Published in final edited form as:

J Fam Psychol. 2012 October ; 26(5): 793–804. doi:10.1037/a0029426.

Neighborhood and Family Intersections: Prospective Implications for Mexican American Adolescents' Mental Health

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Abstract

We present an integrated model for understanding Mexican American youth mental health within family, neighborhood, and cultural contexts. We combined two common perspectives on neighborhood effects to hypothesize that (a) parents' perceptions of neighborhood risk would negatively impact their children's mental health by disrupting key parenting and family processes, and (b) objective neighborhood risk would alter the effect parent and family processes had on youth mental health. We further incorporated a cultural perspective to hypothesize that an ethnic minority group's culture-specific values may support parents to successfully confront neighborhood risk. We provided a conservative test of the integrated model by simultaneously examining three parenting and family process variables: maternal warmth, maternal harsh parenting, and family cohesion. The hypothesized model was estimated prospectively in a diverse, community-based sample of Mexican American adolescents and their mothers ($N = 749$) living in the Southwestern, U.S. Support for specific elements of the hypothesized model varied depending on the parenting or family process variable examined. For family cohesion results were consistent with the combined neighborhood perspectives. The effects of maternal warmth on youth mental health were altered by objective neighborhood risk. For harsh parenting results were somewhat consistent with the cultural perspective. The value of the integrated model for research on the impacts of family, neighborhood, and cultural contexts on youth mental health are discussed, as are implications for preventive interventions for Mexican American families and youth.

Keywords

Mexican American; Neighborhoods; Parenting; Mental Health; Culture

Neighborhoods, families, and culture are important contexts influencing the mental health of Mexican American youth (White & Roosa, 2012). Most theory and research that consider both neighborhood and family contexts use one of two approaches, neither of which directly considers culture. One model, the *family stress model*, suggests that parents' perceptions of neighborhood risk influence youth outcomes by disrupting parenting and family processes (Kotchick & Forehand, 2002). That is, parenting and family processes *mediate* the relation between *perceived* neighborhood risk and youth mental health. A second perspective, the *contextual relevance model*, suggests that *objective* neighborhood risk qualifies, or *moderates*, the association between parenting and youth outcomes (Roche & Leventhal, 2009). Though largely ignored in research on these two models, minority families have values and attitudes that often differ from those of the dominant culture, ones that may support parents and families as they confront challenges encountered in their neighborhoods (Garcia Coll et al., 1996). Consequently, some cultural values or beliefs of minority parents are conceptualized as adaptive, as capable of mitigating disruptions to parent and family processes associated with perceived neighborhood risk.

We proposed an integrated model of neighborhood, family, and cultural effects on minority youth mental health (Figure 1). Our model draws from the family stress perspective

(Conger, Conger, & Martin, 2010), whereby parental perceptions of neighborhood risk negatively influence youth mental health via disruptions in parenting and family processes (mediational path *ab*). We expanded this model by integrating both a cultural and a contextual relevance perspective. First, parents' traditional cultural values were hypothesized to be protective, to mitigate the harmful effects of perceived neighborhood risk on parenting and family processes (path *x*). Second, objective neighborhood risk was hypothesized to qualify the association between parenting and youth outcomes (path *z*). We prospectively tested this model among a diverse sample of Mexican American adolescents and their mothers for three reasons. First, Mexican Americans experience disparate rates of mental health problems (Delva et al., 2005); second, they are disproportionately exposed to neighborhood risk; and third, there is considerable heterogeneity among Mexican Americans on cultural values (Knight et al., 2010) hypothesized to protect parents and families from risk (Garcia Coll et al., 1996).

Neighborhood Family Stress Model and Cultural Mitigation

The family stress model posits that parents' perceptions of neighborhood risk are associated with disruptions in parenting and family functioning, which, in turn, are associated with more mental health problems among youth. According to this model, adverse circumstances are expected to influence parenting and family processes only to the degree parents' cognitions reflect an awareness of that adversity (Conger, Ge, Elder Jr, Lorenz, & Simons, 1994). Though parents' cognitions about neighborhood risk are influenced by objective neighborhood quality, studies show that residents within the same neighborhood perceive highly variable amounts of risk (e.g., Roosa, White, Zeiders, & Tein, 2009). To this end, perceived neighborhood quality has been found to be a more important determinant of parenting than objective neighborhood quality (O'Neil, Parke, & McDowell, 2001). Though some studies have found that objective neighborhood risk was related to parenting (O'Neil et al., 2001), relevant theory suggests this association occurs via parents' personal appraisals (Conger et al., 1994). Indeed, models that have included both indicators of neighborhood risk found no direct relation between objective risk and parenting or family processes (Gonzales et al., 2011; White & Roosa, 2012). Consequently, parents' perceptions of neighborhood risk, not objective assessments, represent the stressor in our conceptual model of mediated neighborhood effects (path *ab*, Figure 1).

Mediated neighborhood family stress model effects on youth mental health may occur via decreases in effective parenting behaviors and family processes. Parental warmth, displays of a parent's acceptance and support toward a child, has emerged as an important dimension of effective parenting in the family stress literature (Conger et al., 2010). White and Roosa (2012) presented evidence that family-wide support (i.e., family cohesion) also is important when examining the family stress model among Mexican Americans. Gonzales et al. (2011) found that warmth mediated the effects of neighborhood risk on Mexican American youth mental health, but they did not simultaneously examine family cohesion. Deng et al. (2006) found that family cohesion mediated the effects of neighborhood risk on Mexican American youth mental health, but they did not simultaneously examine warmth. Some have argued that support within the parent-child dyad may *spill over* to affect more global family interactions, that improvements in parental support can improve family-wide support processes (Coatsworth, Pantin, & Szapocznik, 2002). For Mexican Americans, who place a strong emphasis on family interdependence, the centrality of dyadic warmth versus family cohesion in the family stress model is, as yet, undetermined. Consistent with research among other racial/ethnic groups (see Conger et al., 2010 for a review) dyadic warmth may be a uniquely important mediator in Mexican American family stress models. Alternatively, it may only be important to the degree it represents a component of family-wide supportiveness, that it spills-over to affect more global family interactions (Coatsworth et

al., 2002). Therefore, we simultaneously examined maternal warmth and family cohesion as possible mediators of the association between mothers' perceptions of neighborhood risk and youth mental health.

