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Improving Detection of Depression Symptoms in Latino Farmworkers: Latino Farmworker Affective Scale

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Abstract

Latino farmworkers (LFWs) experience depression at a significant higher rate than non-Latino Whites; yet, research regarding depression-screening instruments in Spanish is scarce. The first author created a depression screener using terms used by LFWs to describe symptoms of depression. This study evaluated the effectiveness of the Latino Farmworker Affective Scale (LFAS-15) in accurately detecting symptoms of depression in this population as compared with the Patient Health Questionnaire (PHQ-9), the Brief Symptom Inventory (BSI-18), and the Center for Epidemiologic Studies Depression Scale (CESD-10) using the *DSM* structured clinical interview (SCID) as the reference standard. Study results indicated that the LFAS-15, as well as the PHQ-9, and the BSI-18 performed. The data also indicated that the LFAS-15 has good internal consistency, measures primarily one construct (depression), demonstrated convergent validity with the SCID,

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and has good combined sensitivity and specificity. Recommendations for clinical practice, policy, and research are offered.

Keywords
farmworkers, depression, depression screening, Latinos, Spanish speakers

Introduction

Research findings indicate that low socioeconomic status (SES) Latinos in the United States experience mental health disorders at a rate of 23.2% whereas non-Hispanic Whites experience mental health disorders at a rate of 11.8% (Olfson et al., 2000). There is also evidence to suggest that depressive symptoms are more persistent and severe for Latinos than that of non-Hispanic Whites (Liang, Xu, Quiñones, Bennett, & Ye, 2011). Among all Latino groups in the United States, Latino farmworkers (LFWs) are particularly at high risk of developing depression due to working and living conditions inherent of farm work (Grzywacz et al., 2010). The prevalence of depression in LFWs has been estimated to be up to 41% (Hiott, Grzywacz, Davis, Quandt, & Arcury, 2008), and it has been reported that LFWs are unlikely to seek mental health services (Lewis-Fernandez, Das, Alfonso, Weissman, & Olfson, 2005) due to a variety of cultural, social, and structural factors (Georges et al., 2013).

Primary Care Provider (PCP) Factors in Underdetection of Depression

Underdetection of depression in Latinos, particularly in primary care, has been linked to the limited training that PCPs receive in identifying and treating depression (Vega, Rodriguez, & Ang, 2010), language differences between Latino patients and providers in how depression symptoms are described (Vega et al., 2010), PCPs' lack of awareness regarding the role of low literacy levels among LFWs in relation to care, which limits their ability to read screenings, understand treatment plans, or adhere to prescriptions from the PCPs (Lewis-Fernandez et al., 2005), and PCPs' limited time with each patient in busy medical practices (Lake, 2008). Combined, these four factors heavily influence the quality of health care that Latinos receive in relation to depression or symptoms associated with depression. These PCP factors become even more complex when matched with Latinos' reasons for low utilization of services.

Low Utilization of Mental Health Services

Oftentimes Latinos have a preference for alternative medicine performed by "curanderos" (a healer who uses folk remedies) or spiritual healers rather than accessing mental health services (Arcury et al., 2005). Several factors account for LFWs' low utilization of mental health services. First, LFWs' high mobility due to following seasonal crops may interfere with their ability to learn about community resources, and medical and mental health services are undermined (Arcury et al., 2005). Second, LFWs live and work in rural areas far from communities where mental health clinics are usually located thus limiting access to services (Ricketts, 2000). In addition, Farmworkers work long hours and often 7 days per week and they lack transportation of their own (Arcury & Quandt, 2007) making access to mental health services challenging (Arcury, Estrada, & Quandt, 2010). Third, low wages make it difficult for LFWs to purchase health insurance further reducing access to health care (Arcury & Quandt, 2007).

