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**A Family Stress Model Investigation of Bicultural Competence
Among U.S. Mexican-Origin Youth**

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Author note

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Public Significance

It is important to identify family and environmental factors that promote or constrain bicultural competence, or the ability to respond successfully to demands from two cultures, among immigrant and ethnic-racial minority youth. In U.S. Mexican-origin families, mothers' ethnic socialization promotes adolescents' bicultural competence. Maternal engagement in ethnic socialization, however, can be disrupted in the context of certain stressors. Supporting mothers' efforts to engage in ethnic socialization, perhaps by mitigating critical stressors, may help to promote bicultural competence among minority youth.

Abstract

Objectives: We investigated the influence of parental exposure to family stressors on parents' ethnic socialization practices and adolescents' cultural competencies among U.S. Mexican-origin families.

Method: Sample included 749 U.S. Mexican-origin families followed for 5 years (two-parent families = 579; single-mother families = 170). At first wave, mean age was 35.9 years for mothers, 38.1 years for fathers, and 10.42 years for youths (49% female). Most youths were U.S.-born (70.3%). Most parents were Mexico-born (74.3% to 79.9%). On average, Mexico-born parents had resided in the U.S. for 12.57 to 14.58 years. Both parents reported about 10 years of education. Annual family incomes ranged from less than \$5,000 to more than \$95,000. We conducted longitudinal structural equation analyses to test a culturally expanded Family Stress Model.

Results: Mothers' exposures to enculturative language stressors disrupted maternal ethnic socialization, and in turn, undermined adolescents' bicultural competence.

Conclusions: This work advances understanding of the family processes that set into motion youth's bicultural competence development.

Keywords: Adaptation, Biculturalism, Family, Socialization, Stressors

A Family Stress Model Investigation of Bicultural Competence Among U.S. Mexican-Origin Youth

The Family Stress Model (FSM) postulates that parental exposure to family stressors influences youth development by disrupting parenting practices (Figure 1). Prior research supports the FSM as a useful framework for understanding the family and parenting intervening mechanisms by which different family stressors influence youth development (Masarik & Conger, 2017). Most FSM research has focused on a limited range of family stressors, parenting practices, and youth outcomes. Research initially focused on economic hardship; subsequent expansions included neighborhood danger and stressors associated with adapting to two cultural systems (i.e., acculturative and enculturative stressors; White, Roosa, Weaver, & Nair, 2009). Second, most research has concentrated on disruptions to parents' warmth, monitoring, and discipline (e.g., Simons et al., 2016). Disruptions to culturally salient parenting practices, such as parents' *ethnic socialization* efforts to teach youth about the ethnic-racial or heritage group (Hughes et al., 2006), have not been examined. Third, most research has focused on externalizing and internalizing behaviors as developmental outcomes (e.g., Jocson & McLoyd, 2015). Developmental outcomes that are salient and normative for immigrant and ethnic-racial minority youth, such as *bicultural competence* (i.e., the ability to effectively manage heritage and host cultural systems; Basilio et al., 2014; LaFromboise, Coleman, & Gerton, 1993), have not been examined. Whether a wide range of family stressors disrupt parents' ethnic socialization practices and constrain youth's development of bicultural competence (Figure 1), has yet to be examined.

[Insert Figure 1]

Recent calls highlight the need for longitudinal socio-cultural expansions to FSM scholarship (e.g., White et al., 2015). The current study addresses these calls by investigating a longitudinal, culturally expanded FSM of U.S. Mexican-origin adolescents' bicultural competence. Bicultural competence is associated with developmental outcomes commonly studied in FSM research, including lower externalizing (Safa et al., 2019) and internalizing (David, Okazaki, & Saw, 2009) behaviors. Additionally, bicultural competence development is influenced by parenting (Kim & Hou, 2016) and by family stressors (Benet-Martinez & Haritato, 2005), suggesting the FSM as a useful tool for advancing an understanding of the familial circumstances under which youth develop bicultural competence. The period spanning early to middle adolescence is especially salient, as youth access numerous socio-cultural contexts and acquire cognitive abilities (Arnett, 2014) that support understanding of demands associated with the heritage and the host cultural systems (Knight, Safa, & White, 2018). We concentrated on U.S Mexican-origin families to support direct assessment of acculturative and enculturative language stressors, ethnic socialization, and bicultural competence specific to heritage Mexican and host American cultural systems.

Family Stressors

Immigrant and ethnic-racial minority groups are disproportionately exposed to numerous family stressors. In the case of the U.S. Latino population, a large proportion lives below the federal poverty level (Census, 2018) and resides in lower quality neighborhoods (South, Crowder, & Chavez, 2005). Prior FSM research highlights its utility for understanding the influence of economic hardship and neighborhood danger on disrupted parenting and on youths' internalizing and externalizing behaviors among diverse groups. Family economic hardship predicted higher youths' externalizing behaviors via increases in harsh parenting among U.S.

European families (Neppel, Senia, & Donnellan, 2016), and via decreases in mothers' nurturant-involved parenting among U.S. Black families (Simons et al., 2016). Mothers' sense of neighborhood disorder or danger predicted higher youths' internalizing or externalizing symptoms via increases in harsh parenting and inconsistent discipline in a U.S. ethno-racially diverse sample (Jocson & McLoyd, 2015), and via lower family cohesion among U.S. Mexican families (White, Roosa, & Zeiders, 2012). Thus, consistent with prior reviews (e.g., Masarik & Conger, 2017), the FSM appears to have utility across minority families, including immigrant and ethnic-racial minority families, especially in research on economic and neighborhood stressors. The model, however, has not been examined relative to parental ethnic socialization or adolescent bicultural competence.

In addition to exposure to economic and neighborhood stressors, many minority families concurrently experience stressors associated with adaptation to the host (*acculturative stressors*) and heritage cultures (*enculturative stressors*; Rodriguez, Myers, Mira, Flores, & Garcia-Hernandez, 2002). Typical acculturative and enculturative stressors include language stressors (i.e., competency pressures) and challenges balancing cultural demands (Rodriguez et al., 2002). FSM research investigating acculturative and enculturative stressors has used different operationalizations and scoring procedures. Acculturative stressors have been operationalized as perpetual foreigner stereotype (Hou et al., 2016), negative context of reception (Lau, 2010; Leidy, Parke, Cladis, Coltrane, & Duffy, 2009; Lorenzo-Blanco et al., 2016), and language stressors (Lau, 2010; Leidy et al., 2009; Lorenzo-Blanco et al., 2016; White et al., 2009). Operationalizations of enculturative stressors include language stressors and pressures against acculturation (Lorenzo-Blanco et al., 2016). Further, a combined acculturative-enculturative stressors score is often derived from adding stressors originating from *both* heritage and host

cultural systems (Lorenzo-Blanco et al., 2016) or from assessing difficulty managing bicultural demands (Hou et al., 2016). Among these different approaches, parental acculturative stressors and combined acculturative-enculturative stressors predicted higher marital and parent-child conflict among U.S. Chinese families (Hou et al., 2016). Combined acculturative-enculturative stressors predicted lower family functioning among U.S. Latino families (Lorenzo-Blanco et al., 2016). Acculturative stressors predicted lower maternal warmth via mothers' depression among U.S. Mexican families (White et al., 2009). None of these studies, however, examined how parental acculturative and enculturative language stressors might disrupt or undermine parental ethnic socialization.

