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## Mexican American Adolescents' Cultural Orientation, Externalizing Behavior and Academic Engagement: The Role of Traditional Cultural Values

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### Abstract

This study of 598 7<sup>th</sup> grade students of Mexican origin examined the role of traditional cultural values as a mediator of the effects of immigrant status, Mexican cultural orientation and Anglo cultural orientation on adolescent externalizing behavior and academic engagement. Immigrant status of adolescents and their maternal caregivers uniquely predicted increased Mexican cultural orientation and decreased Anglo cultural orientation, and both Mexican and Anglo cultural orientation related positively to adolescents' endorsement of traditional cultural values. Endorsement of traditional cultural values related, in turn, to decreased externalizing behaviors and increased academic engagement and these findings were replicated across adolescent and teacher report of these two outcomes. Tests of mediation provided further evidence to support these pathways. Findings support the central importance of traditional cultural values as a protective resource that explains why immigrant youth exhibit fewer externalizing problems and increased academic engagement when compared to their second and third generation peers.

### Keywords

Mexican; immigrant; acculturation; externalizing; academic engagement

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The Latino population, currently the largest ethnic subgroup in the U.S., is expected to grow to nearly 25% of the U.S. population by 2050 (U.S. Census Bureau, 2004). Latinos of Mexican national heritage, described as "Mexican origin" in the current paper, account for almost 60% of U.S. Latinos and a substantial portion of this growth rate. It is well documented that Mexican origin adolescents are at higher risk than the general population for experiencing serious behavioral consequences, including higher rates of juvenile arrest (Jones & Krisberg, 1994), substance use disorders (NIDA, 1998), and school dropout (U.S. Dept. of Ed., 2000). These disparities are due, in part, to high rates of family poverty and residence in areas of concentrated poverty, two conditions that frequently co-occur for Mexican origin youth (Huston et al., 1994; Portes & Rumbaut, 2001).

Numerous studies also indicate that U.S.-born and more acculturated Mexican origin youth exhibit higher rates of externalizing behavior when compared to less acculturated, Mexican-born peers. Markers of acculturation, such as generation status and English language use, are consistently related to a range of externalizing outcomes including conduct problems, juvenile arrest and substance use (see Gonzales, Knight, Morgan-Lopez, Saenz, & Sirolli,

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2002 for review). A similar pattern has emerged in studies focused on academic outcomes. U.S-born youth report less investment in educational goals and have lowered academic aspirations when compared to their Mexican-born peers (Fuligni, 2001). Among immigrants, greater length of residence in the United States is associated with lowered academic motivation (Suarez-Orozco & Suarez-Orozco, 2001; Portes & Rumbaut, 2001).

The central proposition tested in the current study is that this phenomenon, often termed the “immigrant paradox”, results primarily from the loss over time of ties to competence-promoting aspects of Mexican cultural values. A decrease in traditional values is hypothesized to occur in the process of acculturation as Mexican origin youth become less oriented toward their traditional culture and more integrated with mainstream U.S. culture (Vega & Gil, 1999). Although this hypothesis has been advanced frequently in the extant literature, prior studies typically have examined singular, simplistic cultural markers, such as nativity, generation status, or English language use to infer a more complex underlying process of culture change. Significant effects are regularly attributed to cultural value shifts but the mediating effects of cultural values have not been examined directly. Most prior studies also have not examined externalizing behavior and academic engagement together in a single study to determine whether they show a similar pattern of relations with these cultural predictors.

The current study addressed the aforementioned limitations by examining whether Mexican nativity, Mexican cultural orientation and Anglo cultural orientation are related to adolescent externalizing behavior and academic engagement for Mexican American and Mexican immigrant adolescent residing in low-income communities in the U.S. In addition, the study examined whether these associations are mediated by adolescents’ adherence to traditional cultural values. Although the study used cross-sectional data to address this question, it provided a more direct test than previous studies of the hypothesis that cultural values mediate the “immigrant paradox.”

## Dual Processes of Acculturation and Enculturation

Drawing on recent theoretical perspectives (e.g., Berry, 2003) we define acculturation and enculturation as processes of cultural adaptation that produce changes in a wide array of psychosocial dimensions including behaviors, knowledge, identity, attitudes, and values. Acculturation is a process of adaptation to the mainstream or host culture while enculturation is a process of adaptation to the ethnic culture (Gonzales et al., 2002). A growing number of theoreticians suggest that acculturative and enculturative processes are separable, each representing a distinct axis of cultural change (Berry, 2003; Cuellar et al., 1995; Zane & Mak, 2003). This dual-axis cultural perspective asserts that individuals have the potential to achieve simultaneously high, simultaneously low, or quite different levels of adaptation to both mainstream and ethnic cultures. For example, the Acculturation Rating Scale for Mexican Americans II (ARSMA II: Cuellar et al., 1995) contains item content that allows for an assessment of both acculturative and enculturative orientation in separate items (i.e., the respondent is asked the extent to which they like to speak Spanish and identify themselves as Mexican, and the extent to which they like to speak English and identify themselves as Anglo). Because the overall scoring system yields two scores, Mexican and Anglo Orientation, it can be used to examine the unique effects of each of these dimensions of cultural orientation.

This approach may be particularly important for the study of Mexican origin youth during the adolescent transitional years because these youth are increasingly exposed to varying cultural influences and expectations across social contexts (e.g., family, peers, school). However, it should be noted that the ARSMA-II focuses primarily on *behavioral* indicators

of cultural orientation, such as language use and ethnic affiliation. Like most scales used in prior research on acculturation (e.g., Marin & Gamba, 1996), the ARSMA-II does not measure underlying values associated with these behavioral indicators, despite the fact that many theorists maintain that traditional value shifts may better account for psychological functioning and risk behavior for Latinos (Marin, 1992; Vega, Khoury, Zimmerman, Gil, & Warheit, 1995).

A dual-axial model of adolescent cultural orientation and its link to adolescent risk also is important to explore because research on biculturalism suggests the most resilient youth may well be those that develop strong ties and the ability to interact effectively within both ethnic and mainstream contexts (LaFromboise, Coleman, & Gerton, 1993). Thus, it may be important to account for Mexican cultural orientation when examining the link between Anglo cultural orientation and adolescent academic and behavioral risk. For these reasons, we assessed Anglo and Mexican behavioral cultural orientation independently in this study, along with adolescent and parent nativity, and examined whether they contribute uniquely to the prediction of adolescent outcomes directly and indirectly (i.e., mediated) through their association with traditional cultural values. Because we included these multiple cultural predictors together in our analyses, a secondary aim of the study was to test a theoretical model, shown in Figure 1, of the interrelations among these predictors.

