Published in final edited form as:

J Youth Adolesc. 2013 October ; 42(10): 1611–1623. doi:10.1007/s10964-012-9834-z.

Cultural Stressors and Mental Health Symptoms among Mexican Americans: A Prospective Study Examining the Moderating Roles of the Family and Neighborhood Contexts

Rajni L Nair, Rebecca. M. B. White, Katherine. H. Zeiders, and Mark W. Roosa

Abstract

Studies of stress consistently have linked individuals' experiences of stress to maladjustment, but limited attention has been given to cultural stressors commonly experienced by minority individuals. To address this, the current study examined the links between cultural stressors and prospective changes in mental health symptoms in a sample of 710 (49% female) Mexican American youth. In addition, the moderating role of both family and neighborhood cohesion was examined. In-home interviews were completed with youth, mothers (required) and fathers (optional) to collect data on youth's experiences of cultural stressors (discrimination and language hassles) and internalizing/externalizing behavior, and mothers' report of family cohesion and mothers' and fathers' report of neighborhood cohesion. Analyses revealed that youth's experiences of discrimination and language hassles at 5th grade were related positively to increases in internalizing symptoms at 7th grade. Additionally, youths who reported higher levels of language hassles in 5th grade experienced increases in externalizing symptoms across the 2-year span. Both family and neighborhood cohesion emerged as significant moderating factors but their impact was conditional on youth's gender and nativity. Limitations and future implications are discussed.

Keywords

discrimination; mental health; Mexican American; language hassles

Introduction

Currently, Latinos are the largest minority group within the United States (U.S. Census, 2011) and the largest Latino subgroup (more than 60%) is Mexican Americans. Mexican American adolescents, specifically, and Latino adolescents generally, are at greater risk than the majority population for experiencing mental health difficulties (CDC, 2006). In light of the disparate rates of mental health problems among Latino youth, researchers have increased efforts to understand the role of cultural experiences as sources of stress or resilience in the development of mental health difficulties for this population. Cultural stressors, like discrimination and language hassles, have received considerable attention in this literature but these potentially distinct sources of stress are treated as one. Further, efforts to understand how cultural stressors impact Latino youth often have failed to consider important processes taking place in both the family and neighborhood contexts that may help to shape the effect such stressors have on youth's mental health (Garcia-Coll et. al, 1996). Among Latinos, supportiveness or cohesion in families (White, Roosa, & Zeiders, in press) and neighborhoods (Gonzales et al., 2011; White, Deardorf, & Gonzales, 2012) may help mitigate the effects of cultural stressors on youth.

The present study investigated how two distinct culturally relevant stressors (i.e., discrimination and language hassles) were related to changes in Mexican American early

adolescents' mental health across a 2 year period. Distinguishing between discrimination and language hassles allowed for increasing specificity in relationships with adjustment (Grant et. al., 2003) and provided a test of whether there are differential associations between distinct stressors and mental health for Mexican American youth. We hypothesized that experiences of both discrimination and language hassles would be related positively to increases in mental health symptoms. In addition, we examined the potential protective roles of neighborhood and family cohesion, hypothesizing that increased levels of cohesion at both the family and neighborhood levels would attenuate the association between these stressors and outcomes.

Cultural Stressors and Mental Health Outcomes

Ethnic minority status is linked to psychosocial stressors that are not experienced by persons outside the group (Rogler, Cortes, & Malgady, 1991) and these stressors may have unique impacts on minority adolescents' adjustment (Garcia Coll et al., 1996). For Mexican Americans, cultural stressors may include discrimination and language hassles. Several studies of Mexican-origin adolescents have reported that a majority of their samples had experienced racial/ethnic discrimination or discrimination based on immigrant status, their use of Spanish, or their accent in English (Edwards & Romero, 2008; Kaiser Family Foundation, 2002). Studies utilizing stress process models consistently have linked individuals' experiences of stress to maladjustment, but limited attention has been given to cultural stressors commonly experienced by minority individuals (for exception see White, Roosa, Weaver, & Nair, 2009; Garcia Coll et al., 1996). Given the high prevalence of experiences with discrimination and language hassles among Mexican-origin adolescents, understanding the impact that these sources of stress have on youth mental health is critical.

Theoretically, cultural stressors are expected to relate to both internalizing and externalizing outcomes among minority youth. In addition, stressors that threaten or compromise integral parts of an individual's being, such as their cultural identity, have been noted as being particularly detrimental to mental health (Thoits, 1991). Responses to cultural stressors however, can take on a variety of forms. Stress exposure models (e.g. Abrahamson et al, 1989; Hammen, 2001; Ingram et al, 1998) indicate that repeated exposure to stressors can result in the internalization of negative feedback about the self that could lead to feelings of helplessness, sadness, anxiety and demoralization, all characteristics of internalizing disorders (Brody et. al, 2006; Rutter, 1998). Yet, responses to cultural stressors can also include feelings and behavior associated with anger and frustration towards the majority group. According to strain theory (Agnew, 2001), stressors are most likely to result in delinquent behavior when they seem unjust, threaten important identities, and leave few options for coping. Consequently, delinquent acts and behaviors, such as those consistent with externalizing disorders, may be viewed as mechanisms to deal with perpetrators of discrimination, assert power, and vent frustration.

Empirical research provides corroborating evidence. Studies of Latino youth have shown that perceived discrimination is associated positively with depressive symptoms (Romero & Roberts, 2007; Umana-Taylor & Updegraff, 2009), problem behavior (Vega, Houry, Zimmerman, Gil, & Warheit 1995), delinquency (Umana-Taylor et. al, 2011), and poor academic adjustment (Benner & Graham, 2011). Studies of Mexican American adolescents specifically have found that discrimination is positively associated with internalizing and externalizing symptoms (Berkel et. al, 2010; Romero, Martinez & Carvajal, 2007; Smokowski & Bacalaoa, 2007). It is important to note that most of these studies examined concurrent relationships (see Berkel et. al, 2010 for an exception) between discrimination and youth outcomes and we have very little information about the prospective impact of discrimination upon Mexican youth.

Notably, the link between language hassles and adjustment has received less attention than discrimination or other cultural stressors. Language hassles are negative experiences based specifically upon one's ability to communicate acceptably in different settings. The need for youth to function in English-dominant schools may make language hassles an even more prominent stressor than more subtle racial and ethnic discrimination (Garcia, 2002). In addition, some Mexican American children experience language hassles in their communities or schools if they cannot speak well in Spanish with neighbors or peers. Thus, discriminatory experiences centered around language use may have a different impact upon well-being than discriminatory experiences that are focused on ethnicity; one attacks a behavior over which the youth has some control (over time) while the other attacks group membership that cannot be changed. Unlike discrimination, language hassles can come from members of one's own ethnic group as well as from other ethnic groups. We could find no study that simultaneously examined both of these cultural stressors distinctly.

