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Gender Matters: The Influence of Acculturation and Acculturative Stress on Latino College Student Depressive Symptomatology

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Abstract

The purpose of the study was to examine the relationship between acculturation-related variables with depressive symptomatology among Latino college students and the extent to which acculturative stress mediates the association. The extent to which gender moderates these relationships was also examined. Participants were 758 Latina and 264 Latino college students from 30 colleges and universities around the United States. Participants completed measures of acculturation, acculturative stress, and depression. Multigroup path analysis provided excellent model fit and suggested moderation by gender. Acculturative stress mediated the acculturation–depression relationship. One indirect effect was moderated by gender with effects stronger for men: Heritage-culture retention to depressive symptoms via Spanish Competency Pressures. Acculturation and acculturative stress contribute to depression differently for male and female Latino college students. Future research should note the influence of gender socialization on the acculturation process and mental health.

Abstracto

El propósito del estudio fue examinar la relación entre las variables relacionadas con la aculturación con sintomatología depresiva entre los estudiantes universitarios latinos y el grado en que el estrés de aculturación media la asociación. Por otra parte, el grado en que los moderados de género fue examinado estas relaciones. Los participantes fueron 758 estudiantes latinas y 264 universitarios latinos de 30 colegios y universidades en todo Estados Unidos. Los participantes completaron medidas de aculturación, el estrés de aculturación, y la depresión. Análisis camino Multigroup siempre excelente ajuste del modelo y sugirieron moderación por género. Aculturativo estrés mediada la relación aculturación - depresión. Un efecto indirecto fue moderado por el género con efectos más fuertes para los hombres: La retención de Patrimonio - cultura a los síntomas depresivos a través de presiones de competencia españolas. La aculturación y el estrés de aculturación contribuyen a la depresión de manera diferente para los estudiantes universitarios latinos masculinos y femeninos. Las investigaciones futuras deben observar la influencia de la socialización de género en el proceso de aculturación y la salud mental.

Keywords

acculturation; acculturative stress; depressive symptomatology; gender; Latino college students

For some students, attending college can be a stressful experience, and when their coping capacity is exceeded they may develop depressive symptoms (Castillo & Schwartz, 2013). The risk of experiencing depression may be elevated for Latino college students because they often are the first in their families to attend college and may not have access to resources such as social capital and financial support. Scholars suggest that because many colleges and universities adhere to White American cultural norms, such as individualism, Latino students undergo an acculturation process that they may experience as stressful (Castillo, Conoley, & Brossart, 2004). The stress of the acculturation process, referred to as acculturative stress, has been associated with poor psychological adjustment, including depression in Latino college students (Del Pilar, 2009; Dennis, Basañez, & Farahmand, 2010). Although much research has been conducted on ways in which these constructs

influence Latino college students' mental health outcomes, most studies have not examined the effects of gender on the experience of acculturation and acculturative stress. Thus, the purpose of the present study was to examine the mediation effect of acculturative stress on the acculturation–depressive symptomatology relationship for Latino college students, as well as the extent to which gender moderates these relationships.

On an individual level, acculturation is defined as a process of psychological change resulting from extended contact with other cultural groups (Berry, 2003). Acculturation involves two independent processes: receiving-culture acquisition and heritage-culture retention (Schwartz & Zamboanga, 2008; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). For Latino college students, the acculturation process unfolds as students balance the adoption of university cultural norms (receiving culture) with the maintenance of heritage-culture values and beliefs (Castillo et al., 2004). That is, for Latino students to be successful in college, they must adopt university values where uniqueness, independence from family, and self-reliance are considered necessary characteristics for success (Castillo et al., 2006). This differs from Latino culture where cooperation and willingness to sacrifice for the welfare of family is valued.

Although most Latino students experience an acculturative process in college, studies suggest that the manner in which men and women experience the process differs (Vega & Sribney, 2008; Lorenzo-Blanco & Cortina, 2013; Lorenzo-Blanco, Unger, Ritt-Olson, Soto, & Baezconde-Garbanati, 2011). Research has shown that Latino boys tend to acculturate faster than girls (Schwartz et al., 2006). For instance, in a study of Latino adolescents, Schwartz et al. found that boys adopted receiving-culture practices (i.e., acculturate) after a shorter length of time in the United States than their female counterparts.

Research also suggests gender differences in the relationship between acculturation and mental health (Lorenzo-Blanco & Cortina, 2013). For instance, a meta-analytic study on receiving-culture acquisition, heritage-culture retention, and mental health showed gender differences in the relationships among the variables (Yoon et al., 2013). Analysis was conducted using data from 325 studies with a racially diverse number of participants, including Latino adults. The results of the study showed that there was a positive correlation between heritage-culture retention and mental health was stronger for women than for men. Unfortunately, analysis of gender by ethnic groups was not conducted in the study.

Other studies that examine gender differences in the accumulation-mental health relationship with Latino adolescents have found similar results. For instance, Lorenzo-Blanco et al.'s (2011) study examined perceived discrimination and its association to acculturation and depressive symptoms with 1124 Latino adolescents. A majority of the participants in this study were born in the United States and were Mexican American (86%). The results of the study showed that U.S.-culture acquisition was associated with increased depressive symptoms for female participants but not for males (Lorenzo-Blanco et al., 2011). Furthermore, U.S.-culture acquisition was associated with perceived discrimination for Latino boys, but not girls. Instead, Latino cultural practices (i.e., heritage-culture retention) were associated with perceived discrimination for female participants.

Conversely, in a study of family cohesion among 1,922 Latino adolescents (consisting of primarily U.S.-born and Mexican American background), results indicated that heritage-culture retention was associated with family cohesion for Latino boys but not girls (Lorenzo-Blanco, Unger, Ritt-Olson, & Baenconde-Garbanati, 2012). For both boys and girls, U.S.-culture acquisition was associated with family conflict, which in turn was associated with risk for depression. However, the family conflict–depression association was stronger for boys than for girls. Heritage-culture retention of traditional gender roles was associated with family cohesion, but only for girls. The scholars proposed that as Latino girls adopt U.S. cultural practices, they may discard traditional gender roles which in turn could lead to a loss of family cohesion. It is the loss of family cohesion that may increase the risk for depression (Lorenzo-Blanco & Cortina, 2013; Lorenzo-Blanco et al., 2012).

