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Attempting to Successfully Straddle the Cultural Divide: Hopelessness Model of Bicultural Stress, Mental Health, and Caregiver Connection for Mexican Descent Adolescents

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The present study extends the Hopelessness Model of Depression through: (a) investigating the applicability of bicultural stress as precipitant in this model, (b) expanding mental health outcomes in addition to depression (i.e., life satisfaction), and (c) examining the protective role that male and female caregiver connection may play in disrupting this model for Mexican descent adolescents. With a sample of 524 Mexican descent adolescents (46.9% male; 53.1% female; age range: 14–20; $M = 16.23$ years; $SD = 1.10$ years), 2 structural equation models were tested, The first model (Theoretical Model) sought to determine the relationship between bicultural stress, life satisfaction, and depressive symptoms with hopelessness as a mediator. The second model (Protective Factor Model) investigated both male and female caregiver connectedness as potential protective factors in the bicultural stress-mental health relationships. Both models were supported. In the Theoretical Model, hopelessness mediated the relationship between bicultural stress and the mental health variables (i.e., depression and life satisfaction). Additionally, in the Protective Factor Model, female caregiver connection moderated the relationships between bicultural stress and life satisfaction, highlighting that female caregiver connection is a protective factor in the bicultural stress-life satisfaction relationship. Findings will be discussed from a resilience perspective with recommendations of how practitioners can use these findings for mental health prevention and intervention purposes.

Keywords: life satisfaction, bicultural stress, depressive symptoms, caregiver connectedness

Motivated by labor demands in the United States and political unrest in México, a large-scale migration of Mexican immigrants to the U.S. began in the early 20th century and has occurred in waves, with Mexicans initially recruited to the U.S. as agricultural workers and traveling back and forth across the border (Rosenblum, Kandel, Seelke, & Wasem, 2012). Recently, the U.S. immigration debate has focused on Mexicans, because of their large concentration along the border-states, with some states passing legislation specifically targeting this group (Rosenblum et al., 2012; Villalba, 2007). Legislation has created an emphasis on "legal status," producing a culture where many assume Mexicans do not have legal documentation to be in the U.S., resulting in racism and stereotyping (Villalba, 2007). However, approximately 82% of Mexicans in the U.S. are citizens or have documentation for residency (Pew Hispanic Center, 2011). Although Mexican immigration to the U.S. is on the decline (U. S. Census Bureau, 2013), those from a range of generation statuses continue to straddle the cultural divide while living in the U.S., balancing the demands and expectations of their own cultural heritage and that of the mainstream U.S. culture.

Individuals of Mexican descent comprise 68% of the Latina/o population and 16% of the total child population in the U.S. (Child Trends Databank, 2014), with births of Mexicans born individuals in the U.S. surpassing immigration rates (Pew Hispanic Center, 2011). Despite the long history of Mexicans in the U.S. and growing numbers of children, Mexican descent adolescents frequently face difficulties as they try to negotiate their heritage culture while living within the dominant non-Latino, White U.S. culture. Daily challenges may include prejudice, discrimination, racism, acculturative stress, and pressures to maintain the cultural values and language of one's culture of origin (Hovey & King, 1996; Hwang & Goto, 2009; Romero, Caravajal, Valle, & Orduña, 2007). Additionally, the stress of trying to balance different cultural worlds compounded with familial conflict related to different levels of acculturation can overwhelm youth's coping abilities, resulting in depression. Bicultural stressors such as these have been related to higher reports of depressive symptoms and lower levels of life satisfaction (Hovey & King, 1996; Romero et al., 2007). In line with the Hopelessness Model of Depression, when one experiences stressors that are presumed to be outside of one's

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control, such as balancing different cultures, feelings of hopelessness arise that lead to higher levels of depression and lower life satisfaction (Abramson, Metalsky, & Alloy, 1989; Hovey & King, 1996; Romero et al., 2007). Furthermore, research has consistently demonstrated that the quality of the parent–child relationship can serve as a potential protective factor against cultural stressors and mental health issues for youth (Baumann, Kuhlberg, & Zayas, 2010; Gonzales, Fabrett, & Knight, 2009). The present study seeks to first enhance the work of Stein and colleagues (2012), incorporating life satisfaction as an additional outcome in the theoretical model of hopelessness and depression (see Figure 1). The model is further expanded to determine if family functioning, specifically connection with the male and female caregivers, buffers Mexican descent youth from the detrimental effects of bicultural stressors through an expanded hopelessness model of mental health. In this expanded model, caregiver connection is examined as a potential protective factor in the bicultural stress-mental health relationship (see Figure 2).

Theoretical Model: Hopelessness Model of Depression

The Hopelessness Model of Depression suggests environmental stressors can cause hopelessness, which then leads to depression (Abramson et al., 1989). According to the model, when individuals experience negative life events (e.g., bicultural stressors), this can contribute to the formation of hopelessness, resulting in depressive symptoms (Hankin et al., 2001). Within this model, hopelessness serves as a mediator between the life stressor and depressive symptoms (Abramson et al., 1989). Research on the Hopelessness Model with Latina/o youth has explored both culturally universal (e.g., economic stress) and culturally based (e.g., acculturative stress and discrimination) stressors, with findings demonstrating that culturally based stressors predict greater depressive symptoms even when controlling for culturally universal stressors (Stein et al., 2012). Furthermore, among Mexican descent youth, hopelessness has been linked to depression (Stein et al., 2010) and has longitudinally predicted greater depressive symptomatology (Kennard et al., 2006). The work of Stein and colleagues (2012) highlights the importance of attending to culturally based stressors within the Hopelessness Model of Depression for Mexican descent youth.

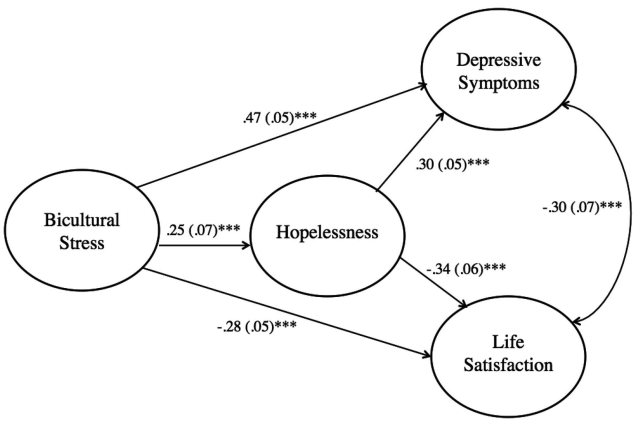

Figure 1. Theoretical model. Standardized parameter estimates with *SE*s in parentheses. All errors terms were omitted for simplicity. * $p < .05$; ** $p < .01$; *** $p < .001$.

