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Acculturative Stress Among Documented and Undocumented Latino Immigrants in the United States

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Abstract

The purpose of the study was to examine differences between documented and undocumented Latino immigrants in the prevalence of three immigration-related challenges (separation from family, traditionality, and language difficulties), which were made more severe after the passage of restrictive immigration legislation in 1996. Specifically, the study sought to determine the combined and unique associations of legal status, the three immigration-related challenges listed above, and fear of deportation to acculturative stress related to family and other social contexts. Participants in the study consisted of 416 documented and undocumented Mexican and Central American immigrants living in two major cities in Texas. The Hispanic Stress Inventory–Immigrant form was used to assess acculturative stress in the sample. Results indicated that although undocumented immigrants reported higher levels of the immigration challenges of separation from family, traditionality, and language difficulties than documented immigrants, both groups reported similar levels of fear of deportation. Results also indicated that the immigration challenges and undocumented status were uniquely associated with extrafamilial acculturative stress but not with intrafamilial acculturative stress. Only fear of deportation emerged as a unique predictor of both extrafamilial and intrafamilial acculturative stress.

Keywords

acculturative stress; legal status; Latino immigrants

Recent figures indicate that there are about 47 million Latinos in the United States and that undocumented immigrants constitute approximately one fifth (19%) of the Latino population in the country (Pew Hispanic Center, 2009). Social science research has

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extensively examined the political and economic conditions of the large population of undocumented Latin American immigrants in the United States (e.g., Cornelius, 2005; Mehta, Theodore, Mora, & Wade, 2002). However, the psychological implications of the experience of being undocumented have received scant research attention (Sullivan & Rehm, 2005). In their review of the literature examining the relation of legal status to psychological well-being among Mexican immigrants, Sullivan and Rehm (2005) did not include any quantitative studies that explicitly distinguished between documented and undocumented immigrants. We located two published quantitative studies that examined mental health issues among identified Latino undocumented immigrants in the United States (Pérez & Fortuna, 2005) or Canada (R. Rodriguez & Dewolfe, 1990).

Based on the limited literature available, researchers have proposed that the difficulties associated with undocumented status may intensify immigration-related challenges such as language difficulties, cultural differences, and separation from family, which may, in turn, result in increased levels of acculturative stress among undocumented immigrants in comparison with their documented counterparts (Pérez & Fortuna, 2005; R. Rodriguez & Dewolfe, 1990; Sullivan & Rehm, 2005). However, researchers often do not ask Latino immigrants about their legal status to gain their trust and enhance their participation rates (e.g., Cavazos-Rehg, Zayas, & Spitznagel, 2007; Finch, Kolody, & Vega, 2000; Finch & Vega, 2003; Thoman & Surís, 2004). As a result, not much is known regarding the association between specific immigration-related stressors and self-appraisals of acculturative stress among undocumented Latino immigrants (Sullivan & Rehm, 2005). Given this lack of knowledge, the first aim of the study was to examine, among documented and undocumented Latino immigrants, the prevalence of stressors or challenges associated with the experience of immigration. The second aim was to examine the relation of immigration challenges to immigrants' appraisal of acculturative stress in relation to external and internal family contexts. Finally, the third aim was to examine to what extent the relation of the immigration challenges to acculturative stress was stronger for undocumented than documented immigrants.

Acculturative Stress

According to Folkman, Lazarus, Dunkel-Schetter, Gruen, and De Longis's (1986) cognitive theory of stress and coping, individuals are likely to experience stress when they encounter events or circumstances (stressors) that they believe are detrimental to their well-being and for which they lack the resources to cope with. In other words, acculturative stress refers to the emotional reaction triggered by the individual's appraisal of specific events and circumstances in their lives. These events, typically labeled challenges or stressors, may elicit different levels of acculturative stress depending on how the individual appraises them.

Immigration to a foreign country is believed to include many stressors because it typically involves separating from one's family and friends and learning a new language and cultural system. In addition to these immigration stressors, a large proportion of Latino immigrants in the United States face great difficulties related to undesirable and unstable working and living conditions (Mehta et al., 2002; Simich, 2006). Researchers have coined the term *acculturative stress* to refer to the level of psychosocial strain experienced by immigrants

and their descendants in response to the immigration-related challenges (stressors) that they encounter as they adapt to life in a new country (Cervantes, Padilla, & Salgado de Snyder, 1991; Hovey, 2000; Mena, Padilla, & Maldonado, 1987). A frequently used instrument to assess acculturative stress among Latinos is the SAFE scale (Mena et al., 1987) that yields a composite score of stress experienced in social, attitudinal, familial, and environmental contexts. Another well-known scale is the Hispanic Stress Inventory (Cervantes et al., 1991) that assesses acculturative stress related to five separate domains: occupational, immigration, marital, parental, and cultural/family stress.

Acculturative Stress and Psychological Well-Being

Consistent with theoretical predictions (Cervantes et al., 1991), empirical findings indicate that acculturative stress is positively associated to psychological distress. Hovey and colleagues found a positive relation of acculturative stress (as measured by the SAFE) to anxiety and depression symptoms and to suicidal ideation among Latino immigrants living in urban and rural settings (Hovey, 2000; Hovey & Magaña, 2000, 2002). Similarly, a composite measure of acculturative stress was positively associated to psychological distress among U.S.-born Latino psychiatric outpatients (Thoman & Surís, 2004). Other studies have indicated that depression and anxiety are also positively associated with specific dimensions of acculturative stress, including stress resulting from immigration, culture/family, and discrimination conditions (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 1999; Finch et al., 2000; Hiott, Grzywacz, Arcury, & Quandt, 2006; Salgado de Snyder, Cervantes, & Padilla, 1990).

