Original article

Family Factors Contribute to General Anxiety Disorder and Suicidal Ideation Among Latina Americans

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ABSTRACT

Purpose: Despite a rapidly growing Latina/o American population, little is known about modifiable factors that could protect Latinas against major psychiatric disorders. The present study explored psychosocial risk (Negative Interaction) and protective factors (Family Cohesion, Social Support, Religious Involvement, Racial and Ethnic Identity) for major depressive disorder (MDD), general anxiety disorder (GAD), and suicidal ideation (SI) among Latinas participating in the first national mental health epidemiological survey of Latina Americans.

Method: We conducted three sets of logistic regressions, predicting outcomes for 1,427 Latinas identified in the National Latino and Asian American Study (NLAAS), the first nationally representative, epidemiological study of Latino and Asian Americans living in the United States. These analyses followed preplanned steps: Model 1 used known predictors as controls and Model 2 added psychosocial risk and predictive factors beyond the known predictors.

Results: For each outcome examined, psychosocial risk and protective factors produced a significantly better model fit in Model 2 than sociodemographic and acculturation variables known to predict mental health outcomes in Model 1. Negative Interactions were associated with increased likelihood of GAD and SI, whereas Family Cohesion seemed to be protective against GAD. No psychosocial factors predicted MDD.

Conclusions: Differential protective and risk factors for major psychiatric disorders suggest that assessment and intervention may need certain sex-specific components in order to improve health care and prevention for Latinas.

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By the mid-21st century Latina/o Americans are expected to comprise an estimated one third of the United States population (U.S. Census Bureau, 2010). Surprisingly few studies have specifically focused on health disparity issues among Latina women nationwide. Recently, we documented a Latina-specific pattern concerning their overall mental and physical health disorders (Ai, Appel, Huang, & Lee, 2012). That study examined the prevalence of such conditions as cardiovascular diseases, diabetes, pain, obesity, major depression, and substance abuse, as well as service seeking from health care providers (e.g., general practitioners, specialists). Based on the recommendation therein, the present study further examined potential psychosocial predictors of being diagnosed with three mental health disorders

(major depressive disorder [MDD], generalized anxiety disorder [GAD], and suicidal ideation [SI]) among Latinas using the National Latino and Asian American Study (NLAAS). Importantly, the NLAAS is the first nationally representative household survey on Latino and Asian American's mental health.

The public health implications of investigating these disorders are evidenced their close association with physical health. Major depression and anxiety have long been documented in many chronic conditions, especially cardiovascular disease (Ai, Rollman, & Berger, 2010; Andersons et al., 2001; Pan, Sun, Okereke, Rexrode, & Hu, 2011; Spiegel & Giese-Davis, 2003; Whooley et al., 2008). Blacks and Latinos ranked higher on congestive heart failure incidence and higher hospital congestive heart failure readmission rates compared to non-Hispanic Whites (American Heart Association, 2013). González and colleagues (2010) found that Mexican Americans and African Americans reported greater depression chronicity and lower depression care use, although Asnaani, Richey, Dimaite, Hinton,

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and Hofmann (2010) noted that fewer Latinos meet diagnostic criteria for GAD than non-Hispanic Whites. Furthermore, suicide is ranked the 11th cause of death in the United States. According to Borges, Orozco, Rafful, Miller, and Breslau (2012), Latinos and African Americans have similar rates. These findings should also be considered in context of their demographics and socioeconomic status: Latinos are younger and have more stress related to English proficiency, low average education and income, and cultural barriers that can contribute to poorer health outcomes (Vivo, Krim, Cevik, & Witteles, 2009).