### **Traditional cultural values and externalizing behavior**

Research has identified value dimensions that characterize Latino populations and are expected to influence Latino socialization practices, family interaction patterns, and the behavioral choices that individuals make both within and outside the family context (Cauce & Domenech-Rodríguez, 2002; Marin, 1992). We selected three value dimensions as mediators in the current study based on their centrality for Mexican origin families and previous research and theory that has linked each of these dimensions to adolescents' behavioral and academic adjustment. The first two indicators, family support / closeness and family obligations, reflect core familism values within Mexican origin families (Keefe & Padilla, 1987). Familism values are a set of normative beliefs espoused by Latino populations that stress the obligations and support that family members owe to both nuclear and extended kin and the responsibility of family members to consider the needs and desires of the family when making decisions about their own behavior (Sabogal, Marin, Otero-Sabogal, Marin & Perez-Stable, 1987). Familism values are expected to reduce risk for externalizing behavior by cementing strong bonds of attachment to the family, ensuring that the family remains a strong source of influence, and fostering conventional ties that discourage Latino youth from engaging in a variety of problem behaviors (Brooks, Stuewig, & LeCroy, 1998; Keefe, Padilla, & Carlos, 1978). Ties with conventional others are also promoted by traditional religious values, the third value dimension selected for inclusion (Mason & Windle, 2001). Religious values are important within traditional Mexican culture and, when maintained, are likely to increase conformity, diminish involvement with delinquent peers, and inhibit participation in deviant activities (Catalano & Hawkins, 2000; Johnson, DeLi, Larson, & McCullough, 2000; Swaim et al., 1998). As supported by these diverse areas of research, family support, family obligations and religious values were hypothesized to form a latent construct of traditional values in this study and operate together to promote conventional bonding and prosocial behavior, including greater investment in conventional educational goals.

### **Traditional cultural values and academic engagement**

Motivational theories of academic engagement suggest that the confluence of one's academic expectations, attributions of competence, and beliefs about future performance on academic tasks all play an integral role in determining one's participation, interest and

persistence within academic domains (Dweck, 1986; Eccles, Adler, Futterman, Goff, & Kaczala, 1983). When defining academic engagement and motivation, researchers have traditionally focused on efficacy beliefs related to academics as well as one's perceived value for school and school-related tasks (Eccles, Midgley & Adler, 1984; Eccles & Wigfield, 2002). Using current motivational theories as a guide, this study examined multiple factors that have been linked to academic engagement and motivation (e.g., Eccles et al., 1993; Skinner, Wellborn, & Connell, 1990), including adolescents' attachment to school, educational aspirations, academic self-efficacy, academic competence, and teacher report of academic engagement in the classroom.

Prior research has shown that Mexican immigrant youth score more positively on several dimensions of engagement. For example, immigrant youth have higher educational aspirations and a stronger belief in the importance and usefulness of education than their U.S. born peers. (Fuligni, Tseng, & Lam, 1999). This pattern has been linked to a stronger sense of family obligations within immigrant families which is thought to provide "extra" academic motivation because it is associated with the desire of youth to support and assist the family (Fuligni, 2001). Academic success is one way to fulfill this obligation, particularly because immigrant youth or those whose parents are immigrant are aware that educational and occupational success are often primary reasons for their parents' immigration to the U.S. (Suárez-Orozco & Suárez-Orozco, 1995). The current study extended this research by examining whether traditional cultural values more generally, not just family obligations, mediate the immigrant paradox and predict adolescents' academic engagement.

## Theoretical Model and Hypotheses

The mediational model that was tested is shown in Figure 1. This model was examined with maternal reports of nativity and adolescent reports of their cultural orientation and values. Both adolescents and teachers reported on the two outcomes, externalizing behaviors and academic engagement, and the model was examined twice, first with adolescent report of these outcomes and then with teacher report. Teacher reports were included in the second model to provide cross-reporter validation of the link between adolescents' cultural values and outcomes that is not inflated by self report bias.

The model includes paths from maternal and youth nativity to adolescent behavioral cultural orientation (Anglo and Mexican orientations) and, in turn, from behavioral cultural orientation to traditional cultural values. We expected youth and maternal nativity would be uniquely, positively associated with Mexican cultural orientation. This hypothesis is based on the expectation that Mexican immigrant youth have had greater, direct exposure to the language, customs, beliefs and values of their home country. Thus, we expect adolescents' Mexican nativity will be associated with greater adherence to Mexican traditions and behaviors (e.g., Spanish language) and traditional values. Parent Mexican nativity also was expected to explain additional variance in adolescent's Mexican cultural orientation because parents, particularly mothers, play a primary role in the transmission of culture (Roosa, Morgan-Lopez, Cree, Specter, 2002). For similar reasons, we expected adolescent and maternal nativity would each be uniquely, negatively associated with Anglo cultural orientation. We expected Mexican cultural orientation would be positively associated with traditional cultural values. Although theory also predicts a negative link between Anglo cultural orientation and traditional values, prior research has not examined this link nor has it examined whether Anglo orientation explains unique variance in traditional values after controlling for Mexican orientation. The theoretical paths depicted as solid lines in Figure 1 were expected to lead in a mediational chain to adolescent externalizing behavior and academic engagement, thereby modeling the underlying cultural adaptation process. In

addition to testing the overall model, tests of mediation were conducted to examine the central hypothesis that traditional cultural values mediate the effects of immigrant status (“immigrant paradox”) and behavioral cultural orientation on adolescent externalizing behaviors and academic engagement (dashed lines in Figure 1 indicate direct effects estimated in the model to test this hypothesis).

## Method

### Participants

The sample consisted of 598 seventh-grade Mexican origin students and their caregivers from 5 junior high schools in a southwestern metropolitan area that serve primarily low-income populations (80% of students were eligible for free lunches). The study from which the present data were taken aimed to recruit English- and Spanish-speaking Mexican-origin families into a longitudinal intervention program designed to prevent high school dropout and decrease the incidence of mental and behavioral health disorders in adolescents. As such, families had to agree to be randomized to an intervention study that would either place them in a one-session control group or an 11-week intervention group. Schools were chosen because of 1) their high proportion of MO students enrolled (69% to 92%; Arizona Dept. of Education, 2004c), 2) the availability of both English and Spanish dominant adolescents and families (average of 25% of the students at these schools was enrolled in Limited English Proficiency classes; Arizona Dept. of Education, 2004b), 3) the schools were of similar size (ranging from 982 to 1141 students) and served 7<sup>th</sup> and 8<sup>th</sup> graders only, and 4) between 75% and 85% of the students at these schools were eligible for free or reduced lunches (Arizona Dept. of Education, 2004a). In an attempt to recruit English- and Spanish-speaking Mexican-origin families, students were randomly selected from school rosters and contacted by phone on the basis of ethnicity and language spoken in the home. The current investigation uses pretest data collected prior to randomization and exposure to any elements of the intervention. Sixty four percent of families that were contacted and eligible agreed to the study conditions and completed the pretest interview.