Mediated neighborhood family stress model effects on youth mental health may also manifest as *increases* in ineffective parenting behaviors, such as harsh parenting (Conger et al., 2010). To date, evidence that harsh parenting mediates the relation between perceived risk and youth adjustment among Mexican Americans is mixed. Parke et al. (2004) found that contextual risk was associated with higher maternal harsh parenting (e.g., Figure 1, path *a*), but the latter was unrelated to Mexican American youth adjustment (path *b*), precluding mediation. Conversely, Gonzales et al. (2011) found that perceived neighborhood risk was unrelated to harsh parenting (path *a*), but the latter was prospectively and positively related to externalizing symptoms (path *b*), again precluding mediation. These converse findings likely reflect a failure to account for (a) within-group variability in cultural values that protect Mexican Americans from family/parenting disruptions, and (b) between neighborhood variability in the contextual relevance of parenting, both of which are addressed in the current study.

The degree to which perceived neighborhood risk is associated with disrupted parenting and family functioning, whether that disruption manifests as decreases in effective parenting or increases in ineffective parenting, may depend upon minority parents' cultural values and beliefs. Familism is a traditional cultural belief that may help Mexican American parents to successfully confront the challenges of living in low quality neighborhoods (White & Roosa, 2012). Familism emphasizes support, interdependence, and obligations among family members and has been shown to protect Latinos from exposure to extra-familial risks in prior research (Germán, Gonzales, & Dumka, 2009), but not neighborhood risks specifically. Neighborhoods have been conceptualized as sources of support for residents, but that support is generally low when risk is high (Sampson, Morenoff, & Gannon-Rowley, 2002). Compared to mothers who are low on familism, highly familistic mothers may feel (a) less inclined to look outside the family (to the neighborhood) for support and (b) more obligated to protect the family from perceived risk (White & Roosa, 2012). Consequently, highly familistic mothers' parenting and family processes may not be as susceptible to putative stress disruptions. Therefore, we examined whether Mexican American mothers' familism beliefs mitigated disruptions to parent and family processes associated with perceived neighborhood risk (Figure 1, path *x*).

Contextual Relevance Model

In contrast to the family stress perspective, the contextual relevance perspective suggests that neighborhood risk qualifies the effectiveness of parent and family processes on youth mental health (Kotchick & Forehand, 2002). Perhaps in part because an individual resident's score on perceived neighborhood risk is an unreliable indicator of objective neighborhood circumstances (Roosa et al., 2009), the contextual relevance literature has generally examined moderation by actual, or objective neighborhood risk. Operationalizations of objective neighborhood risk have included census and/or other archival indicators (Brody et al., 2001; Dearing, 2004); systematic social observations (Natsuaki et al., 2007); and neighborhood-level, multi-resident surveys (Simons, Simons, Burt, Brody, & Cutrona, 2005). This work suggests that the effectiveness of a given parenting behavior for youth adjustment may be determined by the actual opportunities and challenges that must be negotiated in the neighborhood (Simons et al., 2002). Consequently, our model places objective neighborhood risk, not mothers' perceived risk, as a moderator of the relation between parenting/family processes and youth mental health (Figure 1, path *z*).

Roche and Leventhal (2009) described three types of contextual relevance for family and parenting processes: amplified advantages, family compensatory, and amplified disadvantages. The former two apply to effective parenting behaviors. When the benefits of effective parenting are greatest for youth living in good neighborhoods, the type of contextual relevance is described as *amplified advantages*. When the benefits of effective parenting are greatest for youth living in high-risk neighborhoods, the type of contextual relevance is described as *family compensatory*. There is some evidence that amplified advantages apply to outcomes such as deviance or delinquency (Simons et al., 2005). Consistent with the family compensatory type, however, the benefits of effective parenting (e.g., warmth, support) for youth mental health have generally been found to be greatest in high-risk neighborhoods (Brody et al., 2001; Dearing, 2004). Consequently, to the degree that maternal warmth and family cohesion display contextual relevance for Mexican American youth mental health, we expected them to be associated with greater decreases in mental health symptoms when they took place in objectively riskier neighborhoods.

The amplified disadvantages type of contextual relevance is observed when the harm of ineffective parenting is greatest for youth living in bad neighborhoods (Roche & Leventhal, 2009). Several contextual relevance studies of ineffective parenting demonstrate findings consistent with the amplified disadvantages type. For example, Roche et al. (2007) found that punitive parenting among Latinos was associated with greater depression when it took place in high-risk neighborhoods. Among European Americans, Dearing (2004) found that the negative effects of parental restriction were exacerbated in low quality neighborhoods. Thus, we expected the negative effects of maternal harsh parenting on Mexican American youth mental health to be amplified in objectively riskier neighborhoods.

Integrated Model and Summary of Study Hypotheses

The present study combined multiple theoretical perspectives into an integrated model of neighborhood, family, and cultural effects on youth mental health (Figure 1). The integration of the neighborhood family stress and contextual relevance perspectives necessitated careful consideration of the placement of mothers' subjective assessments of neighborhood risk versus objective assessments of neighborhood risk. Based on our review of the neighborhood-family-stress disruption, cultural mitigation, and contextual relevance literatures, we offered three sets of hypotheses.

- Hypothesis 1 (H1): mothers' perceptions of neighborhood risk at Time 1 would negatively relate to youth mental health at Time 2 via disruptions in mothers' parenting and family processes (i.e., lower warmth, lower family cohesion, higher harsh parenting; mediational path *ab*).
- Hypothesis 2 (H2): mothers' traditional cultural values, operationalized as familism, would protect families from these disruptions by attenuating the association between perceptions of risk and parenting/family disruptions (path *x*).
- Hypothesis 3 (H3): Objective neighborhood risk would moderate the relation between mothers' parenting/family processes and youth mental health (path *z*) such that warmth and cohesion would display family compensatory properties and harsh parenting would display properties consistent with the amplified disadvantages type.