Latino culture-related psychosocial factors may play an important role in Latinas' distinct mental health patterns. Influenced by predominantly Roman Catholic and collectivist cultural traditions, Latinas are expected to be more attentive to the needs of family members than to their own needs (Ai, Aisenberg, & Weiss, 2014). Moreover, exposure to American culture seems to elevate Latinas' likelihood of experiencing mental health problems, owing to stressors such as discrimination, acculturation processes, and poverty (Pilver, Kasl, Desai, & Levy, 2011). Previous reports from the NLAAS have demonstrated influences of protective factors such as racial/ethnic identity, social support, and religious involvement on certain mental and physical health outcomes (self-rated physical and mental health, anxiety, and suicide among Latino adults nationwide; Ai et al., 2014; Mulvaney et al., 2007; Robinson et al., 2012). Given the greater salience of family interests among Latinas, we were especially interested in family dynamics (negative interaction and family cohesion), alongside these psychosocial predictors; all are relevant to Latino culture. Encountering the mainstream individualism omnipresent in the United States could well impact the family values of Latinas with non-Western traditions, such that other-oriented family responsibilities could sometimes become detrimental.

Consistent with this viewpoint, family conflict and burden have been found to predict risk of mood disorders among Latinos in the NLAAS (Alegría, Shrout, et al. 2007). Priest and Denton (2012) associated family discord with the likelihood of GAD but family cohesion decreased the chance of GAD. Mulvaney and colleagues (2007) indicated that family conflict adversely influenced Latinos' self-rated mental health. Family cohesion, however, was associated with lower psychological distress, whereas family cultural conflict seemed to exacerbate higher psychological distress (Rivera et al., 2008). Other researchers also demonstrated the impact of negative interactions on MDD and suicide for Caribbean Blacks (Lincoln & Chae, 2012; Lincoln, Taylor, Chatters, & Joe, 2012). Importantly, our paired analysis found differential predictions of psychosocial factors for the three outcomes, MDD, GAD, and SI, among Latino men in the NLAAS (Ai, Pappas, & Simonsen, 2014). Noteworthy findings were that negative interactions with family members significantly contributed to the increased likelihood of being diagnosed with MDD, but not GAD or SI.

Nevertheless, information regarding these findings that is specific to Latinas is scarce. To address this gap, we explored this relationship with a focus on Latina mental health in the first national database. The current analysis has the potential to indicate whether the same pattern, identified among Latino men, may apply to Latinas. The present study is among the first of its kind that focuses on psychosocial factors predicting Latinas' likelihood of being professionally diagnosed with three major mental health disorders (MDD, GAD, and SI). Three sets of multivariate analyses were conducted, controlling for known predictors, such as sociodemographics (e.g., employment) and

acculturation factors (e.g., U.S.-born, English proficiency, and discrimination; Alegría et al., 2008; Fortuna, Perez, Canino, Sribney, & Alegría, 2007; Gavin et al., 2010; Ortega, Canino, & Alegría, 2008; Pilver et al., 2011; Vega, Canino, Cao, & Alegría, 2009; Vega et al., 1998). Based on the limited literature available, exploring these risk and protective factors is imperative for women's health providers and scholars to design better care for Latinas.

Methods

Data Source and the Sample

The NLAAS study design followed the model of the National Comorbidity Study (Alegría et al., 2004; Kessler et al., 2004). The data were collected from May 2002 to December 2003 at various sittings and analyzed at the University of Michigan from May 2002 to December 2003. Using interval estimates from other Collaborative Psychiatric Epidemiology Studies, the NLAAS employed Bayesian methods to produce weighted estimates to compensate for sampling bias for the total sample (Heeringa et al., 2004). Instruments in this survey primarily involved sociodemographic variables, self-reported mental health diagnoses, service utilization, and acculturation variables. All participants were interviewed by trained bilingual interviewers. The total sample size was 4,649, including 2,554 Latino Americans in the aforementioned four categories. Our study sample comprised 1,427 Latinas, aged 18 years and older, residing in the United States.

Measures and Variables

Outcomes

The prevalence of MDD, GAD, and SI over the past 12 months was assessed, based on the World Mental Health Survey Initiative version of the WMH-CIDI, equivalent to the criteria from the DSM-IV (American Psychiatric Association, 1994; Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998; Kessler & Ustun, 2004). Participants answered questions about potential symptoms of MDD and GAD and revealed whether they had experienced suicidal thoughts in the 12 months before the collection of the data. Responses recorded this variable as a dichotomy (0 = no, 1 = yes) according to the criteria outlined in the DSM-IV (American Psychiatric Association, 1994). Thus, outcomes were referred to NLAAS-imputed diagnoses based on respondent answers.