Protective Factors

While cultural stressors disrupt development and lead to negative mental health outcomes for adolescents, a supportive context is thought of as a potential buffer, attenuating the impact of such experiences. Two contexts that are particularly salient during adolescence are the family (Garmezy, 1991) and neighborhood (see Sampson, Morenoff, & Gannon-Rowley, 2002 for review). Both have the opportunity to offer forms of social support, which may buffer stressful experiences. Family cohesion, the degree to which family members are emotionally bonded and supportive of each other (Olson, Portner, & Bell, 1982), may offer youth resources for dealing with stressful experiences. For instance, cohesive family relationships serve as buffers in relations between a variety of stressors and outcomes for children and families (Formoso, Gonzales, & Aiken, 2000). Family cohesion has been found to be particularly salient for Mexican American families (White & Roosa, 2012; White et al., in press) that have been characterized as having a strong focus on family relationships (Marín & Marín, 1991).

A second important socializing context for children is the neighborhood. Cohesion among neighbors facilitates shared supervision and monitoring of children (Patterson et al, 1989) by creating an environment in which adults share values regarding acceptable behaviors within their community and work together to supervise the behavior of youth (Sampson, Raudenbush, & Earls, 1997). The neighborhood context can provide supportive functions through social cohesion (the degree to which neighbors share mutual values and goals and trust one another). For instance, collective socialization practices can help to protect children from risk (Sampson & Groves, 1989), and evidence suggests these processes may be present among even poor Latino and Mexican-identified neighborhoods (Gonzales et al., 2011; White et al., 2012). Thus, we hypothesized that a supportive neighborhood context would protect Mexican American children from cultural stressors.

Hypotheses and Examination of Model Generalizability

This study tested a model that specified how two cultural stressors, discrimination and language hassles, were related to changes in mental health symptoms among Mexican American early adolescents across a two year time period. Specifically our first hypothesis (H1) was that both discrimination and language hassles in grade five would be related positively to youths' reports of internalizing and externalizing symptoms in grade seven. Our second hypothesis (H2) predicted that family cohesion would buffer youth from the negative effects of discrimination. Our third hypothesis (H3) was that neighborhood cohesion would buffer and decrease the strength of the relationship between discrimination, language hassles and changes in symptomology.

To examine the generalizability of our findings, we explored two important sources of within group variability: youth gender and nativity. Gender is an important consideration in investigations of stress and mental health because prior research indicates that girls are more likely to exhibit internalizing behaviors (Eaton et. al. 2006), whereas boys are more likely to exhibit externalizing behaviors (Loeber & Stouthamer-Loeber, 1997). Further, studies examining the role of gender in the experiences and consequences of cultural stressors demonstrate mixed results (e.g., Behnke, et al., 2011; Umana-Taylor & Updegraff, 2007), as do studies examining the role of gender in research on neighborhood effects (e.g. Gonzales et. al, 2011; Roosa, White, Zeiders, & Tein, 2009; White et. al, 2009). Nativity is an equally important consideration in investigations of stress and mental health because prior research shows that Mexican Americans born in the United States have higher rates of mental health problems compared to those born in Mexico (Grant et al., 2006; Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005). Further, nativity can shape the way in which immigrants and their families perceive and experience their lives (Halgunseth, 2006). For instance, it may be that the protective effect of family cohesion is stronger for immigrants from Mexico than for US-born youth because the family plays a more central role in the life of immigrants. Consequently, we examined the extent to which the results generalized across boys and girls in the sample and across U.S. born and Mexico-born youth. We did not have any specific hypotheses for these tests of generalizability.

Method

Sample

Data for this study came from the first two waves of a longitudinal study of Mexican American families in a large southwestern metropolitan area (Author citation). Participants were 749 students and their families who met the following criteria 1 (T1): (a) they had a fifth grader attending a sampled school; (b) the participating mother was the child's biological mother, lived with the child, and self-identified as Mexican or Mexican American; (c) the child's biological father was of Mexican origin; (d) the target child was not severely learning disabled; and (e) no step-father or mother's boyfriend was living with the child. Most families (71.9%) were two-parent households and among these families 464 fathers participated (82 %). Given the choice of interviewing in English or Spanish, 30.1% of mothers, 23.2% of fathers, and 82.5% of children chose English. Among mothers, 45.7% were employed full time, the average age was 35.9 years, and years of education ranged from 1 to 19 ($M = 10.3$) and the average annual income for the families was between \$25,001 – 30,000, but ranged from <\$5,000/year to >\$95,001/year. Among fathers, 91.2% were employed full time, the average age was 38.8 years, and years of education ranged from 1 to 20 ($M = 10.09$). Adolescents were on average 10.9 years old and 50% were male at T1. Seventy-four percent of mothers, 79% of fathers, and 30% of adolescents were born in Mexico.

Families were re-interviewed at Time 2 (T2) approximately 2 years after T1. A total of 710 families (95%) participated at T2. Families who participated in T2 interviews were compared to families who did not on several T1 demographic variables and no differences emerged on child characteristics (i.e., gender, age, generational status, language of interview), father characteristics (i.e., age, generational status, education), mother characteristics (i.e., marital status, age, generation status), and on most T1 study variables (stressors, family cohesion, neighborhood cohesion). There were, however, differences on mental health symptomatology; adolescents who *participated* at both time points had significantly higher externalizing symptoms [$t(747) = 2.75, p = .01$] than those who only participated at T1. Analyses in this study were conducted on the families that had data at both time points (N=710).

Using a combination of random and purposive sampling, the research team identified 47 public, religious, and charter schools from throughout the metropolitan area to represent the economic, cultural, and social diversity of the city. Recruitment materials were sent home with all 5th graders. Over 85% of those who returned recruitment materials were eligible for screening (e.g., Hispanic) and 1,028 met eligibility criteria. Computer Assisted Personal Interviews were completed with 749 families, 73% of those eligible. Mothers (required), fathers (optional), and children (required) participated in in-home interviews lasting an average of about 2 ½ hours. Each participating family member was paid \$45 at T1 and \$50 at T2. All procedures were reviewed and approved by the local Institutional Review Board and conformed to APA ethical standards.

Measures

All measures were available in Spanish and English. We operationalized neighborhood by census tracts because research suggests that the average size of resident-defined neighborhoods closely approximates the size of a census tract (Coulton, Korbin, Chan, & Su, 2001). Using this operationalization, a total of 154 neighborhoods were identified.

Peer and teacher discrimination—This 10-item scale assessed adolescents' perceptions of discrimination from teachers and peers against their ethnic group or directed at themselves (Johnston & Delgado, 2004). Adolescents were asked to endorse how true or how often statements were true for them on a scale of 1 to 5 (e.g., "How often have your teachers expected you to misbehave more than other kids or punished you more harshly because you are Mexican or Mexican American?"). A mean score was computed and the Cronbach's alpha for this scale was .70. Time 1 reports of discrimination were used in this study. The range for this variable was 4.