Together these three hypotheses suggest the possibility of a fourth set of hypotheses (H4) involving moderated mediation. For example, maternal parenting may mediate the effects of perceived neighborhood risk on youth mental health only at specific levels of mothers' familism values (H4_a), or only at specific levels of objective neighborhood risk (H4_b). Because the current study represented the first attempt to integrate these previously

compartmentalized theories, we could not make specific predictions about the presence or direction of moderated mediation. Therefore, we explored the possibility whenever results did not preclude it. Finally, we examined model stability across mother and youth nativity, household structure, youth gender, and neighborhood mobility over the study period.

Method

Data for this study come from the first and second waves of a longitudinal study investigating the roles of culture and context in the lives of Mexican American families in a large southwestern metropolitan area (Roosa et al., 2008). Study procedures were approved by the institutional review board at the first author's university. Participants were 749 Mexican origin students and their families. Eligible families met the following criteria at T1: (a) they had a fifth grader attending a sampled school; (b) mother and youth agreed to participate in the study; (c) the participating mother was the child's biological mother, lived with the child, and self-identified as Mexican or Mexican American; (d) the child's biological father was of Mexican origin, whether living in the child's home or not; (e) the child was not severely learning disabled; and (f) no step-father or mother's boyfriend was living with the child. Because participation of fathers was optional and not all families had fathers in the household, we focused on mothers and their children, retaining the largest, most representative sample of Mexican American families for testing our hypothesized model. At T1 adolescents (48.9 % female) were approximately 10.4 years old ($SD = 0.55$). A majority of adolescents were born in the U.S. (70.2%) and were interviewed in English (82.5%). A majority of mothers (74.4 %) and fathers (79.9%) were born in Mexico. Most mothers (69.9%) completed the interview in Spanish. Average annual family income ranged from \$30,001 – \$35,000. Families came from diverse neighborhoods ($n = 154$), as indexed by variability in poverty rates ($M = 15.87\%$, $SD = 13.03$, range = 0.56 – 68.53), unemployment rates ($M = 6.69\%$, $SD = 4.78$, range = 0.00 – 32.03), and high school/ equivalent completion rates ($M = 33.20\%$, $SD = 20.01$, range = 2.25 – 81.26).

Seven hundred ten families were reassessed 2 years later, when most adolescents were in 7th grade (16 refused to participate and we were unable to locate 23). Attrition analyses showed no differences between interviewed families ($n = 710$) and those with no data at T2 ($n = 39$) on child (gender, generational status, language of interview), mother (marital status, age, generational status, education), and father (age, generational status, education) characteristics, and on most study variables. The one exception was that those who did not participate at T2 reported lower T1 externalizing symptoms [$t(747) = 2.75$, $p = .01$]. Most adolescents (64.6%) lived in the same neighborhoods at T1 and T2.

The complete research procedures are described elsewhere (Roosa et al., 2008). Here we summarize key features of these procedures, noting that all study materials were available in English and Spanish. Using a combination of random and purposive sampling, the research team identified communities served by 47 public, religious, and charter schools from throughout the metropolitan area that represented the economic, cultural, and social diversity of the community. Recruitment materials were sent home with all 5th grade children in these schools. An average of 86% of students in each classroom returned recruitment forms. Over 85% of those who returned contact information were Latinos; Computer Assisted Personal Interviews (about 2½ hours long) were completed with 749 families, 73% of those meeting all eligibility criteria. Each participant was compensated \$45 and \$50 at T1 and T2, respectively.

Measures

Participants were asked a series of demographic questions, including annual family income (1 = \$0,000 – \$5,000 to 20 = \$95,001 +), years of education, and nativity (U.S., Mexico).

Residential addresses at both waves were used to assign families to census tracts. All theoretical constructs were assessed at T1. Youth mental health symptoms were assessed at T1 and T2.

Perceived neighborhood risk—Mothers reported on their perceptions of danger in their neighborhoods using a Spanish/English language equivalent, 3-item subscale of the Neighborhood Quality Evaluation Scale (Kim, Nair, Knight, Roosa, & Updegraff, 2009). They indicated their levels of agreement ranging from (1) *not true at all* to (5) *very true* on items such as “it is safe in your neighborhood” (reverse coded). Higher scores reflected higher perceived risk. In the current study Cronbach’s alpha was .89.

Cultural values—Two dimensions of familism (i.e., family support and emotional closeness, obligations to family) were measured using mothers’ responses to the Mexican American Cultural Values Scale (Knight et al., 2010). Because the subscale scores were highly correlated ($r = .57, p < .0001$), they were combined into a single familism score. Participants were asked to rate how much they agreed with each item (e.g., “family provides a sense of security because they will always be there for you”): (1) *not at all* to (5) *completely* ($\alpha = .70$).

Parenting and family functioning—Mothers and youth reported on parenting behaviors using the Children’s Report of Parental Behavior Inventory (CRPBI), which has demonstrated evidence of English – Spanish equivalence (Nair, White, Roosa, & Knight, 2009). Response options ranged from (1) *almost never* to (5) *almost always*. The acceptance subscale had eight items assessing warmth within the parent–child relationship (e.g., “your mother made you feel better after talking over your worries with her”). Cronbach’s alphas were .79 for mothers and .82 for youth. The harsh parenting subscale had 8 items assessing punitive or demeaning parenting practices (e.g., “your mother screamed at you when you did something wrong.”). Cronbach’s alphas were .70 and .73 for mothers and youth, respectively. Mothers reported on family cohesion, the degree to which family members supported one another, using the *cohesion* subscale of the Family Adaptability and Cohesion Evaluation Scales, which has demonstrated evidence of culture and language equivalence (Knight & Hill, 1998). Respondents reported how often specific family behaviors occurred (16 items, e.g., “family members are supportive of each other during difficult times”), with response choices ranging from (1) *almost never* to (5) *almost always*. Cronbach’s alpha was .81.

