

Economic Pressure, Cultural Adaptation Stress, and Marital Quality Among Mexican-Origin Couples

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Abstract:

Based on data from a sample of 120 first-generation Mexican immigrant couples collected at the start of the Great Recession in the United States, this study tested an actor-partner interdependence mediation model (APIMeM) in which spouses' perceptions of stress related to economic pressure and cultural adaptation were linked to their own and their partners' reports of marital satisfaction through spouses' depressive symptoms and marital negativity. As hypothesized, results supported indirect links between economic and cultural adaptation stressors and spouses' marital negativity and satisfaction: (1) contextual stress was associated with depressive symptoms, (2) depressive symptoms were positively associated with marital negativity for both husbands and wives and negatively associated with marital satisfaction for wives only, and (3) marital negativity was inversely associated with marital satisfaction for both spouses. Two partner effects emerged: (a) husbands' depressive symptoms were positively associated with wives' reports of marital negativity and (b) husbands' marital negativity was inversely related to wives' marital satisfaction. From these findings, we can infer that the psychological distress that arises for Mexican-origin spouses as they respond to the challenges of making ends meet during difficult economic times while they simultaneously navigate adapting to life in a new country is evidenced in their marital quality. Specifically, this study found that contextual stress external to the marital relationship was transmitted via spouses' psychological distress and negative marital exchanges to spouses' marital satisfaction. Wives' marital satisfaction was shown to be uniquely vulnerable to their own and their husbands' depressive symptoms and marital negativity.

Keywords: marital quality | marriage | economic pressure | acculturative stress | Latinos

Article:

With a record 50.5 million residents in the United States in 2010, Latinos represent the largest minority group in the nation, with those of Mexican origin making up the largest subgroup. North Carolina, the location of the study, leads the country in Latino population growth, with an increase of 394% between 1990 and 2000 and currently ranks third in the nation for the number of foreign-born Latino residents (Passel, Cohn, & Lopez, 2011). Recent panel data show that, although Mexican Americans endorse cultural values that promote marriage and marry earlier than other Latino subgroups or non-Latino Whites, they have marital status distributions that are similar to non-Latino Whites and have higher rates of marital dissolution during the child rearing years than their counterparts in Mexico (Bramlett & Mosher, 2001; Phillips & Sweeney, 2005). Accordingly, scholars predict that the marriages of young Mexican immigrants and their descendants are at risk for further decline given the unique challenges they often face living in the U.S. (Baca Zinn & Wells, 2008; Oropesa & Landale, 2004).

In addition to the normative stressors associated with parenting, couples of Mexican origin must often maintain their marriages under conditions of socioeconomic disadvantage and marginalization as they simultaneously navigate the challenges of adjusting to life in the U.S. The recent economic downturns pursuant to the Great Recession of the 21st century further magnify the challenges that have enveloped many emerging immigrant communities in the South (Action for Children North Carolina, 2011; Taylor, Lopez, Velasco, & Motel, 2012). Stressors associated with cultural adaptation and economic hardship are believed to put spouses at risk for mental health problems and subsequent marital distress (Oropesa & Landale, 2004). Indeed, epidemiological studies have shown that depression is a significant public health concern among Latinos living in the U.S., with prevalence rates that increase with years of residence (Vega & Lopez, 2001). Depressive symptoms, in turn, have been associated with marital quality, including expressions of negativity and perceptions of marital satisfaction (Davila, Bradbury, Cohan, & Tochluk, 1997; Proulx, Helms, & Buehler, 2007; Story & Bradbury, 2004). Heeding contemporary scholars' repeated appeals for an ecologically informed understanding of the marital experiences of understudied populations (Coll, 2005; Glick, 2010; Karney, Kreitz, & Sweeney, 2004; Kazak, 2004; Parke, 1998), we tested a dyadic model in which husbands' and wives' perceptions of economic pressure and stress related to cultural adaptation are linked to their own and their partners' reports of marital negativity and marital satisfaction via spouses' depressive symptoms. The study provides a first look at the links between economic and cultural adaptation stressors and marriage among Mexican-origin parents of young children residing in an emerging immigrant community during the advent of the Great Recession of the 21st century.

Theoretical and Empirical Foundations

This study is theoretically supported by several decades of stress-transmission research, which asserts that spouses' depressive symptoms serve as a primary mechanism linking contextual stressors to marital quality (see Story & Bradbury, 2004). Across this literature, a variety of contextual stressors (e.g., unemployment, work stress, economic pressure, work-family tensions) were linked cross-sectionally and longitudinally to spouses' depressive symptoms, which, in turn, were linked to declines in marital satisfaction directly or indirectly via spouses' negative marital exchanges (e.g., Conger & Elder, 1994; Conger et al., 2002; Davila et al., 1997; Grant & Barling, 1994; Parke et al., 2004). The bulk of this literature supports indirect links from contextual stressors to marriage through spouses' depressive symptoms and negative marital exchanges, with cross-lagged analyses indicating no support for the reverse causal order. Although limited to only a few studies, recent work that examined actor and partner effects between more general contextual stressors and marital quality yielded greater support for actor than partner effects overall; significant partner effects were gendered and suggested that wives' marital satisfaction may be vulnerable to the transmission of husbands' stress via increases in husbands' psychological distress and negative marital exchanges (Bodenmann, 2005; Bodenmann, Ledermann, & Bradbury, 2007). These gendered partner effects align with theoretical assertions that wives may be uniquely vulnerable to their husbands' manifestations of stress given the centrality of family relationships to wives' sense of self (Kiecolt-Glaser & Newton, 2001) and gendered cultural norms regarding family roles (Hirsch, 2003). For example, when a husband's elevated stress manifests itself via his depressed mood and negativity in marital interactions with his wife, the wife's marital satisfaction is likely to suffer to the extent that she feels responsible for or dependent upon the well-being of the marital relationship. Taken together, this body of theoretical and empirical work asserts that contextual stressors potentially increase spouses' depressive symptoms; spouses' depressed mood exacerbates marital negativity which, in turn, leaves marriages—and particularly wives' appraisals of their marriages—vulnerable.