A fourth reason for underutilization of mental health services by LFWs are the cultural beliefs associated with mental health and mental illness (Leng, Changrani, Tseng, & Gany, 2010). One study found that Latinos experiencing depression often describe the inability to control their mood, emotional reactivity, difficulty coping, and excessive worrying as common struggles rather than attributing them to symptoms of a mental health condition (Guarnaccia, Canino, Rubio-Stipec, & Bravo, 1993). Thus, in cases where cultural health beliefs are incongruent or in contradiction with the Western model of health and illness, Latinos often refrain from endorsing depression symptoms when they access health care services. Instead, they attempt to heal in ways that are congruent with their beliefs about the cause of symptoms such as drinking herbal infusions or seeking out the wisdom from a curandero to soothe their nerves (Garcés, Scarinci, & Harrison, 2006). Cultural beliefs common among Latino immigrants in the United States also includes a belief that the onset and course of illness is out of one's control (i.e., God's punishment for ill will or destiny; Falicov, 1999). These beliefs known as fatalism are believed to negatively affect "help seeking" behaviors because individuals do not trust that conventional treatment will be effective (Chavez, Hubbell, Mishra, & Valdez, 1996).

Finally, stigma associated with depression is another factor that interferes with the detection of depression because Latinos think of depression as the result of having "weak character" (Caplan et al., 2013). The stigma associated with depression may result in underreporting of symptoms or somatic complaints that would have otherwise caught the attention of the PCP and the need for a depression screening.

To improve depression detection rates in LFWs, the effectiveness of a new depression screening measure titled "The Latino Farmworker Affective Scale or LFAS-15" was developed. Thus, the present study was designed to study the effectiveness of the LFAS-15 identifying symptoms of depression in the LFWs as compared with the PHQ-9 (Patient Health Questionnaire-9; Kroenke, Spitzer, & Williams, 2001), the CESD-10 (Center for Epidemiologic Studies Depression Scale; Radloff, 1977), or the BSI-18 (Brief Symptom Inventory-18; Derogatis, 2001), when their accuracy is checked against the diagnostic results provided by the structured clinical interview for depression or SCID (First, Spitzer, Gibbon, & Williams, 1995). This research inquiry was approached using the critical multiculturalism theory (Nylund, 2006) to integrate the unique ways in which depression was experienced by LFWs into the construction and corresponding analysis of the LFAS-15.

Method

The LFAS-15 was constructed after one of the authors observed that farmworker patients at a federally qualified health care center (FQHC) did not entirely understand or relate to the questions on the PHQ-9. Consequently, said author began compiling a list of words commonly used by patients that resulted in a list of 15 words or short phrases that were titled, "The Latino Farmworker Affective Scale" or LFAS-15. The LFAS-15 was designed to be accessible for individuals with low Spanish literacy considering previous research on education levels of LFWs (Arcury & Quandt, 2007). Therefore, individuals who took the LFAS-15 only needed to know how to read and understand the meaning of the word(s), instead of understanding the structure of a sentence. Because the words and short phrases that make up this assessment reflect the words collected from LFWs themselves, it was assumed that most LFWs would be able to understand the meaning of the words on the instrument.

Thus, the purpose of this study was to evaluate the effectiveness of the LFAS-15 as compared with the PHQ-9, the CESD-10, and the BSI-18. These measures were chosen for comparison because of the wide support cited in the literature in regard to their psychometric properties.

To test the effectiveness of the LFAS-15, the following hypotheses were formulated:

Hypothesis 1: Scores on the LFAS-15 will be positively related to scores on the SCID.

Hypothesis 2: Scores on the PHQ-9, CESD-10, and BSI-18 will be positively related to scores on the SCID.

Hypothesis 3: When predicting scores on the SCID, the LFAS-15 will demonstrate incremental validity over the PHQ-9, CESD-10, and BSI-18.
Hypothesis 4: The LFAS-15 will have higher levels of sensitivity and specificity than the PHQ-9, the CESD-10, and BSI-18.
Hypothesis 5: The LFAS-15 will more accurately detect symptoms of depression than the PHQ-9, the CESD-10, and the BSI-18.

Setting, Participants, and Sample Size

Participants were selected from a pool of patients accessing primary health care at a community health center. Potential participants were included if they (a) were Latinos; (b) their main occupation was farm work, or worked in an occupation closely related to farm work for the majority of their time living in/visiting the United States; and (c) fluent in Spanish. Potential participants were excluded if (a) they were receiving pharmacological or psychological treatment for depression, (b) they had a comorbid psychotic disorder, or (c) they had lived in the United States for more than 15 consecutive years to prevent confounding the study with acculturation issues (Berry, 2005). Selecting an alpha level of .05, power at .80, and effect size of .40, the researchers used Cohen's table (Cohen, 1988) to determine that 99 participants were needed to conduct this research project.