Objective neighborhood risk—Because interviews began in 2004, all T1 neighborhood-level indicators were captured from the 2000 Census. For each neighborhood, tract-level data representing the percent of (a) families below the poverty level, (b) males 16 years and over in the labor force who were unemployed, and (c) adults 25 years and over who had not graduated from high school/equivalent were standardized and summed.

Youth mental health—The computerized version of the Diagnostic Interview Schedule for Children was used to assess youth internalizing and externalizing (Shaffer, Fisher, & Lucas, 2004). Symptom counts for anxiety and mood disorders were summed to represent internalizing symptoms; counts for oppositional defiance disorder, conduct disorder, and attention deficit hyperactivity disorder were summed to represent externalizing symptoms. Mothers and youth were administered the schedule independently. Using standard scoring algorithms, mother and youth reports were combined, maximizing both comparability to family stress model literature (Conger et al., 2002), and test-retest reliability and criterion validity (Shaffer et al., 2004).

Analytic Strategy

We used structural equation modeling (SEM) in Mplus to estimate the hypothesized model. All analyses utilized the COMPLEX command and maximum likelihood restricted estimation, which adjusted the standard errors of path coefficients for neighborhood clustering and offered parameter estimation that was robust to nonnormality (Muthén & Muthén, 2010). Full information maximum likelihood (FIML) was used to account for missing data (Enders, 2010), allowing the full sample of 749 families to be included in model testing. Fit was assessed by examining a chi-square test, comparative fit index (CFI), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR). Good (acceptable) model fit was reflected by a CFI greater than .95 (.90), RMSEA less than .05 (.08), and a SRMR less than .05 (.08, Kline, 2005). All variables were standardized and interaction terms were created by calculating the product of the two (standardized) variables. Significant interactions were explored via simple slopes analysis. Mediation was tested using the product-of-coefficients with the multivariate delta method of deriving the standard error (Sobel, 1986). To examine moderated mediation we conducted a series of analyses in which mediation was tested at the moderator mean, 1 standard deviation above, and 1 standard deviation below the moderator mean (MacKinnon, 2008). We used multiple group analysis to examine the structural equivalence of the model across five sources of potential variability: parent nativity, child nativity, single vs. two-parent families, child gender, and neighborhood mobility (those who remained in the same neighborhood from T1 to T2 vs. those that did not). A model in which all paths were freely estimated in each comparison group was run, followed by a model constraining paths to be equal across groups. A likelihood ratio difference test, which follows a chi-square distribution, was computed using the two models deviances. A nonsignificant likelihood ratio test suggested structural equivalence.

A few analytical decisions are now described. Both mother and youth reports were available for mothers' warmth and harsh parenting. Consistent with recommendations for statistical modeling with multiple reporter data (Tein, Roosa, & Michaels, 1994), we ran the hypothesized model twice: once with each reporter. Due to well documented associations between youth mental health symptoms and both family income and youth gender (Anderson & Mayes, 2010; Nolen-Hoeksema, 2001), we controlled for both variables on internalizing and externalizing symptoms in all model tests. Finally, because this was the first study to integrate neighborhood family stress and contextual relevance perspectives, we explored an alternate model in which the placement of perceived and objective neighborhood risk was reversed. This reversal placed objective risk as the predictor of parenting and family processes, and mothers' perceptions of risk as the moderator of the link between processes and adolescent mental health.

Results

Table 1 presents correlations, means, and standard deviations for the study variables. For both the mother-report and youth report models (Figure 2), fit indices indicated good-to-adequate fit [$\chi^2(30) = 90.35, p < .001, CFI = 0.91; RMSEA = 0.05; SRMR = 0.04$ and $\chi^2(30) = 79.27, p < .01, CFI = 0.91; RMSEA = 0.05; SRMR = 0.04$, respectively]. Notably, for mother report and youth-report models, nested model tests indicated that models did not differ by adolescent nativity, maternal nativity, adolescent gender, household structure, or neighborhood mobility status. Further, results of the alternate model differed markedly from the results described below. When objective neighborhood risk was modeled to have mediated effects on youth mental health, no significant mediated effects were identified, mostly because objective risk did not relate to parenting and family processes. Further, mothers' perceptions of neighborhood risk did not moderate the association between parenting/family processes and youth mental health.

H1: Neighborhood Family Stress

For the model using mothers' reports on parenting, mothers' perceptions of neighborhood risk were negatively related to family cohesion [path *a*, $\beta = -.11$ (Standard error (SE) = .04, $p < .01$] and family cohesion was negatively related to T2 internalizing symptoms, controlling for T1 symptoms [path *b*, $\beta = -.10$ (.04), $p < .01$]. The test for mediation only approached significance [$ab = 0.011$ (SE = .006), $p = .06$]. For the youth-report on parenting model, mothers' perceptions of neighborhood risk were negatively related to family cohesion [$\beta = -.11$ (.04), $p < .01$] and family cohesion was negatively related to both T2 externalizing and T2 internalizing symptoms, controlling for T1 symptoms [$\beta = -.08$ (.03), $p < .05$; and $\beta = -.10$ (.04), $p < .01$, respectively]. Mediation tests for externalizing and internalizing were marginally significant [$ab = .009$ (SE = .005), $p = .06$ and $ab = .011$ (SE = .006), $p = .05$, respectively].

All other model results precluded mediated neighborhood effects because one or more of the *a* and *b* paths were not significant. For the mother-report model, there was no main effect of perceived neighborhood risk on maternal warmth or harsh parenting (path *a*). Warmth and harsh parenting were, on average, associated with changes in externalizing (path *b*) symptoms [$\beta = -.12$ (.04), $p < .01$; $\beta = .10$ (.03), $p < .01$, respectively], but not internalizing. For the youth-report model, there were no main effects of perceived neighborhood risk on maternal warmth or harsh parenting (path *a*) or of the latter on internalizing/externalizing symptoms (path *b*).

