X Adolescent Perceived Discrimination and Adolescent Gender X Mother Familism Values X Adolescent Perceived Discrimination interactions were significant (see Table 4). For the interaction involving Anglo orientation, the relationship was significant and positive for girls ($\gamma = .32$, $SE = .12$, $p < .01$), but not for boys ($\gamma = -.19$, $SE = .14$, *ns*; see Figure 1), such that the association between discrimination and deviant peer affiliations differed for adolescent girls with mothers who reported high ($t = 3.60$, $p < .01$) versus low levels of Anglo orientation ($t = -.53$, *ns*). The interaction involving familism values also was positive and significant only for girls ($\gamma = .92$, $SE = .29$, $p < .01$) and not for boys ($\gamma = -.03$, $SE = .27$, *ns*; see Figure 2). Specifically, adolescent girls who reported greater perceived discrimination and who had mothers with high familism values also reported more deviant peer affiliations ($t = 3.65$, $p < .01$) than adolescent girls who perceived high levels of discrimination and had mothers with low familism values ($t = -.46$, *ns*). No other interactions involving gender emerged in the mother models.

In the parallel models for *fathers*, when entering interaction terms to predict deviant peer affiliations, adolescent gender became significant and perceived discrimination became non-significant (see Table 4). One significant interaction emerged for the second goal: Father Mexican Orientation X Adolescent Perceived Discrimination; however, when non-

significant interactions were removed, this interaction became non-significant. The full model is shown in Table 4. In these models, fathers' cultural orientations and values did not moderate the positive relationship between adolescents' perceived discrimination by peers and deviant peer affiliations.

Depressive Symptoms

In the model predicting depressive symptoms, there were significant main effects for adolescent gender, family income, and perceived discrimination (see Table 3). There was a negative relationship between family income and depressive symptoms, and adolescent girls were more likely to report depressive symptoms than adolescent boys. As hypothesized, higher levels of perceived discrimination predicted more depressive symptoms in adolescents. Further, in addressing the second and third goals, no significant interactions emerged.

Discussion

This study sought to extend the research on relationships between discrimination and adjustment among Mexican-origin adolescents by systematically examining the potential protective or vulnerability roles of adolescents', mothers', and fathers' cultural orientations and familism values. Our findings revealed that Mexican-origin adolescents' perceptions of discrimination were related to all three indicators of adjustment examined. Further, some of these associations differed in interesting and important ways as a function of adolescents' and mothers' cultural orientations and values and as a function of adolescent gender. In our concluding remarks, we review what we have learned about the relationships among discrimination, cultural factors, and adjustment in a sample of Mexican-origin families and describe important next steps.

Relationships between Perceived Discrimination and Adolescent Adjustment

Our findings related to the first goal corroborated the integrative model in that discrimination was related to adolescents' psychosocial functioning (García Coll et al., 1996). Consistent with study hypotheses and previous research on relationships between perceived discrimination and internalizing (e.g., Romero & Roberts, 2003; Szalacha et al., 2003) and externalizing behavior problems (e.g., Umaña-Taylor et al., 2009), our findings add to the literature by providing evidence of the negative effects of discrimination on three indicators of adjustment for an ethnic-homogenous sample of Mexican-origin adolescents. For these Mexican-origin adolescents living in the southwestern U.S., more experiences of discrimination were related concurrently to higher depressive symptoms, more engagement in risky behaviors, and more affiliations with deviant peers. Examining the longitudinal and reciprocal relationships between discrimination and adjustment is an important next step.

Moderating Role of Cultural Orientations and Values

The second goal was to test adolescents', mothers', and fathers' cultural orientations and values as moderators of the relationships between perceived discrimination and adjustment. The findings further supported the tenets of the integrative model (García Coll et al., 1996) and, particularly, those of a risk and resilience perspective (Rutter, 1987) by showing that relationships between perceived discrimination and adjustment can be increased or reduced under some conditions. Importantly, we found different patterns across the different indices of youth adjustment.