Measures

The PHQ-9 is a nine-item depression-screening instrument that asks individuals being screened to report a numeric value ranging from 0 to 3 for how frequently they experienced the symptoms listed on every item during the last 2 weeks. The PHQ-9 has been found to have good internal consistency reliability ($\alpha = .89$) and good criterion validity ($r = 84$) using the SCID as reference standard ($r = .79$; Spitzer, Kroenke, Williams, & PHQ Primary Care Study Group, 1999).

The CESD-10 is a 10-item depression-screening instrument that assesses symptoms of depressed affect, interpersonal relationships, and positive affect. The frequency of the symptoms is assessed in reflection of the last 7 days on a scale of 0 to 4 indicating the days that symptoms were present. The CESD-10 has been reported to have adequate internal consistency ($\alpha = .73$) in a sample of Latino immigrants (Grzywacz et al., 2006).

The BSI-18 consists of 18 items, and it assesses for anxiety, depression, and somatic symptoms. The instrument assesses the level of distress experienced by responders on a Likert-type scale and asks responders to rate the

severity of their distress between 0 (*not at all*) to 4 (*extremely*). Internal consistency estimates for the BSI-18 have been reported to be adequate ($\alpha = .89$; Asner-Self, Schreiber, & Marotta, 2006) using the Hopkins's symptom checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) as the reference standard with a concurrent validity reported to be high ($\alpha = .73$; Asner-Self et al., 2006).

The SCID is an instrument modeled after criteria for a diagnosis of depression as stated in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994). The SCID was selected for use as a reference standard for the evaluation of the LFAS-15, because it contains all of the criteria for a diagnosis of depression and it allows respondents to expand on answers that can clarify a deeper understanding of the answers obtained. The SCID was also thought to be useful, because it contains questions that allow ruling out symptoms that may be due to medication/substance use, bereavement, or medical conditions.

The LFAS consists of 15 words or short phrases that LFWs have been used to describe LFWs experience of emotions and cognitions that correspond to symptoms of depression. Participants were instructed to report the severity of each of the items on the instrument on a 5-point Likert-type scale. The order in which the items in the LFAS were presented was considered and it was decided to first present items that reflect somatic symptoms related to eating, sleeping, generalized pain, and chest pressure (e.g., no tengo hambre, sin sueño, todo me duele, con el pecho apretado). The items presented next were those that indicated negative symptoms (e.g., "desganado" [lack of will to do anything], "no me importa nada" [lack of interest in anything], "nada me complace" [nothing pleases me], and "desanimado" [feeling empty inside]). Next, positive symptoms indicating the presence of unproductive emotions, cognitions, and behaviors were presented and they included "con mal genio" (short temper), "desesperado" (without hope), "nervioso" (nervious), "tengo ansias" (I feel anxious), and "con susto" (I feel fright). The last two items introduced were "triste" (sad) and "con ganas de morirme" (feeling like I want to die). These items were introduced at the end because the words "feeling sad" and "wanting to die" could prompt participants to associate these symptoms with cultural stigma about being weak (Vega et al., 2010).

Procedures and Data Collection

Upon approval from the ECU (East Carolina University) institutional review board, the recruitment process began at either the health care center or farm housing site. Participants, who agreed to be part of the study provided

informed consent, completed a demographic questionnaire and the PHQ-9, CESD-10, BSI-18, and the LFAS-15. Then the SCID was completed for comparison.

Analyses

Descriptive statistics were performed to ensure that assumptions for the different statistical tests were met (Field, 2009). An exploratory factor structure analysis was performed on the responses to the LFAS-15 to ascertain its factor structure. Item analysis was also performed to determine whether each item contributed to the overall structure (Moore, McCabe, & Craig, 2009). A multiple regression analysis was performed on the scores of all instruments against the scores of the SCID to determine the relationship between the scores of the LFAS-15 and the symptoms reported on the SCID (Moore et al., 2009). Multicollinearity was found between the measures, which violated the assumptions necessary to make inferences from regression analysis with confidence, thus a relative importance/weight analysis was performed to make a better assessment of the relationship between all of the measures. Finally, a receiver operating characteristic curve (ROC) analysis (Fawcett, 2006) was conducted with the LFAS-15 scores against the data obtained from the SCID. This analysis provided information regarding sensitivity and specificity of the LFAS-15.