Language hassles—The Multicultural Events Scale for Adolescents (Gonzales, Tein, Sandler, and Friedman, 2001) assesses "hassles", the sort of events that adolescents experience either daily or on a fairly regular basis. The 7-item language hassles subscale assessed how often adolescents experienced a negative event due to their use of Spanish or English. A sample item is "You had a hard time doing things because you don't speak English or don't speak it well". The total score is a count of how many hassles the adolescent experienced over the past three months. We used time 1 reports of language hassles for this study. The range for this variable was 5.

Family cohesion—Sixteen items from the Family Adaptability and Cohesion Evaluation Scales II were used to measure family cohesion (Olson, et al., 1982). Mothers were asked to report how often each item (e.g., "Family members are supportive of each other during difficult times") occurred in their family on a 1 to 5 Likert scale. Cronbach's alpha for this scale was 0.81. We used time 1 reports of family cohesion in this study. The range for this variable was 3.

Neighborhood cohesion—Neighborhood cohesion was measured by administering two subscales to all parents, social cohesion and cultural cohesion. Social cohesion is a 5-item subscale that assesses the degree to which neighbors share mutual values and goals and trust one another with actions such as intervening with one another's children for the good of the neighborhood (e.g., "This is a close knit neighborhood"; Sampson, Raudenbush, & Earls, 1997). The 5-item cultural cohesion subscale was created for this study and assessed the degree to which neighbors support local Mexican families, culture and traditions (e.g., "People in this neighborhood appreciate Mexican culture and people"). The two subscales were highly correlated (0.87), so a one-factor CFA was estimated using the items from the two subscales. CFA results suggested deletion of 4 items (2 from each of the subscales) that

were loading poorly (< 0.2). The final one factor model (6 items) demonstrated adequate fit, $\chi^2 = 95.06$, $p < .01$, CFI=0.93, SRMR=0.04, RMSEA=0.096, and all item loadings were above 0.6. Thus, the an individual's score on neighborhood cohesion consisted of a mean of six items from the two original subscales. We then averaged all individual scores within a given neighborhood to estimate a score for each neighborhood (see Sampson et al., 1997). Next, we estimated a random effects multilevel model to assess the intra-class correlation (ICC) of the calculated score. The ICC is a measure of the proportion of variance in a variable that is between level 2 units. The ICC for the neighborhood cohesion variable was .10. We used time 1 reports of neighborhood cohesion in this study. Range for this variable was 5.

Adolescent mental health—Adolescents reported their internalizing and externalizing symptoms using the Diagnostic Interview Schedule for Children (DISC; Bravo, 2003; Shaffer et al., 1996). Consistent with prior work, *internalizing symptom counts* were obtained by summing anxiety and mood disorders symptoms; *externalizing symptom counts* were a sum of conduct disorder, attention deficit/hyperactivity disorder, and oppositional defiant disorder symptoms (Ge et al., 2006). We used time 2 reports of internalizing and externalizing symptoms as our endogenous variables, while controlling for time 1 levels of internalizing and externalizing symptoms. Range for internalizing symptoms was 72 and the range for externalizing symptoms was 35.

Analysis

To test the hypotheses regarding cultural stress, family cohesion, neighborhood cohesion, and adolescent outcomes, we estimated hierarchical linear models (HLM) using the MIXED procedure in SPSS 19.0; HLM was used to accommodate the nested structure (families within neighborhoods) of the data (Bryk and Raudenbush, 1992). First, to examine the main effects of cultural stressors on mental health symptoms we used random coefficient regression multilevel models, controlling for family income, gender and nativity and T1 levels of the endogenous variables. Next, we examined the moderating role of family and neighborhood cohesion by adding the interaction terms into these models (i.e. adolescent cultural stressor X family (neighborhood) cohesion). Finally we ran models in which we investigated whether model results were equally generalizable to gender and nativity groups. To do this we added two-(adolescent cultural stressor X family (neighborhood) cohesion) and three-way interactions (cultural stressor X cohesion X gender/nativity) as recommended by Aiken and West (1991). In these models gender and nativity were both dummy coded (1=female and 1=Mexico-born). Separate models were run for internalizing and externalizing symptoms. Consistent with recommendations, Level 1 (youth or mother) variables were centered within cluster, while Level 2 (neighborhood) variables were grand mean centered (Enders & Tofghi, 2007). When significant interactions emerged we probed the interaction by following guidelines by Aiken and West (1991) in which we examined *simple regression slopes* at 1SD above and 1SD below the moderator (i.e. cohesion).

Results

Table 1 presents descriptive statistics and correlations for all study variables. We analyzed gender differences and nativity differences on all study variables using ANOVA. Adolescent girls and boys did not differ significantly on T1 reports of discrimination or language hassles, but boys reported higher levels of externalizing symptoms ($M = 6.10$) than girls ($M = 4.92$), a difference not present at T2. However, at T2 (but not T1) there were significant differences in girls and boys report of internalizing, with girls reporting significantly higher levels of internalizing symptoms ($M = 18.51$) than boys ($M = 16.81$). Nativity differences also emerged. First Mexico-born youth, as expected, reported significantly higher levels of

language hassles ($M = 0.74$) and discrimination ($M = 2.0$) than their US-born counterparts ($M = .50$; $M = 1.72$, respectively). Significant nativity differences in both internalizing and externalizing symptoms at T2 indicated that Mexican born youths' reports of their externalizing ($M = 6.34$) and internalizing ($M = 16.47$) symptoms were significantly lower than US-born youths' reports of their externalizing ($M = 7.60$) and internalizing symptoms ($M = 18.19$).

Direct effects of Cultural Stressors on Mental Health (H1)

The results for *internalizing symptoms* revealed several significant main effects (See Table 2). First, on average discrimination and language hassles were positively related to increases in *internalizing symptoms* from T1 to T2. On average, a one unit change in discrimination resulted in an increase of 2.87 internalizing symptoms across the two year time period (11.7%) and a one unit change in language hassles resulted in an increase of 1.99 internalizing symptoms across the two years (8% increase). In addition, a main effect for nativity showed that being born in the US resulted in increases in *internalizing symptoms* at T2. The results of model testing for *externalizing symptoms* also revealed several significant main effects (See Table 2). On average youth report of language hassles was positively related to *externalizing symptoms* at T2; a one unit change in language hassles resulted in an increase of 1.09 externalizing symptoms across the two year time period (19%). However there was not a significant main effect for youths' report of discrimination. In addition, there was a main effect of gender such that boys reported higher levels of change in *externalizing symptoms* from T1 to T2.