The stress-transmission perspective also underscores that, although stressors may arise from the contexts of spouses' everyday lives, context—broadly defined—should not be assumed to be inherently stressful (Story & Bradbury, 2004). Several decades of research demonstrate that perceptions of economic pressure in the family, rather than objective indicators of economic hardship, are directly linked to depressive symptoms (e.g., Conger & Elder, 1994; Dennis, Parke, Coltrane, Blacher, & Borthwick-Duffy, 2003; Parke et al., 2004; White, Roosa, Weaver, & Nair, 2009). This latter point is particularly relevant to Mexican-origin couples who are disproportionately likely to occupy subordinate socioeconomic positions in U.S. society because of their lower education, language difficulties, and discriminatory practices, which exclude them from upper-mobility occupational ladders (Baca Zinn & Wells, 2008; Esteinou, 2007). Although Mexican-origin couples and families are overrepresented in lower socioeconomic locations, variation in perceptions of economic pressure has been demonstrated within samples of primarily low-income Latino families (Dennis et al., 2003; White et al., 2009). Specific to perceptions of economic pressure during the Great Recession of the 21st Century, the 2012 Pew Hispanic

Survey (Taylor, Lopez, Velasco, & Motel, 2012) indicated that 54% of Latinos perceived that the economic downturn was more difficult for them than it was for other racial/ethnic groups in the U.S., whereas 34% perceived that the economy harmed Latinos “about the same” as others, and 5% felt Latinos fared better than others (Taylor et al., 2012). Indeed, variation in perceptions of economic pressure has been demonstrated for primarily low-income Latinos prior to and during the Great Recession of the 21st Century.

Although this pattern of findings linking spouses’ perceptions of economic pressure to marriage via spouses’ depressive symptoms has been upheld across several studies, samples, and decades of research, contemporary scholars of the study of stress and coping in marriage underscore the importance of identifying additional sources of stress that may vary based on the ecological niches couples inhabit (Karney & Bradbury, 2005). Culturally informed ecological perspectives for understanding marriage further emphasize the importance of disentangling the sources of contextual stress couples of Mexican origin may encounter when examining potential associations with spouses’ psychological distress and subsequent marital functioning (Helms, Supple, & Proulx, 2011; White et al., 2009). This literature emphasizes that economic pressure should be treated as conceptually distinct from stress related to the process of cultural adaptation, which is defined as the challenges associated with negotiating two sets of cultural norms and values (Knight et al., 2009; Phinney, 1990). Often referred to as acculturative stress are those difficulties that spouses might experience adapting to the host culture (e.g., language difficulties, perceived cultural incompatibilities), whereas enculturative stress refers to the perceived pressure to maintain customs, language, and familiarity with one’s heritage and/or ethnic culture (Rodriguez, Myers, Mira, Flores, & Garcia-Hernandez, 2002). Links between stressors related to cultural adaptation stress and indicators of individual health (including depressive symptoms) have been demonstrated in studies of Latino immigrants (Cervantes, Padilla, & Salgado de Snyder, 1991; Landale, 1997; Rodriguez et al., 2002; White et al., 2009). Although the association has been theoretically proposed (Helms et al., 2011), to date, no published studies have examined the extent to which stressors related to dimensions of cultural adaptation are linked to spouses’ marital quality via depressive symptoms. Taken together, the larger theoretical and empirical literature suggests that spouses’ perceptions of economic pressure are linked to depressive symptoms, which, in turn, are directly and indirectly linked to marital satisfaction through marital negativity. This finding is primarily supported for actor effects, although recent studies suggest that partner effects from spouses’ depressive symptoms to partners’ marital satisfaction may operate directly and indirectly through expressions of marital negativity—particularly for wives. What remains unknown is whether this pattern of associations operates similarly for stressors related to cultural adaptation and whether associations found in studies of economic pressure prevail when stressors related to cultural adaptation are also examined.

The Present Study

Guided by dyadic applications of the larger stress-transmission literature (Story & Bradbury, 2004) and culturally informed, ecological perspectives of marriage (Helms et al., 2011), we applied an actor-partner interdependence mediation model (i.e., APIMeM; Ledermann, Macho, & Kenny, 2011) to examine the hypothesized associations linking husbands' and wives' perceptions of economic pressure and stress related to cultural adaptation to their reports of marital satisfaction indirectly through their depressive symptoms and marital negativity (see Figure 1.). Although past work supports the assertion that links from contextual stressors to marital satisfaction would be indirect, we followed recommendations to specify a fully saturated SEM model that simultaneously tests both direct and indirect links comprising a "total effect" (Ledermann et al., 2011). This approach allowed us to test the hypothesized indirect links from economic pressure and cultural adaptation stress to marital satisfaction while essentially controlling for any possible direct links from stressors to marital satisfaction. Because no prior studies exist in which stress related to economic pressure and cultural adaptation have been examined in the same model, testing a fully saturated model was imperative to rule out alternative hypotheses regarding direct links that have been tested previously (although not supported) in the larger literature linking economic stressors to marital quality. More specifically, we hypothesized and tested a series of *actor effects*, including (a) direct associations between perceptions of economic pressure, cultural adaptation stress, and reports of depressive symptoms, marital negativity, and marital satisfaction (Figure 1 Paths a1 to a4) and (b) indirect associations from perceptions of economic pressure and cultural adaptation stress to marital satisfaction and marital negativity through depressive symptoms (Indirect Paths a5 to a6, a5 to a8, a7 to a6, and a7 to a8.). Prior work has also suggested that spouses' depression may be linked to their perceptions of marital satisfaction indirectly through negative marital exchanges, and so actor effects for the indirect paths of depressed mood to marital satisfaction via perceptions of marital negativity were also examined (Path a6 to a9). In the current study, *partner effects* were examined to better understand the links between spouses' depressive symptoms and their partners' reports of marital negativity and satisfaction (Direct Paths p1 and p2 and Indirect Path p1 to p3). We expected wives' marital satisfaction to be more strongly predicted by husbands' depressive symptoms and marital negativity than vice versa.