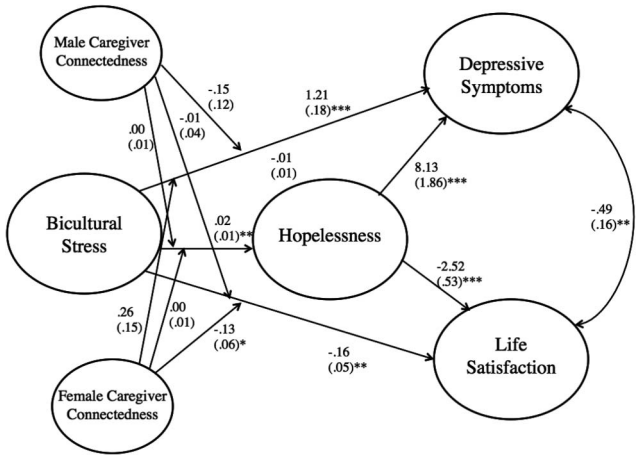

Figure 2. Protective factor model. Unstandardized parameter estimates with *SE*s in parentheses. Direct effects of female caregiver and male caregiver connectedness, covariance of exogenous variables, and error terms were omitted for visual clarity. * $p < .05$; ** $p < .01$; *** $p < .001$.

Bicultural Stress

Among Latina/o youth, culturally based stressors can serve as predictors of distress, even when controlling for general forms of stressors (e.g., parent–child conflict, economic stress; Stein, Gonzalez, & Huq, 2012). Additionally, depressive symptoms are among the most commonly reported consequences of culturally based stressors for Mexican descent youth (Delgado et al., 2011; Romero & Roberts, 2003). These culturally based stressors can include experiences of prejudice, discrimination, and language difficulties, as well as pressures to maintain the values of the culture of origin (Romero et al., 2007). Adolescents can be particularly susceptible to encountering issues related to bicultural stress, which can result from pressure to adopt both the majority and minority cultures (Romero & Roberts, 2003).

Bicultural stress is that which results from difficulties navigating *both* the majority cultural and culture of origin. The push and pull between cultural groups can result in stress related to perceived ethnic discrimination, negative stereotypes, intergenerational acculturation gaps, and pressure to speak multiple languages (Romero & Roberts, 2003). Sources of bicultural stress can occur within peer, school, and familial contexts and can include feeling conflicted about the differences in practices of one's cultural group and Western mainstream expectations. Bicultural stress can occur within the family because of intergenerational gaps resulting from the adolescent acculturating faster than their parents. Additionally, language expectations at home and school can result in pressures to be equally and adequately fluent in English and Spanish (Romero & Roberts, 2003). Bicultural stress is positively associated with depressive symptoms, with bicultural stress interacting with cognitive factors (such as hopelessness) to place youth at risk for depressive symptoms (Romero et al., 2007; Romero & Roberts, 2003). Despite evidence that bicultural stress places youth at risk

for depressive symptoms, Latina/o youth have been found to demonstrate positive psychological functioning and life satisfaction (Piña-Watson, Ojeda, Castellon, & Dornhecker, 2013). Although the Hopelessness Model specifically focuses on the mediating role of hopelessness on the stress-depression relationship, there is potential for this model to expand to other, more positive forms of mental health such as life satisfaction.

Life Satisfaction

Life satisfaction refers to the cognitive and subjective appraisal of one's well-being and is often used an as indicator of well-being (Edwards & Lopez, 2006). For youth, this includes satisfaction with domains such as family, friends, school, environment, and the self (Seligson, Huebner, & Valois, 2003). Life satisfaction is an important protective factor against depression for youth (Mc Knight, Huebner, & Suldo, 2002; Rebellon, Brown, & Keyes, 2000) and has been related to parent–child relationships (Gilman & Huebner, 2003). The focus on family and the connection between parents and children among Latinas/os has been linked to greater levels of satisfaction with family life (Suárez-Orozco & Suárez-Orozco, 2001) and improved physical and emotional health (Hill, Bush, & Roosa, 2003). Additionally, familial support has been identified as a significant predictor of life satisfaction among Mexican descent youth (Edwards & Lopez, 2006), and therefore may have protective value in decreasing the negative impact of bicultural stress on mental well-being.

Expanded Protective Factor Model: Caregiver Connection as a Potential Moderator

Despite the unique cultural challenges Latina/o youth may face, it is clear these youth can also exhibit well-being and resilience (Kuperminc, Wilkins, Roche, & Alvarez-Jimenez, 2009). Within the resilience framework, researchers contend that resilience is the ability to overcome an adversity and also includes maintaining or recovering high well-being (Ryff, Singer, Dienberg Love, & Essex, 1998). Well-being research consistently demonstrates that parenting practices and styles are linked to youth well-being, such that parental warmth and support positively influence emotional well-being and reduce depression (Jacobson & Crockett, 2000).

Family closeness and family support have been identified as potential protective factors influencing depressive symptoms for youth and Latina/o youth in particular (Costello et al., 2008; Sharaf et al., 2009). Parent-child relationships have also been associated with academic success in high school (López Turley, Desmond, & Bruch, 2010) and serves as a unique contributor to youth's adaptive psychological and social adjustment (Tobler & Komro, 2010), with findings linking the quality of parent–youth relationships to positive development during adulthood (O'Connor et al., 2011). These findings are consistent with the Latina/o cultural value of *familismo*, which emphases the importance of family closeness/unity and the well-being of the immediate and extended family (Cauce & Domenech-Rodríguez, 2002). *Familismo* encompasses features including pride, belonging, and obligation to family members (Santiago-Rivera, 2003) and has been identified as a predictor of positive outcomes for individuals of Mexican descent (Morgan Consoli & Llamas, 2013). For Mexican descent youth, the quality of parent–child relationship may be particularly salient because of the cultural emphasis on family relationships as central to the self (Cauce & Domench-Rodríguez, 2002).