Cultural factors were found to be particularly salient moderators in the relationship between adolescents' perceptions of discrimination and externalizing behaviors. For instance, when adolescent boys reported having *low* Anglo orientations, higher perceived discrimination

was associated with more frequent externalizing behaviors. Furthermore, mothers' high Anglo orientations and high familism values were found to be vulnerability factors for girls. The results show that the relationship of perceptions of discrimination to the likelihood that Mexican-American youth will exhibit externalizing behaviors is complex in that the relationship is conditioned by adolescent gender and by adolescents' and mothers' cultural orientations. The relationships between perceived discrimination and depressive symptoms, in contrast, did not provide support for cultural orientations or values as protective or risk factors. That is, there was no evidence that the cultural orientations or values we examined moderated the relationships between adolescents' perceived discrimination and depressive symptoms. One possibility is that buffering against the deleterious effects of discrimination on internalizing symptoms may be more difficult than moderating the effects of discrimination on *externalizing* outcomes (deviant peers and risky behaviors) because a deeper process of one's ethnic awareness and exploration may *begin* to take place as adolescents perceive discrimination (Pahl & Way, 2006). Thus, it is possible that cultural factors such as orientations and values may play a mediating rather than moderating role in the relationships between discrimination and internalization (Berkel et al., in press). In contrast, perhaps the impact of discrimination on adolescents' internalizing symptoms warrants a moderating cultural factor that is more closely connected to aspects of self, such as ethnic identity or ethnic pride, given acts of discrimination can be perceived as personal attacks. Future research should be expanded to examine these different processes.

Moderating Role of Adolescent Gender

The third goal was to test adolescent gender as a moderator among perceived discrimination, cultural factors, and adjustment. Examining adolescent gender in these relationships is important because of differences in socialization processes that occur in families, particularly those of Mexican origin (e.g., Azmitia & Brown, 2002). Further, there are important lessons to be learned by testing the moderating role of gender, such as how to tailor prevention and intervention programs for girls and boys. For instance, the findings of this study showed that *mothers'* cultural factors played important roles in their *daughters'* adjustment. Such findings may inform the design of interventions; mothers can be included in a program targeting adolescent girls who are likely to experience discrimination.

The relationship between perceived discrimination and deviant peer affiliations was moderated by mothers' Anglo orientations and adolescent gender, and by mothers' familism values and adolescent gender. In instances where girls' mothers reported high levels of speaking English, English media-use, and friendships with Anglo individuals, and in which they perceived their peers were discriminating against them because of their Mexican ethnicity, girls may have been struggling with two key contexts (e.g., home and school) that were both denying their ethnic background. In experiencing rejection from peers in the school setting, girls may have turned to deviant peer groups. Previous research suggests peer group rejection may indeed predict deviant peer group membership (e.g., Dishion, Capaldi, Spracklen, & Li, 1995). For example, discrimination may be a type of rejection that leads adolescents to be affiliated with deviant groups who may represent a family-type unit that can provide protection (outside the actual family home) as demonstrated in ethnographic work on gangs (e.g., Harris, 1994). With regard to mothers' familism values, it is possible that their strong family values may emerge in response to girls' affiliations with deviant peers as girls perceive high levels of discrimination. For example, it is possible that when girls react to experiences with discrimination by being involved with deviant peers, mothers demonstrate high levels of familism values as a defense mechanism to try and steer their daughters back to the family for support. Longitudinal work is necessary to identify these potential processes.

These findings highlight the importance of considering the relationships between adolescents and their same-sex parent (e.g., Steinberg, 2001) and particularly those of mothers and their *daughters* (Silverberg & Steinberg, 1987). Daughters of highly Anglo-oriented mothers, who may have allowed their girls more freedom than their less Anglo-oriented counterparts, may have more access to deviant peer groups than girls with mothers who have lower Anglo orientations. Yet, when mothers realize that their daughters may become affiliated with deviant peer groups, mothers may begin to exhibit higher levels of familism values (i.e., emphasizing family obligations and support) as a defensive response to counter the attractions of the negative peer group. These results suggest the mother-daughter dyad creates a noteworthy focus for scholars working toward achieving parent-youth resilience in the face of discrimination. In addition, given that daughters are likely to identify with their mothers (e.g., Jaramillo & Zapata, 1987) and that adolescents are likely to acculturate at a faster pace than parents (see Birman, 2006, for a review), future work should consider examining congruency between parents' and adolescents' cultural orientations and values. It may be that problems arise when girls and mothers develop gaps in their cultural orientations that create conflicts in their relationships (e.g., Birman & Trickett, 2001).