The studies reviewed above consistently show that among adult Latino immigrants, acculturative stress is associated with negative psychological outcomes. These findings suggest that to foster the psychological well-being of Latinos, it is necessary to attend to the unique stresses they experience. Knowledge regarding the factors that predict acculturative stress will allow researchers and practitioners to gain a better understanding of the psychosocial stressors associated with the immigration experience. However, only a few studies were located that examined predictors of acculturative stress among adult Latino immigrants.

Predictors of Acculturative Stress

Based on a recent review of the literature, Caplan (2007) identified three major types of stressors among Latino immigrants: instrumental/environmental, social/interpersonal, and societal. Instrumental/environmental stressors include challenges related to obtaining the goods and services needed for one's day-to-day existence, such as employment, access to health care, and language abilities. Social and interpersonal stressors refer to challenges related to the reestablishment of sources of family and social support, changing gender roles and family, and intergenerational conflicts. Societal stressors capture discrimination and difficulties associated with undocumented status, including fear of deportation. Immigrants are likely to experience acculturative stress to the extent to which they experience these stressors and appraise them as threatening their wellbeing and taxing their coping resources (Folkman et al., 1986).

The few studies located that examined predictors of acculturative stress among adult Latino immigrants provided support for some of the factors identified by Caplan (Cavazos-Rehg et al., 2007; Hovey, 2000; Miranda, 2000). Family dysfunction, low income, and separation from family were associated with higher levels of a composite measure of acculturative stress among a community sample of Mexican immigrants who had lived in the United States for an average of 10 years (range 1 to 42 years; Hovey, 2000). Lack of family cohesion, adherence to Spanish, and limited time of residence in the United States also emerged as predictors of composite acculturative stress in a study that surveyed relatively recent (1 to 10 years in the United States) immigrants from Mexico, Central and South America (Miranda, 2000). In neither of these two studies researchers asked participants about their legal status. Consequently, the relation of undocumented status to acculturative stress or its predictors was not examined.

Cavazos-Rehg et al. (2007) hypothesized that undocumented status is a “persistent and insidious psycho environmental stressor” that increases Latino immigrants’ vulnerability to acculturative stress and other socioemotional problems. However, in their study with adult Latino immigrants (88% from Mexico), Cavazos-Rehg et al. did not directly ask participants about their legal status. Instead, they inferred legal status from one question that asked participants to indicate (yes or no) “whether they had thought that visiting a social or governmental agency for assistance would lead to deportation” (Cavazos-Rehg et al., 2007, p. 1127). Results showed that Latino immigrants concerned with deportation reported higher levels of extrafamilial acculturative stress (stress related to economic and occupational challenges) than immigrants who did not express deportation concerns. Findings from a recent national survey (Pew Hispanic Center, 2008) revealed that most Latinos in the United States worry a lot or some (57%) about deportation regarding themselves, family members, or friends. Large proportions of both foreign-born (72%) and native-born Latinos (35%) in the Pew’s national survey reported concerns about deportation. These findings suggest that while concerns regarding deportation are prevalent among Latinos, these concerns may not be a good proxy measure for undocumented status.

The Present Study

This study had three main aims. The first aim was to examine differences among documented and undocumented Latino immigrants in (a) the prevalence of three immigration-related challenges not directly related to legal status: separation from family, language proficiency, and traditionality, (b) fear of deportation, a stressor directly related to legal status, and (c) levels of extrafamilial and intrafamilial acculturative stress. It was expected that, compared with their documented counterparts, undocumented immigrants would report lower levels of English proficiency and higher levels of separation from family, traditionality, fear of deportation, and extrafamilial and intrafamilial acculturative stress.

The second aim of the study was to examine the unique and combined contribution of three immigration challenges (separation from family, language proficiency, traditionality) and of fear of deportation to levels of extrafamilial acculturative stress and intrafamilial acculturative stress. It was expected that (a) the relation of the immigration challenges

(separation from family, language proficiency, and traditionality) to both dimensions of acculturative stress would be positive and statistically significant, and that (b) fear of deportation would explain a statistically significant amount of variance in extrafamilial and intrafamilial acculturative stress above and beyond the variance associated with the three immigration challenges.

The third aim of the study was to examine to what extent legal status moderated the relation of the immigration challenges to extrafamilial and intrafamilial acculturative stress. It was expected that the immigration challenges would be more strongly associated with higher levels of both dimensions of acculturative stress for undocumented than for documented immigrants.

Method

Procedures

The data were collected during the period from 1998 to 1999 as part of a larger study that examined impacts of rising anti-immigrant national sentiment and increased enforcement of restrictive immigration laws (e.g., the Illegal Immigration Reform and Immigrant Responsibility Act) on the family stability and mental health conditions among Latino immigrants residing in two major cities in Texas. Participants were initially recruited from churches, social services agencies, and clinics located in census tract areas densely populated by Latinos. To reach a wide spectrum of Mexican and Central American immigrants, recruitment efforts were expanded to shelters, parks, restaurants, clinics, supermarkets, and neighborhood associations in the same communities. To address the initial resistance encountered from immigrants to participate in the study, members of the research team conducted focus groups separately with agency staff and with immigrants, assisted agency personnel with translations, and gave several talks about health issues. As a result of these efforts, immigrants became familiar and comfortable with the research team and a substantial number agreed to participate in the study.