A limitation of previous research on parent and family relationships is that these studies often focus only on the maternal-child relationship quality or aggregate the caregivers into a composite caregiver quality variable (e.g., Baumann et al., 2010; Costello et al., 2008; Zayas, Bright, Alvarez-Sánchez, & Cabassa, 2009). This limits the ability to understand the potential differential impact of maternal and paternal relationships as protective processes on youth mental health. This limitation has led scholars to call for further investigation into the role of male caregivers in the well-being of Latina/o youth (Formoso, Gonzales, & Aiken, 2000; Gulbas et al., 2011). Additionally, much research with Latina/o youth have aggregated Latina/o ethnic groups into a homogenous group. Scholars have cautioned against such practices, as Latina/o ethnic groups are heterogeneous in many ways; thus, may have differing outcomes (Umaña-Taylor & Fine, 2001). Because of the large number of Mexican descent individuals in the U.S., and the distinct experiences they may have in terms of bicultural stressors in the U.S., the present study will focus on this specific Latina/o ethnic group.

Purpose and Hypotheses

When applying the Hopelessness Model of Depression to Mexican descent youth, Stein and colleagues (2012) noted the potential role of protective factors in overcoming culturally based stressors. The present study extends the work of Stein and colleagues (2012) by testing two models. The first model includes the addition of life satisfaction as an outcome into the existing Hopelessness Model of Depression (Figure 1; Theoretical Model). The second model incorporates familial protective factors to develop an expanded hopelessness model of mental health whereby male and female caregiver connection is examined as potential protective factors in the bicultural stress-mental health relationship (Figure 2; Protective Factor Model). By examining the female and male caregiver connectedness separately, the present study allows for a greater understanding of the differential impact these two relationships can have on the bicultural stress-mental health relationship and also extends previous work that focused solely on maternal caregiver or aggregate caregiver relationships.

To this end, our hypotheses for each model are as follows: For the Theoretical Model, (a) higher levels of bicultural stress would be related to higher levels of hopelessness and depressive symptoms; (b) higher levels of bicultural stress would be related to lower levels of life satisfaction; (c) higher levels of hopelessness would be related to higher levels of depressive symptoms and lower levels of life satisfaction; and (d) hopelessness would mediate the relationship between bicultural stress and the other mental health outcomes (i.e., depressive symptoms and life satisfaction). For the Protective Factor Model, we anticipated that the addition of male and female caregiver connection into the hopelessness model of mental health would serve as moderators to the relationships between bicultural stress and mental health. Namely, higher levels of male and female caregiver connectedness would protect against the negative impact of bicultural stress on hopelessness, depressive symptoms, and life satisfaction.

Method

Participants

Participants were 524 Mexican descent adolescents (53.1% female) who attended a predominately Latina/o high school in a midsized city in South Texas (97%; National Center for Educational Statistics, 2011). Participants' ages ranged from 14 to 20 years (M = 16.23 years, SD = 1.10 years) and were in the 9th through 12th grades. Most of the sample indicated they were second generation Mexican (40.7%), followed by fourth generation (19.6%), third generation (14.1%), fifth generation (17.2%), and first generation immigrants (8.4%). Most indicated their primary female caregiver is their biological mother (90.9%) and primary male caregiver (74.7%) is their biological father.

Instruments

Bicultural stress. The 20-item Bicultural Stressors Scale (Romero & Roberts, 2003) measures subjective distress experienced by the youth in response to stressors related to maintaining one's heritage culture while acculturating to the dominant U.S. culture. Responses were on a 4-point Likert-type scale ranging from 1 ("*not stressful at all"*) to 4 ("*very stressful"*), with higher scores indicating a higher level of stress. Previous studies using this scale with Mexican descent adolescents demonstrated acceptable internal reliability with alphas ranging from .82 to .93 (Piña-Watson et al., 2013; Romero & Roberts, 2003). This questionnaire yielded the following four subscales: monolingual (e.g., "I've been treated badly because of my accent;" current study α = .55), family (e.g., "Because of family obligations I can't always do what I want;" current study α = .72), discrimination (e.g., "I've worried about family and friends having problems with immigration;" current study α = .64), and peer (e.g., "I've argued with my boyfriend/girlfriend over being too traditional;" current study α = .65).

Hopelessness. The 17-item Hopelessness Scale for Children (Kazdin, Rodgers, & Colbus, 1986) measures children's level of hopelessness concerning their outlook on life and life events. Participants responded to statements with 0 indicating "*false"* and 1 indicating "*true*." A sum was computed with higher total scores indicating greater hopelessness. A previous study with Latina/o adolescents reported acceptable internal consistency for the scale (α = .73; Cardemil, Reivich, Beevers, Seligman, & James, 2007). For the current study, α = .70.

Life satisfaction. The Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS; Seligson, Huebner, & Valois, 2003) was used to assess general life satisfaction by obtaining ratings of the youth's satisfaction within five domains: family life, school experiences, self, friendships, and environment. Responses were based on a 7-point Likert-type scale with the following response options: 1 ("*terrible*"), 2 ("*unhappy*"), 3 ("*mostly dissatisfied*"). Four ("*mixed—about equally satisfied and dissatisfied*"), 5 ("*mostly satisfied*"), 6 ("*pleased*"), and 7 ("*delighted*"). The five items were summed to create a total (i.e., general) life satisfaction score. This brief scale was validated in previous work with adolescents and produced acceptable levels of internal consistency (α = .75; Seligson et al., 2003). In the present study, α = .78.

Depressive symptoms. The Center for Epidemiological Studies Depression Scale (CESD-20) was used to measure depressive symptoms (Radloff, 1977). This study used the modified version of the questions based on the Add Health study because of its developmental appropriateness and validity with Mexican descent adolescents (see Crockett, Randall, Shen, Russell, & Driscoll, 2005 for a full accounting of the changes). The most pronounced modification was changing the wording to reflect a second-person style (i.e., changing "I" to "you"). Responses were based on a 4-point Likert-type scale ranging from 1 ("*rarely or none of the time/less than one day*") to 4 ("*all of the time/5–7 days*"). The adolescents were asked "How often was each of these things true during the past week?" A previous validation study using the modified CESD-20 with Latina/o adolescents found that the factor structure held up with Mexican descent adolescents and produced consistently acceptable internal consistency (Crockett et al., 2005). The CESD-20 yielded the following four subscales: somatic (e.g., "I Did not feel like eating; my appetite was poor;" current study α = .72), depressive (e.g., "I felt that I could not shake off the blues even with help from my family;" current study α = .89), well-being (e.g., "I felt that I was just as good as other people;" current study α = .68), and interpersonal (e.g., "People were unfriendly;" current study α = .72). All items from the well-being subscale were reverse scored.