Although there are mixed findings on how Latino men and women experience the acculturation process, studies do show that there is an association between gender, the acculturation process, and mental health. Scholars suggest that this association may be explained by heritage-culture gender role expectations and their role in the acculturation process. That is, differences in gender role socialization could provide an explanation for how the acculturation process is experienced differently by gender (Castillo, Perez, Castillo, & Ghosheh, 2010).

In the Latino culture, gender socialization involves marked divisions of what is appropriate and expected behaviors for men and women in the culture. Many male gender roles are enacted through the cultural script of machismo. Machismo consists of both positive and negative aspects of Latino gender role socialization (Arciniega, Anderson, Tovar-Blank, & Tracey, 2008). On the negative side, machismo can be characterized by aggressiveness, hypermasculinity, and sexual promiscuity (Castillo & Cano, 2007). On the positive side, *un hombre noble*, or *caballerismo*, is characterized by a Latino male who is a hard worker, responsible, spiritual, and protects the family and its honor (Arciniega et al., 2008; Castillo & Cano, 2007).

Female gender roles are governed by norms that are captured within the notion of marianismo. On the negative side, marianismo means that Latino women are socialized to be virtuous and chaste, to submit to men, and to withstand extreme sacrifices for the sake of the family and to the detriment of their own well-being (Castillo et al., 2010). On the positive side of the continuum, the notion of *la mujer buena* casts women as strong and capable. They are spiritual leaders for the family and considered the family pillar, exerting power and influence in the home (Castillo et al., 2010).

These differences in gender role socialization suggest that Latino men and women are limited in the behaviors that are deemed socially acceptable by their cultural group. Familismo is a cultural value that is expected from both Latino men and women who see their family responsibilities as more important than their personal achievement. However, men and women express this cultural value differently. For example, men are expected to demonstrate this value by being financial providers, whereas women demonstrate this by taking care of home life. Given the differences in gender role expectations, it is possible that

Latino men and women reflect these differences in the manner they adapt to a new culture (acculturate), such as the university culture.

Given the differences in gender role expectations, there may be differences in the manner in which U.S.-culture acquisition and heritage-culture retention are experienced. For instance, scholars suggest that gender roles of Latino immigrants are reconstructed after arriving in the United States (Gorman, Read, & Krueger, 2010). Latino women move from their traditional role of working in the house to working outside the home. In their new work environment, they gain more independence and decision-making abilities than they had in the country of origin (Parrado & Flippen, 2005). However, for Latino men, they may lose power and status as the sole breadwinner in the household (Gorman et al., 2010). As a consequence, there is a divergence between U.S. and Latino gender role expectations that may be a source of stress and conflict, which in turn leads to depression (Lorenzo-Blanco et al., 2012).

Acculturative stress, the difficulties that arise during the acculturation process (Berry, 2003), and its association to depressive symptoms in Latino college students has been well documented (Crockett et al., 2007; Del Pilar, 2009; Dennis et al., 2010). For instance, Crockett et al. (2007) examined the psychological adjustment of Mexican American college students (primarily U.S.-born) at one Texas and two California universities. Results of the study showed that acculturative stress was a significant predictor of depressive symptoms.

Scholars suggest that one reason why Latino college students experience acculturative stress is because of cultural incongruity experienced by students (Cano, Castillo, Castro, de Dios, & Roncancio, 2014). That is, university cultural norms (e.g., individualism) may conflict with a Latino student's beliefs (e.g., collectivism; placing family first), and students may find it stressful to balance such seemingly oppositional beliefs (Castillo, Cano, Chen, Blucker, & Olds, 2008). Oftentimes, the university environment may require a student to advocate for himself with an emphasis on personal achievement values that may not be syntonetic with their heritage cultural values (Castillo et al., 2008; Cano et al., 2014). For instance, in a study of Mexican American, U.S.-born college students, Cano et al. found that participants who reported a lack of fit between their cultural values with the university's values experienced higher levels of acculturative stress. Although the researchers did not examine whether gender moderated the cultural congruity–acculturative stress relationship, the study found that female participants reported higher levels of acculturative stress than their male counterparts did.

To date, most studies that examine acculturative stress in Latino college students tend to examine it as though it were a single construct. However, scholars note that there are several sources of acculturative stress (Castro-Olivo, Palardy, Alberg, & Williamson, 2014; Rodriguez, Myers, Mira, Flores, & Garcia-Hernandez, 2002). Rodriguez et al. (2002) contend that acculturative stress stems from four areas: deficits in language competency (i.e., English and Spanish), pressure from the receiving culture to acculturate, and pressure from the heritage culture against acculturation. Few studies have examined the components' independent relationship to depressive symptomatology.

Torres' (2010) study is one of the few that have examined the multiple components of acculturative stress. Specifically, his study investigated Rodriguez et al.'s (2002) components of acculturative stress and its contribution to depression in a community sample of Latino adults (primarily Mexican American and foreign-born) in a small Midwestern community. Results showed that all four components of acculturative stress were positively associated with depressive symptoms. Torres also used a multinomial logistic regression to predict membership in low, medium, and high depression groups. High depression group membership was calculated as participants who scored 24 or higher on the Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977). The medium depression group were participants who scored 16 to 23. Regression results indicated that English competency pressure was significantly associated with membership in the high depression group. The researchers also noted that *pressure from the receiving culture to acculturate* approached significance in predicting membership in the medium depression group. Although the study did not use Latino college students, it suggests that some aspects of acculturative stress may contribute to depressive symptoms whereas others may not, thus the variables' multiple components should be examined in research.