Results

The focus of the study was to evaluate the effectiveness of the LFAS-15 to accurately identify individuals with depression as compared with the PHQ-9, the BSI-18, and the CESD-10, using the SCID as the reference standard.

The final sample consisted of 99 participants. The average age of the participants was 38.44 years ($SD = 10.78$), and the sample was primarily male (88 male, 11 female). The average participant had worked in the United States for 11 seasons, 89 lived in employer provided, and 10 reported living with their families in communities nearby the farms where they worked.

Statistical Analysis

A test of sphericity indicated that the data were adequate for factor analysis. An exploratory factor analysis (EFA) supported a one-factor structure. The EFA results showed that three factors accounted for 69.3 % of the variance and showed eigenvalues above 1; however, the difference between Factors 2 and 3 was relatively small (Factor 2 = 11.156%, Factor 3 =

Table 1. Measures Statistics.

Measure	Cronbach's α	Correlation with SCID	Contribution to regression model and *p* value	ROC AUC	Sensitivity/ Specificity
PHQ-9	.806	.733, $p < .001$	$t = 3.25$, $p = .002$	.927	98.8%/66.7% $\chi^2 = 22.24$, $df(1)$, $p = .000$
BSI-18	.925	.730, $p < .001$	$t = 3.29$, $p = .001$	.888	94.1%/41.7% $\chi^2 = 26.69$, $df(1)$, $p = .000$
LFAS-15	.925	.669, $p < .001$	$t = 1.28$, $p = .3$	.939	98.9%/75% $\chi^2 = 15.47$, $df(1)$, $p = .000$
CESD-10	.491	.454, $p < .001$	Excluded from further analysis		

Note. SCID = structured clinical interview; ROC = receiver operating characteristic curve; AUC = area under the curve; PHQ = Patient Health Questionnaire; BSI = Brief Symptom Inventory; LFAS = Latino Farmworker Affective Scale; CESD = Center for Epidemiologic Studies Depression Scale.

7.56%) and together they only accounted for 18.7% of the variance whereas the first factor accounted for 50.59% of the variance suggesting a one-factor structure. To test for the internal consistency of the LFAS, a reliability analysis was performed and returned a Cronbach's alpha of .925 ($n = 15$) providing further evidence that the scale effectively measures the construct of depression.

A multiple regression analysis showed a positive and significant correlation between the scores of the SCID and those of the LFAS-19, PHQ-9, CESD-10, and the; therefore, Hypothesis 1 and 2 were supported by the data (Table 1). It was observed, however, that the scores on all of the measures were highly correlated (Table 2), therefore, a collinearity diagnosis was performed for the PHQ-9, the BSI-18, and the LFAS-15, which confirmed multicollinearity (Table 3). To address this problem, a Johnson's relative importance/weight analysis (J. W. Johnson, 2000) was performed (Table 4). The relative weight analysis results show that the PHQ-9 and the BSI-18 explain 29.4% and 29.75% of the variance accordingly, whereas the LFAS-15 only explains 21.2% of the variance in the regression model. Thus, these results combined with the multiple regression analysis indicate that the LFAS-15 performs different from the PHQ-9 and the BSI-18 in detecting depressive symptoms in LFWs.

Table 2. Depression Screening Measures Scores Correlations.

	PHQ-9	CESD-10	BSI-18	LFAS-15	SCID
PHQ-9	1	.598**	.755**	.746**	.733**
CESD-10	.598**	1	.580**	.530**	.561**
BSI-18	.755**	.580**	1	.739**	.730**
LFAS-15	.746**	.530**	.739**	1	.669**
SCID	.733**	.561**	.730**	.669**	1

Note. PHQ = Patient Health Questionnaire; CESD = Center for Epidemiologic Studies Depression Scale; BSI = Brief Symptom Inventory; LFAS = Latino Farmworker Affective Scale; SCID = structured clinical interview.
**Correlation is significant at the 0.01 level (two tailed).

Table 3. Collinearity Diagnosis Analysis.