Caregiver connectedness. Female and male caregiver connectedness was measured using five-items each derived from the Add Health Study (Sieving, McNeely, & Blum, 2000). This scale measures how close the adolescent feels with each of their caregivers. Responses were based on a 5-point Likert-type scale ranging from 1 ("*strongly disagree*") to 5 ("*strongly agree*"). Before responding to this scale, the adolescent was asked to indicate who the individual was who was responsible for their care in each gender category (e.g., for female caregiver, they indicated if this individual was their biological mother, step-mother, aunt, grandmother, sibling, etc.). They then indicated their response for the individual they selected for each caregiver gender category. Those who did not have a male or female caregiver present selected "n/a," as this connection was not available given the absence of this type of caregiver. Sample items are "I feel close to my mother/female caregiver," and "I believe my mother/female caregiver cares about me." Each question is also asked in reference to the father/male caregiver, yielding a total of 10 items. Mean scores were derived, with higher scores indicating higher levels of connection with that caregiver. Participants who indicated they did not have a caregiver of a respective gender were coded with a connection score of "0," as there was no connection present. These scales have been used to measure caregiver connectedness with adolescents through the Add Health study and produced acceptable internal consistency (α = .84; Sieving, McNeely, & Blum, 2000). For the present study, α = .92 (female caregiver connectedness) and α = .96 (male caregiver connectedness).

Procedure

This study received approval from the first author's institution's institutional review board (IRB) and by the principal of the participating high school. The school principal solicited teachers to volunteer their classes for participation. Six teachers volunteered, which yielded a total of 16 classes for participation. Students in elective courses were given consent and assent forms to be completed and returned to their teachers and only students who re-

turned the form signed by their parents (unless over the age of 18) were allowed to participate. Students took the questionnaire during their regular class period. Because students were recruited from classes where instruction was delivered in English, all questionnaire materials were in English. Only two students declined participation based on their English proficiency. All materials, including the questionnaire, were given using paper-and-pencil format. The consent procedure and questionnaire administration took approximately 30 min to complete. Participation was completely voluntary and anonymous and students could decline participation at any time. Participants were entered into a drawing to receive one of 10 $25 gift cards.

Data Analysis Plan

Structural equation modeling was conducted in Mplus Version 7 (Muthén & Muthén, 2012) to test a theoretical model of the relations between bicultural stress, hopelessness, and mental health outcomes and an alternative "Protective Factor Model," whereby male and/or female connectedness are examined as potential protective factors for mental health outcomes in relation to bicultural stress. The following fit indices for analyses are reported: χ^2, the comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the root mean square error of approximation (RMSEA). Guidelines for CFI and TLI values suggest that .90 represents "good" fit to the data and .95 represents "excellent" fit (Hu & Bentler, 1999; Kline, 2005). RMSEA values of .05 (or below) indicate a close fit to the data, .08 a fair fit, and .10 a marginal fit (Browne & Cudeck, 1993). Maximum likelihood robust estimation (MLR) in Mplus was used to handle missing data, as this estimator is robust against violations of nonnormality (Mallinckrodt, Abraham, Wei, & Russell, 2006; Satorra & Bentler, 2001).

To better account for measurement error, latent variables were created for all constructs. Three item parcels were used as indicators for the hopelessness latent variable. Item parcels were used to (a) increase model parsimony, and (b) increase indicator stability of the latent constructs (Little, Cunningham, Shahar, & Widaman, 2002). A factor analysis was conducted for the hopelessness scale, and the item with the highest loading was paired with the item with the lowest loading to form a parcel. This process was repeated until three parcels were created (Little et al., 2002). Four subscales (i.e., monolingual, family, discrimination, peer, and family) of bicultural stress were used as indicators for this latent variable. Similarly, four subscales (i.e., somatic, depressive, well-being, and interpersonal) from the CESD-20 were used as indicators for the depressive symptoms latent variable. Five items (i.e., family life, school experiences, self, friendships, and environment) of the Brief Multidimensional Students' Life Satisfaction Scale were used as indicators of the life satisfaction latent variable. Two latent variables were created for caregiver connectedness: (a) mother connectedness and (b) father connectedness. Four items were used as indicators for both caregiver connectedness latent variables. Separate measurement models of the above latent variables were conducted to ensure adequate model fit before proceeding. One item of the original five caregiver connectedness items (i.e., "I am satisfied with the communication I have with my Mother [Father]/female caregiver [male caregiver]") did not strongly correlate with other items on the mother and father connectedness items and was removed for all subsequent analyses to improve model fit. The two measurement models were fit to the data: (a) one with four latent variables, and (b) one with six latent variables. Next, structural models were estimated for the Theoretical Model (see Figure 1) and the Protective Factor Model including latent variable interactions (see Figure 2).

To test the extent to which hopelessness mediated the bicultural stress-depressive symptom relation and bicultural stress-life satisfaction relation, bootstrap tests using bias corrected 95% confidence intervals (CIs) were conducted in Mplus. As recommended by Preacher and Hayes (2008), 5,000 iterations were sampled to yield total and specific indirect effects. CIs not containing zero were determined to be statistically significant at the .05 levels. To test the extent to which female caregiver connectedness and/or male caregiver connectedness moderated the bicultural stress-depressive symptoms, bicultural stress-hopelessness, and bicultural stress-life satisfaction relations, latent variable interactions were conducted in Mplus and a random-effects model was estimated (TYPE = RANDOM; ALGORITHM = INTEGRATION). Given these estimation procedures, Mplus provided no standardized effects or standard model fit indices. In this model, exogenous variables were allowed to freely correlate with one another. Additionally, in all models, depressive symptoms and life satisfaction were correlated.

Results

Bivariate correlations, means, and *SD*s for each measured variable are presented in Tables 1 and 2. As hypothesized, indicators of depressive symptoms were correlated with indicators of bicultural stress, life satisfaction, hopelessness, and caregiver connectedness in the hypothesized directions. Indicators of bicultural stress were also significantly correlated with life satisfaction, hopelessness, and female caregiver connectedness; however, there were no significant relations between male caregiver connectedness and indicators of bicultural stress. Further, domains of life satisfaction and female and male caregiver connectedness were positively and significantly correlated, indicating increased life satisfaction with increased caregiver connectedness.