Similar to Torres' (2010) study, Rodriguez et al. (2002) also examined the association of the four components of acculturative stress with psychological distress with a community sample of Mexican American, primarily U.S.-born, adults. Using the Brief Symptom Inventory (Derogatis, 1993), which includes depression symptoms, Rodriguez et al. found only *pressure from the receiving culture to acculturate* was significantly associated with psychological distress even when other known factors (gender, age, income, and years lived in the United States) were controlled. Unfortunately, the study did not examine whether gender moderated the results.

Cano et al.'s (2014) study is one of the few that have examined cultural determinants, such as familial intragroup marginalization, and its association to depression in Latino college students. Intragroup marginalization is the perceived interpersonal distancing from family members caused by the acculturated individual displaying characteristics of the receiving culture (Castillo, Conoley, Brossart, & Quiros, 2007). A component of intragroup marginalization is family members pressuring the acculturating individual to not adopt the receiving culture values and behaviors. This is similar to Rodriguez et al.'s (2002) *pressure from the heritage culture against acculturation* component of acculturative stress. Based on Cano et al.'s study, they found that familial intragroup marginalization was significantly associated with depressive symptoms. That is, participants who experience pressure from family members to not acculturate reported more symptoms of depression. Similar to the other studies reviewed, this study did not examine whether gender moderated this finding.

It has been well documented that acculturation is associated with depressive symptoms in Latino college students (Dennis et al., 2010). However, U.S.-culture acquisition and heritage-culture retention have a different influence on depressive symptoms. For instance, Alamilla, Kim, and Lam (2010) found that heritage-culture retention was positively associated with psychological distress in Latino (primarily Mexican American and U.S.-born) college students. However, there were no significant findings for U.S.-culture acquisition. Likewise, Ramos-Sánchez and Atkinson's (2009) study with Mexican

American, foreign-born, community college students found that heritage-culture retention, but not U.S.-culture acquisition, was associated with mental health problems (including symptoms of depression).

One possible explanation for why U.S.-culture acquisition is associated with depression for Latino college students is acculturative stress. That is, components of acculturative stress may serve to mediate the relationships between acculturation and depressive symptoms. For instance, Toyfa's (2011) study of Latino adolescents (primarily Mexican American and U.S.-born) found that acculturative stress mediated the relationship between heritage-culture acquisition and depressive symptoms. However, this finding was only significant for Latino boys. In another study of Latino adolescents (primarily Mexican American and U.S.-born), results showed that acculturative stress partially mediated the relationships of U.S.-culture acquisition and heritage-culture retention to alcohol use (Zamboanga, Schwartz, Jarvis, & Van Tyne, 2009).

Previous research suggests (a) that acculturation and acculturative stress impacts Latino college student mental health as well as (b) that the experience of depression differs by gender. However, because research to date has primarily focused on mean group difference across gender, outcomes of the studies are limited to descriptive information. Thus, to understand why there are gender differences, the purpose of this study was to (a) explore the relationships between U.S.-culture acquisition, heritage-culture retention, and Rodriguez et al.'s (2002) components of acculturative stress in Latino college students and whether gender moderated these relationships; and (b) to examine the indirect effects of acculturative stress components on U.S.-culture acquisition and heritage-culture retention relationship with depressive symptoms and whether the indirect effects were moderated by gender. As such, when controlling for age, income, generation status, and regional location, we hypothesized the following:

Hypothesis 1: Each of the four components of acculturative stress will mediate the relationship between U.S.-culture acquisition, heritage-culture retention, and Latino college student depressive symptoms.

Hypothesis 2: Gender will moderate the indirect relationships between U.S.-culture acquisition, heritage-culture retention, and depressive symptoms.

Method

Participants and Procedures

Data used in the study were taken from the Multi-Site University Study of Identity and Culture (MUSIC), a collaborative research project carried out by national group of investigators at 30 U.S. colleges and universities (Castillo & Schwartz, 2013; Weisskirch et al., 2013). Data were collected between September 2008 and October 2009 from courses in the social sciences. Study participants were directed to a webpage where they read a brief description of the study and provided consent before proceeding to the online survey. All instruments in the online survey were in English. The institutional review boards at each of the study sites approved the study.

The MUSIC study sample consisted of 10,573 undergraduate students (M age = 20.3 years, SD = 3.37 years). For the purposes of this study, we only examined students who self-identified as Latino (n = 1,488). This was determined with one question that asked *My ethnicity is* followed by ethnic categories to select from. The Latino category included the following: Latino/a, Hispanic, Spanish, Latin American, or Spanish speaking-South American/Caribbean heritage, Other in this category.

Study participants were undergraduates with 92% reporting having been in college less than four years. Over half (53%) of the participants reported their family's annual household income of under \$50,000. In terms of Latino subgroup ethnic heritage, 23% were Central/South American, 22% were Mexican, 17% were Cuban, 2% were Puerto Rican, and 5% percent were of mixed heritage. It should also be noted that 23% of participants indicated "Latino" or "Hispanic" when asked about their ethnic heritage. The majority of the (75%) participants were female with age range of 18 to 63 years (M = 20.45; SD = 4.12). Seventy-seven percent reported being born in the United States. With regard to generation status, 23% were 1st generation, 37% were 2nd generation (no U.S.-born parents), 17% were 2.5 generation (U.S.-born parent and one foreign-born parent), and 22% were 3rd generation and above. With regard to geographical location of the participants, 52% were from the Southeast, 18% were from the West, 16% were from the Southwest, 4% were from the Midwest, and 5% were from the Northeast.

Measures

Acculturation.—The Stephenson Multigroup Acculturation Scale (SMAS; Stephenson, 2000) is a self-report measure to assess U.S.-culture acquisition (17 items; e.g., *I think in English*) and heritage-culture retention (15 items; e.g., *I feel comfortable speaking in my native language*). Participants indicated their agreement with 32 item statements using a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The coefficient alphas for the study were .91 and .83 for US-culture acquisition and heritage-culture retention, respectively.