There is some empirical evidence suggesting that parental acculturative and enculturative stressors can compromise youth's development, though development of bicultural competence has not been examined. Prior work shows that parental acculturative stressors predicted higher children's internalizing symptoms among first-generation U.S. Mexican families (Leidy et al., 2009), and higher disruptive behaviors among U.S. Chinese families (Lau, 2010). Acculturative stressors and combined acculturative-enculturative stressors predicted lower U.S. Chinese youths' academic performance and higher depressive symptoms and delinquent behaviors via parent-child conflict and alienation (Hou et al., 2016). Combined acculturative-enculturative stressors predicted lower U.S. Latino youths' self-esteem and higher aggressive behaviors and substance use via lower family functioning (Lorenzo-Blanco et al., 2016). The findings reviewed here are consistent with putative FSM associations between family stressors and youth development, though they do not extend to the development of bicultural competence. Assessing parental exposures to these stressors during their children's late childhood, as youth transition into adolescence, may be important.

Prior FSM research provides extensive evidence linking family stressors to disrupted parenting behaviors, including harsh parenting (Neppl et al., 2016), discipline (Jocson & McLoyd, 2015), warmth (White et al., 2009), parental investment and monitoring (Simons et al., 2016), and in turn, to adolescent maladjustment. The current study extends prior work by examining the influence of parental exposure to a comprehensive range of family stressors on ethnic socialization among U.S. Mexican-origin families. Because language is a powerful transmitter and activator of culture, acculturative and enculturative language stressors are one of the most challenging issues for individuals undergoing dual-cultural adaptation (Luna, Ringberg, & Peracchio, 2008; Rodriguez et al., 2002). Language stressors are often associated with decreases in parents' general feelings of efficacy (Costigan & Koryzma, 2011) and competence (Martinez, McClure, & Eddy, 2009). Thus, language stressors are especially important sources of acculturative or enculturative stress. U.S. Mexican-origin first-generation immigrants tend to experience more acculturative language stressors (i.e., English competency pressures), whereas subsequent generations experience more enculturative language stressors (i.e., Spanish competency pressures; Rodriguez et al., 2002), making it essential to control for nativity differences in models including these stressors.

Youth's Bicultural Competence and Parental Ethnic Socialization

Bicultural competence includes an assortment of skills that enable individuals to access, switch, integrate, and manage heritage and host cultural domains (i.e., affiliation, attitudes, behaviors, knowledge, and values; Benet-Martinez & Haritato, 2005; LaFromboise et al., 1993). Bicultural competence also includes individuals' facility, comfort, and perceived advantage when responding to bicultural demands (Basilio et al., 2014). Focusing on bicultural facility, comfort, and advantage is important because these behavioral, affective, and cognitive

components are theorized to serve as the basis for the development of the skills needed to navigate bicultural demands (Basilio et al., 2014). Minority youth develop bicultural competence as they encounter opportunities to internalize cultural domains associated with the heritage and the host cultures (Benet-Martinez & Haritato, 2005; Luna et al., 2008). Youth experience opportunities to learn about the host culture across multiple contexts, including family, school, and neighborhood contexts (Safa et al., 2019). The family context, however, is often the most influential context in which youth learn about the heritage culture (Knight et al., 1993, 2016). Examining, therefore, the influence of disruptions to parental ethnic socialization on bicultural competence development is important.

Empirical evidence links parental ethnic socialization with youth's internalization of heritage and host cultural domains. Ethnic socialization predicted higher U.S. Latino youths' heritage values (Knight et al., 2011; Umaña-Taylor, Alfaro, Bámaca, & Guimond, 2009), heritage identity, and Spanish fluency (Umaña-Taylor et al., 2009; Umaña-Taylor & Guimond, 2012). Ethnic socialization predicted higher U.S. Asian female adolescents' heritage and host identities (Gartner, Kiang, & Supple, 2014), and higher U.S. Latino adolescents' endorsement of bicultural orientations, including affiliations, behaviors, knowledge, and values (Schwartz & Zamboanga, 2008). None of these studies, however, examined whether disruptions to parental ethnic socialization constrained youths' bicultural competence development.

Parental ethnic socialization efforts that specifically include practices promoting cultural pride, customs, and traditions (i.e., *cultural socialization*; Hughes et al., 2006) might foster bicultural competence development. Prior research links parental ethnic socialization to youths' engagement in heritage identity processes (Umaña-Taylor et al., 2009). Those youths who explore their heritage identity might also engage in host identity processes (Gartner et al., 2014)

and explore the meaning of one group membership in relation to the other. Youth who perceive themselves as members of the heritage and the host groups are more likely to internalize other cultural domains (Tajfel & Turner, 1986). Youth who successfully internalize and integrate cultural domains associated with both cultures are more likely to develop bicultural competence (Benet-Martinez & Haritato, 2005; LaFromboise et al., 1993). Thus, family contexts shaped by low parental ethnic socialization might constrain youth's opportunities to internalize the two cultural systems and, in turn, to develop bicultural competence. In this way, any disruption to parental ethnic socialization associated with family stressors could constrain youth's bicultural competence development.

The Current Study

The current study tests a culturally expanded FSM. In a longitudinal structural equation model spanning late childhood to middle adolescence, we examined whether U.S. Mexican-origin mothers' or fathers' (separately) exposures to family stressors, including economic hardship, neighborhood danger, and acculturative or enculturative language stressors, disrupted ethnic socialization and, in turn constrained adolescents' bicultural competence development (FSM Hypotheses: Mediation). Our prospective models controlled for parents' nativity (Rodriguez et al., 2002) and baseline levels of ethnic socialization. We accounted for parenting behaviors often examined within FSM research by controlling for parents' baseline levels of warmth and monitoring. We were unable to control for baseline levels of adolescents' affective, behavioral, and cognitive components of bicultural competence, because in late childhood, youth lack cognitive abilities necessary to understand demands associated with the heritage and the host cultural systems (Knight et al., 2018). Instead, we controlled for developmentally appropriate cultural competencies, namely youths' (and parents') baseline endorsements of

Mexican American and mainstream American values, which are related to youths' development of later bicultural competence (Knight et al., 2014). Last, and based upon extant theory recognizing that gender and nativity are social position variables that can set families and youth onto different developmental pathways (García Coll et al., 1996), we examined whether findings generalized equally well to boys and girls, and to Mexico- and U.S.-born youth.