Of the 598 students, 303 (50.6%) were female and 295 (49.2%) were male. The adolescents ranged in age from 11 to 14 years, with a mean age of 12.3 years. The majority of adolescents resided in two-parent households (83%), with an average household size of 5.7 members ( $SD = 2.1$ ) and an average of 3.2 children ( $SD = 1.5$ ). Also, 79.1% of the adolescents were born in the United States and 20.9% were born in Mexico. Family participation required the involvement of at least one primary caregiver who identified as Mexican or Mexican American. Two hundred ninety-two adolescents had one caregiver participate, and 306 adolescents had two caregivers participate. Female caregivers included biological and adoptive mothers (93.9%), step-mothers (2.1%), and other female relatives (3.9%). Of the 571 female caregivers, 38.7% were born in the United States, 60.6% were born in Mexico, and 0.7% were born in another country.

### Procedures

In-home interviews were scheduled and conducted by interviewers using laptop computers. The majority of interviewers held bachelor’s degrees and had on average four years of experience interviewing families. Interviewers received thirty-two hours of intensive training on general survey research information, interviewing principles and procedures, and study specific goals and objectives. Interviewers conducted the caregiver and adolescent surveys in separate rooms and/ or out of the hearing of other family members. The project required that both parents and youth be able to participate in the project in the same language, and the primary caregiver determined whether the interview would be held in English or Spanish. The interviewers read each survey question and possible responses

aloud in either Spanish or English to reduce problems associated with variations in literacy levels. The average interview time was 102 minutes. Each member of the family who completed an interview received \$30, for a total of \$60 for one-caregiver and \$90 for two-caregiver families. Two of the adolescents' teachers were also contacted and asked to complete a paper-and-pencil evaluation of each adolescent for which they received \$5 per adolescent. Math and language arts teachers were selected because every student was required to take those subjects in each school. Response rates were over 90% for both sets of teachers.

## Measures

Preparation of both recruitment and interview materials consisted of translating English text into Spanish, and then translating the Spanish text back into English to ensure language equivalence of all messages and questions (Behling & Law, 2000). The agreement rate was 95% or higher. Bilingual recruiters and interviewers were hired and trained to detect and manage language discrepancies.

**Socioeconomic Status (SES)**—Maternal and paternal caregivers reported on their highest level of education completed which could range from 0 (no schooling) to 20 (advanced graduate degrees). This study used the highest level of education obtained by either parent within a family as an index of SES.

**Nativity**—Immigrant status was determined by maternal report of birthplace for herself and her adolescent. The nativity variables were coded as 1 = Born in the U.S. and 2 = Born in Mexico. Maternal nativity was used exclusively to maintain consistency across two-parent and single, mother-headed households.

**Behavioral Cultural Orientation**—The Acculturation Rating Scale for Mexican Americans – II (ARMSA - II; Cuellar, Arnold, & Maldonado, 1995) was used to provide independent assessment of adolescents' Mexican and Anglo orientations. The ARMSA-II is the most widely used acculturation measure for Mexican Americans. The scale is composed of a 13-item Anglo orientation subscale and a 17-item Mexican orientation subscale with items reflecting predominantly behavioral indicators of acculturation such as language use and ethnic behavioral practices. Adolescents indicated on a 5-point scale (1=not at all, 5=extremely often or almost always) how often they do things in English and Spanish and about their activities with people from different ethnic groups, including Anglos and people of Mexican origin. Cuellar et al., (1995) found that one-week test-retest reliabilities for the scale were .94 for Anglo Orientation and .96 for Mexican Orientation in a sample of multigenerational university students. In the current study, the Anglo orientation subscale had an alpha reliability of .81 and the Mexican orientation subscale had an alpha reliability of .87.

**Traditional Cultural Values**—Assessment of traditional cultural values was based on a composite of three subscales from the *Mexican American Cultural Values Scale (MACVS)*; Knight, Gonzales, Saenz, Germán, Deardorff, Roosa, & Updegraff, under review). The MACVS was developed to measure values associated with traditional Mexican culture and Anglo culture in order to capture the underlying value dimensions associated with the processes of acculturation and enculturation. The 63-item scale was based upon focus groups conducted with Mexican American and Mexican immigrant mothers, fathers, and adolescents. Three subscales of this measure were used in the present study to create a latent construct representing traditional cultural values thought to be relevant to adolescent externalizing behavior and academic engagement: Family Support and Emotional Closeness (6 items), Family Obligations (5 items), and Religion (7 items). Adolescents were asked to

rate on a 5-point scale how much they agree or disagree with each item (1=Strongly Disagree, 5=Strongly Agree). Sample items for each of these subscales are: “Parents should teach their children that the family always comes first.”, “Children should be taught it is their duty to care for their parents when their parents get old”, and “Religion should be an important part of your life”. In the current study, alpha reliabilities were .67 for the Family Support and Emotional Closeness subscale, .65 for the Family Obligations subscale, and .78 for the Religion subscale. Intercorrelations among these three subscales ranged from  $r=.44$  to  $r=.64$ .

**Adolescent externalizing behaviors**—The Externalizing Behaviors subscale of the Youth Self Report Scale (YSR; Achenbach, 1991) was selected for assessing adolescent externalizing behaviors in the current study. Adolescents were asked to rate how true each item was of them on a 3-point scale (0=Not True, 1=Somewhat or Sometimes True, 2=Very True or Often True) Achenbach (1991), found that for 11–14 year olds, the mean 7-day test-retest reliability for the problem behavior scales on the YSR indicated a mean  $r$  of .65 and the total scale indicated a test-retest  $r$  of .70. Alpha reliability of this subscale in the current study was .87.

Measures of adolescent externalizing behaviors were also obtained from the Externalizing Behaviors subscale of the Teacher Report Form of the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1991). The CBCL contains a total of 113 items describing behaviors such as: “Doesn't seem to feel guilty after misbehaving”, “Hangs around with others who get in trouble”, and “Has temper tantrums or a hot temper”. Prior research indicates that the test-retest reliability of the scale to be high over a mean interval of 15 days with a mean correlation .92 for the Total Problems score (Achenbach, 1991). Math and language arts teachers responded on a 3-point scale indicating how true each behavior was for the adolescent (0=not true, 1=somewhat or sometimes true, and 2=very true or often true). In the current study, math teacher reports had an alpha reliability of .93 and language arts teacher reports had an alpha reliability of .93. Math teacher reports and language arts teacher reports were correlated,  $r=.54$ , and were used to form a latent construct of teacher reports of externalizing behavior.