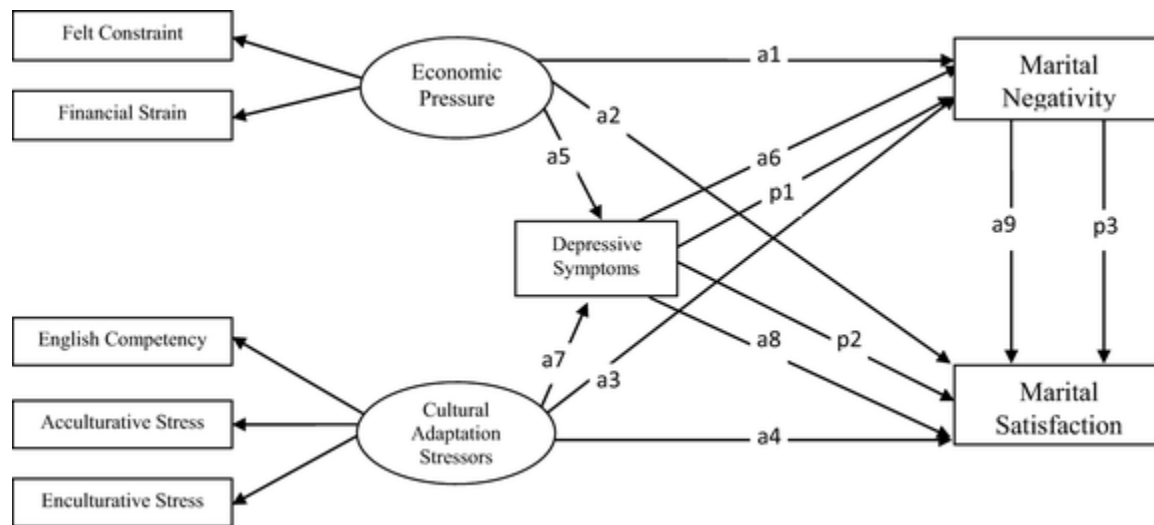


Figure 1. Conceptual model: Actor and partner effects.

Method

Participants and Procedures

Data were collected at the start of the Great Recession in the U.S. (2007–2008) as part of a larger study of contextual stress and marriage in Mexican-origin families in the child-rearing years. The sample consisted of 120 Mexican-origin couples (240 individuals) residing in North Carolina—a relatively new settlement location that continues to grow at over twice the average rate for the nation and traditional settlement states (Passel et al., 2011). To be eligible for the study, couples had to be legally married or “living as married” in consensual unions, be the biological parents of their children, and be living together in the same household. In addition, couples had to include at least one spouse of Mexican descent, and both spouses had to be of Latin American origin. For the majority of couples (89%), both spouses were from Mexico; most spouses were first-generation immigrants (96% of wives and 100% of husbands). Because consensual or “common law” marriages in Mexico and other Latin American countries are typically recognized as marital unions publicly, and because legal marriage in the U.S. is not possible for partners who are not U.S. citizens, we followed recommendations (De Vos, 1999; Helms et al., 2011; Wheeler, Updegraff, & Thayer, 2010) to include couples who self-identified as legally married or living in a consensual union viewed as marriage by both partners.

Of the 120 participating couples, 83 (69%) were legally married and 37 (31%) were living together in consensual unions as married. Husbands and wives were 30 and 28 years old, on average, respectively, and couples had been married/living as married for an average of 7 years. Couples averaged two children, with firstborn children averaging 6 years old. Over half (56%) of the couples housed additional adults in their home with most reporting one or two additional

stress																	
9. Husbands' acculturative stress	-.18*	.22*	.25**	.27**	.19*	.21*	.64**	.29*	—								
10. Wives' enculturative stress	-.24**	-.00	-.04	.05	.05	.25**	.12	.71**	.23*	—							
11. Husbands' enculturative stress	-.20*	.12	.25**	.06	.19*	.01	.43**	.18	.69**	.26**	—						
12. Wives' depressive symptoms	-.18	.16	.17	.25**	.24**	.21*	.05	.28*	.20*	.22*	.17	—					
13. Husbands' depressive symptoms	.02	.05	.22*	.00	.11	.01	.15	.11	.29*	.05	.30**	.10	—				
14. Wives' marital negativity	-.28	.07	.09	.18	.17	.18	.10	.18	.10	.17	.07	.39	.17	—			
15. Husbands' marital negativity	.03	-.08	.01	-.15	-.02	-.03	-.05	-.03	-.01	.01	.13	.10	.27	.34	—		
16. Wives' marital satisfaction	.23*	-.16	.01	-.14	.03	-.21*	-.12	-.17	-.12	-.06	-.02	-.36**	.00	.31*	-.22*	—	
17. Husbands' marital satisfaction	.06	-.01	.02	.09	-.08	.09	-.03	.02	-.05	-.10	-.13	-.11	-.07	-.05	-.27**	.21*	—
<i>M</i>	0.69	6.25	5.73	11.92	11.18	1.97	1.78	1.51	1.71	0.79	0.96	14.25	14.28	3.74	3.05	7.20	7.57
<i>SD</i>	0.46	1.88	1.85	4.25	3.49	1.17	0.96	1.01	0.99	0.87	0.87	4.20	3.95	1.81	1.50	1.33	0.96
Cronbach's Alpha	—	.72	.69	.86	.76	.86	.86	.85	.84	.82	.77	.81	.76	.72	.56	.94	.91

^a Coded as 0 = not legally married (consensual union), 1 = legally married. □* $p < .05$, ** $p < .01$, *** $p < .001$.

Participating couples resided in small towns (55%), cities (26%), and rural areas (19%). 2008 census data were used to provide objective indicators of the neighborhoods in which participating couples resided. Most couples (95%) lived in neighborhoods characterized by high poverty. Nearly half of participating couples (49%) lived in neighborhoods classified as 50% Hispanic. More than a quarter of couples (29%) lived in neighborhoods ranging from 10–25% Hispanic, and 21% resided in neighborhoods classified as less than 10% Hispanic.