Method

Data were from a longitudinal study (2004 – 2011) of U.S. Mexican-origin families (Roosa et al., 2008). Participants included 749 youths (49% female), their mothers, and a subsample of fathers selected from schools in Phoenix metro area. Families were eligible if they had a target 5th grader attending a sampled school; the participating mother was the biological mother and lived with the youth; both biological parents were of Mexican-origin; the youth was not learning disabled; and no stepfather figure lived with the youth. Out of the 749 families, 579 were two-parent and 170 were single-mother families. Eighty percent of fathers from two-parent families participated ($n = 467$). Participants completed computer assisted interviews at home, used preferred language, and received \$45, \$50, and \$55 at each respective wave.

The current study used data from the first (5th grade), second (7th grade), and third (10th grade) waves. In 5th grade, 30.2% of mothers, 23.2% of fathers, and 82.5% of youths chose to be interviewed in English and the remaining in Spanish. Most parents were Mexico-born (74.3% to 79.9%). Most youths were U.S.-born (70.3%). Mean age was 35.9 years ($SD = 5.81$) for mothers, 38.1 years ($SD = 6.26$) for fathers, and 10.42 years ($SD = .55$) for youths. Parents reported about 10 years of education ($SD_M = 3.67$; $SD_F = 3.94$). Annual family incomes ranged from less than \$5,000 to more than \$95,000 (mean \$30,000 – \$35,000). Of the 749 families, 95% and 85% participated in 7th and 10th grades, respectively.

Measures

Parents and adolescents reported on demographic characteristics including gender (0 = male; 1 = female) and nativity (0 = Mexico-born; 1 = U.S.-born). Parents reported on annual family income (1 = \$0,000–\$5,000 to 20 = \$95,001+). Parents and adolescents reported on their endorsement of Mexican and mainstream American values (5th grade) using the Mexican American Cultural Values Scale (Knight et al., 2010). Previous work supported factor structure, validity, and reliability of the measure (Knight et al., 2010). The response scale ranged from (1) *not at all* to (5) *completely*. We computed means for Mexican and mainstream values, higher means indicate higher levels. Parents reported on parenting behaviors (i.e., warmth and monitoring) using valid and reliable adaptations (Nair, White, Knight, & Roosa, 2009) of the Children's Report on Parental Behavior Inventory's acceptance scale and Small and Kerns' (1993) parental monitoring scale. The response scale ranged from (1) *almost never* to (5) *almost always*. Means were computed, higher means indicate higher levels. Cronbach's alphas for all measures are presented in Tables 1 and 2.

Parents' economic-neighborhood stressors (5th grade). Mothers and fathers reported on their *economic hardship* using an adapted version of an economic pressures measure (Barrera, Caples, & Tein, 2001). Previous work supported the construct validity and reliability of the measure (Barrera et al., 2001). The measure includes three subscales reflecting (a) an inability to make ends meet (2 items, e.g., "tell us how much difficulty you had with paying your bills"); (b) not enough money for necessities (7 items, e.g., "You had enough money to afford the kind of food you needed"); and (c) financial strain (2 items, e.g., "how often do you expect that you will have to do without the basic things that your family needs"). The response scales varied by subscale (e.g., (1) *a great deal of difficulty/ almost never or never* to (5) *no difficulty at all/*

almost always or always). We computed means, higher means indicate higher levels.

Additionally, parents reported on perceived *neighborhood danger* using a 3-item subscale (e.g., “it is safe in your neighborhood,” reverse-coded) of the Neighborhood Quality Evaluation Scale (Roosa et al., 2005). Previous work supported the construct validity and reliability of the measure (Kim, Nair, Knight, & Roosa, 2009). The response scale ranged from (1) *not true at all* to (5) *very true*. We computed means, higher means indicate higher levels. Means on economic hardship and neighborhood danger were used as indicators of an economic-neighborhood stressors latent construct, as prior work suggests that these stressors co-occur in minority families (Census, 2018; South et al., 2005).

Parents’ acculturative and enculturative language stressors (5th grade). Mothers and fathers completed the language dimension (10 items) of the Multidimensional Acculturative Stress Inventory (Rodriguez et al., 2002), assessing *acculturative and enculturative stress resulting from English and Spanish, respectively, language competency pressures and difficulty* (e.g., “people have treated you rudely or unfairly because you do not speak [English/Spanish] well”). Previous work supports construct validity, reliability, and a two-factor structure (Rodriguez et al., 2002). The response scale ranged from (1) *not at all true* to (5) *very true*. We computed means for the English and the Spanish subscales, higher means indicate higher levels.

Parents’ ethnic socialization (5th and 7th grades). Mothers and fathers reported on how often they socialized their youths about the Mexican American culture using the 10-item *Ethnic Socialization Scale* (e.g., Knight et al., 1993). This measure primarily assessed *cultural socialization* efforts such as telling youth about traditions, values, beliefs, and ethnic group history (e.g., “How often do you tell your child to be proud of his/her Mexican background.”) Previous work supported factor structure, validity, and reliability of the measure (Knight et al.,

2011). The response scale ranged from (1) *almost never or never* to (4) *a lot of the time*. We computed means, higher means indicate higher levels.

Adolescents' bicultural competence (10th grade). Adolescents reported on *behavioral, affective, and cognitive components of their bicultural competence* (i.e., facility, comfort, and advantage, respectively) using the Mexican American Biculturalism Scale (Basilio et al., 2014). Previous work supported factor structure, cross-gender and language factorial invariance, validity, and reliability of the measure (Basilio et al., 2014). All subscales included 9 items. The facility subscale (e.g., "Being obligated to satisfy my family's needs sometimes, and satisfying my own needs other times is __," reverse-coded) responses ranged from 1 (*very easy*) to 5 (*very difficult*). The comfort subscale (e.g., "Sometimes you may need to make an important decision on your own, and other times you may need to ask your family for advice.") responses ranged from 1 (e.g., *I am only comfortable when...I*) to 5 (e.g., *I am always comfortable in both of these situations*). The advantage subscale (e.g., "For me being able to interact with other Mexican/Mexican Americans sometimes, and being able to interact with Whites (gringos) other times has __," reverse-coded) responses ranged from 1 (*many advantages*) to 5 (*many disadvantages*). We computed means for each subscale, higher means indicate higher levels. Based on prior psychometric work (Basilio et al., 2014), subscales' means were used as indicators of a bicultural competence latent construct.

Analytic Strategy

The full sample of mothers and youths (from single-mother and two-parent households) represents one of the largest and most representative samples of U.S. Mexican-origin families (Roosa et al., 2008). The subsample of fathers from two-parent households represents an important population of fathers with a wide range of variability in demographic characteristics

(Safa, White, & Knight, 2020). We estimated hypothesized models separately in the full sample of mother-adolescent dyads ($N = 749$) and in the subsample of father-adolescent dyads ($n = 579$). Descriptive statistics were examined and attrition analyses were conducted. We conducted longitudinal structural equation analyses in *Mplus* 8 (Muthén & Muthén, 2010) with full information maximum likelihood estimation with robust standard errors (Enders, 2013). Multiple fit indices were examined to assess global model fit; CFI greater than .95, RMSEA less than .05, and SRMR less than .05 were consistent with good model fit (Hu & Bentler, 1999).