Participants met the following criteria: (a) resided in the United States for 12 years or less, (b) had a spouse who was also from Mexico or Central America, and (c) had children residing in the United States or in the country of origin. Data were collected via individual interviews (1.5 to 2 hours long) that were conducted primarily in Spanish by 16 bilingual, trained, graduate, and undergraduate psychology and sociology students (10 males and 6 females). Interviewers read aloud each question to participants in their preferred language (English or Spanish) and recorded their answers in the appropriate form. Each respondent received a \$15.00 to \$20.00 food coupon incentive for their participation in the study. Of the 420 immigrants interviewed, data for the 416 respondents who indicated their legal status in the United States were included in the analyses.

Participants

The majority of the 416 participants were from Mexico (276, 66%) and the rest were from Central American (140, 34%). They ranged in age from 18 to 64 years (mean age = 33.5 years, $SD = 8$ years) and were approximately evenly divided between men (215, 52%) and

women (201, 48%). Their length of stay in the United States ranged from less than a year to 12 years (mean = 5.6 years, $SD = 3.6$ years), and their age at immigration ranged from 11 to 54 years (mean = 28 years, $SD = 8$ years). In terms of education, 55% had completed less than high school, 21% had a high school degree, 20% had completed some post-high school education, and only 4% had a college degree. Income ranged from \$0 to \$38,400 a year (mean = \$11,066; $SD = \$6,430$) among the 345 immigrants who reported their income. A majority of the immigrants were undocumented (261, 63%); among the 155 (37%) documented participants, most (117, 75%) had permanent legal documents and the remaining (38, 25%) had temporary permits. Because it was an inclusion criterion, all participants were married and had children.

Instruments

Demographic questionnaire—A demographic questionnaire, developed for the study, asked about personal information, including gender, age, country of origin, age at immigration, family composition, education, employment status, legal status in the United States, and income.

English proficiency and traditionality—The conditions of English proficiency and traditionality were assessed with scales developed by Hazuda, Stern, and Haffner (1988). Spanish versions of these scales were obtained from the authors. The three items in the English Proficiency scale asked participants to self-report how well they understood, spoke, and read English using four response options ranging from 1 (*very well*) to 4 (*not at all*). Items were recorded so that higher scores indicate higher proficiency in English. The seven-item Traditionality scale measures the extent to which respondents value a traditional Latino extended family structure and gender-role organization. A sample item in the scale reads, “If they could live anywhere they wanted to, married children should live close to their parents so that they can help each other.” Response options range from 1 (*not important at all*) to 5 (*very important*) and higher scores indicate stronger endorsement of traditional values. Participants’ scores for each scale were calculated by averaging responses to the items that comprised each scale. Hazuda et al. (1988) reported adequate internal reliability coefficients for both the English Language Proficiency (.8) and the Traditionality (.6) scales. In terms of validity, scores in the scales differentiated in the expected direction between Mexican Americans and non-Latino Whites as well as between Mexican Americans of different generations (first vs. third; Hazuda et al., 1988). The Cronbach’s alpha coefficients for scores in the present study were .90 for the English Language Proficiency scale and .71 for the Traditionality scale, indicating good to adequate levels of internal consistency.

Family separation—Family separation was assessed with an item in the Demographic Questionnaire that asked participants with whom they lived in the United States; responses included (a) alone; (b) spouse only; (c) children only; (d) spouse and children, and (e) spouse, children, and extended family. Because the majority of the respondents lived with their complete nuclear family (242, 58%), this item was recoded into two categories 1 = *lives with the complete nuclear family* and 2 = *does not live with the complete nuclear family* (separated from spouse, or children or both).

Legal status—Legal status, assessed in the Demographic Questionnaire, was coded 1 if respondents indicated having visas for permanent or temporary residency in the United States and 2 if they indicated not having such documents.

Fear of deportation—Fear of deportation was assessed with seven items developed by the researchers that asked respondents whether they avoided or did not engage in the following activities because of fear or concerns of being deported: walk in the streets, ask for help from government agencies, report an infraction to the police, report to the police an infraction committed against one's person, attend court if requested to do so, apply for a driver's license, and wait in the street corner to get work. Items were translated into Spanish using Brislin's (1986) back translation method. Each item was scored with a 0 or a 1 (0 = *no avoidance of the activity for fear of deportation*; 1 = *avoidance of the activity for fear of deportation*). A continuous score was calculated by adding responses to each question with a possible range of scores from 0 to 7. The internal consistency of responses to these seven items as assessed by the Kuder–Richardson 20 reliability coefficient was .91. Answers to these seven questions also were used to identify the proportion of participants who indicated that they experienced fear of deportation in relation to at least one of the seven activities from those who reported no deportation concerns regarding any of the activities.

Acculturative stress—The Spanish version of the Hispanic Stress Inventory–Immigrant form (HSI-I) was used to assess acculturative stress (Cervantes et al., 1991). The HSI-I was developed to assess levels of strains associated (stress appraisal) with the unique experiences of Latino immigrants in the United States. The scale consists of 73 items and five subscales: Occupational (13 items), Immigration (18 items), Marital (16 items), Parental (13 items), and Cultural/Family stress (13 items). Sample items include, Occupational stress: “Because I am Latino I am expected to work harder”; Immigration stress: “I have felt unaccepted by others because of my Latino culture”; Marital stress: “My spouse has expected me to be more traditional in our relationship”; Parental stress: “My children have not respected my authority in the way they should”; and Cultural/Family stress: “Some members of my family have become too individualistic.” Participants were asked to indicate how worried or tense they had been in the past 3 months regarding the stressor described in each item. Response options ranged from 1 = *not at all worried/tense* to 5 = *extremely worried/tense*. Scores were calculated by averaging responses to the items that comprised each scale; scores ranged from 1 to 5 with higher values indicating greater levels of stress. Cervantes et al. (1991) reported that the subscales of the HSI-I correlated positively and significantly with measures of psychological symptomatology (correlations ranged from $r = .20$ to $r = .45$). Similarly, the scales' scores have shown adequate levels of internal consistency with immigrants from Mexico and Central America; Cronbach's alpha coefficients have ranged from .77 to .99 (Cervantes et al., 1991).