Main Analyses

Measurement models. The measurement model for the theoretical model (i.e., four latent variables) fit the data well ($\chi^2(98) = 293.39$, $p < .01$; CFI = .92; TLI = .90; RMSEA = .06). Further, the measurement model for the alternative, Protective Factor Model (i.e., six latent variables) also fit the data well ($\chi^2(237) = 617.04$, $p < .01$; CFI = .93; TLI = .92; RMSEA = .06). It appeared that all measured variables appeared to operationalize their respective latent variables (see Table 1 for correlations among measured variables).

Theoretical model. The structural model for the theoretical model fit the data well ($\chi^2(98) = 293.39$, $p < .01$; CFI = .92; TLI = .90; RMSEA = .06). As shown in Figure 1, as hypothesized, bicultural stress and hopelessness positively related to depressive symptoms ($\beta = .47$, $p < .01$; $\beta = .30$, $p < .01$, respectively), such that increased hopelessness and bicultural stress were associated with an increase in depressive symptoms. Likewise, bicultural stress was positively associated with hopelessness ($\beta = .25$, $p < .01$). As hypothesized, hopelessness and bicultural stress

Table 1
Zero-Order Correlations Among 24 Indicators

Indicator	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. SOM	1.00																							
2. DEP	.708**	1.00																						
3. INTERP	.599**	.674**	1.00																					
4. WELL	−.097*	.151**	.055	1.00																				
5. P1HOPE	.046	.106*	.111*	.128**	1.00																			
6. P2HOPE	.238**	.301**	.256**	.118**	.441**	1.00																		
7. P3HOPE	.226**	.316**	.242**	.241**	.372**	.477**	1.00																	
8. MONOLING	.316**	.279**	.284**	.011	−.047	.131**	.182**	1.00																
9. FAM	.392**	.438**	.361**	.073	.050	.170**	.236**	.420**	1.00															
10. DISCRIM	.326**	.330**	.357**	.041	.017	.109*	.178**	.393**	.609**	1.00														
11. PEER	.258**	.310**	.292**	.102*	−.043	.115**	.217**	.524**	.603**	.595**	1.00													
12. LS_FAM	−.244**	−.306**	−.238**	−.133**	−.126**	−.185**	−.131**	−.158**	−.300**	−.155**	−.155**	1.00												
13. LS_FRIEND	−.229**	−.230**	−.242**	−.081	−.095*	−.137**	−.150**	−.107**	−.210**	−.187**	−.180**	.451**	1.00											
14. LS_SCHOOL	−.245**	−.224**	−.244**	−.046	−.190**	−.189**	−.169**	−.136**	−.174**	−.073	−.090	.418**	.382**	1.00										
15. LS_SELF	−.344**	−.402**	−.283**	−.204**	−.229**	−.290**	−.292**	−.242**	−.278**	−.134*	−.196**	.493**	.387**	.412**	1.00									
16. LS_ENV	−.208**	−.219**	−.142**	−.035	−.056	−.125**	−.153**	−.173**	−.226**	−.106*	−.080	.438**	.300**	.399**	.499**	1.00								
17. FEMCC1	−.177**	−.215**	−.190**	−.126**	−.001	−.105*	−.097*	−.174**	−.189**	−.092*	−.153**	.441**	.265**	.188**	.335**	.229**	1.00							
18. FEMCC2	−.154**	−.186**	−.175**	−.124**	−.004**	−.078**	−.178	−.169**	−.208**	−.175**	−.228**	.371**	.217**	.169**	.236**	.215**	.662**	1.00						
19. FEMCC3	−.210**	−.234**	−.165**	−.111*	.000	−.134**	−.168**	−.166**	−.239**	−.138**	−.168**	.429**	.226**	.213**	.321**	.213**	.695**	.714**	1.00					
20. FEMCC4	−.223**	−.302**	−.201**	−.133**	−.057	−.169**	−.156**	−.143**	−.239**	−.125**	−.168**	.487**	.224**	.200**	.343**	.224**	.727**	.630**	.774**	1.00				
21. MCC1	−.145**	−.187**	−.177**	−.081	−.088*	−.094*	−.168**	−.110*	−.148**	−.083*	−.039	.340**	.156**	.158**	.223**	.193**	.319**	.239**	.316**	.355**	1.00			
22. MCC2	−.127**	−.189**	−.195**	−.085	−.050	−.072	−.155**	−.107*	−.145**	−.109**	−.076	.287**	.216**	.115**	.147**	.108*	.262**	.298**	.319**	.291**	.821**	1.00		
23. MCC3	−.109*	−.142**	−.164**	−.082	−.091*	−.082	−.166**	−.090*	−.115**	−.058**	−.043	.351**	.217**	.155**	.203**	.163**	.298**	.265**	.351**	.341**	.849**	.863**	1.00	
24. MCC4	−.148**	−.185**	−.179**	−.098*	−.089*	−.096*	−.128**	−.107*	−.161**	−.074**	−.051	.354**	.148**	.155**	.243**	.239**	.278**	.222**	.343**	.389**	.872**	.782**	.841**	1.00

Note. Because of space constraints, Table 1 was reproduced across two pages. The following are the indicators of the depressive symptom latent variable: SOM = somatic subscale; DEP = depressive subscale; INTERP = interpersonal subscale; WELL = well-being subscale. The following are the item parcel indicators from the hopelessness latent variable: P1HOPE = parcel 1; P2HOPE = parcel 2; P3HOPE = parcel 3. The following are the indicators of the bicultural stress latent variable: MONOLING = monolingual subscale; FAM = family subscale; DISCRIM = discrimination subscale; PEER = peer subscale. The following are the indicators of the life satisfaction latent variable: LS_FAM = life satisfaction family; LS_FRIEND = life satisfaction friend; LS_SCHOOL = life satisfaction school; LS_SELF = life satisfaction self; LS_ENV = life satisfaction environment. The following are the indicators of the female caregiver connectedness latent variable: FEMCC1 = female caregiver connectedness item 1; FEMCC2 = female caregiver connectedness item 2; FEMCC3 = female caregiver connectedness item 3; FEMCC4 = female caregiver connectedness item 4. The following are the indicators of the male caregiver connectedness latent variable: MCC1 = male caregiver connectedness item 1; MCC2 = male caregiver connectedness item 2; MCC3 = male caregiver connectedness item 3; MCC4 = male caregiver connectedness item 4.
* $p < .05$. ** $p < .01$.