Acculturative stress.—The Multidimensional Acculturative Stress Inventory (MASI; Rodriguez et al., 2002) is a 36-item scale that assesses stress linked to the acculturation process. The MASI contains four subscales: Pressure to Acculturate (7 items; e.g., *It bothers me when people don't respect my family's cultural values*), Pressure against Acculturation (4 items; e.g., *People look down upon me if I practice American customs*), Spanish Competency Pressure (7 items; e.g., *I feel uncomfortable being around people who only speak my family's heritage language*), and English Competency Pressure (7 items; e.g., *I feel uncomfortable being around people who only speak English*). Participants rated each item on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Mean scores for each subscale were calculated with higher scores indicative of greater levels of acculturative stress. Coefficient alphas for the present study were .85, .87, .89, and .92 for Pressure to Acculturate, Pressure against Acculturation Spanish Competency Pressure, and English Competency Pressure, respectively.

Depressive symptomatology.—The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item self-report scale that measures affective, somatic, and interpersonal circumstances associated with depressive symptomatology. For this study, the scale's anchors were modified and rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores ranged from 20 to 100, with higher scores representing more symptoms. Coefficient alpha for the present study was .89.

Results

Preliminary Analyses

Before testing the present study's hypotheses, the data were examined for their adherence to statistical assumptions and gender differences across variables were investigated.

Of the original 1,488 cases, only 1,017 participants completed all the measures used in the study. Following the examination of multivariate normality, linearity, multicollinearity, and singularity, we deleted 13 of the 1,099 cases based on a review of Mahalanobis Distance scores. With the deletion of these 13 cases, the data met the assumptions for multivariate analysis. Thus, the final sample 1,004 participants (758 women, 246 men).

A one-way multivariate analysis of variance was performed to determine the extent of gender differences across the variables of interest. Results indicated that male and female participants differed across these variables, Wilks' $\lambda = .97$, $F(7, 996) = 4.65$, $p < .001$. Follow-up univariate analyses of variances indicated gender differences in Spanish Competency Pressure, $F(1, 1002) = 12.13$, $p < .001$, $\eta^2 = .012$, English Competency Pressure, $F(1, 1002) = 18.01$, $p < .001$, $\eta^2 = .018$, and Pressure Against Acculturation, $F(1, 1002) = 5.72$, $p < .05$, $\eta^2 = .006$. Means and standard deviations for the measured variables by gender are presented in Table 1. See Table 2 for the correlations among the variables of interest by gender.

To determine whether a difference was present in generation status for male and female participants, a Pearson chi-square was conducted. The relationship between generation status and gender was statistically significant, $\chi^2(3, n = 1,004) = 14.22$, $p = .003$. The effect size for this finding, Cramer's V , was small at .12 (Cohen, 1988). As can be seen in Table 3, 24.4% of the female participants were 3+ generation status, compared with only 15.9% of the male participants. However, more male (25.2%) than female (16.2%) participants were 2.5 generation status.

Primary Analyses

Using Mplus 6.1, we conducted a multiple group analysis using path analytic techniques to test the present study's hypothesis that gender would moderate relations within a model of depressive symptomatology for a sample of Latino college students when controlling for age, income, generation status, and region. Following procedures set forth by Kline (2005), we fit the model across both genders and tested increasingly restrictive parameter sets (i.e., from least restrictive to partially restrictive to most restrictive) using maximum likelihood estimation.

First, using separate covariance matrices for Latino men and women, we conducted the analyses by comparing both genders on the same model parameters without any constraints. That is, Latino male and female scores were allowed to vary across all the parameters in the hypothesized model (see Figure 1). We then assessed the fit of this multigroup model using a series of indices. As noted by Martens (2005), although there is no “gold standard” for assessing the adequacy of fit indices, there is an accumulation of research that suggests the following guidelines for each index. First, the chi-square test of significance (χ^2) is expected to produce a small nonsignificant χ^2 if there is an adequate fit to the data. However, the χ^2 is very sensitive to sample size, making it difficult to interpret given its lack of standardization (Kline, 2005). Therefore, a ratio of χ^2 to degrees of freedom (χ^2/df) is calculated to reduce the sensitivity to sample size. If this ratio is less than 3.0, a good model fit is indicated (Kline, 2005). Second, values of the Comparative Fit Index (CFI) range from 0 to 1. It has been argued that CFI values of .90 represent an adequate fit to the data and .95 represents good fit (Loehlin, 1998). On the other hand, the standardized residual root-mean residual (SRMR) and Steiger’s root-mean-square error of approximation (RMSEA) also range from 0 to 1, with lower numbers indicating better fit to the data. SRMR and RMSEA values of .10 and .06, respectively, are indicative of acceptable model fit; similarly, SRMR and RMSEA values of .08 and .05 suggest good or close fit, respectively (Loehlin, 1998; Steiger, 1998). Hu and Bentler (1999) suggested the use of joint criteria with conservative cutoffs to minimize and balance threats of Type I and Type II errors in making decisions regarding model retention. Using these joint criteria, a model can be retained if (a) the CFI is .95 and the SRMR is .09 or (b) the SRMR is .09 and the RMSEA .06. For each model, we used Hu and Bentler’s joint criteria along with the aforementioned fit indices to evaluate model fit. Unfortunately, the unconstrained model fit the data very poorly based on the above guidelines (see Table 4).

Given the poor fit indices, we used Rodriguez et al.’s (2002) conceptualization of acculturative stress and statistical modification indices to make modifications to the original model of Latino depressive symptomatology. Theoretically and statistically, the four variables that Rodriguez et al. state that constitute acculturative stress (i.e., Spanish Competency Pressure, English Competency Pressure, Pressure to Acculturate, and Pressure against Acculturation) were related to one another. Because they are endogenous variables within the model and theory supports their interrelations with one another (Rodriguez et al.), we correlated their residual errors (Kline, 2005). We then assessed the fit of the modified model to the data and found excellent fit (see Table 4). Thus, we retained the modified model and used it in further analyses.