The following procedures conformed to the requirements of the institutional review board at the study's home institution. Participants were recruited via cultural insiders and snowball sampling methods within predetermined census-track locations identified for their relatively high concentrations of Latino family households in three central North Carolina counties. Initial contacts with couples were done in person by Latino project staff, social service workers, and community contacts, either in couples' homes or at social service agencies that serve the Latino community. During initial contacts, the goals of the research project were described, eligibility criteria were reviewed, and details regarding the nature of the interview were provided. Each couple was then given an informational flyer that included contact numbers to call to express interest in participation. All eligible couples that expressed interest in the study were interviewed with the exception of one couple that withdrew prior to interviewing.

Data were collected by bilingual, Latina project staff during home interviews that averaged 2 to 3 hr. The study was described to the couple jointly in general terms, consent was obtained from each spouse, and gift cards were distributed. Spouses were then interviewed separately in their language of choice (i.e., Spanish or English). All but one interview was conducted in Spanish. In addition to collecting background information, information about spouses' perceptions of economic pressure, stressors related to cultural adaptation, depressive symptoms, and marital quality was gathered via orally administered measures to compensate for variations in literacy.

Measures

All measures used in the current study had been used in prior work with Latino populations and were available in both Spanish and English. In addition, two translators familiar with the local Spanish dialect reviewed Spanish versions of the measures to ensure that they were appropriate for use with our sample. Because few studies of Mexican-origin couples exist, measurement equivalence across husbands and wives is not well-established for the manifest variables (i.e., depressive symptoms, marital negativity, marital satisfaction) observed in the current study. Consequently, we conducted multigroup confirmatory factor analyses (MGCFAs) to demonstrate measurement invariance in factor loadings across spouses for the manifest variables—a necessary step to conclude that any gender differences in the pattern of associations were not merely due to measurement differences. MGCA analyses followed procedures outlined in Kline

(2011), in which a model with all factor loadings freely estimated across husbands and wives was compared (individually for each measure) with models with these same factor loadings constrained. A decrement in model fit with loadings constrained suggests measurement noninvariance or possible bias in certain items. In addition to χ^2 difference tests, standardized factor loadings were examined; statistically significant items with magnitude $> .35$ (Hair, Black, Babin, Anderson, & Tatham, 2006) were treated as appropriate indicators. Bivariate correlations, descriptive statistics and Cronbach's alpha for all study variables are shown in Table 1.

Economic pressure

We used two indicators developed by Conger and Elder (1994) and later validated for use with Mexican American English and Spanish speaking couples and parents to assess economic pressure (Barrera, Caples, & Tein, 2001). Specifically, the "felt constraint" subscale included two items indicating the difficulty in making ends meet. The first item assessed the difficulty in paying bills each month; responses ranged from 1 (*no difficulty at all*) to 5 (*a great deal of difficulty*). The second item assessed how much money spouses had left over at the end of each month; responses ranged from 1 (*more than enough money left*) to 5 (*very short of money*). A second, 4-item indicator of economic pressure, "financial strain/material needs," assessed the extent to which spouses felt they had enough money for necessities, including clothing, housing, household items, and car. Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Subscale scores were created by summing across items; higher scores indicated higher levels of economic pressure. Each subscale score was treated as an observed variable specified as loading onto an economic pressure latent factor. (See Figure 1.)

Stress related to cultural adaptation

The pressure to acculturate, enculturative stress, and English competency subscales of the Multidimensional Acculturative Stress Inventory (MASI; Rodriguez et al., 2002), a preferred measure of stress associated with cultural adaptation by contemporary scholars who study Mexican American parental dyads (e.g., Umaña-Taylor, Updegraff, & Gonzales-Backen, 2011; White et al., 2009), were used in the current study. The pressure to acculturate subscale (i.e., acculturative stress) contained seven items pertaining to perceptions of pressure to change one's cultural values and behavior (e.g., "It bothers me when people pressure me to assimilate to the American way of doing things"). The enculturative stress subscale contained four items pertaining to stress associated with pressures against acculturation (e.g., "I have conflicts with others because I prefer American customs over Mexican/Latino ones"), and the seven-item English competency pressure subscale assessed perceptions of stress related to English usage (e.g., "I feel pressure to learn English"). Respondents used a Likert scale ranging from 0 to 5, with higher scores indicating higher levels of stress. Subscale scores were created by averaging across items and were treated as observed variables specified as loading onto a latent factor of cultural adaptation stressors. (See Figure 1.)

Depressive symptoms

The 12-item form of the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) was used to assess the extent to which husbands and wives experienced depressive symptoms. The CES-D has demonstrated reliability and validity for use with Mexican American samples in nationally representative studies (e.g., Mościcki, Locke, Raue, & Boyd, 1989) and in ethnic-homogeneous designs (e.g., Roosa, Reinholtz, & Angelini, 1999). Respondents were asked to think about the past month and use a 4-point scale ranging from 1 (*rarely or none of the time*) to 4 (*most of the time*) when answering each item. The 12 items assess cognitive, affective, and behavioral symptoms associated with depression (e.g., “I could not get ’going’” and “I felt sad”). Preliminary MGCFAs suggested that two items had very low loadings (i.e., “I felt everything I did was an effort” and “I talked less than usual”) and a third item (i.e., “I felt hopeful about the future”) demonstrated significantly different factor loadings across husbands and wives. Consequently, these three items were dropped and an alternative nine-item measure was used in the final analytical model as an observed, manifest variable. Items were summed; higher scores indicated greater depressive symptoms.