In the present study, scores from the five HSI-I subscales were highly correlated to each other (correlations ranging from $r = .45$ to $r = .78$). Results of second-order exploratory factor analyses of the five HSI-I subscales scores, using principal component extraction with Varimax rotation, indicated the presence of two factors with simple structure that explained 77% of the variance. Consistent with the work of Cavazos-Rehg, Zayas, Walker, and Fisher

(2006), who found two similar factors using an abbreviated version of the HSI-I, these two second-order factor scales were labeled Extrafamilial stress (including the Occupational, and Immigration stress subscales) and Intrafamilial stress (including the Marital, Parental, and Cultural/Family stress subscales). Scores in these two scales, calculated by averaging responses to the items that comprised each scale, were used to assess two dimensions of acculturative stress. In the present study the internal reliability coefficients for scores in these two scales were .91 for Extrafamilial stress and .87 for Intrafamilial stress.

Results

Preliminary Analysis

Preliminary analyses were conducted to examine (a) the relation of gender to legal status and (b) the bivariate correlation among the continuous variables included in the study. While participants were evenly distributed by gender (52% males/48% females), most undocumented immigrants ($n = 247$) were male (151, 60%) whereas most documented immigrants ($n = 169$) were female (105, 68%). The difference in the distribution of documented status by gender was statistically significant, $\chi^2(1, N = 416) = 25.51, p < .001$.

As shown in Table 1, the correlation between the two acculturative stress scales (extrafamilial and intrafamilial stress) was moderate and statistically significant. The correlations of English proficiency and traditionality to acculturative stress were statistically significant for extrafamilial stress but not for intrafamilial stress. Those who reported lower proficiency in English and higher traditionality also reported higher levels of extrafamilial stress.

Gender and Documented Status Differences in Immigration Challenges, Fear of Deportation, and Acculturative Stress

Chi-square tests of independence and analyses of variance were used to examine gender and legal status differences in the predictor (family status, English proficiency, traditionality, and fear of deportation) and criterion (extrafamilial and intrafamilial acculturative stress) variables.

Family status—All study participants were married and had children, as these conditions were part of the study's inclusion criteria. Slightly more than half (239, 58%) were living in the United States with their nuclear families (spouse and children). Among the 177 participants who did not have their nuclear family with them, most (120, 68%) reported being completely alone and the others (57, 32%) were separated from either their spouse ($n = 33$) or their children ($n = 24$). Results of two chi-square tests of independence indicated that (a) a larger proportion of men (148, 69%) than women (36, 18%) were alone or separated from members of their nuclear family, $\chi^2(1, N = 416) = 112.62, p < .001$ and (b) a larger proportion of undocumented (136/251, 52%) than documented immigrants (40/155, 26%) reported living separated from some or all members of their nuclear families, $\chi^2(1, N = 416) = 112.62, p < .001$.

English proficiency and traditionality—A two-way multivariate analysis of variance (MANOVA) was conducted to examine to what extent there were gender and legal status differences in English proficiency and traditionality. Results indicated that there were main effects for legal status, $\Lambda = .92$, $F(2, 410) = 18.52$, $p < .001$ and for gender, $\Lambda = .96$, $F(2, 410) = 8.76$, $p < .05$. Follow-up univariate analyses showed that main effects for legal status were statistically significant for both variables. Undocumented immigrants reported lower levels of English proficiency and higher levels of traditionality than documented immigrants. There were statistically significant gender differences in traditionality (men scored higher than women) but not in English proficiency. The interaction effect of gender by legal status was not statistically significant. Table 2 includes the means and standard deviations for English proficiency and traditionality by legal status and gender groups.

Fear of deportation—A two-way analysis of variance (ANOVA) was conducted to examine to what extent there were legal status and gender differences in fear of deportation. Results indicated that there were main effects for legal status, $F(3, 412) = 68.62$, $p < .001$ and for gender, $F(3, 412) = 9.79$, $p < .01$. The interaction of gender by legal status was statistically significant, $F(3, 412) = 9.79$, $p < .05$. Inspection of the means included in Table 2 show that men and undocumented immigrants reported higher levels of fear of deportation than women and documented immigrants, respectively. Regarding the interaction effect, results of *t* tests indicated that gender differences in deportation concerns were statistically significant only among undocumented immigrants; undocumented men reported higher levels of concern than undocumented women, $t(259) = 3.97$, $p < .001$. Additional analyses were conducted to examine the proportion of documented and undocumented immigrants who reported fear of deportation. Results revealed that 32% of documented immigrants and 80% of undocumented immigrants reported avoiding at least one activity for fear of deportation.

Acculturative stress—A two-way MANOVA was conducted to examine to what extent there were gender and legal status differences in the two dimensions of acculturative stress, extrafamilial and intrafamilial stress. Results of the MANOVA using the Wilks's Lambda criteria indicated that there were main effects for both legal status, $\Lambda = .92$, $F(2, 410) = 16.99$, $p < .001$ and gender, $\Lambda = .95$, $F(2, 410) = 11.06$, $p < .001$. Results also showed a statistically significant interaction effect for legal status by gender, $\Lambda = .02$, $F(2, 410) = 3.37$, $p < .05$. Two, two-way analyses of variance were conducted as a follow-up to the MANOVA. Results indicated a main effect for only extrafamilial stress for both legal status, $F(1, 411) = 22.82$, $p < .001$ and gender, $F(1, 411) = 11.67$, $p < .01$. Undocumented immigrants and men reported higher levels of extrafamilial stress than documented immigrants and women, respectively. Means for both dimensions of acculturative stress by legal status and gender groups are reported in Table 2. The interaction effect of legal status by gender was not statistically significant in either of the two univariate analyses.