**Adolescent Academic Engagement**—Four separate scales described below contributed to a latent construct of adolescent report of academic engagement: (a) adolescents' attachment to school, (b) academic self-efficacy, (c) academic competence, and (d) future educational aspirations. Intercorrelations among these variables ranged from  $r=.30$  to  $r=.55$ . For teacher report of academic engagement, data from math and language arts teachers were used to create a latent construct using the scale described below.

**Adolescent attachment to school**—The School Attachment Scale is a 9-item scale that asked adolescents to rate their positive feelings about school, their attitudes about school experiences, and the extent to which they believe school is important. The School Attachment Scale was derived from three conceptually overlapping scales, the School is Important Now Scale (Lord, Eccles, McCarthy, 1994), the Academic Liking Scale (Lord, et al, 1994), and the Importance of Education Scale (Smith et al., 1997). The original School is Important Now Scale was reported to have a reliability coefficient of .69 and the original Importance of Education Scale was reported to have a reliability coefficient of .70 (Roeser, Lord, & Eccles, 1994; Smith, et al., 1997). Adolescents rated how true each item was for them on a 5-point scale (1=Not at all True and 5=Very True), and an average of the items was used. In the current study, the scale had an alpha reliability coefficient of .71. Sample items include: “I have to do well in school if I want to be a success in life” and “Getting a good education will help me when I grow up.”

**Academic self-efficacy**—Adolescents completed the 7-item Academic Self-Efficacy Scale (Midgley, Maher, & Urdan, 1996), which measures their beliefs that they can master the work they are given in school. Sample items include “I can do even the hardest work if I try” and “I can do almost all the work in school if I don’t give up.” Adolescents rated how true each item was for them on a 5-point scale (1=Not at all true and 5=Very True), and an average of the items was used. Arunkumar, Midgley, & Urdan (1999) found the scale to have a reliability coefficient of .78 among a sample of adolescents. In the current study the scale had an alpha reliability coefficient of .71.

**Future aspirations**—Adolescents responded to a single-item assessing their beliefs about the highest level of education that they expect to attain. The item is measured on a 6-point scale and the response choices include: 0 = quit before high school, 1=graduate from high school, 2= get technical or vocational training after high school, 3= graduate from a 2-year community college program, 4= graduate from four year college, and 5= attend graduate or professional school after college.

**Academic competence**—The Coatsworth Competence Scale (Coatsworth & Sandler, 1993) is a 24-item scale that was developed to measure adolescent competence in four age-appropriate domains: Academic Competence, Peer Relationships, Activities Involvement, and Classroom Behavior. Coatsworth & Sandler (1993) conducted a confirmatory factor analysis of the child report version of the scale to test this four dimensional model. The final model had four factors (CFI=.935; TLI=.925) and had a better model fit than alternative two or three factor models. The child report model has been replicated with a primarily Hispanic (90%) sample of 400 4–6th graders (CFI=.95). The present study used the 6 items that made up the Academic Competence subscale, and in this sample the alpha reliability coefficient was .80. Adolescents were asked to rate on a 4-point scale how much each item was like them in the past month (1=Not at all like me and 4=Very much like me), and an average of the responses was used. Sample items include: “Compared to other kids in your class, you got good grades” and “Compared to other kids in your class, your teacher said that you did good work.”

**Teacher report of academic engagement**—The Student Participation Questionnaire (Finn, Folger, & Cox, 1991) was used to measure teacher reports of adolescents’ engagement in school. Researchers found that maximum likelihood factor analyses of responses from teachers of 2207 4<sup>th</sup> grade students from 258 classrooms demonstrated three reliable scales named Effort (referring to passive participation and students’ persistence when completing a task; alpha = .94), Initiative (referring primarily to students’ verbal participation in class; alpha = .89), and Non participatory Behavior (referring to acting restless, needing to be reprimanded, or annoying classmates; alpha = .89) (Finn, et al. 1991). The mean of two subscales in this measure was used in the present study to represent academic engagement: The Effort Subscale (13 items) and the Initiative Subscale (8 items). Teachers were asked to rate on a 5-point scale (1=Never, 5=Always) how often the adolescent expresses each behavior. Sample items of the Effort Subscale include: “Pay attention in class” and “Completes work on time.” Sample items of the Initiative Subscale include: “Attempts to do his/her work thoroughly and well, rather than just trying to get by”, and “Participates actively in discussions.” A latent construct of academic engagement was formed using math and language arts teacher reports on these two scales that were correlated  $r = .55$ . In the current sample, math teacher report had an alpha reliability coefficient of .93 and language arts teacher report had an alpha reliability coefficient of .94.



## Results

### Descriptives and Intercorrelations

Table 1 displays descriptive statistics for all measured variables. Table 2 displays the bivariate correlations among the socioeconomic variables, the cultural predictors (nativity, behavioral cultural orientation, and traditional cultural values) and adolescent outcomes (externalizing behavior and academic engagement indicators).

### Statistical Analysis Strategy

Structural equation modeling was used to test the hypothesized model shown in Figure 1 on the covariance matrix using Mplus 3.01 (Muthen & Muthen, 2005). The fit of these models provides a test of the hypothesized paths and the measurement structure underlying the hypothesized latent constructs included in each model. Separate models were fit using adolescent report and then teacher report of the outcome variables. Socioeconomic status (measured by parent education level) was included as a covariate in both models and correlated with the exogenous variables but is not depicted in the figures. Multiple fit indices were used to facilitate evaluation of the proposed models, and missing data were addressed using full information maximum likelihood (FIML; Schafer et al., 2002). Some of the models based on teacher report had two measures reported by the same observer. To reduce artificial correlation of scores reported by the same teacher, we allowed the error terms for these measures to be correlated.

### Test of the Mediating Model with Adolescent Report of Outcomes

The first estimated model used maternal report of the nativity variables and adolescent report of the mediators (behavioral cultural orientation and traditional cultural values) and outcomes (externalizing problems and academic engagement). Three fit indices revealed a fairly good fit for the model that is shown in Figure 2 (nonsignificant paths are shown as dashed lines): CFI = .93; RMSEA = .06; SRMR = .05;  $\chi^2(52, N = 598) = 169.24, p < .001$ . The final model accounted for 4% of the variance in externalizing behavior and 45% of the variance in academic engagement.

As depicted in Figure 2, the nativity variables (adolescent and mothers' country of birth) were related in the expected direction to Mexican and Anglo behavioral cultural orientations such that Mexican orientation was higher and Anglo orientation was lower when adolescents and mothers were born in Mexico. In turn, Mexican and Anglo behavioral cultural orientations were both positively related to traditional values which, in turn, were associated with less externalizing behaviors but higher levels of academic engagement. SES was neither related to externalizing behaviors nor academic engagement in this model but was significantly correlated with maternal nativity ( $z = -8.76, p < .001$ ) and adolescent nativity ( $z = -5.04, p < .001$ ).