We examined whether parents' exposures to family stressors predicted their ethnic socialization and whether parents' ethnic socialization predicted adolescents' bicultural competence. Model specification included a bicultural competence latent factor with three indicators (facility, comfort, and advantage) and an economic-neighborhood stressors latent factor with two indicators: economic hardship and neighborhood danger. All remaining unidimensional scales were treated as observed to support parsimony (i.e., reduce number of model parameters needed) and because prior published work established their latent factor structures. We controlled for parents' nativity, and 5th grade ethnic socialization, warmth, monitoring, and parents' and youths' endorsement of Mexican and mainstream American values. Mediation effects were tested using the distribution-of-product method in *RMediation* (Tofighi & MacKinnon, 2011). We conducted multi-group structural equation analyses to assess whether adolescents' gender or nativity qualified findings. A fully unconstrained model was compared to a partially constrained model (paths b and c constrained) using a Satorra-Bentler chi-square difference test. A non-significant chi-square suggested invariance. Additionally, to rule out multicollinearity among stressors as alternative explanation, we tested the hypothesized model

separately for economic-neighborhood stressors versus acculturative and enculturative language stressors.

Results

Attrition analyses examined whether families who participated in interviews in 7th and 10th grades differed on 5th-grade child (i.e., age, nativity, gender) and parent demographic (i.e., age, nativity, family annual income) variables from those that did not. Families who participated in 10th grade ($n = 640$) reported higher family income [$t(730) = -2.962, p = .003$] and youth were more likely to be U.S.-born [$\chi^2(1) = 4.681, p = .041$] compared to those who did not participate ($n = 109$). No other differences were observed in demographic or study variables. To reduce bias attributed to missingness, we included 5th grade family income as an auxiliary variable (Enders, 2010). Preliminary analyses examined whether two-parent families with participating fathers ($n = 467$) differed from two-parent families in which fathers did not participate ($n = 112$). No differences were observed in child demographic (i.e., age, nativity, gender), mother demographic (i.e., age, nativity, family annual income), or study variables. Descriptive statistics are presented in Tables 1 and 2.

[Insert Tables 1 and 2]

Tests of Mediation Model

Results, including evidence of good model fit, are presented in Figures 2 (mothers) and 3 (fathers). Mothers' enculturative language stressors predicted lower ethnic socialization two years later, controlling for mothers' nativity, prior levels of ethnic socialization, and exposure to other stressors. Mothers' acculturative language stressors and economic-neighborhood stressors did not predict ethnic socialization. Mothers' 7th grade ethnic socialization predicted higher adolescents' bicultural competence three years later, controlling for 5th grade levels of

adolescents' and mothers' Mexican and mainstream American values, and mothers' warmth and monitoring. Mothers' ethnic socialization mediated the link between their earlier enculturative language stressors and later adolescents' bicultural competence (Table 3). Fathers' economic-neighborhood stressors and acculturative or enculturative language stressors did not predict ethnic socialization. Additionally, fathers' ethnic socialization did not predict adolescents' bicultural competence.

[Insert Figures 2, 3 and Table 3]

For mothers, difference tests indicated that the paths did not differ by adolescent nativity, $\Delta\chi^2(4) = 4.777, p = .311$ or gender, $\Delta\chi^2(4) = 1.351, p = .853$. We conducted a follow-up analysis including adolescent gender and nativity as covariates on bicultural competence. Findings were comparable to those in Figure 2 (i.e., no differences in coefficient direction and significance levels). For fathers, the paths did not differ by adolescent nativity, $\Delta\chi^2(4) = .770, p = .942$ or gender, $\Delta\chi^2(4) = 1.389, p = .846$. A follow-up analysis including gender and nativity as covariates produced comparable findings to Figure 3. Findings from models in which economic-neighborhood stressors and acculturative and enculturative language stressors were examined separately (Supplemental Materials) replicated findings from our combined models with one exception: the direct path between mothers' acculturative language stressors and adolescent bicultural competence was negative and significant in models that did not consider economic-neighborhood stressors.

Discussion

The current study offers important extensions by testing a culturally expanded FSM in a diverse sample of U.S. Mexican-origin families. We examined whether parents' exposures to economic and neighborhood stressors and to acculturative or enculturative language stressors

disrupted their ethnic socialization and, in turn, constrained their adolescents' bicultural competence. The negative indirect effect suggests that rank-order declines in mothers' ethnic socialization are a mechanism via which mothers' exposure to enculturative language stressors undermine adolescents' bicultural competence. Contrary to expectations, our expanded FSM did not explain associations between fathers' exposure to family stressors, paternal ethnic socialization, and adolescent bicultural competence. All findings generalized across adolescent gender and nativity.

FSM Mediated Findings

Consistent with our FSM hypotheses, adolescents developing in 5th grade family contexts characterized by mothers' higher enculturative language stressors were exposed to fewer 7th grade maternal ethnic socialization practices and, later, exhibited lower 10th grade bicultural competence. First, our findings indicate that mothers' experiences of Spanish competency pressures – important sources of enculturative stress – disrupt their ethnic socialization. This finding extends the range of maternal parenting behaviors that are influenced by family stressors to include ethnic socialization, moving beyond prior FSM work examining harsh parenting (Neppel et al., 2016), discipline (Jocson & McLoyd, 2015), warmth (White et al., 2009), parental investment, and monitoring (Simons et al., 2016). It also highlights specificity, in that enculturative language stressors, and not economic and neighborhood stressors or acculturative language stressors, disrupted maternal ethnic socialization.

The FSM highlights parental psychological distress as a key intervening mechanism between family stressors and disrupted parenting (Masarik & Conger, 2017). Substantial prior work documents a positive association between family stressors and parental depression generally (e.g., Conger et al., 2002) and enculturative stressors and maternal depression

specifically (Zeiders, Umaña-Taylor, Updegraff, & Jahromi, 2015). The current finding suggests that enculturative language stressors can contribute to disruptions to maternal ethnic socialization, possibly through heightened psychological distress (Zeiders et al., 2015).

Unfortunately, psychological distress was not directly assessed in the current study (because the larger study did not include an assessment that allowed for a prospective test of the association).