Fathers' cultural orientations and values, however, were not found to magnify or minimize the strength of the relationship between perceived discrimination and adjustment. The findings of this study suggest that the role of *fathers'* cultural factors in the lives of Mexican-American families differs from that of mothers'. In Mexican-origin families, fathers typically are the primary economic providers (e.g., Baca Zinn & Wells, 2000) and may work long hours making them less available in the home. Thus, it is possible that when Mexican-origin youth perceive discrimination, their fathers' cultural orientations and values play a less significant role than those of mothers' because of women's greater caregiving and childrearing responsibilities in Mexican culture (e.g., Cauce and Domenech-Rodriguez, 2000). However, it is also possible that fathers' influence on adolescents' behaviors is more indirect through the cultural attitudes and behaviors they model and occurs earlier in development. More research is needed to improve our understanding of these familial processes.

Follow up tests to adolescent gender interactions also led to an important finding regarding differences in the relationship between perceived discrimination and externalizing behaviors for boys who were low and high on Anglo orientation. Although this relationship was significant for both groups, the relationship between perceived discrimination and externalizing behaviors was stronger when boys were low on Anglo orientation. Previous research indicating that peer rejection can be a precursor to boys' externalizing behavior (e.g., Dishion et al., 1995) supports the relationship between discrimination and risky behaviors for adolescent boys. For such a salient risk factor for boys, it is markedly important that adolescent boys with low Anglo orientations were found to be at particular risk. For Mexican-origin adolescent boys who are likely to have more experiences outside of the home than girls, not being able to understand and relate to mainstream society (e.g., a culture outside the home) may make them vulnerable to experiences with discrimination.

All in all, when Mexican-origin adolescents perceive discrimination, the findings suggest individual cultural orientations are relevant for adolescent boys' externalizing behavior, whereas *mothers'* cultural orientations play a role in girls' externalizing behavior. This finding may be directly related to the gender socialization of Mexican-origin girls and boys as adolescent boys are expected to be more independent than adolescent girls (e.g., Halgunseth, Ispa, & Rudy, 2006). What we found may further be an indication as to why fathers' cultural orientations did not moderate the association between discrimination and adjustment. With external societal factors at work for adolescent boys (e.g., peer groups) and factors within the home operating for adolescent girls (where the mother-daughter

relationship is nurtured), fathers' cultural orientations may not be as salient to adolescents in the processes examined here. Thus, the results indicate that the relationship of discrimination to Mexican American adolescents' externalizing behaviors is influenced by both the individual and joint influences of culture and gender.

Strengths and Limitations

The findings of this study provide a starting point for examining the specific conditions under which the relationships between discrimination and adjustment are magnified or minimized for Mexican-origin adolescents. There is much work to be done to be able to make more comprehensive recommendations for prevention and intervention work. For instance, future studies should examine fathers' cultural factors as precursors to adolescents' cultural orientations and values that could, in turn, be examined as mediators of the associations between discrimination and adjustment (see Berkel et al., in press). Moreover, considering other cultural variables not studied here, such as ethnic pride, may be important for identifying protective factors. Finally, it is important to note that age and birth order were confounded in the study design (i.e., older adolescents were older siblings in the dyads and younger adolescents were the younger siblings). Thus, findings regarding age differences could also be attributed to sibling status differences (i.e., being the older versus younger member of the dyad). Our conceptual frameworks led to our focus on age instead of birth order (García Coll et al., 1996; Luthar, 1991) yet, it will be necessary in future work to disentangle this confound. Expanding research in the areas detailed here will allow for a better understanding of the processes examined in this study.

In closing, this study drew from the integrative model (García Coll et al., 1996) and the risk and resilience perspective (Rutter, 1987) to contribute to the literature on discrimination and the roles of adolescents', mothers', and fathers' cultural processes and adolescent gender. Indeed, our work illustrates the importance of discrimination among ethnic minority adolescents. The next step will be to examine these relationships over time. Furthermore, by employing an ethnic-homogenous design, we focused on the cultural processes that are salient to a specific ethnic group to study variations in their protective and vulnerability characteristics within the group. Finally, the results emphasize the interconnectedness of culture and gender. By considering the role of both mothers' and fathers' cultural orientations/values for girls versus boys, we identified patterns that were particular to mother-daughter dyads. These findings underscore the complexity of family dynamics in adolescent development and the significance of considering both mothers' and fathers' roles in their sons and daughters' adjustment.