Marital negativity

We used three items from the original five-item marital negativity subscale of Braiker and Kelley’s (1979) Relationship Questionnaire to measure marital negativity. Spouses were asked to think about the past year and use a scale ranging from 1 to 9 when answering the items in the marital negativity subscale. Responses were averaged to create the scale score, and higher scores indicated greater levels of negativity. The three items used in the current study assessed spouses’ perceptions of negativity in the marriage (i.e., “How often do you and your spouse argue with one another?” “How often do you feel angry or resentful toward your spouse?” “When you argue, how serious are the arguments?”). MGCFAs suggested that the item “To what extent do you try to change things about your spouse that bother you?” demonstrated a small number of standardized factor loadings for both husbands and wives ($< .35$), and the item “To what extent to you communicate negative feelings toward your spouse?” had a low and nonsignificant loading for wives and when omitted, resulted in measurement invariance across husbands and wives. Accordingly, these two items were omitted in the final measurement model yielding the three-item summary score of marital negativity for both husbands and wives, which was treated as a manifest variable.

Marital satisfaction

To assess marital satisfaction, spouses completed a 16-item modified version of the Domains of Satisfaction Scale initially developed by Huston, McHale, and Crouter (1986) and adapted for use with Mexican Americans by Wheeler and her colleagues (2010). Respondents were asked to think about the past year and use a 9-point scale ranging from 1 (*extremely dissatisfied*) to 9 (*extremely satisfied*) when answering the items. These 16 items assessed spouses’ satisfaction

with general domains of marriage (e.g., marital communication, the division of childcare, the division of housework), as well as domains of marriage identified by focus-group participants as uniquely valued for Latino couples (e.g., spouse's interactions with extended family, spouse's support of Mexican traditions). MGCFA results showed that standardized factor loadings across husbands and wives were statistically significant and greater than .35. In addition, constraining all factor loadings to equality across husbands and wives did not result in a worsened model fit, suggesting invariance across spouses. Responses were averaged to create the scale score, which was subsequently treated as a manifest variable.

Results

Bivariate Correlations and Mean Differences

As shown in Table 1, significant correlations were found between husbands' and wives' reports of felt constraint, financial strain, English competency pressures, acculturative stress, enculturative stress, marital negativity, and marital satisfaction. Husbands' and wives' reports of depressive symptoms were unrelated. At the bivariate level, wives' marital satisfaction was positively related to the couples' legal marital status; legally married wives were more satisfied in their marriages than wives in consensual unions. Wives' marital satisfaction and negativity correlated with wives' reports of stress related to English competency, wives' depressive symptoms, and wives' marital negativity. At the bivariate level, husbands' marital satisfaction was associated only with husbands' marital negativity. The couples' marital status was negatively associated with many of the indicators of economic pressure and stressors related to cultural adaptation suggesting that spouses in consensual unions were more likely to perceive stress in these domains than legally married spouses. With the exception of husbands' reports of English competency pressure and enculturative stress, wives' depressive symptoms were associated with all other indicators of contextual stress as reported by themselves and their husbands. Husbands' depressive symptoms were significantly correlated only with husbands' own reports of felt constraint, acculturative stress, and enculturative stress.

A series of *t* tests for dependent samples were conducted to examine differences between wives and husbands on the key study variables. (See Table 1 for means and standard deviations.) Regarding the indicators of economic pressure, wives reported more felt constraint, $t(119) = 2.94, p < .01$, than husbands. Spouses did not differ significantly in their reports of acculturative stress, enculturative stress, stress related to English competency pressures, or depressive symptoms. Consistent with past work, husbands reported greater marital satisfaction, $t(119) = 2.67, p < .01$, and less marital negativity, $t(119) = -3.94, p < .001$, than did their wives.

Test of the Hypothesized Model

We used structural equation modeling (SEM) via Mplus Version 7 and an APIMeM model (Ledermann et al., 2011) to examine the actor and partner effects outlined in Figure 1. This analytic approach accounted for possible interdependence in the dyadic data while also

producing total, direct, and overall indirect effects (as well as specific indirect effects for multiple mediators). In this analytic framework the *total* effect is analogous to the association between the predictor and outcomes without controlling for the mediator; the *direct* effect represents the association between the predictors and outcomes with the mediator in the model. With this approach, a significant indirect association represents the product of the association between the putative independent variable and the mediator and the association from the mediator to the outcome and is suggestive of the amount of mediation present in the overall model (Kenny, 2012). Although earlier works exist in which separate models have been analyzed to first consider a “main effect” from the predictor to the outcome with a subsequent model that introduces the mediator, this approach is not recommended when using SEM, particularly with latent variables (Kenny, 2012; Iacobucci, Saldanha, & Deng, 2007). For SEM applications of the APIMeM, “full mediation” is inferred when the direct association between the predictor and outcome is nonsignificant and accompanied by a corresponding significant indirect association (Ledermann et al., 2011). Conclusions regarding mediation are further based on whether or not indirect pathways in the model are statistically significant when examining 95% bias-corrected bootstrapped estimates around all unstandardized indirect associations. Regarding effect sizes, standardized indirect effects approximating .01 were interpreted as “small effects;” effects nearing .09 were regarded as “medium effects” (Kenny, 2012).

The analytical model contained two latent factors; one factor was specified as having three indicators that assessed cultural adaptation stress, and the other factor had two indicators of economic pressure. These latent factors were specified separately for husbands and wives in the same model, with factor loadings linking the observed variables to each latent factor constrained to equality across husbands and wives. To account for possible dependencies in the data, correlated residuals were specified linking husbands’ reports of negativity to wives’ reports of negativity and husbands’ reports of marital satisfaction to wives’ reports of marital satisfaction in all analyses. Results for the primary baseline model demonstrated an adequate fit to the data as evidenced by a nonsignificant $\chi^2(97.65, df = 82, p = .11)$, an root-mean square error of approximation (RMSEA) value of .04, and a comparative fit index (CFI) value of .97. (Generally, a nonsignificant χ^2 and RMSEA < .05 and CFI > .90 demonstrate good model fit; Kline, 2011). Model modification indices did suggest, however, the addition of a covariance between the uniquenesses associated with husbands’ and wives’ reports of felt constraint. After this addition, the model fit improved by a significant amount ($\chi^2 = 90.56, df = 81, p = .22$, RMSEA = .03, CFI = .98; $\Delta\chi^2 = 7.09, \Delta df = 1, p < .05$). Using this model as the baseline, the next set of analyses examined the similarity in actor associations across husbands and wives. By constraining all the actor paths to equality across husbands and wives (i.e., Paths a1–a9), it was possible to evaluate whether such an imposition worsened model fit. Residual variances of all observed variables were also constrained to be equal across husbands and wives.