Next, our finding suggests that disruptions to maternal ethnic socialization, in turn, undermine adolescent bicultural competence, above and beyond any effect of maternal warmth, monitoring, and Mexican and mainstream American values. Maternal ethnic socialization had positive implications for U.S. Asian female adolescents' host and heritage cultural identities (Gartner et al., 2014) and for U.S. Latino adolescents' bicultural orientations (Schwartz & Zamboanga, 2008). The current finding extends the range of adolescent cultural competencies influenced by parental ethnic socialization to include bicultural competence. This extension is important because it highlights the benefits of maternal ethnic socialization practices not only for adolescents' cultural orientations, but also for the development of competencies needed to successfully navigate bicultural demands. Additionally, the family context might be the primary context in which youth learn about the heritage culture (Knight et al., 1993, 2016). Disruptions to maternal ethnic socialization, therefore, may be associated with decreases in adolescents' opportunities to learn about heritage culture traditions, values, beliefs, and history. Limited familial affordances associated with the heritage culture may be related to decreases in youth engagement in heritage identity processes (Umaña-Taylor & Guimond, 2012) and likely to decreases in youth exploration of their bicultural memberships (Gartner et al., 2014). This in turn, may constrain youth opportunities to internalize (Tajfel & Turner, 1986), and to integrate

heritage and host cultural domains (Benet-Martinez & Haritato, 2005), thus undermining youth bicultural competence development.

Family Stressors and Parental Ethnic Socialization

Enculturative language stressors. Consistent with the mediated effect described above, mothers' exposures to enculturative language stressors predicted lower levels of later maternal ethnic socialization, but this finding did not extend to fathers. This replicates patterns seen in prior work documenting parents' gender differences in response to acculturative and enculturative stressors. Combined acculturative-enculturative stressors predicted higher parent-child conflict for fathers compared to mothers among U.S. Chinese families (Hou et al., 2016). Acculturative stressors, however, predicted higher mothers', not fathers', marital conflict among U.S. Chinese families (Hou et al., 2016), and depressive symptoms among U.S. Mexican families (White et al., 2009). Our finding extends this work and suggests that fathers may respond differently to enculturative language stressors than mothers, and that these language stressors have different implications for fathers' parenting practices. The current study, however, did not offer a direct statistical comparison between mothers' and fathers' findings. Future work may consider a direct examination of such differences.

More work is needed to understand maternal and paternal differences in family stress processes generally (White et al., 2017), and in responses to enculturative language stressors specifically. It may be important to consider documented gender differences in the causes and correlates of depression (Nolen-Hoeksema, 2001). Specifically, our measure of enculturative language stressors included many items related to intrapersonal relationships (e.g., "People have treated you rudely or unfairly because you do not speak Spanish well"), a domain of stress that may be more strongly related to female than to male depression (Nolen-Hoeksema, 2001).

Alternatively, parental involvement and roles may work to differentiate the influence of enculturative language stressors on mothers' and fathers' ethnic socialization. Prior work suggests that minority fathers' engagement with their youths tend to be different than mothers' engagement, such that fathers are more likely to engage in "rough-and-tumble" play, encourage risk-taking, and socialize gender roles (Cabrera & Leyendecker, 2017). Fathering roles in Latino families have traditionally included more of a focus on sanctioning and modeling, rather than verbal forms of socialization (Taylor & Behnke, 2005). Our measure of ethnic socialization predominantly assessed verbal cultural socialization, like telling youth about cultural traditions and values. Thus, it may not have captured some of the gendered ways in which fathers engage in cultural socialization. It is possible that the FSM describes variability in fathers' ethnic socialization when broader forms of socialization are captured. More work is needed in this area.

Additional family stressors. For both mothers and fathers, acculturative language stressors did not relate to their ethnic socialization. Prior FSM-inspired research documenting the link between parents' exposures to acculturative and enculturative stressors and disrupted parenting or family functioning has concentrated on acculturative stressors alone (Hou et al., 2016; Lau, 2010; Leidy et al., 2009; White et al., 2009), or a combination of acculturative and enculturative stressors (Hou et al., 2016; Lorenzo-Blanco et al., 2016). Both of these approaches, however, do not support examination of the simultaneous yet specific influences of acculturative versus enculturative language stressors on parenting. Our more fine-grained approach indicates that parents' experiences of acculturative stress due to English competency pressures did not predict later parental ethnic socialization. Thus, it may be important to continue distinguishing between enculturative and acculturative stressors (Zeiders et al., 2015) in future FSM research.

Similarly, parents' exposures to economic and neighborhood stressors did not predict later parental ethnic socialization. This finding generalized to mothers and fathers. Economic hardship and neighborhood danger are important stressors in the FSM literature. Prior research across ethno-racially diverse groups suggests that these stressors have important implications for family cohesion (White et al., 2012) and for parenting behaviors, including discipline (Jocson & McLoyd, 2015), harsh parenting (Neppl et al., 2016), and nurturing parenting (Simons et al., 2016). The current findings, however, suggest that the influence of parents' exposures to economic and neighborhood stressors do not extend to ethnic socialization.

Culturally salient parenting practices, including ethnic socialization, are theorized to be part of minority families' adapting cultural systems of socialization and to have evolved from groups' collective histories and current environmental demands and affordances (Garcia Coll et al., 1996). Moreover, adaptive cultures can manifest as culturally defined parenting responses to stressors (White et al., 2015). It may be that parents' exposures to these stressors do not disrupt parental ethnic socialization practices, specifically, because these practices are central aspects of U.S. Mexican-origin families' adapting cultural systems of socialization (Garcia Coll et al., 1996), which have evolved within the demands and affordances encountered as parents negotiate minoritized experiences relative to acculturative language stressors, economic hardships, and dangerous neighborhoods (White et al., 2018). Additionally, other aspects of these families' adaptive cultures, including values, roles, and traditions, may work as protecting mechanisms (White et al., 2015) and shield parents from experiencing ethnic socialization disruptions. Thus, it may be important to assess the influence of family stressors and affordances on culturally salient parenting practices in future research. It is also important to consider that changes in these stressors could have taken place between 5th and 7th grades, disrupting prospective associations.

Adolescent Bicultural Competence and Parental Ethnic Socialization

Though maternal ethnic socialization predicted higher levels of adolescents' bicultural competence consistent with the mediated mechanism described above, this finding did not extend to fathers. Prior work highlights the influence of different family roles on the meanings and consequences of parents' socialization beliefs and practices for youth developmental competencies (White et al., 2018b), and maternal and paternal differences have been documented among U.S. Mexican (White, Knight, Jensen, & Gonzales, 2018a) and U.S. Chinese families (Kim & Hou, 2016). Our finding also suggests that parental roles may qualify the association between parental ethnic socialization and adolescent bicultural competence. Particularly in relatively traditional U.S. Mexican-origin families, mothers may be more likely to be the primary cultural socializing agents for their youths (Knight et al., 2011), especially in the context of verbal socialization. Mothers' verbal cultural socialization, therefore, may have a more direct influence on their adolescents' bicultural competence. Further, fathers may engage in other types of cultural socialization practices (Cabrera & Leyendecker, 2017) to promote adolescents' bicultural competence such as taking their youths to cultural events (e.g., soccer game) and modeling or sanctioning culturally relevant behaviors (Taylor & Behnke, 2005). It may be important, therefore, to examine the influence of different types of parental cultural socialization practices, and of additional, gendered parental affordances and demands (White, Liu, Gonzales, Knight, & Tein, 2016), on the development of adolescent bicultural competence.