Next, we tested the modified model by fully constraining the model where all paths were held equal across gender groups. Fit indices suggested that the data fit this fully constrained model well (see Table 4). We then compared the fully constrained model to the unconstrained model and found that the two significantly differed from one another, $\chi^2_D(19) = 48.95, p < .001$. This finding suggests that gender did moderate the relations among U.S.-culture acquisition, heritage-culture retention, acculturative stress components, and depressive symptoms when controlling for age, income, generation status, and region.

To determine the specific paths that were moderated by gender, we constrained one parameter (e.g., path) at a time and compared the constrained model to the fully unconstrained in which all paths were free to vary across gender. Using the chi-square test of difference (see Table 4), results suggested that the residual errors among the four acculturative stress variables differed by gender. Although these correlations were significant for both genders, they were more significant for Latino men than for women across the board. Furthermore, results suggested that the direct paths from (a) U.S.-culture acquisition to Spanish Competency Pressure, and (b) Spanish Competency Pressure to depressive symptomatology differed by gender. Specifically, the path from U.S.-culture acquisition to Spanish Competency Pressure was significant for Latinas (.07), but not for Latinos (.02). The path from Spanish Competency Pressure to depressive symptomatology was significant for both genders; however, it was a stronger relation for Latinos (.26) than for Latinas (.11).

We then ran a multiple group analysis on the partially constrained model where only the correlations and direct paths that differed by gender were allowed to vary across gender groups. Fit indices suggested that the partially constrained model fit the data well (see Table 4). A comparison of the unconstrained model to the partially constrained model where only those correlations and direct paths that differed by gender were allowed to vary resulted in a nonsignificant change in the chi-square, $\chi^2_{\text{D}}(11) = 13.19, p > .05$. We then compared the partially constrained model to the fully constrained model, which resulted in a significant difference, $\chi^2_{\text{D}}(8) = 35.77, p < .001$. Taken together, these aforementioned comparisons indicated that gender moderated the correlations and some of the direct paths within the modified model of Latino depressive symptomatology. Thus, we retained the partially constrained modified model.

After controlling for age, income, generation status, and region, all of the paths in the model of Latinos' depressive symptomatology were significant, except for the path from Pressure to Acculturate to depressive symptomatology for both genders and the path from U.S.-culture acquisition to Spanish Competency Pressure for Latino men. For both genders, the path from U.S.-culture acquisition to Heritage-culture retention was negatively correlated. U.S.-culture acquisition negatively predicted English Competency Pressure, Pressure to Acculturate, and Pressure Against Acculturation. Heritage-culture retention negatively predicted Spanish Competency Pressure and Pressure Against Acculturation, whereas it positively predicted English Competency Pressure and Pressure to Acculturate. The three of the four components of acculturative pressure positively predicted depressive symptomatology, namely Spanish Competency Pressure, English Competency Pressure, and Pressure Against Acculturation.

Relations in this model explained 14.2% and 21.2% of the variance in Heritage -culture retention, 9.3% and 15.7% in U.S.-culture acquisition, 16.6% and 29.3% in Spanish Competency Pressure, 9.4% and 10.1% in English Competency Pressure, 10.4% and 16.6% in Pressure to Acculturate, 3.3% and 3.7% in Pressure Against Acculturation, and 27.9% and 10.9% in Latino men's and women's depressive symptomatology, respectively (see Figure 1 for a display of standardized path coefficients).

After determining model fit and the presence of gender moderation in the modified model, we examined the indirect effects within the model to determine if they were significant and/or moderated by gender. This partially constrained model included eight indirect effects among the variables.

Based on the multiple group analyses, only two of these eight indirect effects potentially differed by gender based on differences in the direct paths from (a) U.S.-culture acquisition to Spanish Competency Pressure and (b) Spanish Competency Pressure to depressive symptomatology (see Table 5). To determine whether these differences were significant, we first tested the significance of the indirect effects for the partially constrained model either for the whole sample (i.e., where gender did not moderate any relations within the indirect) or for both genders (i.e., where gender did moderate one or more of the relations within the indirect effect) using recommendations by Shrout and Bolger (2002). That is, we tested the partially constrained model across both gender groups and estimated the indirect effects along with each effect's associated standard error and confidence intervals using bootstrapping data-resampling procedures embedded within a multiple group analysis. Specifically, using the original data set, we generated 5,000 bootstrap samples using random sampling with replacement, and we then tested the partially constrained model. Indirect effect estimates were then calculated. The significance of the indirect effects was determined based on Shrout and Bolger's guideline that the indirect effects are significant if the 95% confidence intervals do not include zero.

Based on these above criteria, we found that all of the indirect effects were significant for both genders except for the indirect effects from (a) U.S.-culture acquisition to depressive symptomatology via Spanish Competency Pressure, (b) U.S.-culture acquisition to depressive symptomatology via Pressure to Acculturate, and (c) Heritage-culture retention to depressive symptomatology via Pressure to Acculturate (see Table 6). These findings were not surprising given the nonsignificant relation among Pressure to Acculturate and depressive symptomatology along with the negative relation from U.S.-culture acquisition to Spanish Competency Pressure and the positive relation from Spanish Competency Pressure to depressive symptomatology.

Lastly, we tested whether gender moderated the indirect effects by contrasting these effects across gender using the Mplus MODEL CONTRAST command. Again, we used the same bootstrapping procedures described above and determined significance of each contrast based on Shrout and Bolger's guideline. Results also suggested that only one indirect effect was moderated by gender with effects stronger for Latinos than Latinas, namely Heritage-culture retention to depressive symptomatology via Spanish Competency Pressure. The indirect effect of U.S.-culture acquisition to depressive symptomatology via Spanish Competency Pressure did not differ by gender. This is not surprising given that this indirect effect was not significant for either gender. See Table 6 for statistical findings associated with indirect effects and contrasts.

Discussion

As Latino college students may experience a cultural adjustment when attending college, the experience of acculturative stress and other adverse mental health symptoms such as depressive symptoms may occur. Research to date has not examined the complexities of acculturation and acculturative stress. As such, the primary goal of the present study was to examine the potential mechanisms (i.e., acculturative stress components) by which acculturation influences depressive symptoms and the extent to which such mechanisms differ across men and women.