Buffering Effect of Family Cohesion (H2)

When we tested our hypotheses about the buffering effects of family cohesion on changes in both internalizing and externalizing symptoms across the two time points, no significant two-way interactions emerged. To test if a protective effect of family was conditional upon either gender or nativity, we then added three way interactions (see Table 3). There were no significant three way interactions involving family cohesion for *externalizing symptoms*. One significant three way interaction emerged between language hassles, family cohesion, and nativity predicting change in *internalizing symptoms*. Probing of this interaction revealed that, for youth born in Mexico, when family cohesion was high there was no relationship between youth report of language hassles and change in *internalizing symptoms* from T1 to T2 ($\beta = .89$, $t(1) = .72$, $p = .47$), but when family cohesion was low the relationship between language hassles and change in *internalizing symptoms* from T1 to T2 was significant and positive ($\beta = 2.89$, $t(1) = 2.68$, $p < .01$) (see Figure 1). For Mexico-born youth a one unit change in language hassles resulted in an increase in 2.89 internalizing symptoms across the two year time period (15.2% change). For U.S. born youth, the relationship between language hassles and change in *internalizing symptoms* from T1 to T2 was *not* conditional upon level of family cohesion. Thus, for Mexico-born youth, but not US-born youth, family cohesion decreased the strength of the positive relationship between language hassles and internalizing symptoms.

Buffering Effect of Neighborhood Cohesion (H3)

When we tested our hypotheses about the buffering effects of neighborhood cohesion on changes in both internalizing and externalizing symptoms, no significant two-way interactions emerged. To test if a protective effect of neighborhood cohesion was conditional upon either gender or nativity we then added three way interactions (see Table 3). No significant three way interactions emerged in the models predicting change in *internalizing symptoms*. However in the models predicting change in *externalizing symptoms* two significant interactions emerged: (a) language hassles X neighborhood cohesion X gender and (b) discrimination X neighborhood cohesion X gender.

Probing of the first significant interaction (see Figure 2) revealed that for *girls* there was a significant *negative* effect ($\beta = -4.34$, $t(1) = -2.03$, $p = .04$) such that, as language hassles increased, reports of externalizing symptoms decreased but only at high levels of neighborhood cohesion. The relationship between language hassles and externalizing was not significant ($\beta = -2.01$, $t(1) = -1.42$, $p = .07$) at low levels of neighborhood cohesion. In contrast, for *boys* the relationship between language hassles and externalizing behavior was significant ($\beta = 1.42$, $t(1) = 2.05$, $p = .05$) but positive, such that increases in language hassles resulted in increases in externalizing symptoms but only in neighborhoods with low cohesion, the relationship was not significant in neighborhoods with high levels of cohesion. Probing of the second significant interaction revealed that for *girls* discrimination was not significantly related to externalizing in any context, but for boys discrimination was *negatively* related to externalizing symptoms ($\beta = -2.43$, $t(1) = -2.19$, $p = .04$) when neighborhood cohesion was high.

Discussion

A large body of literature provides evidence linking individuals' experiences of stress to maladjustment, but limited attention has been given to cultural stressors commonly experienced by minority individuals (for exception see White, Roosa, Weaver, & Nair, 2009; Garcia Coll et al., 1996). Given the high prevalence of experiences with discrimination and language hassles among Mexican-origin adolescents (Kaiser Family Foundation, 2002), understanding the impact that these sources of stress have on youth mental health is critical. This study is one of the first to investigate the prospective relationships between two distinct cultural stressors (discrimination and language hassles), family and neighborhood cohesion, and mental health symptoms in a heterogeneous sample of Mexican American youth. Using a diverse ethnic homogenous sample of Mexican Americans, our study had three main goals. First, we aimed to evaluate how discrimination and language hassles related to changes in mental health symptoms over time. Our second goal was to evaluate whether family cohesion would serve as a moderator decreasing relationships between stressors and outcomes. Finally, we examined whether another important contextual construct, neighborhood cohesion, would buffer youth from the deleterious effects of cultural stressors.

The results of our study contribute to the literature on Mexican American youth in several ways. First, language hassles and discrimination emerged as significant, independent predictors of changes in symptoms for internalizing disorders, and language hassles was also a significant predictor of growth of externalizing symptoms. Our study confirms that these cultural experiences represent significant sources of stress for the growing population of Mexican American youth, and merit inclusion in examinations of the role of cultural stressors in the development of mental health difficulties for this population. Additionally, this study contributes to our understanding of Mexican American adolescents' adjustment by providing information about how family and neighborhood contexts interact with nativity and gender as influences on Mexican American youths' mental health. We found family cohesion to be of particular importance as a protective factor for Mexico-born youth. Thus, interventions targeted at increasing levels of family cohesion would likely help reduce the impact of cultural (and perhaps other) stressors on mental health for Mexico-born youth. Similarly, the results showed that neighborhood cohesion also was a protective factor; thus, strengthening shared values and traditions, ties among neighborhood residents, and the shared responsibility for controlling youth misbehavior may also have the potential to support Mexican American girls and boys, albeit in slightly nuanced ways.

Direct effects of Cultural Stressors on Mental Health (H1)

Our first study hypothesis was that higher reports of discrimination and language hassles in 5th grade would result in increases in mental health symptoms at 7th grade. Correspondingly, language hassles in the 5th grade were associated with increased internalizing and externalizing problems in the 7th grade. It is important to note that our results highlight the unique contribution that language hassles makes to mental health, while most other studies present the effects of very general measures of discrimination that may or may not include any language discrimination items. The relationship of language hassles to mental health may be broader than the relationship of discrimination at this age, in part because Mexican American children can be hassled by members of their own ethnic group for problems with their ability to speak Spanish with immigrant neighbors or peers or from peers and teachers from other ethnic groups for problems they may have communicating in English. These results illustrate how important it is to understand the unique ways language hassles impact mental health rather than considering language hassles as a small part of a discrimination measure.

In contrast to our results with language hassles, elevated reports of discrimination in the 5th grade were associated with increased internalizing problems in the 7th grade. Discrimination may be a more cognitive experience that results from interpretations of subtle messages and social comparisons between children and others (Spears-Brown & Bigler, 2005), while language hassles assess specific experiences in which children have negative interactions with others as a result of their language use. In this latter case, children may be more likely to assert themselves and, as a result, may develop a more hostile interaction style and engage in more aggressive behaviors characteristic of externalizing spectrum disorders. In contrast, more subtle experiences of discrimination in which children perceive their peers and teachers to have negative or disparaging thoughts about them may lend themselves to more internal rumination and sadness, behaviors characteristic of internalizing disorders. Such explanations remain hypotheses for future research to examine.

A central goal of this study was to evaluate the unique contributions of discrimination and language hassles to the development of mental health problems. Differences in relationships across cultural stressors (i.e., discrimination and language hassles) do provide support for the contention that researchers would be well served to disaggregate global measures of stressors into domain specific categories and investigate the unique and joint contributions of these domains to particular outcomes (Grant et. al., 2006). In addition, the findings contribute to mounting evidence suggesting that cultural stressors have a salient impact on mental health outcomes for minorities (e.g., Brody et al, 2006; Fisher, Wallace, & Fenton, 2000). Our study suggests that not only do these experiences of stress merit consideration in future studies of Mexican American families but also that studies should include independent measures of general racial/ethnic discrimination along with measures of language hassles.