Limitations and Conclusions

The current study had several strengths that should be considered in light of its limitations. First, the study tested important FSM hypotheses in a longitudinal, prospective analysis. Second, we assessed language stressors, important sources of acculturative or

enculturative stress (Luna et al., 2008). Including additional dimensions (e.g., pressure to acculturate and pressure against acculturation), however, might provide a more comprehensive picture. Third, we focused on ethnic cultural socialization using an established measure. Our measure, however, primarily assessed verbal rather than behavioral aspects. The examination of different, potentially gendered ways in which parents socialize their youths vis-à-vis the heritage culture is needed (Knight et al., 2011). Further, examining other ethnic socialization practices including preparation for bias and promotion of mistrust may be important (Stein, Coard, Kiang, Smith, & Mejia, 2018). Additionally, many minority parents have the goal to rear youth who are bicultural (Kim & Hou, 2016). Including, therefore, a measure of parents' host socialization might be critical. Last, we made important extensions to FSM scholarship by expanding the range of parenting practices and youth outcomes that are influenced by exposure to family stressors. The FSM highlights psychological distress as a key intervening mechanism between family stressors and disrupted parenting (Masarik & Conger, 2017). Though prior work has already established a link between family stressors and parental depression (e.g., Zeiders et al., 2015), this study did not include psychological distress in the mediational mechanism.

In conclusion, the current study highlights both the utility and limitation of the FSM for research on behavioral, affective, and cognitive components of bicultural competence and offers important cultural extensions. Findings suggest that mothers' exposures to enculturative language stressors can disrupt maternal ethnic socialization, and in turn, undermine adolescents' bicultural competence. These findings highlight the importance of examining the influence of multiple family stressors, parenting behaviors, and family roles on adolescent bicultural competence development. The practical importance of this work relies on extensions to prior work documenting that even small magnitude differences in bicultural competence can be

associated with adjustment (e.g., Carrera & Wei, 2014; Huynh, Benet-Martínez, & Nguyen, 2018; Safa et al., 2019). It may be important to consider that adolescents developing in family contexts characterized by lower levels of maternal ethnic socialization may need additional, extrafamilial supports to achieve the highest levels of bicultural competence, if that is the goal. By examining the influence of multiple family stressors on culturally salient parenting practices, and their implications for adolescent bicultural competence, this work advances scholarship on the FSM and on the family processes that set into motion bicultural competence development.

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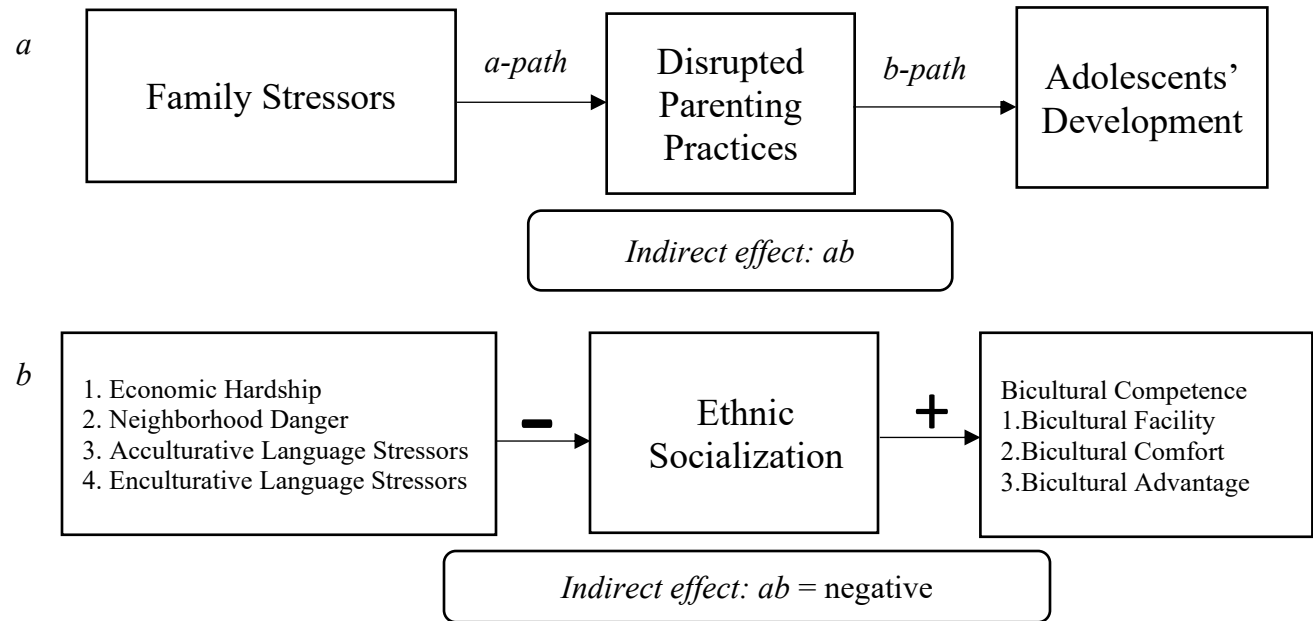


Figure 1. (a) Conceptual model describing the indirect implications (i.e., ab) of family stressors for adolescents' development via disrupted parenting practices. (b) Investigated model describing the indirect implications of parental exposure to economic hardship, neighborhood danger, and acculturative or enculturative language stressors (i.e., English or Spanish competency pressures, respectively) for adolescents' development of different components of bicultural competence via disrupted parental ethnic socialization practices.

Table 1*Descriptive Statistics and Intercorrelations for Study Variables in the Mother-Adolescent Dyad Sample (N = 749)*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	<i>M</i>	<i>SD</i>	α
1. 5 th Economic Hardship (M)															2.64	.88	.92
2. 5 th Neighborhood Danger (M)	.190**														2.52	1.03	.88
3. 5 th Acculturative Language Stress (M)	.310**	.118**													2.33	1.18	.85
4. 5 th Enculturative Language Stress (M)	-.044	-.041	-.264**												1.26	.55	.83
5. 5 th Mexican Values (M)	.003	-.118**	.157**	-.082*											4.41	.37	.88
6. 5 th Mainstream Values (M)	.134**	.001	.407**	-.192**	.373**										3.20	.62	.81
7. 5 th Warmth (M)	-.110**	-.084*	.052	-.141**	.267**	.095**									4.44	.49	.78
8. 5 th Monitoring (M)	-.248**	-.187**	-.223**	.011	.045	-.134**	.293**								4.23	.73	.74
9. 5 th Ethnic Socialization (M)	.054	-.013	.284**	-.166**	.338**	.339**	.315**	.026							3.10	.52	.76
10. 7 th Ethnic Socialization (M)	.065	-.016	.229**	-.186**	.282**	.273**	.291**	.008	.661**						3.18	.50	.78
11. 5 th Mexican Values (Y)	-.040	-.020	-.028	-.012	.030	-.036	-.026	.014	-.013	.033					4.52	.33	.85
12. 5 th Mainstream Values (Y)	.192**	.035	.154**	-.055	.044	.128**	-.040	-.126**	.027	.058	.285**				2.91	.74	.84
13. 10 th Bicultural Facility (Y)	-.052	-.071	-.122*	-.026	.018	-.082	-.013	-.066	.058	.108	.048	-.118*			3.67	.55	.81
14. 10 th Bicultural Comfort (Y)	-.054	.050	.069	-.166**	.119*	.151**	.022	.001	.084	.178**	.083	-.069	.385**		3.24	.98	.85
15. 10 th Bicultural Advantage (Y)	-.100	-.015	-.049	-.132*	.042	.079	.025	.033	.138*	.231**	.111*	-.156**	.457**	.318**	3.91	.55	.86

Note. M = Mother report; Y = Youth report; 5th = 5th grade; 7th = 7th grade; 10th = 10th grade. Descriptive analyses were conducted in SPSS using listwise deletion.