Sociodemographic variables

A set of four variables were evaluated in Model 1 of a multivariate analysis. They were: a) Age (in years); b) Education Levels (four categories: 1 = 0–11, 2 = 12, 3 = 13–15, and 4 = ≥16 years with 0–11 years as the reference category); c) Income (measured as a multiple of the census poverty line for 2000), and d) Employment (0 = unemployed or not in the labor force, 1 = employed).

Acculturation variables

A set of five acculturation variables were also evaluated in Model 1 of logistic regressions, including: a) English Proficiency (an average of three items on how well respondents speak, read, and write English based on the response options of 1 = poor, 2 = fair, 3 = good, 4 = excellent; α = 0.979); b) Years in the United States (categorized as: 1 = <5, 2 = 5–10, 3 = 11–20, and

4 = ≥20 years, and 5 = U.S. born; for the reference category categories 1 and 2 were aggregated to avoid perfect prediction owing to a low number of respondents in one of the categories.); c) Nativity/U.S.-born (0 = no, 1 = yes) is integrated with b) Years in the United States; d) Acculturation Stress (an averaged scale based on nine dichotomous variables measuring social and emotional stresses pertaining to moving from a known culture to a new one; α = 0.689); and e) Discrimination (an average of nine questions on daily perception regarding the frequency of perceived discrimination; from 1 = never to 6 = almost every day; α = 0.901). Descriptive statistics, response categories, and ranges for these variables can be found in Table 1.

Psychosocial risk and protective factors

The set of five independent variables evaluated in Model 2, in addition to acculturation variables, was of major interest in this study. This set included the following: a) Religious Involvement operationalized as the two alternative variables Religious Attendance and Religious Coping. Religious Attendance was categorized (1 = never, 2 = once a month, 3 = 1–3 Times a Month, and 4 = once a week or more with never serving as the reference category). The response options for Religious Coping were coded in a similar way (1 = never to 4 = often); b) Social Support was a scale, computed from eight items measuring emotional support through spouses/partners, family, and friends and averaged to yield a range from 1 to 4 (α = 0.763); c) Negative Family Interactions was averaged based on two items asking

about past conflict with respondents' families using the response options (1 = never to 4 = often; α = 0.613); d) Family Cohesiveness was composed based on three items measuring the feeling of closeness to the respondent's family using the response options (1 = strongly disagree to 4 = strongly agree; α = 0.852); and e) Racial and Ethnic Identity was composed based on three items measuring perceived closeness to the respondent's ethnic group and averaged to yield a range from 1 to 4 (α = 0.750). Descriptive statistics, response options, and ranges for these variables can be found in Table 1.

Statistical Analysis

All analyses were performed using Stata 10 (StataCorp LP, College Station, TX). NLAAS-developed sample weights were used in all regression analyses. Kendall's tau was computed for the zero-order correlations between all variables in the multivariate analyses. Because all dependent variables were dichotomous, logistic regressions were performed and included two preplanned steps. Model 1 included key sociodemographics and acculturation variables as known predictors. Model 2 included the investigation of psychosocial risk and protective factors in addition to the existing predictors in Model 1. Religious Attendance and Religious Coping were assessed in two separate equations for the three outcomes, respectively, to avoid multicollinearity issues. In logistic regressions, the odds ratios indicate the likelihood that one group had a greater incidence of GAD