Buffering Effect of Family Cohesion (H2)

We hypothesized that family cohesion would serve as a buffer, attenuating relationships between cultural stressors and outcomes for youth. This hypothesis was supported only for Mexico-born youth and did not generalize to the full sample. Specifically, for Mexico-born youth, when family cohesion was high, the positive relationship between language hassles and externalizing symptoms was no longer observed. High family cohesion seemed to buffer Mexico-born youth from the negative effects of language hassles. It may be that Mexico-born, and presumably more traditional, youth were better able to tap into family supportive practices than their US-born counterparts. That is, they may be more likely than their US-born counterparts to turn towards their families (e.g., as opposed to peers) for support during

times of stress and then are better able to cope with their experience of language hassles. The protective effects of high family cohesion were not observed for internalizing symptoms. Future research should probe further into the processes behind this result, as prior work suggests that family cohesion may be a particularly important component of preventive interventions designed to reduce problem behaviors among Mexican American youth (White & Roosa; 2012; White et al., in press).

Family cohesion did not attenuate the relationship between discrimination experiences and youth's mental health. As described above, experiences of discrimination are more cognitive experiences than experiences of language hassles. Discriminatory experiences are tied to an individual's perception of entry and access to majority society, while language hassles are tied to an individual's mastery of a specific skill, speaking English. The latter represents something that, with support and practice, likely could be lessened dramatically, while the former represents a larger societal issue that is quite removed from individual impact. Thus, overcoming and dealing with this type of adversity may be more impacted by individuals' feelings of efficacy and identity rather than by a supportive context. That is, a supportive home environment with warm and cohesive relationships may do little to quell adolescents' perceptions that their experiences of discrimination mean that their future integration into society may be difficult. In fact, it may even be that parents are experiencing similar discriminatory experiences in the workplace. Such experiences may underscore to the adolescent that discrimination is a pervasive experience and not even strong family relationships have the ability to offer protection.

Buffering Effect of Neighborhood Cohesion (H3)

We had hypothesized that neighborhood cohesion would buffer the relationship between cultural stressors and mental health outcomes. We found some support for this hypothesis. However, the exact nature of neighborhood cohesions' protective properties for discrimination and language hassles was unique for boys and girls. For boys in neighborhoods low on cohesion, language hassles were related to *increases* in externalizing symptoms; there was no relationship between language hassles and externalizing when boys lived in highly cohesive neighborhoods. For girls in neighborhoods low on cohesion, language hassles were not related to externalizing symptoms; there was a negative relationship between language hassles and externalizing when girls lived in highly cohesive neighborhoods. Regarding discrimination, when boys lived in highly cohesive neighborhoods there was a negative relationship between discrimination and externalizing. Overall, for boys and girls, living in a highly cohesive neighborhood was protective; in the context of shared values, beliefs, and shared responsibility for socializing youth, cultural stressors did not relate to increases in externalizing for either boys or girls. However, for girls, living in a highly cohesive neighborhood fully reversed the direction of the positive relationship between language hassles and externalizing observed in the direct effects model. Similarly, for boys living in a high cohesive neighborhood, discrimination was associated with decreases in externalizing. Taken as a whole these results suggest that neighborhood cohesion is an important moderator of relations between cultural stressors and changes in mental health but that its effects are nuanced and may be conditional upon gender.

Though we did not make specific hypotheses about the ways in which youth gender would impact the moderating role of neighborhood cohesion, we would not have anticipated that it could fully reverse the putative effects of language hassles for girls and discrimination for boys, that living in a neighborhood with shared values and support for Mexican American culture would render language hassles *beneficial* for girls and discrimination *beneficial* for boys (at least so far as externalizing is concerned). For girls in these highly supportive neighborhoods, it may be that their experience of language hassles was due to their roles as

language brokers for their families. There is literature to suggest that Mexican American families hold girls closer to the family unit socializing them more often into family responsibilities (Suarez-Orozco & Qin, 2006) and as such they may be more likely to take on brokering tasks for their families. Indeed, this role would result in increased opportunities for girls to experience language hassles. However, in highly cohesive communities, it may be that this particular skill is valued and the recognition, value and reward of taking on this task may outweigh the negative impact of confronting more language hassles. Given their purpose and role in these interactions (doing a service to the family), girls may not perceive these events in the same way that they do traditional discriminatory experiences. In fact, the literature on language brokering reflects a very mixed view of the effects of these experiences with some studies indicating that youth glean positive rewards from these experiences, developing a sense of pride, responsibility and esteem in being able to perform these duties for their families (Orellana et. al, 2003).

For boys, these highly supportive neighborhoods may be sending their male youth residents important messages about discrimination, messages focused on socializing understanding and viewing discrimination as a normative part of life whose remedy lies not in challenging perpetrators of discrimination, but in developing cognitive schemas and personal identity that helps one successfully confront it. Given the communities inability to shield their male children from discrimination as they get older, they also may have shifted their focus to helping them to develop strong identities that allow them not only to cope with these stressors but also to improve their overall mental health. These contentions merit detailed examination in future research. Taken together, these finding do suggest that cohesive neighborhoods were able to reduce the negative impact of stressors. The complete reversal, however, of direction of the effects of the relationship between language hassles and externalizing for girls and discrimination and externalizing for boys suggest that neighborhood cohesion is not a *protective factor* in the traditional sense (Roosa, Wolchik, & Sandler, 1997). Rather than serve as a buffer, the neighborhood context may have worked to alter the meaning of discrimination and language hassles for boys and girls, respectively. This type of moderation is more consistent with recent conceptualizations of *contextual relevance*, whereby the consequences of a given proximal process (in this case the experience of language hassles or discrimination) on youth adjustment will depend upon the challenges and opportunities that youth must negotiate in their neighborhoods (White et al., in press) and the ways that neighbors react to them (White et al., 2012). More work is needed to understand the contextual relevance of these important cultural stressors.