Table 2
Descriptive Statistics of Measured Variables

Variable	Mean	*SD*
1. SOM	6.759	4.335
2. DEP	4.924	5.228
3. INTERP	1.269	1.637
4. WELL	4.396	3.172
5. P1HOPE	.282	.208
6. P2HOPE	.199	.217
7. P3HOPE	.122	.185
8. MONOLING	6.418	2.234
9. FAM	11.003	3.799
10. DISCRIM	7.930	2.952
11. PEER	5.198	2.002
12. LS_FAM	5.266	1.466
13. LS_FRIEND	5.611	1.298
14. LS_SCHOOL	5.070	1.296
15. LS_SELF	5.496	1.491
16. LS_ENV	5.414	1.517
17. FEMCC1	4.267	1.010
18. FEMCC2	4.610	.781
19. FEMCC3	4.326	.991
20. FEMCC4	4.242	1.120
21. MCC1	3.566	1.548
22. MCC2	4.034	1.443
23. MCC3	3.710	1.501
24. MCC4	3.602	1.605

Note. SOM = somatic subscale; DEP = depressive subscale; INTERP = interpersonal subscale; WELL = well-being subscale. The following are the item parcel indicators from the hopelessness latent variable: P1HOPE = parcel 1; P2HOPE = parcel 2; P3HOPE = parcel 3. The following are the indicators of the bicultural stress latent variable: MONOLING = monolingual subscale; FAM = family subscale; DISCRIM = discrimination subscale; PEER = peer subscale. The following are the indicators of the life satisfaction latent variable: LS_FAM = life satisfaction family; LS_FRIEND = life satisfaction friend; LS_SCHOOL = life satisfaction school; LS_SELF = life satisfaction self; LS_ENV = life satisfaction environment. The following are the indicators of the female caregiver connectedness latent variable: FEMCC1 = female caregiver connectedness item 1; FEMCC2 = female caregiver connectedness item 2; FEMCC3 = female caregiver connectedness item 3; FEMCC4 = female caregiver connectedness item 4. The following are the indicators of the male caregiver connectedness latent variable: MCC1 = male caregiver connectedness item 1; MCC2 = male caregiver connectedness item 2; MCC3 = male caregiver connectedness item 3; MCC4 = male caregiver connectedness item 4.

negatively related to life satisfaction ($\beta = -.34$, $p < .01$; $\beta = -.28$, $p < .01$, respectively), such that increased hopelessness and bicultural stress were associated with a decrease in overall life satisfaction. See Table 3 for standardized and unstandardized parameter estimates.

Bootstrapping was conducted to determine if mediation effects were present in the theoretical model. Two potential mediations were tested, and the following significant indirect effects were present: (a) bicultural stress → hopelessness → depressive symptoms ($\beta = .20$, $SE = .06$; $p < .01$; 95% CI [.11 to .33]), and (b) bicultural stress → hopelessness → life satisfaction ($\beta = -.07$, $SE = .02$; $p < .01$; 95% CI = [−.11 to −.04]. As hypothesized, bicultural stress positively related to hopelessness, which in turn positively related to depressive symptoms. Further, bicultural stress positively related to hopelessness, which in turn negatively related to life satisfaction.

Protective factor model. As mentioned previously, the measurement model including mother and father connectedness fit the data well. Thus, the structural model for the hypothesized Protective Factor Model with latent variable interactions was fit to the data (see Figure 2). Given the estimation procedures used in Mplus to model latent variable interactions, no standardized effects or standard model fit indices from the structural model are reported. Direct effects from the Theoretical Model remained consistent in the Protective Factor Model (see Table 4 for unstandardized parameter estimates). Further, female caregiver connectedness negatively related to depressive symptoms ($B = -.51$, $p = .02$), and positively related to life satisfaction ($B = .60$, $p < .01$). Similarly, male caregiver connectedness negatively related to life satisfaction ($B = .11$, $p < .01$). All other direct effects of caregiver connectedness on depressive symptoms, hopelessness, and life satisfaction were not statistically significant.

Results from the Protective Factor Model indicated a significant interaction between female caregiver connectedness and bicultural stress in the relationship with life satisfaction ($B = -.13$, $p = .04$). As hypothesized, probes of the interaction (i.e., simple slope; high [1 *SD*] and low [−1 *SD*] levels of female caregiver connectedness) indicated that individuals lower in bicultural stress and higher in mother caregiver connectedness reported the highest overall life satisfaction (see Figure 3).

Discussion

The purpose of this study was to extend the Hopelessness Model of Depression (Abramson et al., 1989), specifically the work of Stein and colleagues (2010), through: (a) investigating the applicability of bicultural stress as a valid stressor in this model, (b) expanding to include a positive mental health outcome in addition to depression (i.e., life satisfaction), and (c) examining the protective role that male and female caregiver connection may play in disrupting this model for Mexican descent youth. Both the Theoretical Model and Protective Factor Model were supported. In the Theoretical Model, hopelessness mediated the relationship between bicultural stress and the mental health variables (i.e., depression and life satisfaction). Additionally, in the Protective Factor Model, female caregiver connection moderated the relationships between bicultural stress and life satisfaction, highlighting that female caregiver connection is a protective factor in the bicultural stress-life satisfaction relationship.

Table 3
Standardized and Unstandardized Parameter Estimates for the Theoretical Model

Paths	β	*SE*	*B*	*SE*	*p*-value
Hopelessness →					
Bicultural stress	.250	.068	.022	.006	<.001
Depressive symptoms	.301	.054	8.854	1.862	<.001
Life satisfaction	−.341	.056	−2.997	.532	<.001
Depressive symptoms →					
Bicultural stress	.467	.050	1.226	.174	<.001
Life satisfaction →					
Bicultural stress	−.278	.052	−.218	.049	<.001
Depressive symptoms WITH life satisfaction	−.298	.065	−.711	.172	<.001

Note. WITH = covariation.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 4
Unstandardized Parameter Estimates for Protective Factor Model