Table 1
Descriptive Statistics

	n	Mean	SD	Range	%	Code	X^2/p Value
Major depressive disorder	1,427	0.103	0.304	0–1	—	—	—
Generalized anxiety disorder	1,427	0.049	0.216	0–1	—	—	—
Suicide ideation	1,097	0.026	0.161	0–1	—	—	—
Age (y)	1,427	41.139	16.077	18–97	—	—	—
Income ratio	1,427	3.130	3.547	0–17	—	—	—
Employed	1,427	0.519	0.500	0–1	—	—	—
U.S. born	1,422	0.366	0.482	0–1	—	—	—
English proficiency	1,420	7.304	3.676	3–12	—	—	—
Acculturation stress	1,242	0.151	0.213	0–1	—	—	—
Discrimination	1,403	1.671	0.762	1–6	—	—	—
Social support	1,406	2.266	0.773	1–4	—	—	—
Negative family interactions	1,423	1.967	0.849	1–4	—	—	—
Family cohesion	1,423	10.871	1.758	3–12	—	—	—
Racial and ethnic identity	1,412	3.381	0.606	1–4	—	—	—
Education (y)							321.718/.000
0–11	—	—	—	—	39.59	1	
12	—	—	—	—	23.9	2	
13–15	—	—	—	—	22.78	3	
≥16	—	—	—	—	13.74	4	
Years in the United States							698.974/.000
<5	—	—	—	—	10.48	1	
5–10	—	—	—	—	8.58	2	
11–20	—	—	—	—	16.39	3	
≥21	—	—	—	—	27.92	4	
U.S. Born	—	—	—	—	36.64	5	
Religious attendance							275.056/.000
Never*	—	—	—	—	23.24	1	
Less than once a month	—	—	—	—	25.21	2	
1–3 times/month	—	—	—	—	15.92	3	
About once a week	—	—	—	—	22.46	4	
More than once a week	—	—	—	—	13.17	5	
Religious Coping							162.640/.000
Never*	—	—	—	—	19.75	1	
Rarely	—	—	—	—	13.07	2	
Sometimes	—	—	—	—	26.00	3	
Often	—	—	—	—	41.18	4	

* Reference categories in regression models.

Table 2
Kendall's Tau-B Correlations

Characteristic	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Age	1.000														
2 Education	−0.095**	1.000													
3 Income ratio	0.003	0.347**	1.000												
4 Employed	−0.083**	0.311**	0.325**	1.000											
5 US born	−0.194**	0.148**	0.121**	0.105**	1.000										
6 Length in the US	−0.007	0.117**	0.133**	0.079**	0.791**	1.000									
7 English proficiency	−0.237**	0.371**	0.257**	0.214**	0.549**	0.530**	1.000								
8 Acculturation stress	0.080**	−0.125**	−0.123**	−0.082**	−0.692**	−0.667**	−0.519**	1.000							
9 Discrimination	−0.215**	0.111**	0.040*	0.046**	0.260**	0.187**	0.244**	−0.082**	1.000						
10 Religious attendance	0.119**	−0.022	−0.006	−0.079**	−0.073**	−0.071**	−0.071**	0.044	−0.024	1.000					
11 Religious coping	0.143**	0.033	0.013	−0.031	−0.037	−0.016	−0.016	0.060*	0.027	0.276**	1.000				
12 Social support	−0.048**	−0.026	0.004	0.004	−0.102**	−0.141**	−0.112**	0.104**	−0.017	0.012	−0.038	1.000			
13 Negative interactions	−0.106**	0.111**	0.079**	0.104**	0.203**	0.197**	0.251**	−0.169**	0.227**	−0.032	0.004	−0.107**	1.000		
14 Family cohesion	0.138**	−0.010	0.080**	−0.004	−0.162**	−0.144**	−0.159**	0.088**	−0.231**	0.065**	0.105**	0.023	−0.152**	1.000	
15 Racial and ethnic identity	0.101**	−0.043*	−0.008	−0.027	−0.130**	−0.124**	−0.136**	0.114**	−0.109**	0.024	0.041	−0.030	−0.054**	0.160**	1.000

** $p \le .01$.
* $p \le .05$.

than another group. An odds ratio of greater than 1 presents an increased likelihood of the outcome, whereas an odds ratio of less than 1 presents a decreased likelihood of the outcome. Differences in the χ^2 in Models 1 and 2 showed whether the newly added variables increased the fit of the model. For all tests, statistical significance was established at an alpha level of $p < .05$.

Results

Descriptive Analyses and Bivariate Correlations

Descriptive statistics are displayed in Table 1. Bivariate correlations showed a positive, significant relationship between all three dependent variables. Additional correlations among independent variables are shown in Table 2. Correlations between all independent and dependent variables are presented in Table 3. Discrimination was correlated positively with Negative Interactions, but inversely with Family Cohesion (Table 2) and was also correlated with SI (Table 3).