Regression Analyses

Two hierarchical multiple regression analyses were conducted to examine the combined and unique associations of the immigration-related challenges to extrafamilial and intrafamilial acculturative stress. Because results of preliminary analyses showed that gender and legal

status were not independent of each other, gender and legal status were included as control variables in the first step of each regression. The three immigration challenges not directly related to legal status were entered as a block in the second step. Fear of deportation was entered in the third step to examine to what extent it contributed additional variance to acculturative stress when controlling for known predictors of stress among Latinos. The interaction term of each of the three immigration challenges and fear of deportation by legal status were entered in the fourth step to examine to what extent legal status moderated the relation of the four predictor variables to acculturative stress.

Extrafamilial stress—Results of the regression analyses, shown in Table 3, indicated that gender and undocumented status when entered in the first step, contributed 12% of the variance ($R^2 = .12, p < .001$) concerning extrafamilial stress. The change in R^2 for the second step was statistically significant, indicating that the three immigration challenges (family status, English proficiency, and traditionality) contributed an additional 7% of the variance ($R^2 = .19, R^2 = .07, p < .001$). Inspection of the Beta coefficients in Step 2 shows that with the exception of gender, all the variables included in the model contributed unique variance to extrafamilial stress in the expected direction. Fear of deportation, entered in the third step contributed an additional 21% of the variance to extrafamilial acculturative stress ($R^2 = .40, R^2 = .21, p < .001$). Inspection of the Beta coefficients in Step 3 indicates that fear of deportation is the only immigration stressor that contributes unique variance to extrafamilial acculturative stress when controlling for all the other variables in the model. The change in R^2 for the fourth step, in which the interactions terms of the immigration challenges and fear of deportation by undocumented status were entered, was not statistically significant, which indicated that there were no moderation effects. Therefore, results for the fourth step in the regression analysis were not included in Table 3. A second hierarchical regression analysis predicting extrafamilial stress that excluded the variable fear of deportation also failed to yield a significant change in R^2 for the last step in which the interaction terms of the three immigration challenges by undocumented status were entered.

Intrafamilial stress—The regression model explained a statistically significant but very small amount of variance (6%) related to intrafamilial stress. As can be observed in Table 3, the R^2 for the first two steps in the regression, in which gender, legal status, family status, English proficiency, and traditionality were entered, were not statistically significant. Fear of deportation, entered in Step 3, contributed a statistically significant amount of variance ($R^2 = .06, R^2 = .04, p < .001$). Inspection of the Beta coefficients in Step 3 indicates that both gender and fear of deportation contributed unique variance. Being male and reporting higher levels of fear of deportation were positively associated to intrafamilial acculturative stress. The change in R^2 for Step 4, in which the interaction terms of the immigration challenges and fear of deportation by undocumented status were entered, was not statistically significant, which indicates that there were no moderation effects. Therefore, results for the fourth step in the regression analysis were not included in Table 3. A second hierarchical regression analysis predicting intrafamilial stress that excluded the variable fear of deportation also failed to yield a significant change in R^2 for the last step in which the interaction terms of the three immigration challenges by undocumented status were entered.

Discussion

The purpose of the study was to examine differences between documented and undocumented Latino immigrants in the prevalence of immigration-related challenges and to determine the combined and unique association of legal status, immigration-related challenges, and fear of deportation to acculturative stress related to the external and the family contexts. Consistent with the findings of Cavazos-Rehg et al. (2006), two dimensions of acculturative stress emerged—extrafamilial and intrafamilial stress—using participants' scores on the five scales of the immigrant version of the HSI (Cervantes et al., 1991). The Extrafamilial stress scale, which combined items from the Occupational and Immigration subscales, assessed levels of stress experienced in relation to difficulties with employment, communication, discrimination, and legal status. The Intrafamilial stress scale combined items from the Parental, Family, and Marital stress subscales that capture levels of stress experienced in relation to difficulties with behavioral and attitudinal dispositions among members of the family.

Participants in the study were low-income, relatively recent immigrants from Mexico and Central America living in two urban centers in the southwest United States. As expected, undocumented Latino immigrants reported the highest levels of immigration-related challenges. Compared with the documented immigrants, the undocumented immigrants were more likely to live alone or separated from members of their nuclear family and to report lower proficiency in English and higher endorsement of traditional values related to gender-roles and family structure. In terms of gender differences, men were more likely than women to be undocumented, to be separated from their nuclear families, to endorse traditional values, and to report greater fear of deportation. These findings are consistent with a qualitative study conducted in a clinical setting in New York City that revealed that undocumented Latino immigrants were primarily male and Spanish speaking and were more likely to report lack of family support than documented immigrants (Pérez & Fortuna, 2005). Consistent with these gender and legal status differences, males and undocumented immigrants reported higher levels of extrafamilial stress than their female and documented counterparts. However, no gender or legal status differences emerged in relation to intrafamilial stress.

Results of regression analyses indicated that, controlling for gender and legal status, the relation of the immigration challenges to extrafamilial stress was statistically significant; separation from family, lack of English proficiency, and endorsing traditional values, all contributed unique variance to higher levels of extrafamilial stress. Fear of deportation, entered on the third step, was strongly and uniquely associated with extrafamilial stress when controlling for documented status and the immigration-related challenges. This finding is consistent with qualitative studies of undocumented Hispanic immigrants in the United States and Canada that have suggested that perceptions of social isolation and the uncertainty related to their undocumented status add to the stress associated with the immigration experience (Chavez, 1991; Hagan, Rodriguez, Capps, & Kabiri, 2003; Simich, 2006). Fear of deportation, in addition to being a source of stress and anxiety, may discourage undocumented immigrants from seeking help for employment, health, and language skills difficulties they encounter (N. Rodriguez & Hagan, 2004; Simich, 2006;

Sullivan & Rehm, 2005), further compounding the stress they experience related to immigration-related challenges.