The imposition of the above-described model constraints led to a significant decrement in model fit ($\Delta\chi^2 = 36.05, \Delta df = 16, p < .05$), with modification indices suggesting that the path linking

spouses' own depressive symptoms to own reports of marital satisfaction varied across husbands and wives, as did two residual variances (for marital satisfaction and pressure to learn English). In a final analytical model, the path linking depressive symptoms to marital satisfaction was specified as freely varying across husbands and wives, as were the two residual variances. This final model demonstrated an excellent fit and was statistically similar to the original baseline model ($\chi^2 = 107.04$, $df = 96$, $p = .21$, $RMSEA = .03$, $CFI = .98$).

In reference to actor associations, neither economic pressure nor cultural adaptation stress were directly associated with husbands' and wives' reports of marital satisfaction or negativity. (See Table 2 factor loadings/structural coefficients for model parameters and Figure 2 for actor and partner effects. Both economic pressure and cultural adaptation stressors were, however, associated with depressive symptoms. Depressive symptoms, in turn, were positively associated with marital negativity for both husbands and wives and negatively associated with marital satisfaction for wives only. In addition, marital negativity was inversely associated with marital satisfaction for respondents. (Standardized coefficients for wives/husbands differed in Table 2 because the marital satisfaction variances differed across spouses.) There were two significant partner associations. First, husbands' reports of their own depressive symptoms were positively associated with wives' reports of marital negativity. Second, husbands' reports of marital negativity were associated negatively with wives' reported marital satisfaction.

Table 2. *Unstandardized (Standard Error) and Standardized Factor Loadings and Structural Coefficients for Model Parameters*

Parameter estimate	Unstandardized	Standardized	<i>p</i>
Measurement model estimates			
Economic pressure → Financial strain	1.00	.69	Na
Economic pressure → Felt constraint	.48 (.22)	.69	.03
Cultural adaptation stressor → English competency pressure	1.00	.65	Na
Cultural adaptation stressor → Acculturative stress	.98 (.14)	.71	.00
Cultural adaptation stressor → Enculturative stress	1.55 (.14)	.98	.00
Structural Model Actor Associations			
Economic pressure → Marital negativity (a1)	.01 (.06)	.01	.88
Economic pressure → Marital satisfaction	-.02 (.04)	-.05	.52

(a2)			
Cultural adaptation stressors → Marital negativity (a3)	.01 (.24)	.00	.97
Cultural Adaptation stressors → Marital satisfaction(a4)	-.08 (.13)	-.04	.53
Economic pressure → Depressive symptoms (a5)	.04 (.02)	.21	.03
Cultural adaptation stressors → Depressive symptoms (a7)	.17 (.06)	.23	.00
Depressive symptoms → Marital negativity (a6)	1.18 (.25)	.32	.00
Depressive symptoms → Marital satisfaction (a8)	-.72(.34)/.06(.25)	-.24/.03	.03/.81
Marital negativity → Marital satisfaction (a9)	-.16 (.05)	-.20/-.27	.00
Structural Model Partner Associations			
Husband depressive symptoms → Wife negativity (p1)	.66 (.33)	.18	.04
Wife depressive symptoms → Husband negativity (p1)	.11 (.28)	.03	.69
Husband depressive symptoms → Wife satisfaction (p2)	.32 (.24)	.11	.17
Wife depressive symptoms → Husband satisfaction (p2)	-.18 (.22)	-.09	.40
Husband negativity → Wife satisfaction (p3)	-.13 (.06)	-.16	.04
Wife negativity → Husband satisfaction (p3)	.04 (.05)	.07	.45
Covariance of Husband with Wife Reports			
Economic pressure	3.91 (1.40)	.55	.00
Cultural adaptation	.12 (.04)	.30	.00

stressors			
Residuals negativity	.72 (.26)	.31	.00
Residuals marital satisfaction	.17 (.11)	.16	.14
Residuals felt constraint	.73 (.35)	.40	.04

Note. $\chi^2(96) = 107.04, p = .21$; CFI = .98; RMSEA = .03. Coefficients separated by a slash represent coefficients for wives and husbands. The standardized coefficients linking own negativity to own reports of satisfaction varied because the variance in those outcomes was not constrained to equality across spouses.