MDD

Model 1 (MDD; Table 4) shows the likelihood of being diagnosed with MDD. Compared with Latinas who had been in the United States for fewer than 5 years, U.S.-born respondents were more than 5 times as likely to have a diagnosis for MDD. Among their foreign-born counterparts, Latinas who had been in the United States for 11 years or more were more than three times as likely to have a diagnosis of MDD; each level increase in Discrimination raised this chance by 46%. However, high school education reduced the chance by 54%, compared with less education. This education effect persisted in Model 2 (MDD), when entry of potential risk and protective factors nullified the deleterious effects of both Length of Stay for foreign-born respondents and Discrimination. However, U.S.-born Latinas were still almost 5 times as likely to suffer from symptoms of MDD. The new predictive factors as a group were associated with a significantly better model fit (χ^2 change = 14.62; df = 5; $p < .05$), although none of the individual variables emerged as a significant predictor.

GAD

Model- (GAD; Table 4) yielded one significant predictor, namely each year increase of Age added a nearly 2% greater likelihood of being diagnosed with GAD. The effect was sustained in Model 2 (GAD), after entry of variables of major interests. The new set of variables led to a significantly better model fit (χ^2 change = 21.41; df = 5; $p < .01$). Importantly, in Model 2 Negative Interactions emerged as a stressor for Latinas, showing that with each unit of increase the likelihood of GAD increased by more than 50%. In contrast, Family Cohesion functioned as a protective factor as each one-unit increase reduced the likelihood of GAD by 20%.

SI

In Model 1 (SI; Table 4), Discrimination was the only variable that significantly predicted SI; for every unit increase, the likelihood of recorded SI more than doubled. In Model 2 (SI), the magnitude of this effect was reduced to three quarters, but remained significant. Once again, the second set of variables produced a significantly better model fit (χ^2 change = 18.97; df = 5; $p < .01$). Most important, Negative Interactions occurred as the single significant predictor for SI among all the

Table 3
Correlations for All Independent and Dependent Variables for Latinas

	Major Depressive Disorder	General Anxiety Disorder	Suicidal Ideation
Age (y)	0.014	0.021*	−0.009
Education	−0.021	−0.010	0.000
Income	−0.020	0.008	−0.011
Employed	−0.037***	−0.012	−0.012*
US born	0.007	−0.002	0.009
US length	0.015	−0.001	0.010
English proficiency	−0.015	−0.009	0.011
Acculturation stress	0.001	0.009	−0.008
Discrimination	0.033**	0.008	0.021***
Religious attendance	−0.015	−0.023**	−0.007
Religious coping	−0.008	0.003	−0.003
Social support	−0.009	0.005	−0.003
Negative interactions	0.030*	0.015	0.017**
Family cohesion	−0.019	−0.015*	−0.015**
Racial and ethnic identity	−0.001	−0.003	−0.010

***$p \leq .001$.
**$p \leq .01$.
*$p \leq .05$.

psychosocial factors of interest, showing that with each unit increase the likelihood of SI more than doubled. As noted, Table 2 presents significant correlations of Discrimination with both Negative Interactions and SI. In Table 4, the decreased magnitude in the impact of Discrimination on SI between Models 1 and 2 thus signified a moderating effect of Negative Interactions in the connection between Discrimination and SI.

Alternative models, in which we replaced Religious Attendance with Religious Coping (data note shown), showed only minor differences in the size of coefficients in models in Table 4, predicting MDD, GAD, and SI. There were no substantive changes of signs in any of these Model 2s. The only noteworthy change was that the effect of Length in the United States on Latinas' SI emerged as nonsignificant.

Finally, a post hoc analysis shows that women were more likely to report symptoms that could be diagnosed as MDD or GAD than men. Females represented 69.34% of all respondents reporting symptoms of depression and 78.65% of respondents reporting symptoms of GAD (30.66% and 21.35% for men, respectively). Women were also more likely to report experiencing suicide ideation 69.05% of all suicide ideation being reported by women (30.95% for men).