	Unstandardized coefficients		Standardized coefficients			Collinearity Statistics	
	B	*SE*	β	*t*	Significance	Tolerance	VIF
Constant	−.161	.448		−.359	.720		
LFAS-15	.101	.077	.136	1.304	.195	.373	2.685
BSI-18	.299	.089	.355	3.360	.001	.360	2.777
PHQ-9	.582	.171	.364	3.401	.001	.352	2.841

Note. BSI = Brief Symptom Inventory; LFAS = Latino Farmworker Affective Scale; PHQ = Patient Health Questionnaire; VIF = variance inflation factor.

Table 4. Johnson's Relative Importance/Weight Analysis.

	Structure	95% CI		Relative	95% CI	
	Coefficients	Lower	Upper	Weight	Lower	Upper
PHQ-9	.960	.276	.992	29.4	18.6	39.0
BSI-18	.956	.255	.992	29.7	18.0	42.7
LFAS-15	.862	.226	.976	21.2	12.2	36.4

Note. PHQ = Patient Health Questionnaire; BSI = Brief Symptom Inventory; LFAS = Latino Farmworker Affective Scale.

Hypothesis 3 was not supported by the data. The regression analysis showed that the LFAS-15 did not contribute significantly more to the regression model ($t = 1.286$, $p = .2$) than the other two screening instruments (Table 5). However, the PHQ-9 ($t = 3.25$, $p = .002$) and the BSI-18

Table 5. Multiple Regression Analysis.

	Unstandardized	Coefficients	Standardized coefficients		
Model	*B*	*SE*	*B*	*t*	Significance
Constant	−.228	.709		−.321	.749
PHQ-9	.577	.178	.361	3.249	.002*
CESD-10	.015	.127	.009	.122	.903
BSI-18	.298	.090	.354	3.298	.001*
LFAS-15	.100	.078	.135	1.286	.202

Note. PHQ = Patient Health Questionnaire; CESD = Center for Epidemiologic Studies Depression Scale; BSI = Brief Symptom Inventory; LFAS = Latino Farmworker Affective Scale.

($t = 3.29$, $p = .001$) both contributed significantly to the regression model indicating that the scores on the SCID can be effectively predicted from the scores on the PHQ-9 and the BSI-18, but not by the scores on the LFAS-15. These results are not surprising, because the PHQ-9 and the SCID were both constructed directly from the *DSM-IV* criteria for major depression, as such this outcome would be expected.

Hypothesis 4 was supported by the data. Cases that met the SCID criteria for depression were coded and an ROC curve was performed on the LFAS-15 scores against the coded data for individuals with or without depression as per the SCID. The total area under curve (AUC) for the LFAS was .939, indicating that the scale has excellent combined sensitivity and specificity and can discriminate effectively between individuals with and without depressive symptoms (Table 1). The AUC for PHQ-9 and BSI-18 were .927 and .888, respectively, indicating that the PHQ-9 and the BSI-18 effectively discriminated between depressed and nondepressed participants.

The LFAS-15 showed good internal consistency, good convergent validity with the SCID and good sensitivity and specificity but a poor contribution to the multiple regression model when predicting SCID scores. To better understand these results, sensitivity and specificity scores were calculated using a cutoff point of 10 > in consideration of studies that determined that a cutoff point of 10 > provided an adequate balance of sensitivity and specificity for both the PHQ-9 (Stafford, Berk, & Jackson, 2007) and the BSI-18 (Reuland et al., 2009). Thus, with a cutoff point of 10 >, the LFAS-15 showed a sensitivity of 90.4% and specificity of 58.3%, $\chi^2 = 18.697$, *df(1), p* = .000. The cutoff point that optimized both sensitivity and specificity was >20. With a cutoff score of >20, the LFAS-15 showed a

sensitivity of 98.9% and specificity of 75%. These results demonstrate that the LFAS-15 is performing at least as strongly as other established measures such as the PHQ-9 and the BSI-18; but, also that its performance (particularly its specificity) can be improved by revising Items 1 (*no tengo hambre*) and 15 (*con ganas de morirme)*, which showed poor performance in the internal consistency analysis.