Four tests of mediation were conducted with each outcome variable in this model; Mplus applies the delta method to calculate the standard errors when two mediators are specified in a causal chain (Muthen & Muthen, 2005). The initial set of analyses examined externalizing behaviors. The first test examined whether adolescent Mexican cultural orientation and traditional cultural values mediated the effect of maternal nativity on adolescent externalizing behaviors. This analysis showed a significant mediational effect for the relationships among these variables,  $z = -3.31, p < .001$ . The second hypothesized pathway was identical to the first pathway but replaced maternal nativity with adolescent nativity. This pathway was fully supported,  $z = 2.66, p < .001$ . The third test examined whether adolescent Anglo cultural orientation and traditional cultural values mediated the effect of maternal nativity on adolescent externalizing behaviors. This analysis showed a significant

mediational effect for the relationships among these variables,  $z = -2.45, p < .001$ . The fourth pathway was identical to the third but replaced maternal nativity with adolescent nativity and was found to be significant,  $z = -2.35, p < .001$ .

The second set of analyses examined the same four mediational pathways in the prediction of academic engagement. Results indicated that the pathway from maternal nativity to academic engagement was significant through Mexican cultural orientation and traditional cultural values,  $z = 4.49, p < .001$ ; and the path from adolescent nativity to academic engagement also was significant through Mexican cultural orientation and traditional cultural values,  $z = 3.17, p < .001$ . Results also showed a significant mediational pathway from maternal nativity to academic engagement through Anglo cultural orientation and traditional cultural values,  $z = -2.82, p < .001$ ; and from adolescent nativity through Anglo cultural orientation and traditional cultural values,  $z = -2.67, p < .001$ .

### Test of the Mediating Model with Teacher Report of Outcomes

A second estimated model used teacher reports of adolescent outcomes (externalizing problems and academic engagement) but kept maternal report of the nativity variables and adolescent report of the mediators (behavioral cultural orientation and traditional values). This model, shown in Figure 3, fit the data well, CFI = .99, RMSEA = .03, SRMR = .03;  $\chi^2(38, N = 598) = 55.33, p < .05$ . The final model accounted for 6% of the variance in externalizing behavior and 3% of the variance in academic engagement.

As depicted in Figure 3, the cultural variables (nativity, cultural orientations and traditional cultural values) all related to each other and the teacher report of adolescent outcomes. Overall, a similar pattern of effects was observed among the vast majority of path coefficients in both models. Only two differences were noted in the teacher report model. Maternal nativity retained direct relations to teacher reports of adolescent externalizing behaviors and academic engagement even when the other cultural variables were added to the model. Maternal Mexican nativity was associated with fewer externalizing behaviors and higher levels of academic engagement by teacher reports. As in the adolescent self report model, SES was neither related to externalizing behaviors nor academic engagement in this model but was significantly correlated with maternal nativity ( $z = -8.78, p < .001$ ) and adolescent nativity ( $z = -5.06, p < .001$ ). In sum, the model with teacher report of outcomes largely replicated the effects found in the model with adolescent self-report of outcomes. This is not surprising since a large portion of the models use the same measures. On the other hand, replication of findings among the path coefficients between traditional cultural values and the outcome variables across adolescent and teacher report provides evidence of stability of these effects.

Two sets of mediation analyses were conducted with each of the teacher report outcomes. The first test, which examined whether adolescent Mexican cultural orientation and traditional cultural values mediated the effect of maternal nativity on teacher report of externalizing behaviors was significant,  $z = -2.43, p < .05$ . As in Figure 2, the second hypothesized pathway was identical to the first pathway but replaced maternal nativity with adolescent nativity and was found to be significant,  $z = -2.14, p < .05$ . The third hypothesized pathway from maternal nativity to Anglo cultural orientation, to traditional cultural values, and then to teacher report of externalizing behaviors was also fully supported,  $z = 1.88, p < .05$ . The last pathway was identical to the third but replaced maternal nativity with adolescent nativity and was found to be significant,  $z = 1.83, p < .05$ .

The second set of mediation analyses to predict academic engagement partially replicated the results found in the adolescent self report model. The relation between maternal nativity and teacher report of academic engagement was found to be mediated by Mexican cultural

orientation and traditional cultural values,  $z=1.91, p < .05$ ; and the path from adolescent nativity to academic engagement also was significant through Mexican cultural orientation and traditional cultural values,  $z = 1.76, p < .05$ . However, the pathway connecting maternal nativity, Anglo cultural orientation, traditional cultural values and academic engagement was only marginally significant,  $z = -1.60, p < .10$ ; and the path from adolescent nativity through Anglo orientation and traditional values was also marginal,  $z = -1.57, p < .10$ .

## Discussion

Research with Latino youth has consistently revealed the protective nature of immigrant status, often termed the “immigrant paradox”. The most consistent finding from this literature is that foreign-born adolescents experience lower levels of involvement in risky behavior and they tend to have higher aspirations and investment in school than U.S.-born adolescents of either foreign-born or U.S.-born parents (e.g., second or third generation) (Buriel & Cardoza, 1988; Fuligni 2001). Moreover, a number of studies of Latino adolescents indicate that increased acculturation, typically measured as a preference for speaking English, is associated with greater risk for externalizing problems (Gonzales et al., 2002; Vega & Gil, 1999). However, these findings provide limited understanding of the underlying risk processes involved or effective strategies for reducing such risks. For example, one cannot launch a prevention program that alters place of birth, nor is it conceivable to prevent youth from speaking English. Thus, we proposed and sought to test the hypothesis that traditional cultural values account for a significant portion of variance associated with the immigrant paradox for Mexican origin youth.

Our findings provide support for this central hypothesis. When traditional cultural values were examined along with parent and youth nativity and Anglo and Mexican behavioral cultural orientation (language and cultural affiliation patterns), cultural values emerged as the most robust cultural predictor of externalizing behavior problems and academic engagement. Test of mediational pathways among the cultural predictors leading to these outcomes also supported our central hypothesis. The effects of maternal and adolescent Mexican nativity were significantly mediated by adolescent behavioral cultural orientation and traditional cultural values. All mediational paths leading from maternal and youth nativity through Mexican cultural orientation and traditional cultural values were supported across adolescent and teacher report of the two outcomes. Thus, as predicted, Mexican origin youth in our sample derived protective benefits if their parents were immigrants and, in addition, if they were immigrants themselves, and these relations were partially explained by adolescents’ Mexican cultural orientation and maintenance of traditional cultural values.