Discussion

Anxiety and depressive disorders have both been considered to be reliable predictors and comorbidities of short- and long-term poor health outcomes, including CAD, diabetes, and cancer (Ai, Rollman, & Berger, 2010; Andersons et al., 2001; Pan et al., 2011; Spiegel & Giese-Davis, 2003; Whooley et al., 2008). These two psychiatric disorders are also found to be related to SI in the present bivariate analysis. Importantly, gender-based comparisons in this study showed that Latinas in the NLAAS were more than twice as often diagnosed with MDD and to report suicide ideation, compared with their male counterparts. Latin women were almost three times as often diagnosed with GAD than were Latino men. Fortuna and colleagues (2007) revealed the high prevalence of SI among Latina/o Americans (1 out of 10 in their lifetime), and they called for better understanding of the family and social cultural impacts in these patterns. As such, medical

and other care providers should be better informed about these patterns to meet fast growing Latina health care needs, and to address prevention strategies for reducing costs for related medical and psychological consequences.

This study advances the literature on Latina mental health disparities (Ai et al., 2012; Pilver et al., 2011) by identifying psychosocial risk and protective factors for their likelihood of being diagnosed with MDD and GAD, and especially for experiencing SI, adjusting for known sociodemographic and cultural predictors of these outcomes (e.g., employment, discrimination; Alegría et al., 2008; Fortuna et al., 2007; Gavin et al., 2010; Pilver et al., 2011). In particular, factors associated with family dynamics strongly predict GAD and SI, but not MDD. Most notably in our findings is the correlation of negative interaction with both discrimination, a major risk factor for Latinas (Harnois & Ifatunji, 2011), and psychiatric disorders. Linking this fact with results from multivariate analyses, the present study may suggest that experienced discrimination could be internalized to disturb Latinas' family functioning that, in turn, contributes to Latinas' poor mental health. Accordingly, health service providers for Latinas should pay special attention to both risks. Family coherence, on the other hand, is inversely related to discrimination, and could buffer its detrimental impact. These findings should be further elaborated upon by exploring Latina-specific gender roles.

Consistent with national findings among all Latinas/os (Priest & Denton, 2012; Rivera et al., 2008), the present study confirmed the beneficial effect of family coherence against GAD in Latinas. Nevertheless, our current findings regarding the protective role of family coherence were not replicated in the Latino men's study (Ai Pappas et al., 2014). The contrasting patterns revealed in our gender-separate analyses may imply that the favorable influence of a coherent family on GAD could be a Latina-specific outcome. In Latino culture, this fact may be particularly pronounced because there is an expectation for women to take care of the family (Galanti, 2003). Thus, it is possible that Latinas are so attuned to the needs of family members that they may place the needs of the family above their own needs. Based on Latinas' collectivist background and other-oriented gender role in their culture, high family cohesion is likely to be personally validating and reassuring within a family, and hence serve as a protective factor against psychological distress and help ease resultant symptoms.

On the other hand, national studies suggest a detrimental impact of family discord/conflict in self-rated mental health (Mulvaney et al., 2007) and its exacerbation of GAD (Priest & Denton, 2012) and psychological distress (Rivera et al., 2008) among all Latinos. Whereas our current finding is consistent with Priest and Denton's (2012) study regarding the prediction of negative interactions for being diagnosed with GAD, the Latino men's study did not (Ai Pappas et al., 2014). These divergent findings once again might have demonstrated a gender-specific case for Latinas and Latinos, respectively. This may be especially true for Latinas in the United States, where many are facing double demands both at home and in society. In particular, they need to be employed in the service-oriented job market in a modern society that often requires double incomes to support a family, an additional role beside a traditional house-holding function with respect to their gender in their own cultural tradition. Consequently, when there is negative interaction with family members, this may be experienced as personal failure and be internalized as psychological distress, which may, in turn, generate anxiety, which is also tied with SI.