The results should be viewed in light of the following limitations. First, shared method variance could have biased our results given that reports on stressors and outcomes (but not moderators) relied upon youth's report. However, in the case of the association between stressors and mental health outcomes, for adolescents it is likely that parents are not aware of the types of stressful experiences their children have within the school context. In addition, our discrimination measure was focused solely on experiences youth had within the school context. Particularly as youth transition into later adolescence and are spending more time in other diverse social contexts, it will be important to assess more general experiences with discrimination to see how these contribute to changes in mental health outcomes for youth. Our neighborhood cohesion measure also had a low ICC, however, consistent with theory (Sampson, Morenaff, & Gannon-Rowley, 2002; Sampson Raudenbush, & Earls, 1997) we choose to model cohesion at the neighborhood (as opposed to individual level). Future research should employ measures of cohesion that might be more sensitive to capturing more variability. Additionally, we operationalized neighborhoods as being a single census tract based on research suggesting that the average size of resident defined neighborhoods closely approximates the size of a census tract (Coulton, Korbin, Chan, & Su, 2001). Yet, it may be that census tracts may not directly correspond to

individual resident conceptualizations of their neighborhood communities. With regard to sampling, it is important to note that our youth may represent a slightly higher risk population when it comes to externalizing as those with complete data at T2 had slightly elevated rates of externalizing symptoms than those who did not participate at time 2. Finally, our analytic strategy called for separate models for internalizing and externalizing disorders, thus our study cannot provide information relating to how these stressors affect the development of comorbidity between internalizing and externalizing disorders.

Despite these limitations, this study contributes to the literature on stressors and mental health outcomes among Mexican Americans. First, our study provides a response to the need for models examining specificity in relationships between stressors and outcomes (Grant et al, 2006) by treating discrimination and language hassles as two distinct stressors. The study also advances research focused on understanding the ways in which supportive contexts at the family and neighborhood level may serve to alter relationships between stressors and outcomes. The prospective nature of this study also provides important insight into the progression of changes to mental health as a result of discrimination and language hassles for Mexican American youth. Finally, as a whole, many of our results highlight the complexity and heterogeneity (gender, nativity) of the Mexican American youth experience. Several of our findings highlight the fact that stressors such as discrimination and language hassles demonstrate contextual relevance suggesting that the contexts in which youth reside provide them not only with potential supportive relationships but also with an unique filter through which they experience and then respond to cultural stress. Thus, this study represents an important contribution to the study of mental health within ethnic minority families.

References

- Abramson LY, Alloy LC, Metalsky GI. Hopelessness depression: A theory based subtype of depression. *Psychological Review*. 1998; 96:358–372.
- Agnew R. Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency*. 2001; 38:319–361.
- Amaro H, Russo NF, Johnson J. Family and work predictors of psychological well being among Hispanic women professionals. *Psychology of Women Quarterly*. 1987; 11:505–521.
- Bardone AM, Moffitt TE, Caspi A, Dickson N, Stanton WR, Silva P. Adult physical health outcomes of adolescent girls with conduct disorder, depression, and anxiety. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1998; 37:594–601. [PubMed: 9628079]
- Behnke AO, Plunkett SW, Sands T, Bamaca-Colbert MY. The relationship between Latino adolescents' perceptions of discrimination and parenting on self-esteem and depressive symptoms. *Journal of Cross-Cultural Psychology*. 2011; 42:1179–1197.
- Benner AD, Graham S. Latino adolescents' experiences of discrimination across the first 2 years of high school: Correlations and influences on educational outcomes. *Child Development*. 2011; 82:508–519.
- Berkel C, Knight GP, Zeiders KH, Tein J, Roosa MW, Gonzales NA, Saenz D. Discrimination and adjustment for Mexican American adolescents: A prospective examination of the benefits of culturally related values. *Journal of Research on Adolescence*. 2010; 20:893–915. [PubMed: 21359093]
- Bravo M, Ribera J, Rubio-Stipec M, Canino G, Shrout PE, Ramirez R, et al. Test-retest reliability of the Spanish version of the Diagnostic Interview Schedule for Children (DISC-IV). *Journal of Abnormal Child Psychology*. 2001; 29:433–444. [PubMed: 11695544]
- Brody GH, Chen Y, Murry VM, Ge X, Simons RL, Gibbons FX, Gerrard M, Cutrona CE. Perceived discrimination and the adjustment of African American youths: A five year longitudinal analysis with contextual moderation effects. *Child Development*. 2006; 77:1170–1189. [PubMed: 16999791]

- Brooks-Gunn, G.; Duncan, GJ.; Aber, JL. Neighborhood poverty: Policy implications in studying neighborhoods. New York, NY: Russell Sage; 1997.
- Brooks-Gunn J, Duncan GJ, Klebanov PK, Sealand N. Do neighborhoods influence child and adolescent development? *American Journal of Sociology*. 1993; 99:353.
- Bryk, AS.; Raudenbush, SW. Hierarchical linear models: Applications and data analysis methods. Thousand Oaks, CA: Sage Publications; 1992.
- Centers for Disease Control and Prevention. Surveillance summaries, June 9. *MMWR*. 2006; 55(SS-5)
- Cicchetti, D.; Toth, SL. A developmental perspective on internalizing and externalizing disorders. In: Cicchetti, D.; Toth, SL., editors. *Internalizing and externalizing expressions of dysfunction*. New York: Erlbaum; 1991. p. 1-19.
- Cicchetti, D.; Toth, SL., editors. *Developmental perspectives on trauma: Theory, research, and intervention*. Rochester, NY: Rochester University Press; 1997. p. 1-19.
- Coie JD, Watt NF, West SG, Hawkins JD, Asarnow JR, Markman HJ, Ramey SL, Shure MB, Long B. The science of prevention. A conceptual framework and some directions for a national research program. *American Psychologist*. 1993; 48:1013–1022. [PubMed: 8256874]
- Conger RD, Wallace LE, Sun YM, Simons RL, McLoyd VC, Brody GH. Economic pressure in African American families: A replication and extension of the family stress model. *Developmental Psychology*. 2002; 38:179–193. [PubMed: 11881755]
- Coulton CJ, Korbin J, Chan T, Su M. Mapping residents' perceptions of neighborhood boundaries: A methodological note. *American Journal of Community Psychology*. 2001; 29:371–383. [PubMed: 11446289]
- Edwards LM, Romero AJ. Coping with discrimination among Mexican descent adolescents. *Hispanic Journal of Behavioral Sciences*. 2008; 30:24–39.
- Enders CK, Tofighi D. Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods*. 2007; 12:121–138. [PubMed: 17563168]
- Fisher CB, Wallace SA, Fenton RE. Discrimination distress during adolescence. *Journal of Youth and Adolescence*. 2000; 29:679–695.
- Formoso D, Gonzales NA, Aiken LS. Family conflict and children's internalizing and externalizing behavior: Protective factors. *American Journal of Community Psychology*. 2000; 28:175–199. [PubMed: 10836090]
- Foster SL, Martinez CR. Ethnicity: Conceptual and methodological issues in child clinical research. *Journal of Clinical Child Psychology Special Methodological issues in clinical child psychology research*. 1995; 24:214–226.
- Franzini L, Ribble JC, Keddi AM. Understanding the Hispanic paradox. *Ethnicity and Disease*. 2001; 11:496–518. [PubMed: 11572416]
- Garcia EE. Bilingualism and schooling in the United States. *International Journal of the Sociology of Language*. 2002; 2002:1–92.
- Garcia-Coll C, Lamberty G, Jenkins R, McAdoo HP, Crinic K, Wasick BH, Garcia HV. An integrative model for the study of developmental competencies in minority children. *Child Development*. 1996; 67:1891–1914. [PubMed: 9022222]
- Garnezy N. Resiliency and vulnerability to adverse developmental outcomes associated with poverty. *The American Behavioral Scientist*. 1991; 34:416–430.
- Gonzales NA, Coxe X, Roosa MW, White RMB, Knight GP, Zeiders KH, Saenz D. Economic hardship, neighborhood context, and parenting: Prospective effects on Mexican-American adolescent's mental health. *American Journal of Community Psychology*. 2011; 47:98–113. [PubMed: 21103925]
- Gonzales NA, Tein JY, Sandler IN, Friedman RJ. On the limits of coping. *Journal of Adolescent Research*. 2001; 16:372–395.
- Gowan M, Trevino M. An examination of gender differences in Mexican-American attitudes toward family and career roles. *Sex Roles*. 1998; 38:1079–1093.
- Grant KE, Compas BE, Stuhlmacher AF, Thurm AE, McMahon SD, Halpert JA. Stressors and child and adolescent psychopathology: Moving from markers to mechanisms of risk. *Psychological Bulletin*. 2003; 3:447–466. [PubMed: 12784938]