Mediational paths leading to externalizing behavior also were supported through Anglo orientation and traditional values across both reporters. However, tests of mediation to predict adolescent academic engagement showed that the paths from nativity through Anglo orientation and traditional values were only significant when adolescent report was used to assess all variables in the model. Although these mediation effects were marginally significant when teacher report was used to assess academic engagement, we cannot rule out the possibility that the adolescent report mediation effects are inflated due to reporter bias. Moreover, reporter bias is the likely explanation for the unusually large proportion of variance explained in academic engagement within the adolescent report model.

These findings are consistent with a number of independent areas of research that have linked the specific value dimensions included in this study with social control processes and youth prosocial behavior. For example, social control theory (Hirschi, 1969) and Latino family research (Cauce & Domenech-Rodriguez, 2002) have highlighted the importance of close family relationships for fostering a sense of belonging, attachment, and support, all of

which are important to promote prosocial attitudes and behavior (Jessor et al., 1991). Research with a variety of immigrant groups also has shown that more traditional youth hold stronger beliefs in the importance of education because educational success is one way to fulfill their sense of obligation to support and assist the family (Fuligni, et al., 1999). Commitment to religious values also predicts increased academic investment and achievement (see Jeynes, 2002 for review) and decreased involvement in deviant behavior (see Johnson, De Li, et al., 2000 for review). The current study supports these theoretical linkages and offers evidence that these traditional value dimensions operate together to account for reduced behavioral risk and increased academic engagement previously reported for Mexican immigrant youth.

The mediating role of traditional cultural values was supported across adolescent and teacher report and in relation to academic engagement and externalizing behavior. This suggests the same underlying process of cultural protection may be at play to explain both of these critical outcomes. It also is noteworthy that we found support for the protective influence of traditional cultural values with a sample of 7<sup>th</sup> grade students interviewed in the year following transition to middle school. Accumulating research indicates the transition to middle / junior high school represents a key turning point or “risky” transition for poor, inner-city adolescents (Roderick, 1995; Seidman, Allen, Aber, Mitchell, & Feinman, 1994). School engagement and psychological well-being have been found to decline in the year following this transition (e.g., Eccles, Lord, & Midgley, 1991) and these declines are most pronounced and are more likely to lead to school dropout and externalizing behavior for minority youth attending schools in low-income, urban neighborhoods (Seidman, Lambert & Allen, 2001). Our findings suggest that policies and programs to reduce these risks should seek to bolster cultural values and the socializing agents and traditions that support them within Mexican American families and communities.

The unique effects of both Anglo and Mexican orientation illustrate the importance of examining both aspects of youth’s dual cultural adaptation simultaneously. At the same time, the positive link between Anglo cultural orientation and traditional values was somewhat surprising. In fact, we found no evidence that adolescent Anglo orientation was linked to increased academic or behavioral risk for our sample. Instead, our findings indicate that adolescents of Mexican origin adhere to more traditional beliefs and they exhibit less externalizing behavior and increased academic engagement when they have stronger ties and can operate more effectively within Mexican *and* Anglo cultural contexts. Although ties to one’s ethnic culture may be critical to anchor adolescents to protective cultural values, competence and a sense of belonging within the mainstream culture also may provide added support for Mexican origin youth to retain traditional values and conventional bonds. Indeed, there is considerable theoretical literature to suggest that a bicultural adaptation is optimal for adolescents generally and may be related to a host of positive social and psychological outcomes (Birman, 1998; LaFromboise, Coleman, & Gerton, 1993). For example, it has been shown that adolescents who are fluently bilingual are most likely to perform better academically (Rumberger & Larson, 1998). However, it should be noted that the current study examined academic engagement, using indicators of academic self efficacy, aspirations, academic competence, school attachment, and school participatory behavior. Although these aspects of academic engagement are ultimately expected to promote future academic success (Eccles et al., 1993; Skinner et al., 1990), research has shown that immigrant youth may have reduced academic achievement (e.g., lower grades) and less persistence (e.g., higher rates of school dropout), despite having initially higher aspirations and motivation (Fuligni, Tseng, & Lam, 1999). Future research should extend these findings to other academic outcomes and determine whether and how traditional cultural values are related to more objective indicators of academic success as adolescents continue through the educational pipeline.

Although maternal nativity showed significant indirect effects through adolescent's cultural orientation and values, it also had significant direct effects on teacher report of adolescent externalizing behavior and academic engagement. This finding highlights the robust nature of the immigrant paradox and suggests that maternal nativity is uniquely influential for explaining its effect on youth classroom behavior. The unique effects of maternal nativity may be explained by other cultural influences previously identified in the literature that were not included in our analyses. For example, qualitative research has shown that Mexican immigrant parents place primary importance on raising children that are "*bien educado*" (well-behaved), above all else (Valdés, 1996). Immigrant parents also place greater emphasis on children's respect of authority figures which may promote increased adherence to classroom rules and more respectful behavior toward teachers (Keefe & Padilla, 1987). These parental values are communicated to youth directly and they are likely to influence specific parenting behaviors that support these socialization goals. For example, previous studies have reported that more traditional Mexican origin families are more involved in monitoring, supervising, and disciplining their children's behavior (Buriel, 1993; Dinh, Roosa, Tein, Lopez, 2002; Fridrich & Flannery, 1995; Samaniego & Gonzales, 1999). Thus, parental values and behaviors are also likely to play a role in explaining why children from immigrant families show lower rates of externalizing behavior.

This study has several strengths. It was based on a sample that provided generational and linguistic diversity. It included a measure of traditional cultural values, in contrast to previous research that only infers the role of cultural values, and included teacher reporters of the adolescent outcome measures to guard against potential self report biases. However, the cross-sectional nature of the study is a significant limitation. Although our findings are consistent with the hypothesized mediational model, longitudinal or experimental data are needed to provide a more robust test of the underlying causal mechanisms. Lack of longitudinal research on acculturation and enculturation processes is a notable weakness of the field in general.

The unexpected nature of some of our findings also highlights a need for replication. It is possible that our recruitment strategy that targeted youth attending predominantly low income schools with a high proportion of Latinos may have resulted in sampling biases. Since our students reside in neighborhoods with a high density of Mexican origin families, the more acculturated youth may have a greater likelihood of being bicultural in our sample relative to other studies. This may explain why we generally did not find acculturation was associated with increased externalizing. It also is possible that our adolescent sample is relatively young and has not begun to exhibit acculturation-related problem behaviors to the extent reported in prior studies that have included older adolescent samples (see Gonzales et al., 2002 for review).

Despite these limitations, our findings highlight the importance of including value dimensions in research with culturally distinct populations. Inclusion of cultural values allows greater understanding of the role of culture in development and aids in the identification of important cultural resources that can be mobilized or strengthened through culturally sensitive intervention programs (Garcia Coll, Akerman & Cicchetti, 2000). For example, the current findings lend support for academic and mental health programs that bolster the protective influence of traditional Mexican cultural orientation and values while also encouraging bicultural adaptation for Mexican origin youth (e.g., Pantin et al., 2003).