In our exploration of the relationships between U.S.-culture acquisition, heritage-culture retention, the four components of acculturative stress, and depressive symptoms, results showed a statistically significant relationship between the study variables. However, results of the model indicated that more of the variance in depressive symptoms was explained for Latino men (27.9%) than women (10.9%). This suggests that for male participants U.S.-culture acquisition, heritage-culture retention, and components of acculturative stress are more strongly related to depressive symptoms for men than for women. This supports previous research that suggest that although both Latino men and women experience acculturative stress, Latino men may experience being bicultural as more stressful than women (Crockett et al., 2007). A possible explanation for this finding is that Latino male gender role socialization and the stigma of mental health problems may be hindering participants from seeking help, which in turn may place them at risk for depression. Many Latino men are socialized with a gender role script that dictates men should restrict their emotions and be self-sufficient, particularly with regard to psychological difficulties (Fragoso & Kashubeck, 2000; Lane & Addis, 2005; Ramos-Sánchez & Atkinson, 2009). That is, asking for help with a psychological problem may be viewed as a sign of weakness, which is perceived as the opposite of what it means to be machismo (Ramos-Sánchez & Atkinson, 2009). Studies support these contentions. For instance, in a study of Mexican American community college students, male participants were less likely willing to see a counselor for personal problems than their female counterparts (Ramos-Sánchez & Atkinson, 2009). Furthermore, in a study of Mexican American males, including college students, researchers found that higher levels of machismo and high restrictive emotionality was predictive of higher levels of depression and stress (Fragoso & Kashubeck, 2000).

When examining gender differences in the paths from U.S.-culture acquisition to components of acculturative stress, results indicated that for female participants being more oriented to U.S. cultural practices was associated with more pressure to be competent in Spanish. This finding supports previous research that suggests that in-group members often place pressure on other members who are viewed as not conforming to the norms of the cultural group to prove that they are “Latino enough” by being fluent in their heritage culture language (Castillo et al., 2007). Castillo (2009) suggests that when a Latino college student displays characteristics that are not considered part of the heritage-culture group’s norm (e.g., discarding Latino cultural practices), the potential loss of group distinctiveness prompts a social sanction by heritage-culture group members (e.g., family members), such as being looked down upon for practicing American customs (see Vignoles, 2011, for a further discussion of group distinctiveness). The social sanction, referred to as intragroup

marginalization, occurs often with more Americanized individuals and has been found to be associated with various mental health outcomes (Castillo et al., 2008). The finding that this association is only significant for female participants is also supported in the literature. Umaña-Taylor and Guimond (2012) suggest that females are typically “viewed as the carriers of culture and expected to pass on cultural traditions” (p. 27). They also propose that Latina adolescents are expected to remain close to the family and that they are more likely to be socialized to their ethnic group than their male counterparts.

It is interesting to note that the pressure to be competent in Spanish was related to depressive symptomatology for all participants but was more strongly associated to depressive symptoms for men than for women. What this suggests is that male participants who reported feeling that they did not speak Spanish well or that it bothered them when people assumed that they spoke Spanish were more likely to also report high depression scores. A possible explanation for this finding is that the lack of Spanish language competency limits the male students’ ability to take advantage of social support resources in their heritage communities, particularly since most of the Latino sample was gathered from universities in states with a large Latino populations (i.e., FL, TX, AZ, and CA). As a result, they may feel pressured to be competent in Spanish to stay connected to those sources of social support.

The difference in familial ethnic socialization may be another possible explanation for why the association between the pressure to be competent in Spanish was related to depressive symptomatology more for Latino men than women. Results from a national study of Latino adults showed that Latino women reported higher levels of Spanish proficiency than men (Lorenzo-Blanco & Cortina, 2013). Being less proficient in Spanish suggests the possibility that Spanish may not have been taught or encouraged in the family. The lack of familial ethnic socialization, as it pertains to language, may have contributed to less ability to navigate through both cultures, ultimately leading to experiencing higher rates of depressive symptoms. This is supported by research that found that familial ethnic socialization was more strongly related to Spanish fluency for Latino boys than girls (Umaña-Taylor, Alfaro, Bámaca, & Guimond, 2009).

In our examination of the indirect effects of acculturative stress on the acculturation-depressive symptoms relationship, our results showed that acculturative stress mediated this relationship. However, our study takes research in this area further by examining multiple components of acculturative stress. Consistent with previous research (Torres, 2010; Zamboanga et al., 2009), results indicated that the pressure to be competent in English and pressure against acculturation from the heritage culture was largely responsible for the association between U.S.-culture acquisition and participant depressive symptomatology. As noted by Cano et al. (2014), Latino college students often experience a distancing from family members as a reaction to their adopting university cultural norms. For many, this experience of pressure from family members not to acculturate is associated with symptoms of depression. Future research can further examine the different ways Latino students experience pressure against acculturation family and its association with depression as well as how these experience may be moderated by gender.

The association between heritage-culture retention and participant depressive symptomatology was mediated by all components of acculturative stress except pressure to acculturate. The findings are consistent with previous research that has shown the importance of Latino college students maintaining one's culture by speaking Spanish (Castillo et al., 2008) as well as being competent in English to be successful in college (Castillo et al., 2004). For Latino college students who serve as a language broker by translating written and oral communication for their family, fluency in both languages is needed. For many Latino college students, the stress of balancing family obligations as the language broker with collegiate studies can be stressful (Weisskirch et al., 2011). Future research can examine how issues of language and language brokering impact Latino college student depression and whether gender moderates these differences.

When we examined gender on the indirect effects, we found only one that was moderated by gender. Gender moderate the relationship between heritage-culture retention and depressive symptoms via the pressure to be competent in Spanish. In other words, the associated between heritage-culture retention and depression is explained by participants feeling pressured to be competent in Spanish. However, this was a more significant stressor for Latino men than women. These findings suggest, that even though acculturative stress does explain the relationship between acculturation and depressive symptoms, it is clear that different components of acculturative stress may influence this relationship differently for men and women. Although we only found one indirect path that was significant, future research with larger samples sizes are needed to establish whether or not other aspects of acculturative stress are moderated by gender.