- Grant KE, Compas BE, Thurm AE, McMahon SD, Gipson PY, Campbell AJ, Krochok K, Westerholm RI. Stressors and child and adolescent psychopathology: Evidence of moderating and mediating effects. *Clinical Psychology Review*. 2006; 26:257–283. [PubMed: 16364522]
- Halgunseith LC, Ispa JM, Rudy D. Parental Control in Latino Families: An Integrated Review of the Literature. *Child Development*. 2006; 77:1282–1297. [PubMed: 16999798]
- Hammen C. Interpersonal stress and depression in women. *Journal of affective disorder*. 2003; 74:49–57.
- Ingram, RE.; Miranda, J.; Segal, ZV. *Cognitive Vulnerabilities to Depression*. Guilford Press; New York: 1998.
- Johnston, KE.; Delgado, MY. Mexican American adolescents' experiences with ethnic discrimination. Poster presentation to be presented at the Biennial Conference of the Society for Research on Adolescence; Baltimore, Maryland. 2004.
- Lara M, Gamboa C, Kahramanian MI, Morales LS, Bautista DEH. Acculturation and Latino health in the United States: A review of the literature and its sociopolitical context. *Annual Review of Public Health*. 2005; 26:367–397.
- Lewinsohn PM, Hops H, Roberts RE, Seeley JR, Andrews JA. Adolescent psychopathology: Prevalence and incidence of depression and other DSM-III-R disorders in high school students. *Journal of Abnormal Psychology*. 1993; 102:133–144. [PubMed: 8436689]
- Loeber, R.; Stouthamer-Loeber, M. Developmental aspects of violence in the home and at school. In: Elliott, DS.; Williams, K.; Hamburg, B., editors. *Schools and Violence*. New York: Cambridge University Press; 1997.
- Kaiser Family Foundation. National survey of Latinos: Summary of findings. Washington, DC: Pew Hispanic Center; Menlo Park, CA: Henry J. Kaiser Family Foundation; 2002.
- Kim-Cohen J, Caspi A, Moffitt TE, Harrington H, Milne BJ, Poulton R. Prior juvenile diagnoses in adults with mental disorder: Developmental follow-back of a prospective longitudinal cohort. *Archives of General Psychiatry*. 2003; 60:709–717. [PubMed: 12860775]
- Marín, G.; Marín, BV. *Research with Hispanic populations*. Sage; Newbury: 1991.
- Meyer SW, Jencks C. Growing up in poor neighborhoods: How much does it matter? *Science*. 1989; 243:1441–1445. [PubMed: 17839748]
- Olson, DH.; Portner, J.; Bell, RQ. *Family Social Science*. University of Minnesota; St. Paul, Minnesota: 1982. FACES II: Family adaptability and cohesion evaluation scales.
- Orellana MF, Dornier L, Pulido L. Accessing assessments: Immigrants youth's work as family translators or "para-phrases. *Social Problems*. 2003; 50:504–524.
- Parke RD, Coltrane S, Duffy S, Buriel R, Dennis J, Powers J, French S, Widaman KF. Economic stress, parenting, and child adjustment in Mexican American and European American families. *Child Development*. 2004; 75:1632–1656. [PubMed: 15566370]
- Patterson GR, DeBaryshe BD, Ramsey E. A developmental perspective on antisocial behavior. *American Psychologist*. 1989; 44:329–335. [PubMed: 2653143]
- Rogler LH, Cortes DE, Malgady RG. Acculturation and mental health status among Hispanics. Convergence and new directions for research. *American Psychologist*. 1991; 46:585–597. [PubMed: 1952420]
- Romero AJ, Martinez D, Carvajal SC. Bicultural stress and adolescence risk behavior in a community sample of Latino and non-Latino European Americans. *Ethnicity & Health*. 2007; 12:443–463. [PubMed: 17978943]
- Roosa MW, Liu FF, Torres M, Gonzales NA, Knight GP, Saenz D. Sampling and recruitment in studies of cultural influences on adjustment: A case study with Mexican Americans. *Journal of Family Psychology*. 2008; 22:293–302. [PubMed: 18410216]
- Roosa MW, White RMB, Zeiders KH, Tein JY. An examination of the role of perceptions in neighborhood research. *Journal of Community Psychology*. 2009; 37:327–341. [PubMed: 20161028]
- Rudolph KX, Hammen C. Age and gender as determinants of stress exposure, generation, and reactions in youngsters: A transactional perspective. *Child Development*. 1999; 70:660–677. [PubMed: 10368914]