Table 4

Logistic Regression Predicting Major Depressive Disorder, General Anxiety Disorder, and Suicidal Ideation in the Last 12 Months (Religious Attendance Used)

	Major Depressive Disorder			General Anxiety Disorder		
	Model 1	Model 2	Model 2 (95% CI)	Model 1	Model 2	Model 2 (95% CI)
Age (y)	0.997	1.001	0.983–1.019	1.019*	1.033**	1.010–1.055
Years of education						
12	0.425*	0.442*	0.217–0.897	1.586	1.873	0.774–4.527
≥13*	0.884	0.946	0.499–1.791	1.018	1.178	0.491–2.827
Income	0.994	1.009	0.936–1.085	1.032	1.023	0.927–1.128
Employed	0.689	0.647	0.369–1.132	0.626	0.577	0.267–1.241
Years in the United States						
5–11	2.546	2.473	0.596–10.25	0.547	0.553	0.099–3.079
>11†	3.203*	2.937	0.889–9.692	1.468	1.230	0.269–5.618
U.S. Born	5.246*	4.641*	1.144–18.81	1.221	0.865	0.135–5.515
English proficiency	0.972	0.952	0.855–1.059	1.021	1.010	0.883–1.154
Acculturation stress	1.138	1.146	0.954–1.374	1.834	1.882	0.214–16.51
Discrimination	1.459**	1.270	0.928–1.736	1.285	1.041	0.665–1.630
Religious attendance						
Less than once a month		0.895	0.455–1.759		0.805	0.277–2.329
1–3 times a month		0.890	0.425–1.859		1.693	0.644–4.450
Once a week or more‡		0.810	0.437–1.500		0.532	0.226–1.249
Social support		0.896	0.679–1.183		1.272	0.798–2.026
Negative interactions		1.342	0.978–1.841		1.501*	1.016–2.215
Family cohesiveness		0.906	0.803–1.022		0.798**	0.681–0.933
Racial and ethnic identity		0.832	0.548–1.263		0.942	0.540–1.642
χ²	26.89	36.06		18.20	55.87	
Df	11	18		11	18	

	Suicidal Ideation		
	Model 1	Model 2	Model 2 (95% CI)
Age (y)	0.980	0.985	0.948–1.021
Years of education			
12	1.896	2.504	0.788–7.953
≥13*	0.753	1.087	0.379–3.108
Income	1.062	1.075	0.901–1.282
Employed	0.523	0.422	0.144–1.230
Years in the United States			
5–11	6.036	6.335	0.408–98.21
>11†	4.666	4.951	0.106–229.1
U.S. Born	1.150	1.084	0.832–1.411
English proficiency	1.197	1.236	0.668–2.284
Acculturation stress	2.258***	1.800**	1.172–2.763
Discrimination		0.766	0.193–3.027
Religious attendance			
Less than once a month		0.866	0.189–3.946
1–3 times a month		0.449	0.112–1.796
Once a week or more‡		0.896	0.437–1.834
Social support		2.296***	1.489–3.538
Negative interactions		0.881	0.764–1.013
Family cohesiveness		0.632	0.320–1.248
Racial and ethnic identity			
χ²	46.25	43.01	
Df	10	17	

***p ≤ .001.
**p ≤ .01.
*p ≤ .05.

* We combined 13–15 and ≥16 years to avoid perfect prediction based on small categorical respondent numbers.

† We combined 11–20 and ≥21 years to avoid perfect prediction based on small categorical respondent numbers.

‡ We combined about once a week and more than once a week to avoid perfect prediction based on small categorical respondent numbers.

Perhaps the most noteworthy finding in our multivariate analysis is that negative interactions with families may partly explain the detrimental role of discrimination in Latinas' SI. In other words, had certain discriminated Latinas received more appropriate intervention with their family conflicts, outcomes such as suicide might have had been preventable. Indeed, simply treating symptoms for Latinas may be important, but is definitely not sufficient without professional attention to other contextual factors as triggers and to other inner strength factors for their protection. However, this subgroup analysis, as is true for the Latino men's study (Ai Pappas et al., 2014), does not replicate the benefit of other previously reported psychosocial protectors (social support, religious involvement, and racial/ethnic identity) in the whole NLAAS Latino sample (Ai Aisenberg et al., 2014; Mulvaney et al., 2007; Robinson et al., 2012). Given Latina/o's family-centered culture, family factors may serve as a crucial component in their mental health and should provoke more investigation from health care professionals and researchers to support Lanitas/os.