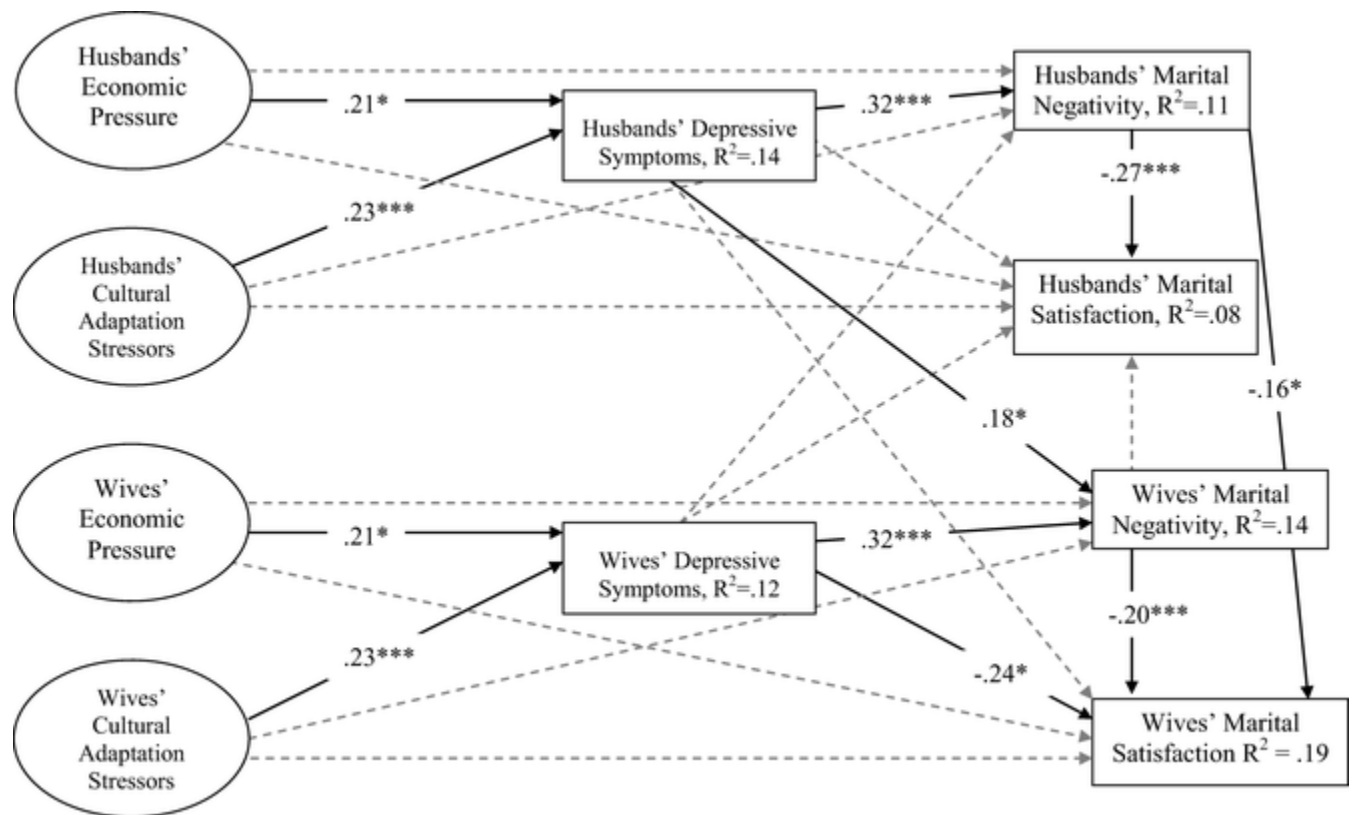


Figure 2. Actor and partner effects of wives' and husbands' perceptions of economic pressure and stress related to cultural adaptation on marital negativity and marital satisfaction. Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Additional examination of indirect associations was required to determine the extent to which the paths between spouses' reports of economic pressure and cultural adaptation stress were indirectly associated with their reports of marital satisfaction. (Note that because husbands' reports of depressive symptoms were unrelated to their reports of marital satisfaction, the examination of indirect links from either contextual stressor to husbands' marital satisfaction via depressive symptoms was not relevant.) Findings showed a significant and negative indirect association linking wives' cultural adaptation stressors to wives' satisfaction ($B = -.16, 95\% \text{ CI}$

[-.51 to -.05], $\beta = -.07$) suggesting that, for wives, stressors related to cultural adaptation were associated with marital satisfaction due to associations with intervening variables (i.e., wives' depressive symptoms and wives' negativity). The indirect association linking wives' perceptions of economic pressure to wives' satisfaction was also statistically significant and negative ($B = -.04$, 95% CI [-.10 to -.01], $\beta = -.07$). To further examine the indirect pathways from wives' stressors to marital satisfaction, we examined the estimates of all possible indirect effects and found that the indirect association between cultural adaptation stressors and marital satisfaction for wives was primarily due to depressive symptoms ($B = -.12$, 95% CI [-.41 to -.04], or 75% of the overall indirect association; $\beta = -.06$) with another 19% of the indirect association ($B = -.03$, 95% CI [-.10 to -.01], $\beta = -.02$) attributable to the cultural adaptation stressors → depressive symptoms → marital negativity → satisfaction association. Similarly, the overall indirect association between wives' economic pressure and marital satisfaction was primarily via depressive symptoms ($B = -.03$, 95% CI [-.08 to -.01] or 74% of the overall indirect association; $\beta = .05$) with a smaller proportion (25%) of the association via the depressive symptoms → negativity link ($B = -.01$, 95% CI [-.02 to -.002], $\beta = .01$). Indirect associations linking cultural adaptation stressors to marital negativity via depressive symptoms were also statistically significant and positive for both husbands and wives ($B = .19$, 95% CI [.09 to .34], $\beta = .08$). Similarly, the association between economic pressure and marital negativity was also indirect via depressive symptoms for both husbands and wives ($B = .04$, 95% CI [.002 to .09], $\beta = .07$).

Discussion

Guided by culturally informed, ecological perspectives of marriage (Bodenmann et al., 2007; Helms et al., 2011; Karney & Bradbury, 2005) and the larger stress-transmission literature (Story & Bradbury, 2004), we applied an APIMeM (Ledermann et al., 2011) to examine associations linking Mexican-origin husbands' and wives' perceptions of economic pressure and cultural adaptation stress to their reports of marital satisfaction via their depressive symptoms and reports of marital negativity. The primary aim of this study was to examine how stressors that Mexican immigrant couples potentially experience as they adapt to life in the United States (i.e., economic pressure and cultural adaptation stress) are linked to their marital quality. Our application of the Actor-Partner Interdependence Mediation Model enabled us to test theoretical assertions that stressors external to the marital relationship are transmitted to spouses' overall marital satisfaction via increases in spouses' psychological distress and negative marital exchanges. Furthermore, this approach enabled us to examine the role of partner effects from spouses' own psychological distress to their partners' reported marital quality—including the potential for this link to be gendered within marriage. The study was unique in its examination of: (a) both actor and partner effects, (b) indirect and direct associations from contextual stressors to marital quality, and (c) the consideration of stress related to *both* economic pressure and cultural adaptation in the same model. Furthermore, this study is timely in that these

associations were examined during the Great Recession of the 21st Century—a period of significant economic challenge for many Mexican immigrant families in the U.S.