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APPENDIX A. MULTI-LEVEL MODEL EQUATIONS

$$\text{Level 1} \quad adjustment\ indicator_{ij} = \beta_{0j} + \beta_{1j} perceived\ discrimination_{ij} + \beta_{2j} gender_{ij} + \beta_{3j} age_{ij} + r_{ij} \quad (1)$$

$$\text{Level 2} \quad \begin{aligned} \beta_{0ij} &= \gamma_{00} + \gamma_{01} family\ ses + \gamma_{02} parent\ nativity + u_{0j} \\ \beta_{1ij} &= \gamma_{10} \\ \beta_{2ij} &= \gamma_{20} \\ \beta_{3ij} &= \gamma_{30} \end{aligned} \quad (2)$$
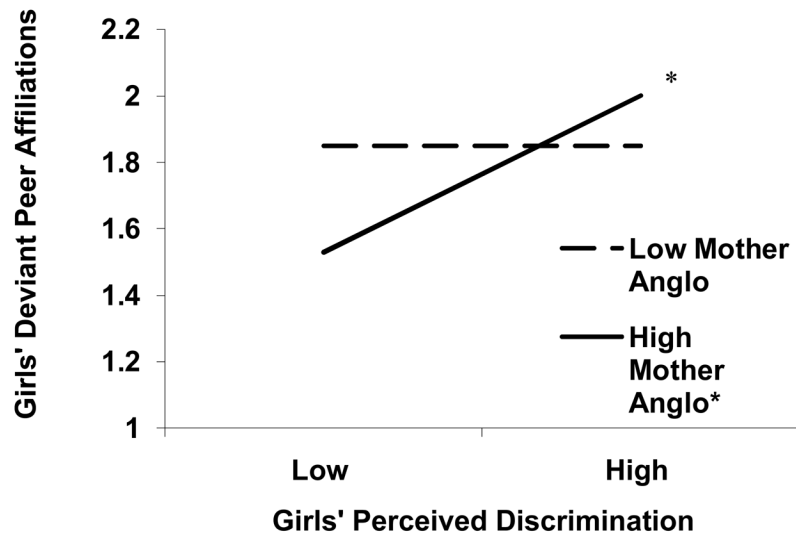
Figure 1.
The association between perceived discrimination and deviant peer affiliations for adolescent girls with mothers low or high on Anglo orientation; *p < .05.
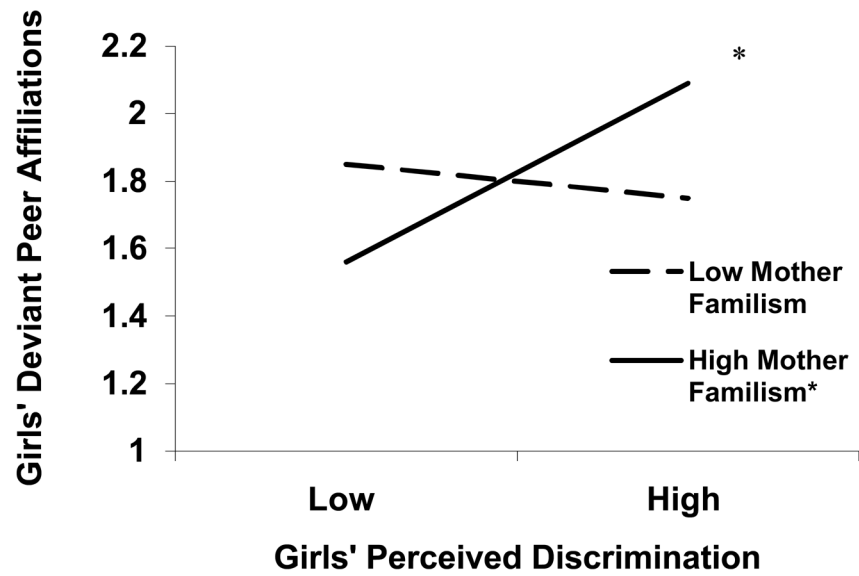
Figure 2.
The association between perceived discrimination and deviant peer affiliations for adolescent girls with mothers low or high on familism values; $^*p < .05$.

Table 1

Means (and Standard Deviations) for Study Variables

	Reporter			
	Parents		**Siblings**	
Variable	**Mothers**	**Fathers**	**Older Siblings**	**Younger Siblings**
Income	10.62[a] (.74)			
Nativity	1.71 (.46)	1.73 (.50)		
Gender			1.50 (.50)	1.50 (.50)
Age			15.67 (1.50)	12.77 (.57)
Discrimination			1.62 (.63)	1.46 (.51)
Anglo-oriented	2.93 (.95)	2.98 (.91)	3.93 (.70)	4.00 (.58)
Mexican-oriented	4.01 (.70)	3.90 (.79)	3.70 (.78)	3.64 (.78)
Familism	4.43 (.39)	4.45 (.42)	4.24 (.59)	4.36 (.52)
Depression			1.86 (.49)	1.81 (.49)
Risky Behaviors			1.49 (.42)	1.36 (.38)
Deviant Peers			2.03 (.81)	1.67 (.67)

[a]Transformed family income variable mean.