Predictions regarding the relations of undocumented status, immigration challenges, and fear of deportation to intrafamilial stress were only partially supported. The relations of gender, legal status, and the immigration-related challenges to intrafamilial stress were not statistically significant. Fear of deportation accounted for a statistically significant but relatively small amount of increased variance (about 4%) in relation to intrafamilial stress. These findings are difficult to interpret, partly because mean scores in intrafamilial stress were very low for both documented and undocumented immigrants (1.37 and 1.35 in a scale ranging from 1 to 5). Cavazos-Rehg et al. (2006) also reported low mean scores (ranging from 1.3 to 1.5) among adult Latino immigrants in the three subscales that comprise the intrafamilial stress scale. Limited variability in the acculturative stress scores may explain the lack of observed relationship between the immigration challenges and intrafamilial stress. It may be that participants did not experience high levels of intrafamilial stress. However, it is also possible that because of their adherence to the value of *familialism* (importance of keeping harmonious and supportive family relations; Marin & Marin, 1991), the Latino immigrants may have underreported difficulties and strains experienced within the family. In the present study, participants' possible reluctance to provide negative information about their family relations may have been exacerbated by the fact that they provided face-to-face answers to research assistants who then coded the instruments.

Contrary to expectations, legal status did not moderate the relation of the immigration challenges to extrafamilial acculturative stress. In other words, the association of the acculturation-related stressors (family separation, lack of English skills, and traditionality) to the levels of stress experienced in relation to occupational and immigration factors were similar for documented and undocumented participants. Low-income, recent Latino immigrants typically experience limited and difficult work opportunities and living conditions. The lack of moderation effects suggest that among low-income relatively recent immigrants, documented status does not mitigate the contribution of family separation and lower levels of acculturation (i.e., lack of language skills and preference for traditional values) to the stress immigrants experience in relation to their difficult everyday existence.

As expected, undocumented immigrants reported higher levels of fear of deportation than their documented counterparts. However, consistent with results from the 2008 Pew Hispanic Center survey, about one third of the documented immigrants reported avoiding at least one activity included in the questionnaire for fear of deportation (while the same was true for about 80% of the undocumented immigrants). Post hoc analyses revealed that among documented immigrants the activities of walking in the street, requesting help from government agencies, and applying for a driver's license elicited the highest levels of fear of deportation. These findings may be explained, at least in part, by the fact that the data for the study were collected shortly after the enactment of welfare and immigration reform acts in 1996. Results of a field-based study in five cities in Texas revealed that following the passage of these two pieces of legislation, a relatively large proportion of immigrants, including those with legal residence, reported that they had been questioned about their legal

status while conducting everyday activities such as walking in the street or waiting for a bus (Hagan & Rodriguez, 2002).

The findings of the present study are consistent with the conclusion of Hagan and Rodriguez (2002) that the passage of the 1996 immigration and welfare reform laws led immigrant communities to feel heightened concerns regarding deportation and increased distrust of government agencies. As mentioned above, about one third of the documented Latino immigrants in the present study reported that they avoided activities such as walking in the street or requesting services from government agencies for fear of deportation. Furthermore, fear of deportation was the strongest predictor of extra- and intrafamilial acculturative stress among both documented and undocumented immigrants. These findings beg the question, what motivated fears of deportation among documented participants? Immigrants with temporary visas may have feared that their visas could be revoked if they accessed government services. Or, as Capps, Hagan, and Rodriguez (2004) found with immigrants in the Texas-Mexico border, legal residents may have believed that requesting government services would decrease their chances of achieving citizenship because they could be reported by social agencies as public charges. It is also possible that documented immigrants may have feared that accessing government services could increase the risk of deportation of undocumented members of their families. Be that as it may, the reasons associated with fear of deportation among documented, low-income Latino immigrants deserve further study.

The study's findings suggest that in the social environment created by restrictive immigration legislation, fear of deportation contributes the most to acculturative stress among Latino immigrants. This fear is associated to increased acculturative stress in both the extrafamilial and intrafamilial contexts above and beyond the stress associated with immigration-related challenges such as separation from family, traditionality, and language difficulties. Very little is known regarding the effect of fear of deportation on the psychological functioning of Latino immigrants and their families. However, it is reasonable to expect that long-term exposure to stress associated with fear of deportation is likely to have a negative impact on an individual's thoughts, emotions, and social functioning. Although no major changes in immigration law have been enacted since 1996, in recent years state and local governments have intensified greatly the enforcement of these laws. For example, deportations increased by more than fivefold between 1996 and 2008 (U.S. Department of Homeland Security, 2009, table 36). Latino respondents to the 2008 national survey conducted by the Pew Hispanic Center indicated that in the past year they had observed more frequent involvement of local police in the questioning of Latinos about their legal status and more frequent workplace raids by government agents (Pew Hispanic Center, 2009). Stricter enforcement of the immigration laws and higher deportation rates of Latino immigrants have resulted in higher levels of family separation, fear, and stress among Latinos, particularly undocumented immigrants (Hagan & Rodriguez, 2002; N. Rodriguez & Hagan, 2004).