Overall, the pattern of findings was consistent with recent actor-partner examinations linking more general contextual stressors to marital quality and support conclusions that stressors external to the marriage play an important role in understanding marital functioning, albeit indirectly (see Bodenmann et al., 2007; Neff & Karney, 2004). In the absence of any significant direct effects from stress related to economic pressure or cultural adaptation, our findings supported hypothesized indirect links in the model and are consistent with conclusions based on earlier research that suggested contextual stressors are linked to spouses' marital quality via their impact on spouses' psychological functioning and subsequent diminished capacity for effective marital interaction (Karney & Bradbury, 2005; Davila et al., 1997; Parke et al., 2004). Several gendered variations in this general pattern, should be noted, however.

Although indirect actor effects from both economic and cultural adaptation stressors to spouses' depressive symptoms (the front end of the model in Figure 2) operated similarly for husbands and wives, indirect links from spouses' depressive symptoms to marital negativity and satisfaction varied by gender (back end of the model). Actor effects for wives suggested that wives' stress related to economic pressure and cultural adaptation were associated with their marital satisfaction primarily through elevated depressive symptoms, and to a lesser extent increased negativity in the marriage. Husbands' marital satisfaction, in contrast, was not indirectly predicted by their perception of economic pressure or cultural adaptation stress via their depressive symptoms. The pattern of actor effects for husbands suggested, however, that marital negativity was indirectly impacted by these contextual stressors via increases in husbands' depressed mood. Husbands' marital negativity was, in turn, negatively associated with their own reports of marital satisfaction. Taken together, the current findings offer further empirical support for theoretical assertions that Mexican-origin spouses' experiences of both economic pressure and cultural adaptation stress are transmitted to the marital relationship indirectly by a variety of mechanisms (Helms et al., 2011; Story & Bradbury, 2004). For husbands, the transmission of stress to the marriage through their own depressed mood was evidenced in marital negativity. The same stress-transmission pattern was found for wives but was farther reaching in that elevations in wives' depressed mood were linked to wives' marital satisfaction directly and via increased marital negativity which was, in turn, linked to decreases in wives' overall evaluations of the marriage. From these findings, we can infer that the psychological distress that arises for Mexican-origin spouses as they respond to the challenges of making ends meet during difficult economic times while also adapting to life in a new country—including learning a new language—is evidenced in marriage via negative marital exchanges. These contextual stressors further reduce wives' marital satisfaction through both elevations in wives' depressed mood and marital negativity.

The partner effects found in this study further underscore Mexican-origin wives' marital quality as uniquely vulnerable both to their own experiences of contextual stress and their husbands'

psychological distress and negativity in the marriage. Notably, the two partner effects to emerge in this study involved crossover from husbands to wives and further clarify how wives' marital quality may be compromised. More specifically, husbands' depressed mood was positively associated with wives' reports of marital negativity, and husbands' marital negativity was associated negatively with wives' marital satisfaction. It is notable that no partner effects were found for husbands' marital negativity or satisfaction. This pattern of partner effects offers further support for a potentially gendered pattern in the transmission of stress in marriage that situates wives in a particularly precarious position perhaps due to a relationally oriented sense of self and underlying cultural values regarding the centrality of family roles for women (Hirsch, 2003; Kiecolt-Glaser & Newton, 2001). Although the preliminary analyses from the current study showed few mean differences between husbands' and wives' perceptions of economic pressures or stress related to cultural adaptation, Mexican-origin wives' marital satisfaction may be more reactive to the cumulative effects of external, contextual stressors through the more proximal stress of husbands' psychological distress and expressions of negativity in marriage.

This study addresses concerns voiced by scholars for decades regarding the lacuna of research on marriage outside the White and middle class (Coll, 2005; Glick, 2010; Helms, 2013; Karney et al., 2004; Kazak, 2004; Parke, 1998), but is limited in that the sample represents a unique group of Latinos in an emerging immigrant section of the country. The findings are therefore not generalizable to all Mexican Americans or Mexican immigrant couples more broadly. Furthermore, although the hypothesized indirect links in the model aligned with theoretical assertions and cross-lagged empirical findings regarding the direction of effects, the cross-sectional nature of the study makes conclusions about causal inference impossible and a discussion of direction of effects cautionary. An important direction for future work with longitudinal data will be to carefully examine within-person trajectories of change to better understand how elevations in spouses' stress are subsequently linked over time to fluctuations in spouses' depressive symptoms, expressions of marital negativity, and marital satisfaction. A strength of the study was that data were gathered from both husbands and wives; all data, however, were self-reports raising concerns about shared method variance in the actor models. Future research may benefit from the inclusion of additional methods for assessing contextual stress including objective ratings of spouses' self-reported stressors (e.g., Almeida, 2005) and home based observations of marital behavior that would provide more nuanced and objective indicators beyond the self-report marital negativity scale used here (Karney et al., 2004). Effect sizes in the final model were modest and suggest that additional factors are likely to be important in predicting marital quality for couples of Mexican origin. Recent work offers support for actor and partner associations between Latino spouses' perceptions of racial discrimination and marital quality (Trail, Goff, Bradbury, & Karney, 2012). Including spouses' perceptions of discrimination—related and yet conceptually distinct from cultural adaptation—in the larger model explored here would likely prove useful to further explain the contextual stress-marital quality link for spouses of Mexican origin.

Even so, the study provides a first look at how Mexican-origin spouses' experiences of economic pressure and cultural adaptation stress are linked to their marital quality and offers a culturally informed application of the larger stress-transmission literature. Stressors related to economic pressure and cultural adaptation appear to operate similarly in that they increase spouses' depressive symptoms which, in turn, leaves their marriages vulnerable to the effects of negative marital exchanges. Whereas the alleviation of economic pressure may prove difficult—at least in the short term—for many Mexican immigrant couples with limited economic resources, stressors unique to the process of cultural adaptation may be more readily amenable to intervention and prevention efforts. The links demonstrated here suggest that efforts to identify and help spouses' cope with the inevitable stressors associated with the process of cultural adaptation may have a trickle-down effect to marriage to the extent that spouses' emotional distress and negative marital exchanges are reduced.

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