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

Table 2*Descriptive Statistics and Intercorrelations for Study Variables in the Father-Adolescent Dyad Sample (n = 579)*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	<i>M</i>	<i>SD</i>	α
1. 5 th Economic Hardship (F)															2.37	.84	.92
2. 5 th Neighborhood Danger (F)	.346**														2.42	.94	.89
3. 5 th Acculturative Language Stress (F)	.307**	.237**													1.99	.95	.82
4. 5 th Enculturative Language Stress (F)	-.019	-.018	-.097*												1.29	.62	.87
5. 5 th Mexican Values (F)	-.008	-.105*	.075	.006											4.38	.38	.88
6. 5 th Mainstream Values (F)	.174**	.047	.272**	-.081	.418**										3.40	.62	.82
7. 5 th Warmth (F)	-.212**	-.205**	-.083	-.069	.360**	.162**									4.21	.54	.74
8. 5 th Monitoring (F)	-.264**	-.246**	-.166**	-.013	.138**	-.061	.461**								3.88	.79	.74
9. 5 th Ethnic Socialization (F)	-.003	-.114*	.034	-.080	.299**	.215**	.326**	.177**							3.00	.54	.74
10. 7 th Ethnic Socialization (F)	.011	-.075	.063	-.105*	.261**	.246**	.229**	.098*	.682**						3.13	.52	.77
11. 5 th Mexican Values (Y)	.002	.007	-.014	-.045	.060	-.038	.039	-.037	-.031	.027					4.51	.33	.85
12. 5 th Mainstream Values (Y)	.127**	.091*	.098*	-.023	.047	.038	-.068	-.125**	-.017	.039	.284**				2.92	.76	.84
13. 10 th Bicultural Facility (Y)	-.013	-.008	.063	.015	-.042	.004	-.068	-.070	-.043	-.049	.058	-.112			3.69	.55	.81
14. 10 th Bicultural Comfort (Y)	-.025	-.028	.011	-.137	-.078	-.021	.123	.138*	-.036	-.067	.091	-.133*	.406**		3.25	.99	.85
15. 10 th Bicultural Advantage (Y)	-.028	-.007	-.004	-.073	-.094	.017	-.068	-.037	-.056	.022	.141*	-.147*	.506**	.369**	3.94	.53	.86

Note. F = Father report; Y = Youth report; 5th = 5th grade; 7th = 7th grade; 10th = 10th grade. Descriptive analyses were conducted in SPSS using listwise deletion.