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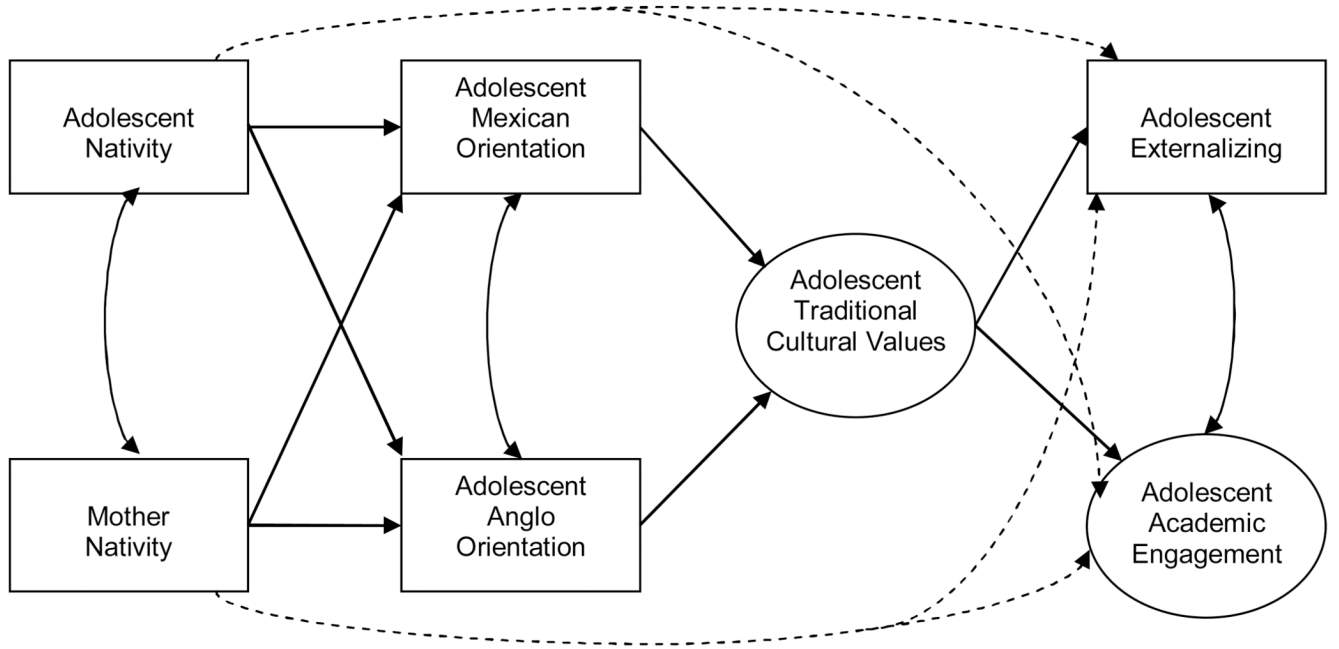
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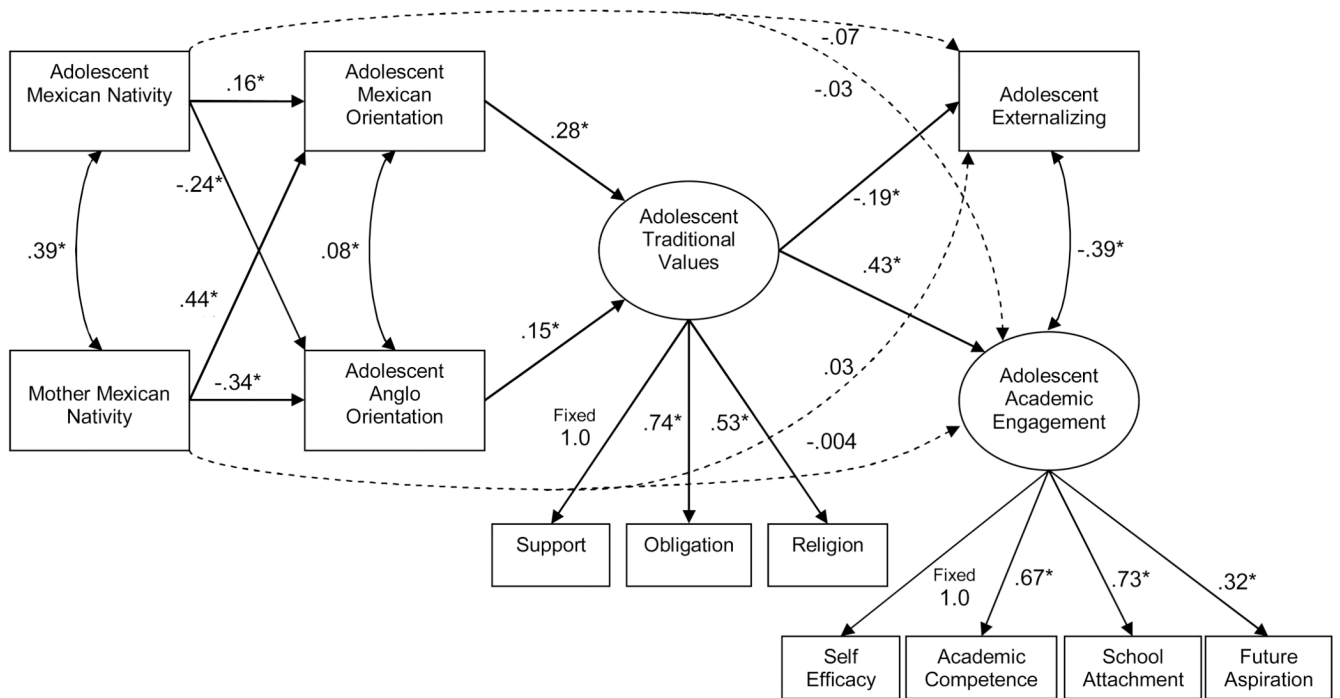
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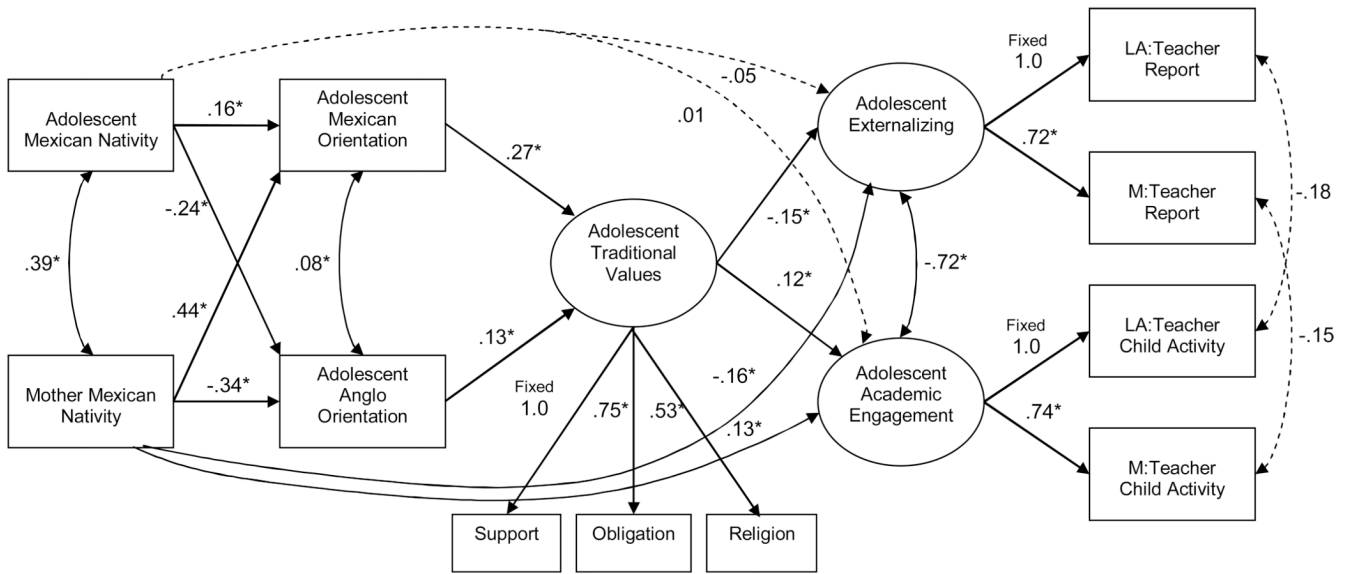