H2: Cultural Mitigation

In the mother-report model, familism interacted with perceptions of neighborhood risk to influence harsh parenting [$\beta = -.07$ (.03), $p < .05$], but not warmth or family cohesion. Because the familism mean was high and the *SD* low (Table 1), we probed this interaction at +1 *SD* (high familism), -1 *SD* (moderate familism), and -2 *SD* (lower familism) of the sample mean. We did not find a range within which the direct relation between perceived neighborhood risk and harsh parenting was significant (Figure 3). At high and moderate levels of familism there was no association between perceived neighborhood risk and harsh parenting [$\beta = -.07$ (.04), $p = .13$ and $\beta = .08$ (.05), $p = .14$, respectively]. At lower levels of familism, perceived neighborhood risk and harsh parenting were marginally positively related [$\beta = .15$ (.08), $p = .07$]. No significant familism interactions were identified in the youth-report model.

H3: Contextual Relevance

In the mother-report model, objective neighborhood risk moderated three paths. First, it moderated the path between maternal warmth and externalizing [$\beta = .07$ (.04), $p < .05$; Figure 4a]. When objective risk was high, maternal warmth and externalizing symptoms were not related [$\beta = -.05$ (.05), $p = .36$]. When objective risk was low, parental warmth was associated with decreases in externalizing symptoms [$\beta = -.20$ (.05), $p < .001$]. Objective neighborhood risk also moderated the link between family cohesion and both T2 externalizing and T2 internalizing [$\beta = -.04$ (.02), $p < .05$; and $\beta = -.05$ (.02), $p < .05$, respectively]. When objective risk was high, family cohesion was associated with decreases in T2 externalizing and internalizing symptoms [$\beta = -.09$ (.03), $p < .01$ and $\beta = -.15$ (.04), $p < .001$, respectively]. When objective risk was low, family cohesion and T2 externalizing and internalizing symptoms were not related [$\beta = -.01$ (.04), $p = .86$ and $\beta = -.05$ (.05), $p = .30$, respectively]. Simple slopes for cohesion and externalizing are presented in Figure 4b; simple slopes for cohesion and internalizing followed the pattern presented there.

In the youth-report model objective risk moderated the relation between family cohesion and T2 internalizing [$\beta = -.06$ (.03), $p < .05$]. The simple slopes for the interaction were

consistent with the pattern presented in Figure 4b. Family cohesion was associated with lower T2 internalizing symptoms in the context of high objective risk [$\beta = -.16$ (.04), $p < .001$]. In the context of low objective risk there was no relation [$\beta = -.04$ (.05), $p = .37$].

H4: Moderated Mediation

Except for family cohesion, all results precluded moderated mediation. Across reporter-models, perceived neighborhood risk was negatively related to family cohesion and the relation between family cohesion and outcomes was moderated by objective neighborhood risk. Therefore moderated mediation was examined for both internalizing and externalizing symptoms. Results revealed that significant mediation occurred for internalizing at high levels objective neighborhood risk [$ab = 0.016$ ($SE_{ab} = .007$), $p < .05$], but not at low levels of objective risk [$ab = 0.005$ ($SE_{ab} = .006$), $p = .36$]. At high levels of objective neighborhood risk the mediated effect for externalizing was trending [$ab = 0.01$ ($SE_{ab} = .005$), $p = .06$], but at low levels of objective risk there was no mediated effect [$ab = 0.001$ ($SE_{ab} = .005$), $p = .86$]. The moderated mediation results were replicated for internalizing in the youth-report model.

Discussion

We integrated theories of parenting and neighborhood intersections to examine how parenting and family processes within cultural and neighborhood contexts were associated with Mexican American youth mental health. Support for the proposed integrated model was mixed. We did not find any evidence of traditional mediated neighborhood effects (H1). Instead, familism moderated the relation between maternal perceptions of neighborhood risk and harsh parenting (H2); objective neighborhood risk qualified the relative benefits of maternal warmth for youth externalizing (H3); and mothers' perceptions of neighborhood risk related to prospective increases in youth's mental health symptomatology via reductions in family cohesion, but only when families lived in neighborhoods high on objective risk (H4_b). We first discuss our findings in the context of the three bodies of literature informing Hypotheses 1 – 3. We then step back and look across study results as they pertain to moderated mediation in the integrated model (H4).

H1: Neighborhood Family Stress

We did not find evidence of mediated neighborhood effects on youth outcomes consistent with the neighborhood family stress perspective (Kotchick & Forehand, 2002). The lack of mediated neighborhood effects owes partially to the moderated mediation effects found for family cohesion (H4_b) and partially to the finding that maternal perceptions of neighborhood risk were not related to maternal warmth and harsh parenting (*path a*).

Maternal warmth and harsh parenting are important mediators in the family stress literature (Conger et al., 2010), but the current study questions the generalizability of those findings for Mexican American families, where the importance of family-wide processes (e.g., family cohesion) may play a greater role (White & Roosa, 2012). Prior work suggests that contextual stressors are associated decreased maternal warmth (Gonzales et al. 2011) and increased maternal harshness (Parke et al. 2004) in Mexican American families, but the concurrent role of family cohesion was not considered in those studies. In the current study maternal warmth correlated positively with family cohesion, consistent with the idea of a spill-over effect (Coatsworth et al., 2002). Consequently, the role of maternal warmth in the neighborhood family stress model for Mexican Americans may have more to do with the contribution it makes to family cohesion. Similarly, maternal harshness was negatively correlated with family cohesion in the model. Consequently, when differences in family

cohesion are accounted for, harshness may not play a mediating role. Additionally, our findings related to cultural mitigation offer areas for further exploration.