Hypothesis 5 was not supported by the data. Although the LFAS-15 demonstrated convergent validity with the SCID, good internal structure, and higher sensitivity and specificity than the PHQ-9, and the BSI-18, the regression analysis did not show that the LFAS-15 was adequate in predicting the scores on the SCID. Some researchers have advocated for the development of new methods for validating measures of farmworkers mental health (Grzywacz et al., 2010). The authors posited that instruments that can be used as reference standard present problems in their structure and language that are problematic for LFWs who tend to have an average of 6 years of schooling, their literacy is low, have no experience taking highly structured tests, and have difficulties with abstract thinking. Thus, the problems observed in assessing LFWs for depression with the PHQ-9 and the poor performance of the LFAS-15 in predicting depressive symptoms on the SCID might both point to the need of developing a reference standard specific to this population. Nevertheless, the findings in this study contribute to the limited body of research in the detection of depression in LFWs and offer a new alternative to the repertoire of depression screening measures in the Spanish language.

Discussion

Research evaluating the diagnostic accuracy of depression screening instruments in Spanish is limited (Reuland et al., 2009). Research findings indicate that Latinos of Mexican origin, including LFWs, have difficulty understanding and responding to highly structured mental health assessments. The LFAS-15 was constructed in congruence with the principles of CMT (Nylund, 2006) by learning directly from LFWs the unique way depression is manifested in this population. Thus, this study evaluated the effectiveness of the LFAS-15 in detecting depressive symptoms in LFWs as compared with the PHQ-9, the CESD-10, and BSI-18 using the SCID as the reference standard.

The CESD-10 was excluded from the analysis due to low correlation with the SCID in the multiple regression analysis. Consistent with the literature on depression screening, both the PHQ-9 and the BSI-18 demonstrated good internal consistency and convergent validity with the SCID.

To the best of the authors' knowledge, only one study has evaluated the effectiveness of the PHQ-9 with LFWs and that study reported evidence in favor of the use of the measure with LFWs (Donlan & Lee, 2010). Similarly, previous researchers have reported support for the BSI-18 with different Latino groups, yet, it appears as though the BSI-18 has not been evaluated with LFWs prior to this study. This study provides preliminary evidence of the BSI-18 measure's viability to screen for depression with LFWs.

The findings reported by Donlan and Lee (2010) together with the findings in this study, directly contradict the first author's observations on the performance of the PHQ-9 in LFWs. In the study by Donlan and Lee (2010), the PHQ-9 was administered verbally by a researcher and the authors did not specify whether the researcher administering the measure merely read the items or whether the items were further explained or elaborated upon to increase the participants' understanding of the language and structure of the measure. The participants in this study took the measure independently, and they received assistance only when they requested help with understanding items or words; thus, it cannot be determined if participants accurately understood the language and structure of the instrument or whether their responses reflected response bias. The procedures in both studies preclude us from being able to determine confidently that the participants' responses accurately reflect their depression symptoms. This brings into focus the need to carefully control, document, and refine both screening and research procedures to increase our confidence in our research findings.

Our findings indicate that the LFAS-15 is performing at least as well as the PHQ-9 and the BSI-18; however, the measure can be improved by revising Items 1 and 15. As mentioned before, the literature pertaining to depression screenings in the Latino community continues to be undermined by the lack of a valid reference standard. Grzywacz et al. (2010) advocated for improved methods for validating measures for LFWs' mental health and the outcomes from this study further support this need. When the SCID was selected as the reference standard for this study, it was determined that the ability to probe deeper into participants' responses would likely be sufficient to obtain reliable data. However, based on the first author's observations of participants' guarded stance with some of the questions, it is no longer deemed to be an appropriate reference standard for use with LFWs. The SCID was developed from data based on the dominant majority, and this finding highlights the underlining assumption of this study that cultural adaptations to tools and measures created for the dominant majority do not necessarily translate into culturally competent measures. Rather, consistent with critical multicultural

theory, we need to investigate the "otherness" of the LFWs' experience of depression and develop a clinical interview guide that is culturally relevant for this population (Hall, 1994).

Limitations

One important limitation to this study was the small number of individuals who actually reported depressive symptoms, making it difficult to make in-depth inferences from the data. Of the 99 participants, 88 were males and 11 were female; so the greater proportion of male participants may have skewed the findings. Also relevant is that the Hispanic literature on depression shows that immigrant women are more likely to report depressive symptoms than their male counterparts. The sample was small (99) and skewed in the direction of males, and only 12 participants were found to have significant symptoms of depression by the SCID, which may be due to the overrepresentation of males in the sample.

Declaration of Conflicting Interests

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