Paths	*B*	*SE*	*p*-value
Hopelessness →			
Bicultural stress	.019**	.007	.004
Depressive symptoms	8.126***	1.863	<.001
Life Satisfaction	−2.158***	.525	<.001
Female CC	−.010	.010	.288
Male CC	−.009	.005	.107
BS × Female CC	−.001	.009	.870
BS × Male CC	−.003	.006	.652
Depressive symptoms →			
Bicultural stress	1.210***	1.863	<.001
Female CC	−.510*	.223	.022
Male CC	−.127	.115	.232
BS × Female CC	.262	.150	.081
BS × Male CC	−.153	.115	.186
Life satisfaction →			
Bicultural stress	−.155**	.053	.004
Female CC	.597***	.108	<.001
Male CC	.113**	.039	.004
BS × Female CC	−.132*	.064	.038
BS × Male CC	−.007	.041	.869
Depressive symptoms WITH life satisfaction	−.490**	.157	.002
Bicultural stress WITH female CC	−.305***	.075	<.001
Bicultural stress WITH male CC	−.253*	.099	.010
Female CC WITH male CC	.480***	.070	<.001

Note. Female CC = female caregiver connectedness; Male CC = male caregiver connectedness; WITH = covariation.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Bicultural Stress and the Hopelessness Model

Results indicate that bicultural stress is a process that is associated with feelings of hopelessness, depressive symptoms, and decreased life satisfaction. Additionally, hopelessness mediated the relationship between bicultural stress and the other mental health outcomes. This indicates that the Hopelessness Model of Depression translates to other mental health processes, and that both positive (i.e., life satisfaction) and negative (i.e., depressive symptoms) mental health processes are associated with bicultural stress. Consistent with previous literature, the present study further supports the relationship of bicultural stress as a valid stressor that relates to mental health (Hovey & King, 1996; Romero et al., 2007) and extends these findings into a hopelessness model. Much of the domains that comprise bicultural stress (i.e., discrimination, peer, family, and language stress) may feel outside of one's control, thus may lead a youth to feel a sense of hopelessness that sets off a cascade of other mental health issues such as increased reporting of depressive symptoms and decreased life satisfaction.

For Mexican descent youth, who are negotiating their cultural identities during adolescence, the present study demonstrates the importance of cultural stressors on their well-being. The present study's sample included youth of varying generational levels who live on the U.S. Texas-México border. In this region, Latinos are the numerical majority, making this region a "minority-majority" context (Population Reference Bureau, 2008). Interpreting these results in light of the context, the present study demonstrates that it is not only immigrant youth or those who are directly contextually embedded in spaces were they are the numerical minority that are impacted by bicultural stress. The present study indicates that even youth in ethnic cultural enclaves, who are surrounded by those of similar ethnic backgrounds, are also susceptible to bicultural stressors and the other mental health outcomes that are related to them. Additionally, bicultural stress is salient for those across generation statuses. The reality is that no matter where Mexican descent youth reside, or what their generation status is, they are still embedded within the larger U.S. context where racism and prejudice against individuals of Mexican descent is widespread (Lee & Ahn, 2012). It is also a common developmental process for youth across generations and contexts to negotiate what cultural values, beliefs, and behaviors they will adopt from the mainstream, White U.S. culture, and what they will retain from their heritage culture (i.e., the Mexican culture). This study highlights that the cultural adaptation process can be stressful for youth, regardless of their context and generation level, and that the stress experienced fits within the Hopelessness Model.

Life Satisfaction as an Extension of the Hopelessness Model

The results of this study indicate that life satisfaction, a positive indicator of mental health, fits within the Hopelessness Model. The addition of this variable suggests that hopelessness can explain the relationship between bicultural stress and both positive and negative mental health outcomes. Previous research has established a relationship between bicultural stress and well-being with Latino adolescents. For example, Piña-Watson and colleagues (2013) found that higher levels of bicultural stress were negatively related to indicators of well-being, such as life satisfaction and self-esteem, with a sample of Mexican descent high school students living in the U.S. Texas-México border. Romero and Roberts (2003) also found a similar relationship between bicultural stressors and self-esteem with Mexican descent middle school students. The present findings extend these previous studies by investigating hopelessness as a mechanism that could explain this relationship.

Female Caregiver Connection as a Protective Factor

Finally, the present study extends previous literature through the examination of the potential protective nature of male and female caregiver connection for the mental well being of Mexican descent

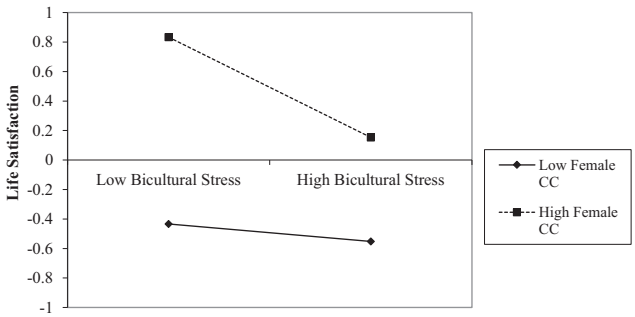

Figure 3. Visual representation of the moderation effect of female caregiver connectedness and bicultural stress on life satisfaction. Female CC = female caregiver connectedness.

adolescents. The present study highlights that it is the female caregiver relationship quality can buffer the bicultural stress-mental health relationship. Specifically it was found to be a buffer between bicultural stress and life satisfaction for Mexican descent adolescents. Many studies have demonstrated the positive impact that the maternal-child relationship can have for Latino youth (Gonzales, Deardorff, Formoso, Barr, & Barrera, 2006; Turner, Kaplan, Zayas, & Ross, 2002; Zayas, Hausmann-Stabile, & Kuhlberg, 2011). One limitation of such studies it that they look at the direct relationships between maternal and child relationships and do not examine them from a resilience perspective. Through the present study we asked, "What would help Mexican descent youth thrive despite the presence of bicultural stress in their lives?" The result was a more nuanced understanding of the potential differential impact of male and female caregiver relationships within the Hopelessness Model, whereby it was female caregiver connection that was protective and not male caregiver connection.

These findings could potentially be explained in light of the traditional roles that mothers and fathers may carry out within Mexican households. Traditionally, Mexican mothers, through the female gender role of *marianismo*, serve as the family pillar, or the one in charge of ensuring that the family stays connected (Castillo et al., 2010). They also traditionally spend more time with their children and are the one's who take on the stronger caretaking role, whereas males in the homes traditionally provide physical safety, discipline, and monetary support (Contreras et al., 2002; Durand, 2011). Further research is needed to further disentangle the mechanisms that would explain why the maternal-child relationship quality would protect Mexican descent youth, whereas the relationship with the paternal caregiver does not. Although the experience of these stressors may not be preventable, given that many are outside of one's control, what is amenable to prevention is working within the family context on the perceived relationship with the female caregiver. As such, this study fills a gap in the limited research that examines both male and female caregiver relationships on the mental health of Latina/o youth (Flouri & Buchanan, 2003; Formoso et al., 2000; Gulbas et al., 2011).