H2: Cultural Mitigation

In examining the cultural mitigation hypothesis, we detected a single significant interaction: mothers' familism beliefs moderated the association between perceived neighborhood risk and maternal reports on harsh parenting. When we probed the significant interaction, however, we did not identify a range of familism values in our sample within which the association between perceived neighborhood risk and harsh parenting was significant. Our results were consistent with a *pattern of protection* identified in prior research (Germán et al., 2009): mothers high on familism did not demonstrate higher levels of harsh parenting in response to perceived neighborhood risk. At two standard deviations below the familism mean the relation between perceived risk and harsh parenting was positive, but only approached significance. Notably, the familism data in the current study were negatively skewed; we had few mothers that were truly low on familism. Park et al. (2004) did not measure familism. Nevertheless, they had a sample of Mexican American families with 5th graders who had been in the U.S. since at least kindergarten. The requirement of continuous U.S. school enrollment may have resulted in a sample of Mexican American families that were, on average, lower on familism values, and consequently, more susceptible to the family stress process.

The limited range of familism values obtained in the current study could have also contributed to a lack of cultural mitigation for warmth and cohesion. For example, putative deficits in maternal responsiveness associated with exposure to neighborhood risk among a sample of mothers reasonably high on familism values may have been avoided because familial support and a sense of obligation to the family empowers Mexican American mothers to maintain warmth. Perceived neighborhood risk was, however, associated with disruptions to family cohesion, replicating prior work with Mexican American families (White & Roosa, 2012). Perhaps more familistic Mexican American mothers are able to preserve their own positive parenting in light of neighborhood-related stress (White, Roosa, Weaver, & Nair, 2009), but are unable to protect the entire family unit from deficits associated with that same stress. Notably, even though our sample had a restricted range of mothers' familism values, it was similar to census estimates of income, education, and other demographics for the Mexican American population sampled (Roosa et al., 2008). Consequently, interventions designed to protect Mexican American families and youth from exposure to neighborhood stress should take care to avoid undermining familism values in this population.

The lack of substantial support for the cultural mitigation hypothesis merits further exploration. Notably, our single familism interaction occurred for harshness. Among Latino parents of adolescents, scholars have noted considerable diversity in the use of harshness, but have often contrasted this to high levels of parental warmth (Halgunseth, Ispa, & Rudy, 2006; Hill, Bush, & Roosa, 2003). Similarly, the current study suggests the potential for greater within group cultural diversity in the use of harshness than warmth. Perhaps an examination of other cultural beliefs, or of unique subcomponents of familism (Hernández, Ramírez García, & Flynn, 2010), as sources of parenting variability among Mexican American parents will advance our understanding of maternal harsh parenting (Halgunseth et al., 2006). Additionally, familism values and attitudes may not be as important as behavioral support for understanding its protective properties (Rodriguez, Mira, Paez, & Myers, 2007).

H3: Contextual Relevance

We found substantial evidence of neighborhood moderation effects consistent with the contextual relevance hypothesis for effective parenting behaviors. In the mother-report model objective neighborhood risk moderated the prospective associations between maternal warmth and externalizing; and between family cohesion and both externalizing, and internalizing. The latter finding was replicated in the youth-report model. The current study is one of two studies we know of that directly examined the contextual relevance of family cohesion (see also White & Roosa, 2012); most prior work has focused on the contextual relevance of dyadic parenting processes (Dearing, 2004). The contextual relevance of warmth for externalizing problems was consistent with an amplified advantages type (Roche & Leventhal, 2009): warmth benefited youth so long as families lived in low-risk neighborhoods. The contextual relevance of family cohesion was compensatory: family cohesion benefited youth mental health when families lived in high-risk neighborhoods. Though more studies have demonstrated support for the compensatory effects of effective parenting, there is limited support for the amplified advantages type when the research question focuses specifically on deviance, or delinquency (e.g., Simons et al., 2005). Our findings for warmth may reflect aspects of deviance assessed by our externalizing measure. Conversely, our finding for cohesion were more consistent with the broader body of literature suggesting compensatory effects of positive parenting/family processes for youth living in low quality, high-risk neighborhoods (e.g., Brody et al., 2001; Dearing, 2004).

It is noteworthy that objective neighborhood risk undermined the benefits of warmth, but magnified the benefits of family cohesion. Some research suggests that family variables do not matter for youth outcomes in the context of high neighborhood risk (Sheidow, Gorman-Smith, Tolan, & Henry, 2001). Our results for warmth are consistent with that view. Nevertheless, our results for cohesion are consistent with other research, wherein positive processes compensate for the detrimental effects of exposure to objective neighborhood risk (Dearing, 2004). Given the possible relation between dyadic warmth and family-wide cohesion (Coatsworth et al., 2002), it is interesting that the two constructs interact with objective neighborhood risk so uniquely. Perhaps, in Mexican American families, dyadic support is only strong enough to amplify the good, whereas family-wide support is impactful enough to compensate for the bad. If so, interventions for Mexican American families should consider family cohesion, rather than just maternal warmth, as a primary target of change. Increasing family-level cohesion and support may be an effective way to support Mexican American families residing in objectively risky neighborhoods to promote healthy youth development.

Two null sets of contextual relevance findings merit further consideration. First, we did not find evidence that harsh parenting displayed contextual relevance. Second, there was less evidence of contextual relevance when youth reported on parenting behaviors than when mothers reported on those same behaviors. The neighborhood contextual relevance perspective asserts that objective neighborhood risk, as an assessment of the families' ecological niche, qualifies the effect of parenting on adjustment. An alternative perspective suggests that children may attach different meanings to parenting and family processes, especially harsh parenting, and these meanings are influenced by children's cognitions about their developmental ecologies (Deater-Deckard, Dodge, & Sorbring, 2005; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004). The role of adolescent perceptions of neighborhood risk, and how those perceptions influence the meaning youth attach to various parenting and family behaviors, was not assessed in the current study. In addition, youths' cultural values were not assessed; and these, perhaps in tandem with youths' cognitive interpretations of their neighborhoods, may influence the meaning youth attach to parenting and family processes (Gonzales, Cauce, & Mason, 1996), and, consequently, the effect those processes have on mental health.