The present findings should be interpreted in light of several important limitations. First, we used a sample of Latino college students from 4-year colleges, and thus our findings may not necessarily generalize to community college students or non-college-attending Latinos. A limitation with using a college student sample is that the source of acculturative stress for Latino students (e.g., attendance at predominately White universities) may differ from the general Latino population. Because of the different life experiences, future research examining the role of gender in Latino mental health should use different participants from a variety of educational backgrounds. Another limitation is that we were not able to examine specific Latino subgroups. Given the generational status difference among Latino ethnic groups, acculturation and acculturative stress experiences may differ. A third limitation is that self-report measures were used and some participants may have under- or overreported their responses. Given the relatively small number of Latino male participants, it was not possible to conduct separate analyses by country of origin or by campus. Additionally, the predominance of first and second-generation participants did not allow us to examine the consistency of findings across generation statuses.

Overall, the results of this study suggest that mental health providers and university staff should stay attuned with acculturation and gender issues when working with Latino college students. Given that some aspects of acculturative stress was related to depressive symptoms for both Latino male and female participants and that this differed by gender, mental health providers should assess for the various sources of stress, rather than overall acculturative stress. This would allow the providers to implement customized interventions depending on

the source of acculturative stress. One way to do this would be by speaking with a Latino student about their family's beliefs about gender roles as well as expectations about language spoken in the household.

It is also important for mental health providers to get a sense of a Latino student's current support system. Exploration of support systems should include an investigation of quality (how good), frequency (how often), and type. Because students who feel isolated or unwelcomed on a campus often also experience depressive symptoms (Cano et al., 2014), identifying cultural affinity groups or professional affinity groups may also help the student to feel like they belong and have a community.

In sum, the findings of the study support previous research on the relationship between acculturation, acculturative stress, and depressive symptoms for Latino college students. Findings suggest that it is important to examine the various components of acculturation and acculturative stress as each respective component may influence outcomes differently. Finally, results of the study highlight the importance of examining the impact of gender when studying links between cultural constructs and mental health outcomes.

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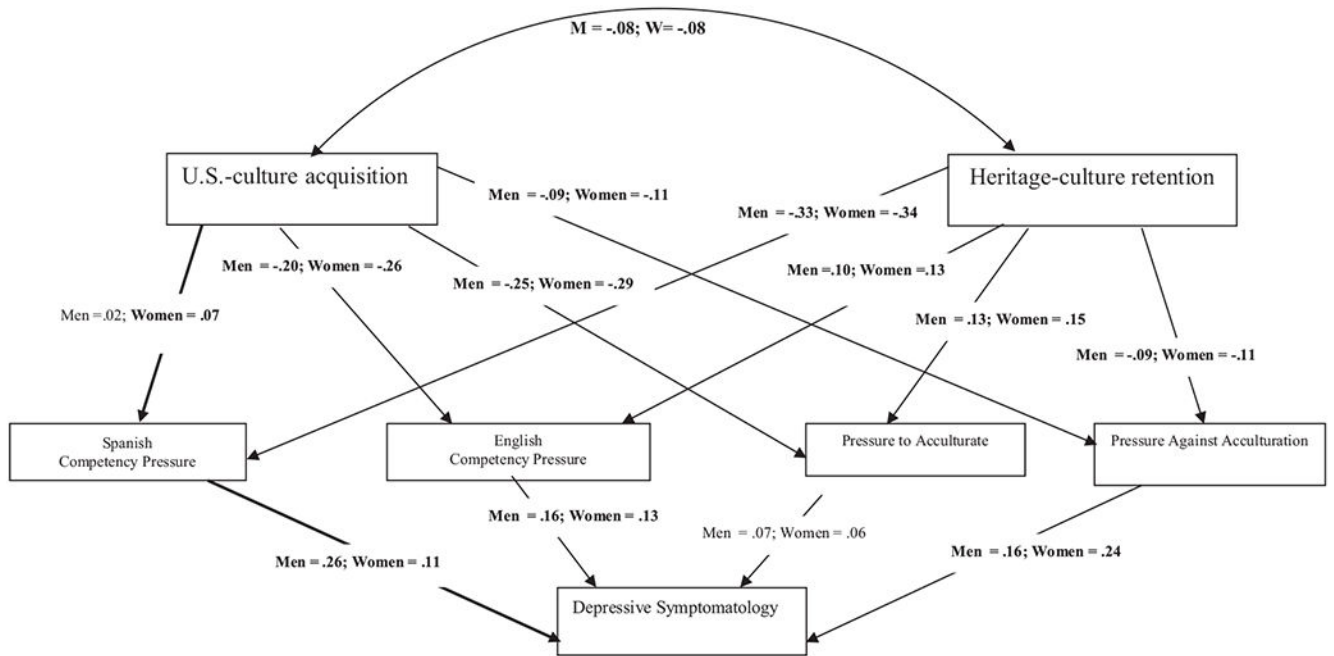


Figure 1. Path model testing the associations between U.S.-culture acquisition, heritage culture retention, acculturative stress, and depressive symptomatology with gender as a moderator. M = men; W = women. All paths are significant except for the path from U.S.-culture acquisition to Spanish Competency Pressure for men and the path from Pressure to Acculturate to Depressive Symptomatology for both genders. Paths in bold differ by gender.

Table 1

Means and Standard Deviations of Measured Variables for Total Sample and by Gender

Variable	Male		Female	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Heritage-culture retention	54.10	14.61	56.05	15.07
2. U.S.-culture acquisition	62.01	7.14	62.66	7.66
3. SCP	16.38	7.26	14.51	7.33
4. ECP	11.16	6.32	9.52	4.85
5. PTA	15.67	6.63	15.36	5.86
6. PAA	7.80	4.08	7.16	3.48
7. Depressive symptomatology	50.47	15.13	50.61	15.14

Note. SCP = Spanish Competency Pressure; ECP = English Competency Pressure; PTA = Pressure to Acculturate; PAA = Pressure Against Acculturation.