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

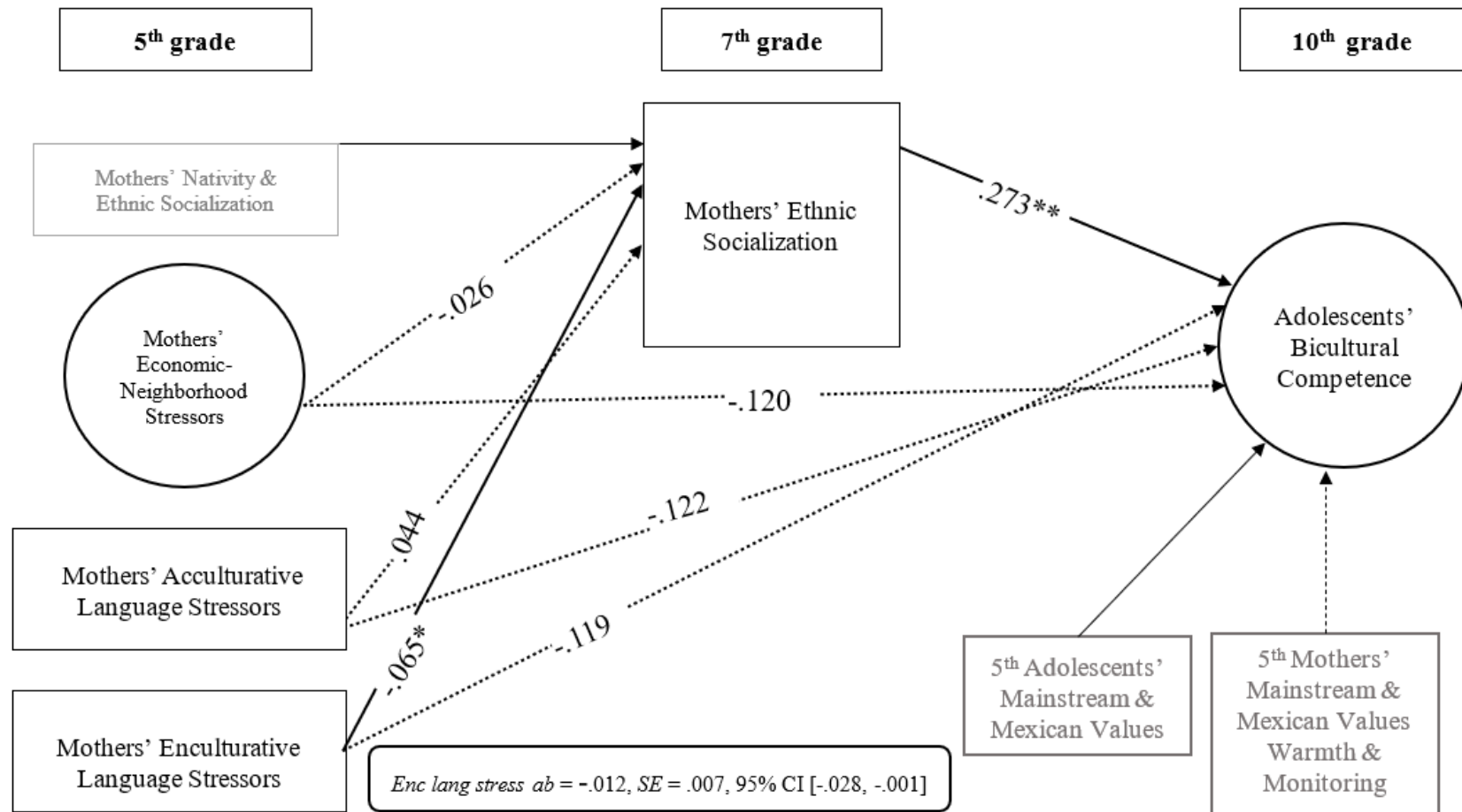


Figure 2. Test of hypothesized model linking 5th grade mothers' exposure to economic-neighborhood stressors, and acculturative or enculturative language stressors to 10th grade adolescents' bicultural competence via 7th grade mothers' ethnic socialization ($N = 749$). 5th = 5th grade; *Enc lang stress ab* = Indirect effect for enculturative language stressors on adolescents' bicultural competence via mothers' ethnic socialization. 5th grade family income is included as an auxiliary variable. Exogenous variables are allowed to correlate for missing data estimation. Completely standardized coefficients are reported. Solid lines represent significant paths. Dash lines represent non-significant paths ($p > .05$). Non-significant indirect effects are reported in Table 3. Model fit: $\chi^2(45) = 84.262$, $p < .001$; CFI = .980; RMSEA = .034, 90% CI [.023, .045]; SRMR = .032. * $p < .05$. ** $p < .01$.

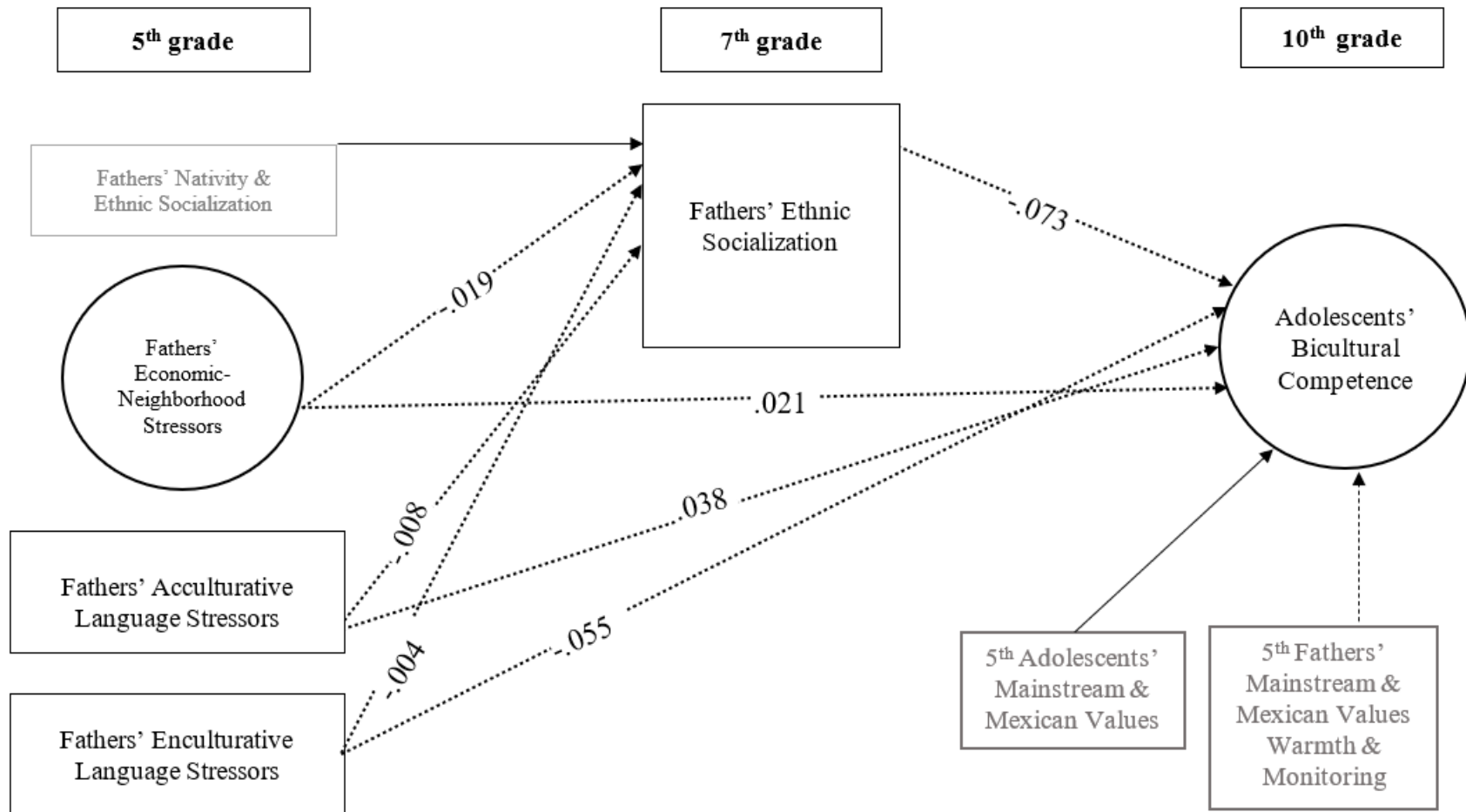


Figure 3. Test of hypothesized model linking 5th grade fathers' exposure to economic-neighborhood stressors, and acculturative or enculturative language stressors to 10th grade adolescents' bicultural competence via 7th grade fathers' ethnic socialization ($n = 579$). 5th = 5th grade. 5th grade family income is included as an auxiliary variable. Exogenous variables are allowed to correlate for missing data estimation. Completely standardized coefficients are reported. Solid lines represent significant paths. Dash lines represent non-significant paths ($p > .05$). Indirect effects are reported in Table 3. Model fit: $\chi^2(45) = 51.507$, $p = .234$; CFI = .995; RMSEA = .016, 90% CI [.000, .033]; SRMR = .030.

Table 3*Results of Hypothesis Testing for Indirect Effects*

Indirect effects (<i>ab</i>)	β (SE)	CI (LL, UL)
<i>Mothers' Model:</i>		
Economic-Neighborhood Stressors → Ethnic Socialization → Bicultural Competence	-.009 (.023)	[-.057, .036]
Acculturative Language Stressors → Ethnic Socialization → Bicultural Competence	.004 (.005)	[-.005, .014]
Enculturative Language Stressors → Ethnic Socialization → Bicultural Competence	-.012 (.007)	[-.028, -.001]
<i>Fathers' Model:</i>		
Economic-Neighborhood Stressors → Ethnic Socialization → Bicultural Competence	.001 (.006)	[-.010, .015]
Acculturative Language Stressors → Ethnic Socialization → Bicultural Competence	0 (.002)	[-.004, .005]
Enculturative Language Stressors → Ethnic Socialization → Bicultural Competence	0 (.003)	[-.007, .008]

Note: Mothers' model ($N = 749$); Fathers' model ($n = 579$). Completely standardized beta estimates (β) reported. SE = standard error; CI = 95% confidence intervals; LL = lower limit; UL = upper limit. Associations are considered to be significant if the confidence interval does not include zero.