H4: Moderated Mediation in the Integrated Model

Our proposed model integrated two previously compartmentalized perspectives on neighborhood effects with a cultural-adaptational perspective on minority families and youth. Though we focused on Mexican Americans, prior evidence suggests that both the neighborhood stress process (Hill & Bush, 2001; Kotchick, Dorsey, & Heller, 2005) and contextual relevance (Dearing, 2004; Simons et al., 2005) perspectives are useful for understanding families and youth among other minority and majority groups. Further, though familism values are a specific component of Mexican American cultural beliefs (Knight et al., 2010) they are not unique to Mexican Americans. Parents from other minority groups are likely to espouse culture-specific values and beliefs that might help them to negotiate the demands of their neighborhoods (Garcia Coll et al., 1996). In the sections that follow we discuss the extent to which our data supported the proposed model for Mexican Americans and which aspects of the model merit revision and/or reconceptualization in future work with Mexican Americans or other populations.

Moderated mediation—The integrated model suggested the possibility that mediated neighborhood effects on youth mental health would occur only at certain levels of objective neighborhood risk (H4_b). Consistent with this perspective, our data suggest that integration of the neighborhood family stress and contextual relevance models would facilitate a better understanding of the ways in which neighborhoods and families intersect to influence youth mental health. In the current study, mothers' perceptions of neighborhood risk were associated with increases in youth mental health symptoms via disrupted family cohesion, but only when the family system was embedded in a truly risky neighborhood context. Decades of scholarship have pointed to the generalizability of the family stress model (Conger et al., 2010), but our results suggest that the consequences of family stress, at least so long as the source of that stress is neighborhood risk, may be context-specific. It remains to be seen whether other sources of family stress (e.g., financial hardship) also have consequences that are context-specific. Though our family cohesion results offer the only evidence of moderated mediation, the model tests for warmth and harsh parenting were conservative, as they were part of a larger model that included family cohesion. When testing the integrated model in other populations, where family cohesion may not be as critical or salient, scholars should consider the possibility that parenting behaviors may display properties of both stress disruption and contextual relevance.

The integrated model also suggested the possibility that mediated neighborhood effects on youth mental health would occur only when parents were less oriented toward their traditional cultural values and beliefs (H4_a), which we operationalized as mothers' familism values. Our results for harsh parenting suggested the possibility of this type of moderated mediation, but the evidence was weak. Specifically, mediation via harsh parenting was precluded because we did not identify a range of familism values in our sample within which the relation of perceived neighborhood risk and harsh parenting was positive and significant. Examining different aspects of Mexican American culture (e.g., different traditional values, behavioral components of these values), or, more broadly, exploring a range of culture-specific elements that may support ethnic minority parents and families to successfully confront the challenges encountered in their neighborhoods (Garcia Coll et al., 1996), are seen as critical model adjustments moving forward.

Perceived vs. objective neighborhood risk—Our data suggest that parents' perceptions of risk are important for understanding neighborhood-family-stress disruption, but that objective risk is more important for understanding the consequences of parent and family processes on youth adjustment. Integration of the two neighborhood perspectives necessitated careful consideration of the roles of parents' subjective appraisals of

neighborhood risk versus objective risk assessments. To address inconsistencies in the roles of the two neighborhood risk variables in prior work on the family stress (e.g., Hill & Herman-Stahl, 2002) and contextual relevance (e.g., Meyers & Miller, 2004) models, we tested the hypothesized model (Figure 1) and an alternate (wherein the placement of perceived and objective neighborhood risk was reversed). Consistent with prior work (White & Roosa, 2012), our findings suggest that relations between neighborhood risk and mothers' parenting occur via mothers' perceptions about their neighborhoods. Further, the effectiveness of a given parenting or family process is determined, in part, by the degree to which it is appropriate in a given context, regardless of a mothers' perception of that context. Consequently, policies or programs aimed at promoting specific parent and family interactions, relative to specific contexts, might consider objective neighborhood risk, not parents' perceptions of that risk, when evaluating neighborhoods. Furthermore, in combination with prior evidence showing that a single individual's perceptions of neighborhood risk may not be a reliable indicator of actual neighborhood risk (Roosa et al., 2009), our results suggest that parents' perceptions of risk and actual neighborhood risk are distinct constructs with potentially unique contributions to youth mental health. Consequently, we urge scholars to attend very specifically to the placement of parent's subjective assessments of neighborhood risk vs. objective assessments of neighborhood context in models explaining neighborhood variation in parenting and youth adjustment.

Summary—Each of the three major study hypotheses integrated in the proposed model received some support from our data: warmth displayed contextual relevance, family cohesion displayed both stress disruption and contextual relevance, and the effects of perceived neighborhood risk on harsh parenting appeared consistent with cultural mitigation. Examined together, however, no single parent/family process displayed a combination of all three major effects: neighborhood-family-stress disruption, cultural mitigation, and contextual relevance. Our parent/family processes were correlated, suggesting that results for one parent/family process may share some relation to the other. Among Mexican American families, however, different aspects of parenting and family functioning were differentially influenced by aspects of neighborhood context and maternal cultural orientation. To fully understand aspects of parenting and family functioning in neighborhood and cultural contexts may require that all three perspectives be considered.

Moving forward, we recommend that scholars consider that neighborhoods may intersect with different elements of parent and family functioning in distinct ways, and that ethnic minority groups may have culture-specific ways of confronting the challenges of neighborhood risk as it relates to certain elements of parenting and family functioning. Developing specificity of the model, understanding how and why certain processes display properties of stress disruption *and* contextual relevance, others display properties of contextual relevance only, and still others may be mitigated by culture, is a critical next step. An advanced understanding of these relations can inform the development of more refined preventive interventions for ethnic minority families living in diverse neighborhood contexts.