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Table 2

Correlation Among Variables of Interest by Gender

Variable	1	2	3	4	5	6	7
1. Heritage-culture retention	—	-.25**	-.48**	0.17**	0.22**	-.12**	-.03
2. U.S.-culture acquisition	-.11	—	0.26**	-.027**	-.036**	-.04	-.05
3. SCP	-.35**	0.01	—	0.24**	0.05	0.44**	0.21**
4. ECP	0.24**	-.31**	0.43**	—	0.49**	0.47**	0.25**
5. PTA	0.22**	-.027**	0.27**	0.63**	—	0.49**	0.21**
6. PAA	0.03	-.022**	0.50**	0.66**	0.69**	—	0.27**
7. Depressive symptomatology	-.01	-.09	0.43**	0.37**	0.32**	0.41**	—

Note. Correlations for men are presented below the diagonal ($n = 265$); correlations for women are presented above the diagonal ($n = 821$). SCP = Spanish Competency Pressure; ECP = English Competency Pressure; PTA = Pressure to Acculturate; PAA = Pressure Against Acculturation.

**

 $p < .01$.

Table 3

Frequencies and Percentages of Generation Status by Gender

Generation status	Men <i>n</i> and percentage of total	Women <i>n</i> and percentage of total
1st Generation	22.4% (<i>n</i> = 55)	22.7% (<i>n</i> = 172)
2nd Generation	36.6% (<i>n</i> = 90)	36.7% (<i>n</i> = 278)
2.5 Generation	25.2% (<i>n</i> = 62)	16.2% (<i>n</i> = 123)
3+ Generation	15.9% (<i>n</i> = 39)	24.4% (<i>n</i> = 185)

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Table 4
 Summary of Fit Statistics for the Competing Models and the Multiple Groups Analysis

Model	χ^2	df	p	CFI	SRMR	RMSEA	90% CI for RMSEA	χ^2/df
Paths unconstrained ^a	1185.58	16	.00	.48	.12	.38	.363, .400	74.10
Paths unconstrained ^b	1.67	4	.80	1.00	.00	.00	.000, .043	.42
Paths partially constrained ^b	14.85	15	.46	1.00	.01	.00	.000, .042	.99
Paths fully constrained ^b	50.62	23	.00	.99	.05	.05	.031, .067	2.20

^aHypothesized model.

^bAlternate model with correlated errors.

Table 5

Chi-Square Difference Tests From the Multiple-Groups Gender Model

Path	$\chi^2_D (1)$	<i>p</i>
1. U.S.-culture acquisition with Heritage-culture retention	1.58	NS
2. SCP with ECP	16.76	<.001
3. SCP with Pressure to Acculturate	6.27	<.05
4. SCP with Pressure Against Acculturation	7.66	<.05
5. ECP with Pressure to Acculturate	16.91	<.001
6. ECP with Pressure Against Acculturation	20.04	<.001
7. Pressure to Acculturate with Pressure Against Acculturation	15.72	<.001
8. U.S.-culture acquisition to SCP	4.30	<.05
9. U.S.-culture acquisition to ECP	2.42	NS
10. U.S.-culture acquisition to Pressure to Acculturate	.002	NS
11. U.S.-culture acquisition to Pressure Against Acculturation	3.76	NS
12. Heritage-culture retention to SCP	.35	NS
13. Heritage-culture retention to ECP	2.51	NS
14. Heritage-culture retention to Pressure to Acculturate	1.03	NS
15. Heritage-culture retention to Pressure Against Acculturation	1.75	NS
16. SCP to Depressive Symptomatology	5.28	<.05
17. ECP to Depressive Symptomatology	.46	NS
18. Pressure to Acculturate to Depressive Symptomatology	.01	NS
19. Pressure Against Acculturation to Depressive Symptomatology	.03	NS

Note. SCP = Native Language Competency Pressure; ECP = English Language Competency Pressure.

Table 6
 Bootstrap Analysis of the Statistical Significance of Indirect Effects and Contrasts for Gender

IV	Mediator variable(s)	DV	Point estimate	SE	Z	BC 95% confidence interval	
						Lower	Upper
Total (<i>n</i> = 1086)							
U.S.-culture →	ECP →	DS	-.065	.019	-3.417	-.109	-.033
U.S.-culture →	PTA →	DS	-.035	.023	-1.495	-.080	.010
U.S.-culture →	PAA →	DS	-.029	.013	-2.178	-.062	-.008
Heritage-culture →	ECP →	DS	.016	.006	2.473	.006	.032
Heritage-culture →	PTA →	DS	.009	.006	1.406	-.002	.023
Heritage-culture →	PAA →	DS	-.015	.007	-2.252	-.031	-.005
Men (<i>n</i> = 265)							
U.S.-culture →	SCP →	DS	.008	.028	.292	-.042	.071
Heritage-culture →	SCP →	DS	-.088	.023	-3.871	-.137	-.047
Women (<i>n</i> = 821)							
U.S.-culture →	SCP →	DS	.015	.009	1.629	.002	.040
Heritage-culture →	SCP →	DS	-.036	.015	-2.418	-.066	-.008
Contrasts: men vs. women							
U.S.-culture →	SCP →	DS	-.007	.028	-.237	-.060	.053
Heritage-culture →	SCP →	DS	-.052	.024	-2.181	-.101	-.007

Note. Bootstrap = 5,000; BC = Bias Corrected; IV = Independent Variable; DV = Dependent Variable; DS = Depressive Symptomatology; U.S.-culture = U.S.-culture acquisition; Heritage-culture = Heritage-culture retention; SCP = Spanish Competency Pressure; ECP = English Competency Pressure; PTA = Pressure to Acculturate; PAA = Pressure Against Acculturation. Bold confidence intervals = significance.