Counseling and Implications

This research informs prevention and intervention efforts that can be used with Mexican descent youth. Bicultural stress was identified as a stressor within the Hopelessness Model of Mental Health, highlighting the need for practitioners to be aware that these stressors exist and are related to feelings of hopelessness and depression. The reality that many Latina/o youth experience bicultural stress while navigating both their heritage and host culture is critical given how it is associated with well-being.

Further, it should also be recognized that experiencing bicultural stress does not have to be a deterministic force such that experiencing bicultural stress does not have to be an automatic cascade to negative mental health. For the present study, youth with high levels of female caregiver connection reported higher levels of life satisfaction at all levels of bicultural stress. With this knowledge, practitioners can target interventions to build resiliency in youth despite the fact that bicultural stressors are occurring, by focusing on the relationship quality with the female caregiver. Knowing that the perceived maternal caregiver-child dynamic, particularly connectedness, can disrupt this negative association with mental health is noteworthy. This information informs counselors about "red flags" and factors that should be augmented in the youth's life to improve their mental well-being. Perhaps interventions can focus on augmenting the relationship between youth and female caregiver as a means of working toward helping the youth feel more connected, which could set the youth on a different mental health trajectory.

Finally, this study supports previous literature stressing the importance of including caregivers into the interventions with Latina/o youth (Coatsworth, Maldonado-Molina, Pantin, & Szapocznik, 2005; Coatsworth, Pantin, & Szapocznik, 2002; Villalba, 2007). Working at the individual level and with the family system can help the youth feel more connected. For example, if the youth expresses lower levels of connection with either or both caregivers, therapists can investigate the potential causes of this disconnection and may want to bring the caregivers in to discuss how to communicate care, warmth, and genuine concern to the youth. This is especially relevant when the youth is experiencing bicultural stressors, as the quality of connection, especially with the female caregiver, may be protective.

Limitations and Future Research

Despite the great strengths of this study in advancing the understanding of the Hopelessness Model within a resilience framework for Mexican descent youth, a few limitations should be noted as well as recommendations of how to address in future studies. First, the cross-sectional and nonrandom selection of classes for participation design of this study precludes from making inferences concerning causality and introduces selection bias. Future work should examine these processes longitudinally and randomly select students for participation. This will allow for greater understanding of the causal impact of the tested models over time and will eliminate bias in who participates in the study. Additionally, an examination of these processes longitudinally will address issues that have been noted by those such as Maxwell and Cole (2007) with mediation analyses using cross sectional data. This is particularly relevant given that bicultural stress levels and feelings of connection with caregivers have been shown to fluctuate over time (Kim et al., 2001; Loeber et al., 2000; McGue et al., 2005; Schwartz et al., 2015; Smokowski, Rose, & Bacallao, 2010). Future work examining the trajectories of stress on the Hopelessness Model would further extend this study by developing an understanding on how the course of stress and family dynamics can influence mental health and well-being. Additionally, it is also possible that certain caregiver relationships could be more important for youth given their developmental period and gender (Allen et al., 2003; Kerr, Preuss, & King, 2006).

Caution should be taken when attempting to generalize these results to other Latina/o ethnic groups because of the potential for great within-group differences between Mexican descent Latinas/os and those of other Latina/o ethnic groups (i.e., Cubans, Puerto Ricans, Dominicans, etc.). This is particularly important given the different struggles and privileges each group may face, given characteristics such as history of immigration, phenotype characteristics, and socioeconomic status (Santiago-Rivera, Arre-

dondo, & Gallardo-Cooper, 2002). Future work could benefit from investigating this model with various Latina/o ethnic groups to determine its validity. Further, this study was conducted in a cultural enclave (i.e., the majority of those living in this area identify as being of Mexican or other Latina/o descent), which limits the generalizability of these findings to all Mexican descent adolescents in the U.S. Future research would benefit from collecting data on bicultural stress and mental health from various sites across the nation that are both minority-majority (i.e., Latinas/os are a majority group in the region) and in line with the demographics of the U.S (i.e., Latinas/os are a minority group in the region). Contextual differences in the associations and degree of bicultural stress may be present and should be further examined in future work to allow for conclusions to be made in terms of the applicability of this model across regions of the U.S. (Umaña-Taylor, 2004).

Although previous research has highlighted the salience of youth's subjective perceptions of their familial experience on mental health outcomes (Céspedes & Huey, 2008; as reviewed in Telzer, 2010), there are limitations in only gathering information about the level of connection from one respondent. Future work that incorporates perceptions from both the child and caregivers could extend these findings. Additionally, in the present study we examined perceptions of connection and did not measure the actual behaviors or characteristics that are present with their caregivers that contribute to this level of connection. It has been well documented that adolescence is a time of increased caregiver-child conflict and for Latina/o youth, processes such as intergenerational acculturation gaps also contribute to the strain on the relationship (Schofield et al., 2008; Smokowski, Rose, & Bacallao, 2008). To allow practitioners to target interventions to youth and families, future research should examine what helps a youth feel connected, as well as what caregivers can do to increase their connection.

Finally, it should be noted that only the base Hopelessness Model was tested. Factors such as maladaptive beliefs, and other cognitive schemas, which could impact the model, were not tested. The exclusion of such variables produces only a partial picture of the role of bicultural stress on the mental health of Mexican youth. Future work may extend the present study's findings through the inclusion of such cognitive processes to help explain the bicultural stress-hopelessness relationship and to gain a more comprehensive understanding of mechanisms through which the model operates.

Conclusion

This study advances understanding of the Hopelessness Model of Depression through (a) examining bicultural stress as a valid stressor in the model; (b) extending he Hopelessness Model to include life satisfaction; and (c) examining the potential protective role of male and female caregiver connection. We were able to demonstrate bicultural stress is a valid stressor in the Hopelessness Model with Mexican descent youth from a variety of generation levels living within a cultural enclave. Further, life satisfaction was found to fit the model as well. Finally, the moderating role of female caregiver connectedness reinforces the importance of attending to the maternal-child relationship for descent youth, which provides an opportunity for intervention by assessing and addressing female caregiver connectedness.

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