Several limitations must be considered in interpreting the results from this study. The data were collected more than 10 years ago; therefore, it may not capture all the current immigration-related issues that Latinos face today. In the current study, no external criterion measures were included to examine the association of acculturative stress to emotional well-

being; however, previous research has established the existence of such associations (Alderete et al., 1999, Finch et al., 2000; Hiott, Grzywacz, Arcury, & Quandt, 2006; Hovey, 2000; Hovey & Magaña, 2000, 2002; Salgado de Snyder et al., 1990; Thoman & Surís, 2004). Participants were relatively recent immigrants with low levels of education, recruited from shelters and other social service agencies in primarily Latino neighborhoods. Because of the study's inclusion criteria, all participants were married and had children. Therefore, findings of the study may not generalize to more affluent, single, and childless Latino immigrants. Participants' responses also may have been influenced by the way the data were gathered: Research assistants read each question to participants and recorded their answers in the appropriate forms. While increasing the accuracy of understanding of questionnaire items, this method also may have increased the social desirability of the participants' answers. Finally, because the study was cross-sectional and the relation of premigration stress to postmigration stress was not assessed, it is not possible to determine to what extent immigration challenges and fear of deportation have a causal relation to acculturative stress.

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References

- Alderete E, Vega W, Kolody B, Aguilar-Gaxiola S. Depressive symptomatology: Prevalence and psychosocial risk factors among Mexican migrant farmworkers in California. *Journal of Community Psychology*. 1999; 27:457–471.
- Brislin, RW. The wording and translation of research instruments. In: Lonner, WJ.; Berry, JW., editors. *Field methods in cross-cultural research*. Beverly Hills, CA: Sage; 1986. p. 137-164.
- Caplan S. Latinos, acculturation, and acculturative stress: A dimensional concept analysis. *Policy, Politics, and Nursing Practice*. 2007; 8:93–106.
- Capps, R.; Hagan, J.; Rodriguez, N. Border residents manage the immigration and welfare reforms. In: Kretsedemas, P.; Aparicio, A., editors. *Immigrants, welfare reform, and the poverty of policy*. Westport, CT: Praeger; 2004. p. 229-249.
- Cavazos-Rehg PA, Zayas LH, Spitznagel EL. Legal status, emotional well-being and subjective health status of Latino immigrants. *Journal of the National Medical Association*. 2007; 99:1126–1131. [PubMed: 17987916]
- Cavazos-Rehg PA, Zayas LH, Walker MS, Fisher EB. Evaluating an abbreviated version of the Hispanic Stress Inventory for Immigrants. *Hispanic Journal of Behavioral Sciences*. 2006; 28:498–515.
- Cervantes RC, Padilla AM, Salgado de Snyder N. The Hispanic stress inventory: A culturally relevant approach to psychosocial assessment. *Psychosocial Assessment: A Journal of Consulting and Clinical Psychology*. 1991; 3:438–447.
- Chavez LR. Outside the imagined community: Undocumented settlers and experiences of incorporation. *American Ethnology*. 1991; 18:257–278.
- Cornelius WA. Controlling “unwanted” immigration: Lessons from the United States, 1993-2004. *Journal of Ethnic and Migration Studies*. 2005; 31:775–794.

- Finch BK, Kolody B, Vega A. Perceived discrimination and depression among Mexican-origin adults in California. *Journal of Health and Social Behavior*. 2000; 41:295–313. [PubMed: 11011506]
- Finch BK, Vega WA. Acculturation stress, social support, and self-rated health among Latinos in California. *Journal of Immigrant Health*. 2003; 5:109–117. [PubMed: 14512765]
- Folkman S, Lazarus SR, Dunkel-Schetter C, DeLongis A, Gruen RJ. Dynamics of a stressful encounter: Cognitive appraisal, coping and encounter outcomes. *Journal of Personality and Social Psychology*. 1986; 50:992–1003. [PubMed: 3712234]
- Hagan, J.; Rodriguez, N. Resurrecting exclusion: The effects of 1996 immigration reform on families and communities in Texas, Mexico and El Salvador. In: Suarez-Orozco, M.; Paez, M., editors. *Latinos: Remaking America*. Los Angeles: University of California Press; 2002. p. 190-201.
- Hagan J, Rodriguez N, Capps R, Kabiri N. Effects of immigration reform on immigrants' access to health care. *International Migration Review*. 2003; 37:444–463.
- Hazuda HP, Stern MP, Haffner SM. Acculturation and assimilation among Mexican Americans: Scales and population-based data. *Social Sciences Quarterly*. 1988; 69:687–705.
- Hiott A, Grzywacz JG, Arcury TA, Quandt SA. Gender differences in anxiety and depression among immigrant Latinos. *Families, Systems & Health*. 2006; 24:137–146.
- Hovey JD. Psychosocial predictors of acculturative stress in Mexican immigrants. *Journal of Psychology*. 2000; 134:480–502.
- Hovey JD, Magaña C. Acculturative stress, anxiety, and depression among Mexican immigrant farmworkers in the Midwest United States. *Journal of Immigrant Health*. 2000; 2:119–131. [PubMed: 16228745]
- Hovey JD, Magaña C. Psychosocial predictors of anxiety among immigrant Mexican migrant farmworkers: Implications for prevention and treatment. *Cultural Diversity and Ethnic Minority Psychology*. 2002; 8:274–289. [PubMed: 12143104]
- Marin, G.; Marin, BV. *Research with Hispanic populations*. Newbury Park, CA: Sage; 1991.
- Mehta, C.; Theodore, N.; Mora, I.; Wade, J. *Chicago's undocumented immigrants: An analysis of wages, working conditions, and economic contributions*. Chicago: University of Illinois at Chicago, Center for Urban Economic Development; 2002.
- Mena FJ, Padilla AM, Maldonado M. Acculturative stress and specific coping strategies among immigrants and later generation college students. *Hispanic Journal of Behavioral Sciences*. 1987; 9:207–225.
- Miranda AO. Socio-psychological predictors of acculturative stress among Latino adults. *Journal of Mental Health Counseling*. 2000; 22:306–317.
- Pérez MC, Fortuna L. Psychosocial stressors, psychiatric diagnoses, and utilization of mental health services among undocumented immigrant Latinos. *Journal of Immigrant and Refugee Services*. 2005; 3:107–123.
- Pew Hispanic Center. *National survey of Latinos: Hispanics see their situation in U.S. deteriorating; oppose key immigration enforcement measures*. Washington, DC: Pew Hispanic Center; 2008 Sep.
- Pew Hispanic Center. *A portrait of unauthorized immigrants in the United States*. Washington, DC: Pew Hispanic Center; 2009 Apr.
- Rodriguez N, Hagan J. Fractured families and communities: Effects of immigration reform in Texas, Mexico, and El Salvador. *Latino Studies*. 2004; 2:328–351.
- Rodriguez R, Dewolfe A. Psychological distress among Mexican-American and Mexican women as related to status on the new immigration law. *Journal of Consulting and Clinical Psychology*. 1990; 58:548–553. [PubMed: 2254500]
- Salgado de Snyder VN, Cervantes RC, Padilla AM. Gender and ethnic differences in psychosocial stress and generalized distress among Hispanics. *Sex Roles*. 1990; 22:441–453.
- Simich L. Hidden meanings of health security: Migration experiences and systemic barriers to mental well-being among non-status migrants in Canada. *International Journal of Migration Health and Social Care*. 2006; 2:16–27.
- Sullivan MM, Rehm R. Mental health of undocumented Mexican immigrants: A review of the literature. *Advances in Nursing Sciences*. 2005; 28:240–251.