- Rutter M. Pathways from childhood to adult life. *Journal of Child Psychology and Psychiatry*. 1989; 30:23–51. [PubMed: 2647779]
- Sampson RJ, Groves WB. Community structure and crime: Testing social-disorganization theory. *American Journal of Sociology*. 1989; 94:774–790.
- Sampson RJ, Morenoff JD, Gannon-Rowley T. Assessing “neighborhood effects”: Social processes and new directions in research. *Annual Review of Sociology*. 2002; 28:443–478.
- Sampson RJ, Raudenbush SW, Earls FE. Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*. 1997; 15:918–924. [PubMed: 9252316]
- Shaffer D, Fisher P, Dulcan MK, Davies M, Piacentini J, Schwab-Stone ME, et al. The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA Study. *Methods for the Epidemiology of Child and Adolescent Mental Disorders Study*. *Journal of the American Academy Child Adolescent Psychiatry*. 1996; 35:865–877.
- Smokowski PR, Bacallao ML. Acculturation, internalizing mental health symptoms and self-esteem: Cultural experiences of Latino adolescents in North Carolina. *Child Psychiatry and Human Development*. 2007; 37:272–293.
- Spears-Brown C, Bigler RS. Children’s perceptions of discrimination: A developmental model. *Child Development*. 2005; 76:533–533. [PubMed: 15892777]
- Suarez-Orozco C, Quin DB. Gendered perspectives in psychology: Immigrant origin youth. *International Migration Review*. 2006; 40:165–198.
- Thoits PA. On merging identity theory and stress research. *Social Psychology Quarterly*. 1991; 54:101–112.
- Umana-Taylor AJ, Updegraff KA. Latino adolescents’ mental health: Exploring the interrelations among discrimination, ethnic identity, cultural orientation, self-esteem, and depressive symptoms. *Journal of Adolescence*. 2007; 30:549–567. [PubMed: 17056105]
- Umana-Taylor AJ, Wong JJ, Gonzales NA, Dumka LE. Ethnic identity and gender as moderators of the association between discrimination and academic adjustment among Mexican-origin adolescents. *Journal of Adolescence*. 2011:1–14.
- U.S. Census Bureau. Census Special reports. Washington, DC: U.S. Department of Commerce; 2010. We, the people: Hispanics in the United States.
- Vega WA, Khoury EL, Zimmerman RS, Gil AG, Warheit GJ. Cultural conflicts and problem behaviors of Latino adolescents in home and school environments. *Journal of Community Psychology*. 1995; 23:167–179.
- White RMB, Deardorff J, Gonzales NA. Contextual amplification or attenuation of pubertal timing effects on depressive symptoms among Mexican American girls. *Journal of Adolescent Health*. 2012; 50:565–571. [PubMed: 22626482]
- White RMB, Roosa MW. Neighborhood contexts, fathers, and Mexican American young adolescents’ internalizing symptoms. *Journal of Marriage and Family*. 2012; 74:152–166. [PubMed: 22383856]
- White RMB, Roosa MW, Weaver SR, Nair RL. Cultural and Contextual Influences on Parenting in Mexican American Families. *Journal of Marriage and Family*. 2009; 71:61–79. [PubMed: 20126298]
- White RMB, Roosa MW, Zeiders KH. Neighborhood and family intersections: Prospective implications for Mexican American adolescents’ mental health. *Journal of Family Psychology*. (in press).
- Zahn-Waxler C, Klimes-Dougan B, Slattery MJ. Internalizing problems of childhood and adolescence: Prospects, pitfalls, and progress in understanding the development of anxiety and depression. *Development and Psychopathology*. 2000; 12:443–446. [PubMed: 11014747]

Figure 1. Interaction of language hassles, family cohesion predicting internalizing symptoms for Mexico-born youth.

Figure 2. Interaction between language hassles and neighborhood cohesion predicting externalizing symptoms for girls.

Figure 3. Interaction between language hassles and neighborhood cohesion predicting externalizing symptoms for boys.

Figure 4. Interaction between discrimination and neighborhood cohesion predicting externalizing symptoms for boys.

Table 1

Means and Correlations of Study Variables.

Variables	1.	2.	3.	4.	5.	6.	7.	8.
1. Discrimination (C)	1							
2. Lang Hassles (C)	.34**	1						
3. Family Cohesion (M)	-.10*	-.06	1					
4. Neighborhood Cohesion (R)	.09	.03	.09*	1				
5. Externalizing Symp (T1, C)	.13**	.22	-.06	-.14	1			
6. Internalizing Symp (T1, C)	.26**	.29**	-.07	-.04	.60**	1		
7. Externalizing Symp (T2, C)	.05	.09*	-.08*	.02	.36**	.21**	1	
6. Internalizing Symp (T2, C)	.20**	.15**	-.08*	.02	.58**	.27**	.39**	1
Mean	1.78	.57	4.0	2.47	5.61	20.94	7.22	17.61
SD	0.75	0.91	0.56	0.66	5.93	13.95	6.95	11.78

* $p < .05$;** $p < .01$

M=Mother report; C=Child Report; R=Resident Report

Gammas () and standard errors(SE) for main effects of discrimination and language hassles on mental health symptoms for Mexican American youth (N = 710)

Table 2

Predictors	Youth Mental Health Symptoms			
	Internalizing Symptoms (T2)		Externalizing Symptoms (T2)	
	Estimate ()	SE	Estimate ()	SE
Intercept	24.57**	2.00	5.47**	0.79
Income	-0.10	0.12	-0.02	0.05
Internalizing symptoms (T1)	0.32**	0.03	--	--
Externalizing symptoms (T1)	--	--	0.43**	0.04
Discrimination	2.87**	0.63	0.03	0.41
Language hassles	1.99**	0.55	1.10**	0.46
Gender	1.35	1.06	-1.73**	0.46
Nativity	-2.74**	1.21	-0.73	0.54

Note.

* p<.05

** p < .01.

Gender coded 0 = male, 1 = female. Nativity coded 0 = USborn, 1 = MXborn.

Gammas () and standard errors (SE) for interactive effects of family and neighborhood cohesion with nativity and gender on the relationship between cultural stressors and mental health symptoms for Mexican American youth (N = 710).

Table 3

Predictors	Internalizing Symptoms (T2)		Externalizing Symptoms (T2)	
	Estimate ()	SE	Estimate ()	SE
Intercept	24.57**	2.0	5.47**	0.79
Income	-0.10	0.12	-0.02	0.05
Internalizing (T1)	0.32**	0.03	--	--
Externalizing (T1)	--	--	0.43**	0.04
Discrimination (Disc)	2.81**	0.63	-0.04	0.41
Language Hassles (LH)	1.97**	0.53	1.09**	0.35
Gender	1.55	1.06	-0.56	0.55
Nativity	-2.45**	1.21	-0.69	0.54
Family Cohesion (FC)	-1.08	0.99	-0.69	0.44
Neighborhood Cohesion (NC)	-1.28	0.86	0.11	0.36
Discr X FC	-1.57	1.46	-0.11	0.87
Discr X NC	-1.45	1.35	-0.02	0.81
LH X FC	-0.69	1.11	-0.03	0.67
LH X NC	0.09	1.03	0.19	0.62
Disc X FC X Gender	-1.90	3.08	0.57	1.85
Disc X NC X Gender	-0.69	0.82	-1.08**	0.49
Disc X FC X Nativity	-2.87	3.25	1.08	1.94
Disc X NC X Nativity	0.32	0.91	0.24	0.55
LH X FC X Gender	0.37	2.34	0.52	1.39
LH X NC X Gender	0.51	0.56	-0.58*	0.24
LH X FC X Nativity	5.23*	2.37	1.57	1.42
LH X NC X Nativity	0.17	0.61	0.16	0.36

Note:

* p<.05

**
p < .01.

Gender coded 0 = male, 1 = female. Nativity coded 0 = USborn, 1 = MXXborn.