**Figure 1.**  
Theoretical Model



**Model Fit**  
 $\chi^2(52) = 169.236, p = .000$   
 CFI = 0.925  
 RMSEA = 0.061  
 SRMR = 0.046

**Figure 2.**  
 Model with adolescent self report of outcomes



**Model Fit**  
 $\chi^2(38) = 55.334, p = 0.03$   
 CFI = 0.99  
 RMSEA = 0.028  
 SRMR = 0.028

**Figure 3.** Model with Teacher Report of Adolescent Outcomes.

**Table I**

## Descriptive Statistics

<b>Measure</b>	<b>n</b>	<b>M</b>	<b>SD</b>
<i>Socioeconomic Status</i>			
Highest Education Level	572	9.89	3.56
<i>Cultural Orientation</i>			
ARSMA – Youth Mexican Orientation	590	3.38	.67
ARSMA – Youth Anglo Orientation	590	3.89	.57
<i>Traditional Cultural Values</i>			
Familism Values: Support & Emotional Closeness	596	4.52	.46
Familism Values: Obligations	596	4.44	.51
Religious Values	596	4.24	.61
<i>Externalizing behavior</i>			
YSR - Youth Report	597	8.91	7.04
TRF - Language Arts Teacher Report	539	4.67	7.75
TRF - Math Teacher Report	555	3.50	6.23
<i>Academic Engagement</i>			
Academic Self Efficacy – Youth Report	597	4.20	.54
Academic Competence – Youth Report	597	2.93	.61
School Attachment – Youth Report	597	4.52	.46
Educational Aspirations – Youth Report	597	3.64	1.45
Academic Effort & Initiative – Language Arts Teacher Report	546	3.45	.76
Academic Effort & Initiative – Math Teacher Report	558	3.42	.73

Table II

Intercorrelations Among All Measured Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Highest Education Level	--									
2. Maternal Country of Birth	-.39**	--								
3. Youth Country of Birth	-.24**	.39**	--							
4. ARSMA – Youth Mexican Orientation	-.28**	.50**	.33**	--						
5. ARSMA – Youth Anglo Orientation	.29**	-.43**	-.37**	-.17**	--					
6. Family Support & Emotional Closeness	.00	.01	.05	.21**	.10*	--				
7. Family Obligations	-.07	.08	.12**	.18**	.01	.64**	--			
8. Religious Values	-.10*	.09*	.07	.16**	.02	.44**	.45**	--		
9. Youth Externalizing Report	.00	-.01	-.08	-.06	-.00	-.18**	.11**	-.08*	--	
10. Academic Self Efficacy – Youth Report	.07	-.02	-.05	.13**	.27**	.24**	.19**	.14**	-.24**	--
11. Academic Competence – Youth Report	.06	.02	-.01	.09*	.13**	.26**	.15**	.10**	-.42**	.47**
12. School Attachment – Youth Report	.02	-.04	.04	.18**	.20**	.29**	.20**	.19**	-.34**	.55**
13. Educational Aspirations – Youth Report	.08	-.01	-.04	.06	.12**	.05	.04	.06	-.11**	.30**
14. Language Arts Teacher Externalizing Report	.05	-.15**	-.09*	-.08	.01	-.12**	-.13**	.06	.38**	-.16**
15. Math Teacher Externalizing Report	.05	-.11*	-.11*	-.05	.04	-.13**	-.08	-.12**	.24**	-.14**
16. Language Arts Teacher Academic Effort & Initiative	-.00	.08	.05	.06	.04	.08	.03	-.00	-.23**	.19**
17. Math Teacher Academic Effort & Initiative	.00	.08	.03	.02	.02	.12**	.13**	.05	-.15**	.20**

Variable	9	10	11	12	13	14	15	16	17
9. Youth Externalizing Report	--								
10. Academic Self Efficacy – Youth Report	-.24**	--							
11. Academic Competence – Youth Report	-.42**	.47**	--						
12. School Attachment – Youth Report	-.34**	.55**	.44**	--					
13. Educational Aspirations – Youth Report	-.11**	.30**	.35**	.24**	--				
14. Language Arts Teacher Externalizing Report	.38**	-.16**	-.32**	-.23**	-.10*	--			

Variable	9	10	11	12	13	14	15	16	17
15. Math Teacher Externalizing Report	.24**	-.14**	-.24**	-.22**	-.06	.54**	--		
16. Language Arts Teacher Academic Effort & Initiative	-.23**	.19**	.37**	.23**	.16**	-.61**	-.40**	--	
17. Math Teacher Academic Effort & Initiative	-.15**	.20**	.39**	.25**	.16**	-.42**	-.55**	.55**	--

Note: The nativity variables were coded as 1 = Born in the U.S. and 2 = Born in Mexico

\*  $p < .05$ .

\*\*  $p < .01$ .