Limitations and Implications

The current study has notable strengths that should be viewed in light of some limitations. First, we examined model stability across nativity and household structure, addressing sources of within-group heterogeneity common to Mexican Americans, but absent from many of the populations studied in previous neighborhood and family research. We also examined model stability across youth gender and neighborhood mobility, addressing ambiguity surrounding gender-specific neighborhood effects in the literature and methodological issues of inter-neighborhood mobility in longitudinal designs (Sampson et

al., 2002). Next, we assessed prospective associations of maternal parenting and family processes with youth mental health two years later. Nevertheless, proper tests of mediation require at least three waves of data. Third, consistent with the family stress model (Conger et al., 2010) and work suggesting the importance of a strong family focus when working with Latinos (Coatsworth et al., 2002), the current study focused on maternal parenting and family process mediators of neighborhood effects. Other mediators worthy of examination include father, peer, and neighborhood processes. Fourth, despite achieving a diverse sample with regards to generational status, language use, socioeconomic status, and neighborhood residence (Roosa et al., 2008), there was less variability on familism. Future research on the potentially protective role of familism may benefit from including some of the families that were excluded from the sampling frame in the current study (e.g., bi-ethnic families) and from measuring behavioral aspects of familism. Also, not all results replicated across reporter. All study results would benefit from replications with other operationalizations of the parenting and family process variables, including observer ratings. Finally, though family cohesion played an important role in our model, we only explained a small proportion of its variance. Given its centrality in the current study, and in prior work among Mexican Americans (White & Roosa, 2012), researchers should consider other determinants of family cohesion among Mexican American families.

These results have implications for theory, future research, and family interventions to reduce adolescent mental health problems. Theoretically, the results suggest that research on the effects of neighborhood conditions on youth adjustment might benefit from merging specific elements of the family stress and contextual relevance models that dominate the field. Specifically, parents' perceptions of risk likely influence parenting behaviors, whereas objective risk likely works to qualify the behavior's effect on outcomes. However, the ultimate value of integrating these theoretical perspectives will be determined with further testing with other operationalizations of perceived risk, family processes, cultural factors, and objective neighborhood risk. For example, recent work suggests that aspects of neighborhood cultural context may also be important for understanding neighborhood effects among Mexican Americans (Gonzales et al., 2011; White, Deardorff, & Gonzales, 2012). Identifying more family mediators of neighborhood effects would greatly enhance the value of this model for future theory and for guiding intervention development. For interventions, our results are consistent with research indicating that intervening to effect change among multiple support microsystems (Coatsworth et al., 2002), perhaps dyadic and certainly family-wide, may be important when developing family-based interventions for Mexican origin families. However, even if mothers' report experiencing contextual stress, interventions aimed at increasing family support may not be successful in improving youth outcomes if they are targeted toward families living in neighborhoods that are not actually risky.

Acknowledgments

We gratefully acknowledge the families for their participation in the project. Work on this project was supported by NIMH grant R01-MH68920 and by the Cowden Fellowship Program of the School of Social and Family Dynamics at Arizona State University.

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Figure 1.
Integrated model of neighborhood, family, and cultural effects

Figure 2.

Integrated model results for mother (child) report on parenting behaviors (N = 749). Note. * $p < .05$, ** $p < .01$, *** $p < .001$, ns = not significant. In the mediational path, significant paths in at least one reporter model are solid lines; non-significant paths are dashed. For familism, a main effect and interaction effect for each mediator is estimated, but only paths significant in at least one reporter-model are shown. For objective neighborhood risk, a main effect and interaction effect for each outcome is estimated, but only paths significant in at least one reporter model are shown. Standardized path coefficients for the mother report on parenting model are reported first; estimates from the child report on parenting model follow in parentheses. Adolescent gender and family income were included in this model as covariates, but are omitted from the figure to enhance clarity.

Figure 3.

Cultural mitigation of perceived neighborhood risk on maternal harsh parenting ($N = 749$)

Note: “lower familism” refers to 2 *SD* below the sample mean on familism values;

“moderate familism” refers to 1 *SD* below the sample mean on familism values; and “high familism” refers to 1 *SD* above the sample mean on familism values.

Figure 4.

Contextual relevance of maternal warmth and family cohesion for externalizing symptom counts ($N = 749$).

Note: * = slope of line is statistically different from zero, $p < .05$. “Low risk” refers to 1 *SD* below the sample mean on objective neighborhood risk; “high risk” refers to 1 *SD* above the sample mean on objective neighborhood risk.

Table 1

Correlation matrix, means, and standard deviations for study variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Objective risk	--											
2. Perceived risk	.23**	--										
3. Warmth (M)	.02	-.08*	--									
4. Warmth (C)	.01	-.07	.12**	--								
5. Harsh parenting (M)	.02	-.02	-.15***	-.06	--							
6. Harsh parenting (C)	-.08*	-.03	-.14***	-.10**	.17***	--						
7. Family cohesion	-.10**	-.11**	.25***	.08*	-.10**	-.07	--					
8. Internalizing T1	-.01	.03	-.02	-.08*	.12**	.15***	-.15**	--				
9. Internalizing T2	.03	.01	-.05	-.06	.11**	.07*	-.19***	.44***	--			
10. Externalizing T1	.01	-.02	-.16***	-.16***	.21***	.21***	-.13***	.50***	.31***	--		
11. Externalizing T2	-.01	.01	-.23***	-.10**	.21***	.17***	-.16***	.24***	.53***	.54***	--	
12. Familism	.05	-.013***	.27***	.06	.08*	-.04	.09*	-.01	.03	-.04	-.06	--
Sample means	0.26	2.52	4.44	4.42	2.18	2.05	4.00	15.60	12.71	5.15	5.76	4.45
Standard deviations	2.28	1.03	0.49	0.59	0.64	0.75	0.56	8.86	7.76	4.76	4.97	0.37

Note. Objective risk and perceived risk refer to objective neighborhood risk and perceived neighborhood risk, respectively. M = mother report, C = child report, T1 = time 1, T2 = time 2.

* $p < .05$;

** $p < .01$;

*** $p < .001$

Sample size ranged from 710–749 due to listwise deletion. All other analyses utilized the full sample ($N = 749$) and accounted for missing data using FIML.