Further comparison for other cultural transition–related factors reveals considerable cross-gender differences, although discrimination contributes to SI in both subgroups, consistent with its prediction of poor mental health in a whole group analysis (Ai Aisenberg et al., 2014; Ai Pappas et al., 2014). Having a high school education seems to help reduce the chance of MDD in Latinas and of GAD in Latinos, whereas older age seems to increase the odds of being diagnosed with GAD in Latinas only. Whereas being U.S.-born presents risk for MDD of Latinas, U.S.-born and acculturation stress exacerbates GAD of Latino men only (Ai Pappas et al., 2014). Poor English proficiency and acculturation stress contribute to SI of Latinos but not SI of Latinas (Ai Pappas et al., 2014). Perhaps the most acculturated Latinos, born in the United States and less likely to assume traditional home-bound roles, are better aware of the discrimination against them, which in turn may contribute to the likelihood of being diagnosed with MDD. On the other hand, the predominant working conditions of acculturated Latinos in the U.S. blue collar market could intensify their experiences in psychological distress, thereby leading to the damage regarding their GAD and SI.

In both gender-specific analyses, we did not replicate the protective role of any other psychosocial factors for Latino men, inconsistent with findings on their mental health in other whole group studies (Ai Aisenberg et al., 2014; Alegría, Mulvaney-Day et al., 2007; Mulvaney-Day et al., 2007; Pérez et al., 2008; Robinson et al., 2012). Yet, entry of these psychosocial factors in the current study did alter the damaging role of two acculturation factors (i.e., U.S.-born and Discrimination) on Latinas' MDD, which indirectly highlights the importance of these culturally relevant factors.

Notwithstanding its unique contribution, the present study is limited by the cross-sectional and correlational nature, which does not permit strong inferences about direction of effects. Certainly, effects of mental health problems and family issues could be reciprocal. Further, the self-reported NLAAS data are not as objective and as adequate as physicians' assessment. It would have been optimal to have obtained independent (physician) reports regarding psychiatric disorders. However, using DSM diagnostic criteria is superior to other subjective health measures. Because of these data limitations, the findings should be considered to be preliminary and await replication from longitudinal studies. In addition, the number of items used to measure Negative Interactions should be increased, thereby increasing coefficient α and increasing the potential magnitude of relationships with other variables. Notably, there are other measures for family functioning in the NLAAS, including those on romantic relationship functioning. Unfortunately, the version of the dataset that we have does not include the set of questions for partnership violence. Indeed, the more nuanced studies of this functioning are imperative for providing a more complete picture of Latinas' health in the future. Finally, the NLAAS data are now nearly 10 years old. Compared with their conditions during 2002 and 2003, some changes may have occurred relative to the mental health of the new generation of Latino immigrants and their service utilization. Certainly, findings of Latinas could vary with their generational experiences and their time of immigration for those who are immigrants. The NLAAS, unfortunately, is the first and only national representative survey available for Latinas' mental health, a fact calling for more timely and in-depth investigation as the next effort.

Implications for Policy and/or Practice

The main value of this study lies in the use of a national sample and in its pioneering focus specifically on these targeted and preventable conditions in the Latina subpopulation. In particular, we highlight the importance of family factors for their mental health based on their collectivist culture, even though our findings still need to be replicated and confirmed in future prospective studies. In practice, the implication for physicians and others who provide service for Latinas is the need for multidisciplinary team work. For example, such teams should be more attentive to the likelihood of MDD and GAD among Latinas to prevent both SI and other physical health ailments for which the psychological conditions serve as risk factors. Thus, screening for MDD, GAD, and SI could become routine; attention should also be paid especially to family factors that could intensify or ease symptom severity. This clinical procedure would allow referrals to necessary collaborators, including family therapists, social workers, psychiatric nurses, and clinical psychologists for further assessment and cost-effective service.

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