Table 2

Correlations for Study Variables for Older (above the diagonal) and Younger (below the diagonal) Siblings ($N = 246$)

	1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Income	—	-.41***	-.08	-.01	-.13**	.54***	.53***	.47***	-.26***	-.42***	-.38***	-.16***	-.29***	.01	-.02	-.05	.06
2 Nativity: M[a]	-.41***	—	-.00	-.12**	.05	-.72***	-.62***	-.38***	.65***	.67***	.60***	.16***	.30***	-.02	.01	-.09*	-.11*
4 Gender: A	-.16***	.06	—	-.07	.09	-.04	.04	.07	-.10*	-.11*	-.17***	-.02	.05	-.02	-.15***	.21***	.16***
5 Age: A	-.30***	.19***	-.03	—	.06	.03	.07	-.14**	-.02	-.02	-.06	-.06	.04	-.04	.10*	.24***	.17***
6 Disc.: A	-.21***	.12***	.08	.21***	—	-.01	-.06	-.17***	.10*	.07	.08	-.04	.07	-.03	.32***	.37***	.26**
7 Anglo: M	.54***	-.72***	-.04	-.25***	-.12*	—	.68***	.46***	-.50***	-.59***	-.58***	-.18***	-.31***	.09	-.02	.01	.11*
8 Anglo: F	.53***	-.62***	-.02	-.15***	-.14**	.68***	—	.45***	-.47***	-.56***	-.53***	-.16***	-.27***	.09*	-.03	.04	.13**
9 Anglo: A	.34***	-.38***	-.07	-.09	-.11	.38***	.38***	—	-.28***	-.29***	-.41***	-.14***	-.23***	.04	-.07	-.01	.08
10 Mexican: M	-.26***	.65***	.06	.12**	.04	-.50***	-.47***	-.27***	—	.62***	.59***	.25***	.24***	.06	-.02	.03	-.01
11 Mexican: F	-.42***	.67***	.11*	.18***	.08	-.59***	-.56***	-.29***	.62***	—	.60***	.14**	.33***	.06	-.02	-.09*	-.13**
12 Mexican: A	-.43***	.67***	-.08	.22***	.14**	-.62***	-.59***	-.32***	.55***	.65***	—	.10*	.22***	.17***	.00	-.03	-.08
13 Familism: M	-.16***	.16***	.00	-.06	.14**	-.18***	-.16***	-.13**	.25***	.14**	.18***	—	.20***	.07	-.12**	-.06	-.01
14 Familism: F	-.29***	.30***	.13**	.09*	.13**	-.31***	-.27***	-.19***	.24***	.33***	.31***	.20***	—	-.01	-.10*	-.09	-.13**
15 Familism: A	.12**	-.01	.02	-.16***	-.04	.02	.03	.08	.05	-.09	.09*	.04	.06	—	-.10*	-.11*	-.06
16 Dep.: A	-.21***	-.03	-.08	.15***	.41***	-.09*	-.08	-.10*	-.10*	.02	.03	.08	-.08	-.24***	—	.32***	.20***
17 Risky B.: A	-.12**	-.10*	.15***	.26***	.28***	.05	-.05	.01	-.11*	-.05	-.09*	-.03	-.07	-.17***	.49***	—	.61***
18 D. Peers: A	-.14**	.01	.00	.18***	.35***	-.07	-.15**	-.03	-.04	.11*	.04	.03	.00	-.12**	.54***	.63***	—

Note. A = Adolescent-reported; D. Peers = Deviant Peers; Dep. = Depression; Disc. = Discrimination; F = Father-reported; M = Mother-reported; Risky B. = Risky Behaviors.

[a] Father nativity patterns were similar to mother nativity patterns, except for correlations with discrimination and risky behaviors. These latter correlations were in the same direction but not significant.