Thoman LV, Surís A. Acculturation and acculturative stress as predictors of psychological distress and quality of life functioning in Hispanic psychiatric patients. *Hispanic Journal of Behavioral Sciences*. 2004; 26:293–311.

U.S. Department of Homeland Security. Yearbook of immigration statistics: 2008. Washington, DC: U.S. Department of Homeland Security, Office of Immigration Statistics; 2009.

Biographies

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Table 1

Correlations Between Measures of Predictor and Criterion Variables

Variables	1	2	3	4
Extrafamilial stress Intrafamilial stress	.49**			
English proficiency	-.24**	-.06		
Traditionality	.25**	.07	-.22**	
Fear of deportation	.59**	.18**	-.24**	.24**

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

Table 2
Means and Standard Deviations for Measures of Acculturative Stress, Immigration Challenges, and Fear of Deportation by Gender and Legal Status

	Documented			Undocumented			Total	Male	Female	Total
	Male	Female	Total	Male	Female	Total				
Extrafamilial stress	1.93 (0.76)	1.75 (0.64)	1.81 ^a (0.68)	2.37 (0.77)	2.03 (0.67)	2.23 ^a (0.75)	2.27 ^b (0.79)	1.89 ^b (0.67)	1.38 (0.31)	2.07 (0.75)
Intrafamilial stress	1.38 (0.45)	1.36 (0.39)	1.37 (0.41)	1.32 (0.36)	1.41 (0.40)	1.35 (0.38)	1.32 (0.38)	1.38 (0.31)	1.36 (0.39)	1.36 (0.39)
English proficiency	2.48 (0.86)	2.23 (0.84)	2.31 ^c (0.85)	1.84 (0.75)	1.87 (0.75)	1.86 ^c (0.75)	2.00 (0.82)	2.05 (0.82)	2.03 (0.82)	2.03 (0.82)
Traditionality	3.97 (0.67)	3.85 (0.66)	3.89 ^d (0.66)	4.20 (0.50)	3.88 (0.65)	4.02 ^d (0.65)	4.19 ^e (0.62)	3.87 ^e (0.66)	4.02 (0.66)	4.02 (0.66)
Fear of deportation	.96 (1.60)	.73 (1.59)	.81 ^f (1.59)	3.34 ^g (2.59)	2.14 ^g (2.16)	2.83 ^f (2.48)	2.75 ^h (2.59)	1.45 ^h (2.02)	2.08 (2.40)	2.08 (2.40)

Note: Values in parentheses refer to the standard deviations. Possible range of scores for the scales are Extra- and Intrafamilial stress, 1 to 4; English proficiency, 1 to 5; and Fear of deportation, 0 to 7. Differences between means with the same superscripts are statistically significant.

Table 3
 Hierarchical Regression Analyses Summary for Gender, Immigration Challenges, Legal Status, and Fear of Deportation Predicting Extrafamilial and Intrafamilial Stress

Step/Predictor Measures	Extrafamilial Stress			Intrafamilial Stress		
	β	R^2	R^2	β	R^2	R^2
Step 1		.12***	.12***		.01	.01
Gender	-.19***			.08		
Legal status	-.24***			.01		
Step 2		.19***	.07***		.02	.01
Gender	-.08					
Legal status	.17**			-.09		
Family status	.18**			.01		
English proficiency	-.13**			-.01		
Traditionality	.11*			.05		
Step 3		.40***	.21***		.06**	.04**
Gender	-.04			.13*		
Legal status	.01			-.09		
Family status	.08			.02		
English proficiency	-.07			-.01		
Traditionality	.06			.01		
Fear of deportation	.53***			.24***		

Note: In both regression analyses the R^2 for Step 4 was not statistically significant.

* $p < .05$.

** $p < .01$.

*** $p < .001$.