*
  $p < .05$;

**
  $p < .01$,

***
  $p < .001$.

Table 3

Gammas and Standard Errors for the Relationship of Perceived Discrimination by Peers to Mexican-Origin Adolescent Adjustment

	Risky Behaviors	Deviant Peers	Depressive Symptoms
	γ (SE)	γ (SE)	γ (SE)
Intercept	1.37 (.03)***	1.81 (.05)***	1.92 (.03)***
Family Income	−0.09 (.03)**	−0.09 (.06)	−0.13 (.04)***
Mother Nativity	−0.14 (.05)**	−0.17 (.09)	−0.10 (.06)
Adolescent Gender	0.11 (.03)**	0.11 (.07)	−0.16 (.04)***
Adolescent Age	0.03 (.01)***	0.11 (.02)***	0.00 (.01)
Adolescent Discrimination	0.23 (.04)***	0.32 (.08)***	0.38 (.05)***
τ_{00}	0.04***	0.06*	0.04**
σ^2	0.10	0.47	0.18
Proportion of Variance Explained	0.23	0.18	0.22

*
$p < .05$;

**
$p < .01$,

***
$p < .001$.

Table 4

Gammas (Standard Errors) for Mother and Father Models in Predicting Mexican-Origin Adolescent Risky Behaviors, Deviant Peer Affiliations, and Depressive Symptoms (Final Models)

	Risky Behaviors			Deviant Peer Affiliations		
	Adolescent Model	Mother Model	Father Model	Adolescent Model	Mother Model	Father Model
	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)
Intercept	1.37 (.03)***	1.37 (.03)***	1.37 (.03)***	1.79 (.05)***	1.81 (.05)***	1.78 (.05)***
Family Income	-0.07 (.03)*	-0.08 (.03)*	-0.07 (.03)*	-0.05 (.05)	-0.09 (.06)	-0.08 (.06)
Parent Nativity	-0.12 (.05)*	-0.19 (.07)**	-0.09 (.06)	-0.12 (.08)	-0.21 (.11)	-0.16 (.10)
Adolescent Gender	0.11 (.03)**	0.11 (.03)**	0.12 (.03)***	0.11 (.07)	0.11 (.07)	0.14 (.07)*
Adolescent Age	0.03 (.01)**	0.03 (.01)***	0.03 (.01)***	0.11 (.02)***	0.11 (.02)***	0.10 (.02)***
Adolescent Discrimination	0.13 (.06)*	0.13 (.06)*	0.14 (.06)*	0.19 (.12)	0.27 (.12)*	0.15 (.12)
Anglo Orientation	-0.01 (.08)	-0.01 (.03)	-0.04 (.03)	0.15 (.10)	-0.02 (.07)	-0.04 (.07)
Mexican Orientation	--	0.05 (.04)	-0.03 (.04)	-0.05 (.15)	--	0.13 (.08)
Familism Values	--	-0.05 (.05)	-0.09 (.05)	--	0.01 (.13)	-0.26 (.12)*
Discrimination * Anglo Orientation	0.05 (.21)	--	--	-0.58 (.26)*	0.31 (.12)*	0.16 (.18)
Discrimination * Mexican Orientation	--	--	--	-0.15 (.34)	--	0.46 (.19)*
Discrimination * Familism Values	--	--	--	--	1.02 (.30)***	-0.16 (.35)
Gender * Discrimination	0.17 (.08)*	0.19 (.08)*	0.18 (.09)*	0.27 (.17)	0.15 (.17)	0.29 (.18)
Gender * Anglo Orientation	0.03 (.11)	--	--	--	0.03 (.07)	-0.03 (.09)
Gender * Mexican Orientation	--	--	--	0.30 (.22)	--	-0.20 (.11)
Gender * Familism Values	--	--	--	--	0.08 (.17)	0.24 (.17)
Gender * Discrimination * Anglo Orientation	-0.47 (.24)*	--	--	--	-0.55 (.20)**	-0.23 (.26)
Gender * Discrimination * Mexican Orientation	--	--	--	1.11 (.48)*	--	-0.33 (.29)
Gender * Discrimination * Familism Values	--	--	--	--	-1.07 (.41)*	0.12 (.55)
τ_{00}	0.05***	0.05***	0.05***	0.07*	0.08*	0.06
σ^2	0.10	0.10	0.10	0.45	0.44	0.47

| | Risky Behaviors | | | Deviant Peer Affiliations | | |
	Adolescent Model	Mother Model	Father Model	Adolescent Model	Mother Model	Father Model
	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)
Proportion of Variance Explained	0.23	0.23	0.23	0.21	0.23	0.18

-- Denotes non-significant interaction not included in model.

*
p < .05;

**
p < .01,

***
p < .001.